

408 E 4th Project
Existing AM

9/17/2019

4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	1.6	0.2	1.7	0.2	1.8	1.6	0.1	0.9	0.2	0.3
Total Del/Veh (s)	117.5	37.4	12.8	107.8	74.6	65.7	57.8	57.6	49.3	60.1	62.4	34.4	57.2
% of Volume	103	106	110	128	102	104	98	103	76	99	98	92	102

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
Denied Del/Veh (s)	0.3	0.1	0.1	0	0	0.2	0.9	0	0	0	0	0.1
Total Del/Veh (s)	35.7	38.5	34.3	25.9	26.2	30.2	14.8	24.6	1.2	24.6	8.5	32.8
% of Volume	93	98	95	100	79	106	102	108	400	98	200	99

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	11.9	19.8	10.8	30.4	25.3	23.2	24.4	21.8
% of Volume	79	102	133	81	115	106	101	103

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0.3	0	0	0	0.2	0	0	0	0
Total Del/Veh (s)	34.6	10	20.8	23.4	21.4	59.2	44.3	26.7	11.4	26.8
% of Volume	103	84	99	96	91	100	97	102	119	98

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	7.7	11.4	13.1	31.6	35.3	20.5	41.8	12.7	6.8	20.2
% of Volume	71	103	111	146	98	86	103	94	113	99

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.2	0.2	0	0.1	0	0.1
Total Del/Veh (s)	30.4	30.6	24.6	38.7	39	32.8	19.5	17.3	13.1	18.6	20.5	10.9	23.5
% of Volume	108	109	103	89	105	105	101	91	112	94	94	94	97

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.1	0	0	0	0.1	0.1	0.1	0
Total Del/Veh (s)	16	9.9	8.1	17.6	13.3	5.2	20.4	13.2	10.5	6.1	15.3	11	13.1
% of Volume	119	85	112	117	91	94	85	91	88	85	114	98	98

32

B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	17.8	11.2	7.9	16.6	11.1	7.8	20.3	14.8	8.1	18.4	11.9	10.5	12.1
% of Volume	105	98	90	83	118	97	94	84	116	99	114	133	103

33

B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.2	0.2	0	0	0	0
Total Del/Veh (s)	13.4	11.9	9.1	32.3	14.8	11.8	14.4	17.9	12.2	26	17.1	13.5	14.5
% of Volume	106	102	94	90	97	112	107	89	107	86	94	125	98

41

5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	25	11.8	9	8.7	17.3	0.8	5.8	11.9
% of Volume	96	98	91	111	105	171	98	98

47

3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.3	0.4	0.2	0	0	0	0	0	0	1.7	0.3	2.4	0.3
Total Del/Veh (s)	39.3	20.3	7.5	34.9	27.4	11	63.6	5.3	4.3	53.2	17	8.7	14.6
% of Volume	92	93	94	87	99	98	105	101	100	85	100	84	99

48

El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.3	3.7	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	38.6	36.9	13	45	27.1	13.9	59.5	11.7	9.1	48	9.2	6.5	14.9
% of Volume	113	109	123	111	114	100	109	99	93	98	98	88	100

67

Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.1	0
Total Del/Veh (s)	13.6	18	16.1	18.2	11.1	27.2	33.3	20.3
% of Volume	119	100	60	118	106	103	97	101

111

Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.2	0
Total Del/Veh (s)	12.3	11.6	4.2	22.2	16.6	18.5	11.4	11.6
% of Volume	107	97	98	121	117	100	100	99

202

Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.1	0.2	0.1	0
Total Del/Veh (s)	23.9	9.8	3.2	5.5	4.8	3.5	4.8	4	3.6	25.9	24.9	12.8	7.8
% of Volume	67	90	96	108	96	110	61	111	122	83	93	105	97

215

El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.6	0.4	0.4	0	0	0	1.1	0.1	0.2	0.4	0.1	0	0.2
Total Del/Veh (s)	31.2	27.7	21.4	37.3	20.7	17.1	55.2	17.6	14.6	49.2	16.7	10.5	19.4
% of Volume	102	86	106	89	89	85	91	100	112	96	98	102	98

216

Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	27.9	11.1	10.5	11.8	13.4	9.6	67.5	29.5	17.5	42.5	36.6	29.9	17.6
% of Volume	24	102	97	119	118	97	50	112	99	110	97	67	103

217

Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.1	0	0	0.2	0.1	0.2	0	0	0	0
Total Del/Veh (s)	10.7	12.2	10.4	14.8	17	12.7	8	7.8	5.6	13.1	10.6	6.9	12.7
% of Volume	103	105	88	96	99	128	99	104	121	133	99	63	101

219

Humboldt St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.3	0.2	0.3	0	0.1	0	0.1
Total Del/Veh (s)	9.6	9.8	3.3	6.3	7.8	5.3	8.9	9.9	11.7	8.5	9.6	7.3	9.1
% of Volume	95	71	33	50	80	91	102	113	152	104	104	102	102

228

5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0
Total Del/Veh (s)	4.6	1.7	1.3	0.5	11.4	8.5	2.4

% of Volume

115	99	99	123	96	88	99

231

Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.2	0.2	0	0	0	0
Total Del/Veh (s)	7.5	8.2	6.5	7.3	6.8	4.7	4.1	6.2	5	6.5	8.1	6.2	7
% of Volume	114	92	150	125	100	73	90	125	128	79	106	86	102

408 E 4th Project
Existing PM

9/17/2019

4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0	0	2.7	0.3	1.8	0.2	3.3	3.3	0	0	0	0.3
Total Del/Veh (s)	119	78	38.5	58.9	42.4	20.9	53.6	63.9	41.9	114.8	97.9	71.3	63.7
% of Volume	93	95	90	96	104	124	94	114	87	89	112	101	97

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0.4	0.3	0	0	0	0	0.1
Total Del/Veh (s)	37.7	26.1	26	343.1	44.2	328.9	310	69.3	2.1	54.1	22.8	96.4
% of Volume	89	100	104	33	82	96	66	94	29	100	86	97

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	78	93	90	88	101	94	88	93

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	30.3	1.7	13.2	16.3	16.4	15.3	49.5	23.6	26.8	18.1	21.3
% of Volume	114	67	101	96	90	96	110	102	97	113	97

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0.6	0	0	0	0	0	0	0
Total Del/Veh (s)	45.7	44.6	33.4	42.3	45.3	39	37.1	20.5	12.2	36.7
% of Volume	103	94	124	103	103	109	91	98	113	98

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.8	0.4	0	0	0	0	0.4	0.4	0.9	0	0	0	0.2
Total Del/Veh (s)	45.8	42.2	37.1	26.6	29.2	21	30.8	22.5	35.1	34.9	17	16.9	26.6
% of Volume	93	102	109	71	85	101	116	106	105	98	103	90	101

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0	0	0	0	0	1.6	0.1	0.1	2.1	0.3	0.3	0.1

Total Del/Veh (s)	22.4	13.9	14.1	19.8	12.7	8.8	28.3	12.3	12.5	33.1	24.2	22	15.7
% of Volume	106	97	101	81	103	104	82	103	85	118	119	96	101

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0.1	0	0	0	0	0	0	0	2.1	2.1	2.9	0.7
Total Del/Veh (s)	13.7	13.6	10	22.5	11.8	7.1	22.3	19	12.7	41.7	20.1	29.4	17.8
% of Volume	116	102	104	49	112	110	141	88	91	89	101	109	101

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.4	0.2	0.2	0	0	0	0.1
Total Del/Veh (s)	19.8	15	12	28.8	13.6	9.7	19	18.3	14.1	16.6	16.6	9.7	15.3
% of Volume	95	105	94	73	95	114	100	89	106	115	100	82	99

41 5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	18.6	10.9	9.7	6	17.2	0.9	5.9	11
% of Volume	107	103	86	101	88	175	88	96

47 3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.4	0.3	0	0	0	0	0	0	0.3	0.3	0.3	0.2
Total Del/Veh (s)	41.9	30.6	8.7	44.8	31.1	15.6	54.4	12	10.6	49.5	19.9	17.3	19.1
% of Volume	93	90	109	95	94	106	84	100	96	119	99	100	99

48 El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.3	3.9	0	0	0	0	0	0	0	0	0	0.1
Total Del/Veh (s)	34.5	37.5	14.6	43	18.9	14.1	68.8	15.3	15.3	29.7	7.3	4.4	14.8
% of Volume	84	78	95	110	96	120	64	97	111	100	99	86	99

67 Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	96	95	45	94	102	85	100	95

111 Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.2	0

Total Del/Veh (s)	14.2	11	4.1	20.9	12.7	17.3	11.7	11.2
% of Volume	99	93	96	130	92	90	89	94

202 Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	2.2	0.2	0.2	0.1
Total Del/Veh (s)	20.6	12.2	7.8	7.8	6	4.7	9.3	13.1	7	34.6	28	19.7	11.7
% of Volume	78	98	106	59	95	94	117	104	121	109	97	96	98

215 El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.9	0.4	0.5	0	0	0	0.6	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	48.9	39.1	22.6	45.5	44.4	32.9	65.4	18.5	21.8	33.1	5.5	3.4	18.2
% of Volume	108	101	91	80	96	80	83	99	110	93	101	96	99

216 Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	48	43.3	37.7	31.9	7.5	1.9	38.3	41.2	38.2	85.3	52	54	41.9
% of Volume	94	98	71	100	120	68	83	117	93	100	88	89	99

217 Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	1.4	0	0.4	0.2	0.3	0	0	0	0.4
Total Del/Veh (s)	43.1	48.1	36.9	12.9	21.4	31.8	33.3	21.3	19.7	21.1	10.7	11	30.7
% of Volume	98	103	117	90	92	126	138	120	115	69	98	90	101

219 Humboldt St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	9.8	0	0	0	0	0	0.1	0.2	0.1	0	0	0	1.9
Total Del/Veh (s)	132.2	127.4	54.7	67.5	108.3	106.3	153	180.9	210.7	9.3	12.2	11.1	105.2
% of Volume	111	104	65	200	81	95	144	95	83	76	90	97	97

228 5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0.1	0	0.1	0
Total Del/Veh (s)	4.5	1.3	1.3	1.5	14.1	0.6	8.6	2.7
% of Volume	97	99	91	125	124	106	90	98

231 Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.1	0.2	0.1	0	0	0	0
Total Del/Veh (s)	9.5	10.8	6.5	7.2	4.5	5.4	6.1	7.1	7.6	7.4	6.1	8.3
% of Volume	88	112	114	82	124	110	112	67	71	92	105	99

408 E 4th Project
Existing + Project AM

5/12/2020

4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	1.6	0.2	1.6	0.2	1.7	1.7	7.4	7	10.4	1.1
Total Del/Veh (s)	92.3	34.5	10.8	125	91.9	85.3	71.9	75.2	60.9	78.3	81.1	55.1	66.7
% of Volume	97	96	100	92	100	100	100	103	105	107	102	97	100

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2	All
Denied Del/Veh (s)	0.2	0.1	0	0	0	0.2	0.9	0	0	0	0.1
Total Del/Veh (s)	33.6	31.7	32.2	34.7	24.1	27.3	13.6	23.2	23.3	11	28.9
% of Volume	96	95	97	100	99	99	102	101	101	100	97

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.1	0	0	0.1	0.2	0	0	0
Total Del/Veh (s)	9.8	17.8	14	29.3	23.7	24.8	26.6	20.9
% of Volume	104	100	107	101	100	98	99	100

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0.4	0	0	0	0.1	0	0	0	0
Total Del/Veh (s)	31.2	5.1	9.5	19.5	22.4	20.8	63.2	44.1	25.1	16.9	25.8
% of Volume	87		102	95	97	103	100	102	100	108	99

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	15.1	11.7	8.8	37.7	35.4	18.3	40.2	12.8	7.6	20
% of Volume	91	100	117	98	102	101	99	98	100	100

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.1	0	0	0	0.1	0.1	0.2	0
Total Del/Veh (s)	15.9	10.4	7.1	18.8	15.1	6.1	16	12.6	8.5	21.8	15.1	8.8	13.5
% of Volume	94	103	105	101	96	103	85	102	107	85	100	111	99

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0.1	0	0	0	0
Total Del/Veh (s)	12.4	11.3	7.8	15.4	11.5	6.9	20.1	17.1	10.2	21.2	16.8	12.6	13.4
% of Volume	100	98	110	69	96	124	94	98	114	99	103	99	100

33B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.1	0	0	0	0.2	0.2	0.2	0	0	0	0.1
Total Del/Veh (s)	17.4	14.8	10.9	18.4	13.5	9.2	19	16.4	10.9	20	16.3	9.8	14.5
% of Volume	100	100	106	90	100	93	91	102	104	94	100	103	100

415th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0	0	0	0.1	0	0	0
Total Del/Veh (s)	26	14	11.3	9.8	15.8	1.2	6	13.4
% of Volume	102	102	101	99	98	114	100	101

473rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.3	0.4	0.2	0	0	0	0	0	0	2	0.3	2.2	0.3
Total Del/Veh (s)	38.9	24	7.7	35.2	25.4	12.5	64.1	5.1	4	53.4	16.6	7.5	14.4
% of Volume	98	97	104	98	101	98	97	100	97	99	101	102	100

48El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	3.8	0	0	0	0.1	0	0.1	0	0	0	0
Total Del/Veh (s)	35	37.5	10.6	45.8	26.6	15.8	62.9	10	8.7	47.5	8.8	4.8	13.6
% of Volume	102	102	111	96	94	100	96	100	100	103	100	103	100

67Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.3	0.1
Total Del/Veh (s)	12.9	18.8	19	15.4	10.7	25.7	27.3	19.8
% of Volume	88	100	110	100	109	96	98	100

111Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.2	0
Total Del/Veh (s)	12.1	10.7	4.3	26.3	17.8	18.4	13.8	11.1
% of Volume	100	96	97	91	97	95	100	96

202	Claremont St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.2	0.2	0
Total Del/Veh (s)	15.1	11.4	5.4	5.9	4.7	3.8	10	6.7	3.7	24.6	22.8	14.8	8.3
% of Volume	67	103	128	95	97	104	97	102	108	92	107	105	99
215	El Camino Real & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	0.4	0.4	0	0	0	1.1	0.1	0.2	0.1	0	0	0.2
Total Del/Veh (s)	33.9	29.5	22.3	44.3	24.5	19.7	56.2	18.8	15	52.4	18	11.9	21.3
% of Volume	95	103	103	100	99	98	100	100	101	101	100	102	100
216	Claremont St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	13.2	11.2	9.9	21.3	13.3	8	33.2	27.4	15.3	42	38.9	20.9	18
% of Volume	118	100	97	85	100	110	50	102	102	95	106	100	101
217	Claremont St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	1.1	1.4	0.5	0	0	0	0.2	0.1	0.1	0	0	0	0.4
Total Del/Veh (s)	13.7	13.9	11.5	18.3	18.1	15.1	8.9	8.9	7.4	10.9	12.4	9.7	14.4
% of Volume	101	100	106	100	98	102	92	101	109	71	100	112	100
219	Humboldt St Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.2	0.2	0.1	0	0	0	0.1
Total Del/Veh (s)	6.6	7	5.5	4.4	7.1	5.1	5.9	6.9	4.6	10.2	10.5	9	8
% of Volume	98	97	133	100	98	98	95	100	110	96	98	102	99
228	5th Ave & Ellsworth Ave Performance by movement												
Movement	EBL	EBT	WBT	WBR	SBL	SBR	All						
Denied Del/Veh (s)	0	0	0	0	0	0	0						
Total Del/Veh (s)	5.1	1.9	1.5	1.4	12.7	7.6	2.6						
% of Volume	103	101	99	103	96	110	101						
231	Fremont St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	8.4	8.8	5.9	5.6	7.3	5.5	5.3	6.2	4.8	7.6	8.4	6.6	7.5

% of Volume	106	99	100	100	98	105	98	105	112	92	99	102	101

310	5th Ave Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0.1	0	0	0.1	0.1	0
Total Del/Veh (s)	2.6	1.9	5	2.2	12	7.2	3
% of Volume	100	102	98	99	91	105	100

408 E 4th Project
Existing + Project PM

5/8/2020

4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	2.3	0.2	2.3	0.2	3.2	3.2	0	0	0	0.3
Total Del/Veh (s)	124.8	73.8	38.3	65.3	42.1	22.2	54.1	56	38.5	113.4	100.2	70.4	63.1
% of Volume	100	94	93	101	101	94	97	97	102	99	103	105	97

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0.3	0.4	0	0	0.1	0	0.1
Total Del/Veh (s)	33.9	27.1	27.6	83.2	36.2	176.5	140	50.8	12.8	41.9	22	60
% of Volume	94	100	103	67	91	94	94	94	114	100	100	98

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	85	94	100	93	91	93	95	93

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	34.5	4.1	19.6	23.6	20.4	19	47.7	25.8	43	35.3	28.4
% of Volume	105	67	100	99	99	98	89	96	100	88	99

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.1	0.2	0.2	0.1	0.1	0	0	0	0.1
Total Del/Veh (s)	42.4	43.8	39.6	54.3	48.9	46.5	46.9	18.1	11.8	38.4
% of Volume	79	94	87	93	97	97	99	99	105	97

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.6	1	0	0.3	0	1.9	2.2	2.4	0	0	0	0.9
Total Del/Veh (s)	50	42.4	33.1	56.2	31.1	25.7	56.9	46	34.9	19.3	15.4	9.8	33.1
% of Volume	90	92	96	57	94	95	96	98	98	79	100	99	96

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0	0.1	0	0	0	1.5	0.2	0.8	2.3	0.2	0.3	0.2

Total Del/Veh (s)	27.3	17.3	14.4	31.3	20.9	12.4	36.4	14.6	12.3	38.1	38.1	28.3	21.7
% of Volume	98	103	102	95	99	94	82	99	110	99	94	111	99

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0.4	0	0	0	0	0	7.2	5.2	7.9	1.7
Total Del/Veh (s)	19	18.9	14.3	22.8	15.3	10.6	39.4	22.3	18.3	44.3	20.2	25.8	21.1
% of Volume	97	95	97	98	104	97	90	100	86	94	100	92	96

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0.2	0	0	0	0.5	0.2	0.2	0	0	0	0.1
Total Del/Veh (s)	34.3	26	19.4	26	13.6	9.5	28	26.9	21.6	25.6	16.8	11	21.3
% of Volume	89	94	100	101	93	97	92	98	105	88	96	94	95

41 5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	26.1	21	9.7	7.9	25.4	0.6	7.1	16.3
% of Volume	93	94	92	89	96	138	97	94

47 3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	0.4	0.2	0	0	0	0	0	0	0.2	0.3	0.3	0.2
Total Del/Veh (s)	39.7	29.6	9.7	42.5	30.8	12	59.2	12.3	12.9	59.2	18.8	17	19.1
% of Volume	96	101	100	100	101	93	96	100	98	112	100	100	100

65 Ellsworth Ave & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	2.9	1.1	1.7	9	5.3	5.8	2.2
Total Del/Veh (s)	12.1	12.1	23.9	30.4	9.9	7.5	14.5	5.8	12.6	20.2	12.6	19.3	13.5
% of Volume	90	97	102	95	97	100	99	92	93	93	96	91	96

67 Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	88	95	100	98	92	95	98	95

111 Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.2	0

Total Del/Veh (s)	17.6	14.1	4.2	25	11.3	23.2	17.8	14.1
% of Volume	95	99	99	90	96	95	99	98

202 Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0	0	2.2	0.5	0.9	0.1
Total Del/Veh (s)	28.6	24.7	26.3	18.6	8.8	5.9	20.1	17.5	9.5	65.4	75	41.6	23.4
% of Volume	78	105	101	101	97	96	86	93	94	93	92	96	97

215 El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	7.6	3.6	4.9	0	0	0	0.7	0.3	0.4	0	0	0	0.5
Total Del/Veh (s)	64	52.4	37.9	53.7	46.6	38.7	74	26.2	34.9	40	5.7	4.1	24.5
% of Volume	98	99	98	94	96	92	101	99	93	95	99	99	98

216 Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	1.1	0	0.1	0	0	0.1	0	0.1	0	0.1	0	0.6
Total Del/Veh (s)	44.4	42.5	40.9	28.1	9.6	9.3	39.3	48.1	46.5	87.6	59.6	52.7	43.9
% of Volume	85	93	99	67	106	94	67	96	94	88	93	109	94

217 Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	2.5	0	0.3	0.2	0	0.2	0.2	0.2	0	0	0	0.9
Total Del/Veh (s)	33.2	28.1	26.1	15.7	16.9	21.9	31.8	47.8	41.3	20.1	14.6	12	25.9
% of Volume	86	92	96	93	97	100	77	100	93	87	95	95	94

219 Humboldt St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.5	0.2	0		0	0	0.2	0.2	0.2	0	0	0	0.2
Total Del/Veh (s)	62.2	50.9	44.2		51	77.1	149.4	114.9	80.1	11.6	11.5	9.6	59.9
% of Volume	92	95	86	0	106	97	96	94	97	91	96	90	94

228 5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	6.4	11	11.3	2.2
Total Del/Veh (s)	11.3	10.1	1.4	1.2	42.3	9	25.5	9.9
% of Volume	91	94	92	95	90	102	89	93

231 Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	9.6	10.5	7.6	7.1	5.3	5.9	6.2	4.2	7	7.2	5.5	8.2
% of Volume	93	93	95	98	90	94	99	100	98	101	93	96

310 5th Ave Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	199.1	207.4	34.4
Total Del/Veh (s)	28.5	25.6	5.6	2.4	152.4	150.1	36.9
% of Volume	94	95	93	97	76	84	93

408 E 4th Project
Background AM

10/21/2019

4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	1.6	0.2	1.6	0.2	1.7	1.7	1.1	1.7	3	0.4
Total Del/Veh (s)	87.3	35.2	11.7	116.8	84.4	76	67.1	66.2	53.1	61.9	63.3	39.8	60.9
% of Volume	98	99	103	100	100	103	100	106	100	104	92	101	100

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
Denied Del/Veh (s)	0.2	1.5	2	0	0	0.2	0.9	0		0	0	0.9
Total Del/Veh (s)	64.7	62.1	58.3	46.5	27	28.8	14.9	23.3		23.6	11.1	46.8
% of Volume	96	96	100	100	98	101	99	99	0	101	133	98

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0.1	0.1	0	0	0
Total Del/Veh (s)	12.9	18.1	14.5	29.2	25.2	24.7	26.8	21.2
% of Volume	99	100	116	101	101	98	101	100

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0.5	0	0	0	0	0	0	0	0
Total Del/Veh (s)	31.2	15.2	12	22.7	24.1	22.4	60.9	41.2	27.2	15.6	26.9
% of Volume	99		100	97	99	99	94	99	99	100	99

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	10.5	11.1	7.9	40.9	36	19.4	42	19.3	8.1	22
% of Volume	96	98	99	99	99	103	99	98	101	99

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.3	0.3	0.3	0	0.2	0	0.1
Total Del/Veh (s)	36.1	33.8	27.3	37	34.9	25.8	23.2	18.8	15.8	32.1	24.3	10.5	24.3
% of Volume	97	109	100	99	102	105	103	100	93	141	97	102	101

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.1	0.2	0
Total Del/Veh (s)	15.1	13.5	8.4	18.4	14.5	5.4	16	13.5	9	20.4	15.7	10.5	13.9
% of Volume	104	97	105	99	98	100	92	96	112	98	102	117	99

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	11.4	11.1	8.6	14.9	12.1	8.2	21.2	17.1	10.8	19.8	14.4	11.4	12.9
% of Volume	95	99	95	97	99	110	94	97	100	90	106	100	99

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0.1	0.1	0	0	0	0.2	0.2	0.2	0	0	0	0.1
Total Del/Veh (s)	19.5	15.2	10.9	21	15.6	11.6	20.1	17.5	10.5	19.3	16.1	11.4	15.5
% of Volume	90	101	102	86	102	93	94	98	102	110	105	95	101

41 5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0	0	0	0.1	0	0	0
Total Del/Veh (s)	25.7	13.6	11.7	10.1	16.3	1.4	6.2	13.5
% of Volume	102	100	100	100	100	95	102	100

47 3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.4	0.2	0	0	0	0	0	0	2.2	0.3	2	0.4
Total Del/Veh (s)	39.2	23.2	7.4	37.1	26.9	11.5	64.8	5.3	4.5	53.5	16.9	8.2	14.9
% of Volume	102	99	97	94	96	101	94	102	105	101	101	101	100

48 El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	3.9	0	0	0	0.1	0	0	0	0	0	0
Total Del/Veh (s)	32.2	32.7	10.6	52.3	28.9	14.2	62.7	11.1	9.4	48.7	9	5.5	14.2
% of Volume	96	101	86	105	100	100	98	102	103	98	99	97	100

67 Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0.1	0	0	0	0.7	0.7	0.2
Total Del/Veh (s)	14.3	20	20.2	15.9	11	28.9	30.5	21.5
% of Volume	100	99	100	96	107	105	100	100

111

Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.3	0
Total Del/Veh (s)	13.9	11.9	4.2	25.5	18.2	20.7	15.7	12.3
% of Volume	95	98	95	98	96	105	114	98

202

Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.2	0.2	0.1	0
Total Del/Veh (s)	23.6	11.3	6.3	7.5	5.1	3.5	12.3	8.3	4.6	24.5	24	12.7	8.4
% of Volume	67	99	95	102	98	95	102	101	100	103	95	105	98

215

El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.5	0.4	0.4	0	0	0	1.1	0.1	0.2	0.1	0.1	0	0.2
Total Del/Veh (s)	33.6	28.4	22.5	42.4	23.7	19.5	56.4	19.3	15.5	52	18	12	21.2
% of Volume	100	101	102	98	103	96	100	101	99	98	100	97	100

216

Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.6	0.3	0	0.1
Total Del/Veh (s)	15.7	12.4	9.6	22.5	15.4	8.5	38.5	26.7	15.2	31.5	27.1	21.3	17.1
% of Volume	83	97	104	85	102	116	50	100	100	100	102	94	99

217

Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.2	0.2	0	0	0	0
Total Del/Veh (s)	14.5	15.4	13.9	16.1	16.2	12	7.3	8.8	6.4	11.3	11.2	9.6	13.9
% of Volume	99	104	101	106	100	111	92	99	102	114	101	109	102

219

Humboldt St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.2	0.2	0.2	0	0	0	0.1
Total Del/Veh (s)	6.4	7	5.5	8.1	7.2	5.2	7	6.8	5.4	10.3	10.8	9.2	8.2
% of Volume	96	102	100	50	111	98	95	104	110	108	101	102	101

228

5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0
Total Del/Veh (s)	4.8	1.7	1.4	1	10.7	6.8	2.3

% of Volume	87	101	101	103	96	97	100

231	Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.2	0	0	0	0
Total Del/Veh (s)	8	8.3	6.6	7.3	7.2	5	5.5	6.3	3.8	8.7	8.3	6.5	7.3
% of Volume	105	102	150	100	100	101	106	98	80	92	98	103	101

311	3rd Ave Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0	0	0	0.1	0
Total Del/Veh (s)	1.1	0.9	0.8	2.8	0.9
% of Volume	101	88	98	88	98

312	Claremont St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0.2	0.1
Total Del/Veh (s)	5.8	8.8	3.2	1.4	5.4	2.7	3.7
% of Volume	83	108	97	103	100	101	101

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4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	98	94	89	98	98	102	98	99	101	99	99	97	95

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
Denied Del/Veh (s)	0	0	0	0	0	0.4	0.4	0.1	0	0.1	0	0.1
Total Del/Veh (s)	39.1	32.4	31	71.5	34.6	182.2	147.5	56.8	10.1	48.1	33.9	65.8
% of Volume	98	99	96	67	95	95	102	95	111	92	86	96

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	88	87	90	97	92	96	95	89

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	83	267	89	91	92	92	85	91	97	99	92

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	89	83	83	91	91	96	92	94	91	89

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	86	88	84	57	90	93	90	93	105	92	94	94	92

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	81	94	90	85	90	92	78	94	87	84	83	88	89

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	78	89	91	88	89	101	85	95	89	84	86	83	88

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	86	90	94	85	94	94	95	94	92	66	90	82	91
41	5th Ave & San Mateo Dr Performance by movement												
Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All					
% of Volume	92	94	88	89	87	138	86	90					
47	3rd Ave & El Camino Real Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	15.1	9.9	12.2	0	0	0	0.1	0	0.2	0.3	0.7	0.8	1.5
Total Del/Veh (s)	51.8	68.1	12.6	45.7	31.1	14	59.7	13.7	27.4	102.2	27.7	23.2	26
% of Volume	94	94	99	86	97	84	98	97	97	91	98	99	96
48	El Camino Real & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.3	0.4	3.8	0	0	0	0.2	0	0.1	0	0	0	0.1
Total Del/Veh (s)	40.9	39.8	13.5	44.9	24.7	20.8	72.9	19.4	23.6	35.3	7.9	6.6	17.7
% of Volume	99	103	100	86	95	90	81	96	95	96	97	102	96
67	Fremont St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All					
% of Volume	82	86	91	94	94	92	100	89					
111	Fremont St & 3rd Ave Performance by movement												
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All					
% of Volume	97	93	98	90	89	97	96	94					
202	Claremont St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	70	90	93	87	92	79	96	82	81	89	82	83	89
215	El Camino Real & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	15.9	14.6	17.5	0	0	0	6.3	4.3	5.1	0	0	0	3.3
Total Del/Veh (s)	86.8	60.8	47.9	56.4	54.4	49.4	78.4	37	53	37.3	5.6	4	30.8
% of Volume	92	97	103	86	88	88	97	96	94	91	97	94	95
216	Claremont St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All

% of Volume	81	85	85	83	94	85	50	94	89	77	76	83	85
217	Claremont St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	83	88	87	73	94	79	100	97	100	69	80	83	89
219	Humboldt St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	88	96	97	0	100	102	64	96	110	86	94	99	94
228	5th Ave & Ellsworth Ave Performance by movement												
Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All					
Denied Del/Veh (s)	0	0	0	0	14.6	12.6	21.2	3.7					
Total Del/Veh (s)	14.4	10.9	1.7	1.6	49.1	11.8	23.7	10.9					
% of Volume	93	91	92	99	87	96	84	91					
231	Fremont St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	87	91	95	94	110	102	100	100	89	92	93	93	
311	3rd Ave Performance by movement												
Movement	EBT	EBR	WBT	NBR	All								
Denied Del/Veh (s)	0	0	0.3	124.7	10.6								
Total Del/Veh (s)	56.4	47.9	3.9	110.8	27								
% of Volume	91	100	91	91	91								
312	Claremont St Performance by movement												
Movement	EBL	EBR	NBL	NBT	SBT	SBR	All						
Denied Del/Veh (s)	452.5	504.1	0	0	2.2	1.9	84.7						
Total Del/Veh (s)	590.7	702.9	4.5	3.2	72.6	59.9	110.2						
% of Volume	46	43	86	90	86	86	81						

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4	Norfolk St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	1.8	0.2	1.7	0.2	1.7	1.4	0.2	0	0.5	0.3
Total Del/Veh (s)	156.5	37	11.9	115.6	83.2	72.3	51.6	46.9	34.2	55.2	52.7	25.3	59.8
% of Volume	109	106	95	106	103	103	92	99	81	90	92	108	100
9	Humboldt St & 3rd Ave Performance by movement												
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2	All		
Denied Del/Veh (s)	1.1	0.1	0.1	0	0	0.2	1.1	0	0	0	0.2		
% of Volume	105	96	92	100	84	106	120	90	101	100	98		
10	Humboldt St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All					
Denied Del/Veh (s)	0	0	0	0	0.1	0	0	0					
% of Volume	109	96	116	77	98	100	103	98					
17	Delaware St & 3rd Ave Performance by movement												
Movement	EBL	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All			
Denied Del/Veh (s)	0	0.5	0	0	0	0	0	0	0	0			
Total Del/Veh (s)	33.3	10	23.2	25.9	29.6	61.5	38.1	27.8	14.6	27.8			
% of Volume	110	101	90	97	102	112	101	106	68	99			
18	Delaware St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All			
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0			
Total Del/Veh (s)	8.6	11.2	5.4	35.8	36.5	20.9	40.3	16.9	6.9	21.3			
% of Volume	76	96	99	77	103	103	103	101	100	100			
19	Delaware St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.2	0.3	0.5	0	0.4	0	0.2
Total Del/Veh (s)	33.1	27.8	24.1	37.9	37.5	25.7	26.4	23.5	28.2	33.5	26.1	12.7	25.6
% of Volume	107	94	95	106	99	111	106	103	47	141	99	99	100
31	B St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0	0	0	0	0	0	0.1	0	0.1	0.1	0.2	0

Total Del/Veh (s)	17.7	13.8	7.9	16.8	14.1	4.8	13.4	11.9	12.5	20.3	16.1	12.7	13.6
% of Volume	135	111	80	103	98	83	138	88	90	86	98	111	98

32

B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	14.7	9.6	6	9.7	10.6	4.2	24.6	24.9	19.9	18.9	17	13.9	13.7
% of Volume	105	104	105	110	75	110	94	90	70	97	100	94	97

33

B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.2	0.1	0	0	0	0
Total Del/Veh (s)	18.5	15.1	11.2	18.5	12.1	8.4	19.3	16.6	8.9	16.7	14.9	8.4	13.7
% of Volume	72	99	91	71	103	56	57	88	118	94	105	95	97

41

5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0
Total Del/Veh (s)	27.2	14.6	11.8	8.2	13.3	1.2	6	13.4
% of Volume	95	101	97	104	92	95	98	98

47

3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.4	0.4	0.2	0	0	0	0.1	0	0	2.3	0.3	2	0.3
Total Del/Veh (s)	37.9	28.2	6.8	40.3	28.3	13.3	57.7	5.2	4.1	56.3	16.1	6.9	14.5
% of Volume	97	101	113	97	96	117	84	103	84	114	102	90	102

48

El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	4	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	38.2	36.7	8.4	43.2	30	14.2	60.8	9.8	8.2	46.6	8.9	3.1	13
% of Volume	92	95	80	86	86	100	89	102	114	100	104	106	102

67

Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0	0	0	0	0.1	0.3	0.1	0.1
Total Del/Veh (s)	11.4	17.6	15.5	16	11.1	28.7	31	19.8
% of Volume	94	98	110	103	105	95	95	98

111

Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.2	0
Total Del/Veh (s)	12.7	11.1	4.9	15.8	18.7	21.2	18.7	11.8
% of Volume	95	95	99	113	99	93	81	95

202 Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	0	0.1	0.1	0.1	0
Total Del/Veh (s)	19.3	8.4	6.2	5.1	4.3	4.2	16.7	12.2	7.4	25.9	21.9	13.5	7.8
% of Volume	67	100	142	96	97	98	130	114	138	103	86	86	99

215 El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	3.7	0.4	0.4	0	0	0	1.2	0.1	0.2	0	0	0	0.2
Total Del/Veh (s)	36.3	30.1	20.7	41.9	25	17.7	63.9	19.2	16.4	47	16.8	9.6	20.9
% of Volume	99	106	87	100	89	100	91	103	97	82	103	112	101

216 Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0	0	1.1	0	0	0.1
Total Del/Veh (s)	11.9	11.8	11.9	27	14.9	8.8	26.3	14.9	34.2	29.7	14.5	17.3
% of Volume	210	98	118	119	91	121	109	90	94	89	71	98

217 Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0.7	0.8	0.2	0	0	0.1	0.2	0.1	0	0	0	0.2
Total Del/Veh (s)	12.6	13.6	12.1	21.3	22	24.9	10.7	9	7.1	8.2	11.8	10.4	16
% of Volume	90	95	116	96	102	119	95	105	102	94	96	96	99

219 Humboldt St Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0.2	0.2	0.1	0	0	0	0.1
Total Del/Veh (s)	7.1	7.4	3.6	5.7	5.4	7.7	7.2	3.9	9.9	10.7	8.6	8.3
% of Volume	74	99	133	55	89	108	104	83	100	100	116	97

228 5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0
Total Del/Veh (s)	5.2	2	1.7	2.4	14	5.8	2.5
% of Volume	76	101	99	92	106	88	98

231 Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0	0	0	0	0	0.1	0.1	0.1	0	0	0	0
Total Del/Veh (s)	7.8	8.3	6.7	7	6.7	5	5.2	6.2	3.8	8.2	9.3	7.3	7.2
% of Volume	92	90	200	100	97	105	73	117	128	72	84	122	98

310 5th Ave Performance by movement

Movement	EBT	EBR	WBL	WBT	NBL	NBR	All
Denied Del/Veh (s)	0	0	0	0	0.2	0.1	0
Total Del/Veh (s)	3.2	2	5.1	2.6	12.7	10.3	3.7
% of Volume	101	107	108	100	114	89	102

311 3rd Ave Performance by movement

Movement	EBT	EBR	WBT	NBR	All
Denied Del/Veh (s)	0	0	0	0.1	0
Total Del/Veh (s)	1.2	0.7	0.8	2.6	0.9
% of Volume	109	108	97	119	99

312 Claremont St Performance by movement

Movement	EBL	EBR	NBL	NBT	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.1	0	0	0	0	0
Total Del/Veh (s)	6.1	6.1	2	1.2	1.7	0.7	1.7
% of Volume	100	96	88	122	93	109	104

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4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0	0.1	0	2.4	0.2	2.4	0.2	3.3	3.2	0	0	0	0.3
Total Del/Veh (s)	121.8	74.9	36.6	66.2	41.3	23.5	54.4	53.2	34.6	104.6	91.2	59.7	61.9
% of Volume	97	93	90	100	101	102	100	100	102	96	102	105	96

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
% of Volume	94	96	99	33	88	93	91	90	80	93	100	94

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	74	86	80	95	92	91	96	88

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	86	133	83	87	88	85	82	89	97	99	89

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	77	82	77	84	89	93	90	91	87	87

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
% of Volume	72	76	75	57	92	82	86	93	84	92	89	91

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
% of Volume	75	81	82	86	84	83	78	91	81	79	86	93

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
% of Volume	81	82	87	68	85	92	96	91	84	80	88	81

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	78	81	83	89	83	87	89	94	95	82	82	85	84
41	5th Ave & San Mateo Dr Performance by movement												
Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All					
% of Volume	78	84	77	83	82	112	80	81					
47	3rd Ave & El Camino Real Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	90	89	92	83	87	85	89	92	86	82	94	94	92
48	El Camino Real & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	91	103	104	77	84	87	87	90	87	91	93	89	91
67	Fremont St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All					
% of Volume	88	85	82	92	88	92	99	88					
111	Fremont St & 3rd Ave Performance by movement												
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All					
% of Volume	90	90	95	80	91	96	96	92					
202	Claremont St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	60	85	79	84	87	88	72	75	83	86	91	83	84
215	El Camino Real & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	83	88	81	81	73	76	92	91	83	84	93	92	89
216	Claremont St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	81	81	60	50	91	79	100	82	82	88	87	82	82
217	Claremont St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	71	73	74	80	90	84	85	92	93	74	79	90	81

219	Humboldt St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	80	93	76	100	100	107	96	98	124	81	98	92	94
228	5th Ave & Ellsworth Ave Performance by movement												
Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All					
% of Volume	86	81	82	95	71	86	72	81					
231	Fremont St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	78	81	57	95	95	78	105	167	107	97	93	89	
310	5th Ave Performance by movement												
Movement	EBT	EBR	WBL	WBT	NBL	NBR	All						
Denied Del/Veh (s)	30.5	21.1	0	0	757	786.8	168.3						
Total Del/Veh (s)	66.5	60.2	8.1	4.9	490.2	463.1	94.2						
% of Volume	80	83	87	90	50	50	78						
311	3rd Ave Performance by movement												
Movement	EBT	EBR	WBT	NBR	All								
Denied Del/Veh (s)	0	0	0.8	1.4	0.6								
Total Del/Veh (s)	16.6	3	10.6	34.4	13.6								
% of Volume	82	67	85	100	85								
312	Claremont St Performance by movement												
Movement	EBL	EBR	NBL	NBT	SBT	SBR	All						
Denied Del/Veh (s)	24.4	29.9	0	0.2	1.6	0	3.1						
Total Del/Veh (s)	293.1	425.2	4.4	11.6	47.3	34.5	55.5						
% of Volume	64	78	83	80	87	120	83						

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4	Norfolk St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	65	66	62	81	75	78	76	79	78	80	83	78	73
9	Humboldt St & 3rd Ave Performance by movement												
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All	
% of Volume	60	60	61	67	57	77	85	70	100	73	73	65	
10	Humboldt St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All					
% of Volume	64	66	77	55	59	69	65	65					
17	Delaware St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All		
% of Volume	72		73	65	69	74	81	80	74	78	72		
18	Delaware St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All			
% of Volume	66	72	64	71	79	74	70	71	71	72			
19	Delaware St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	77	80	74	77	69	72	81	80	94	94	70	74	75
31	B St & 3rd Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	80	88	91	69	76	76	82	84	80	85	89	93	80
32	B St & 4th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	76	81	85	83	72	69	84	83	77	75	79	76	79
33	B St & 5th Ave Performance by movement												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	80	87	93	75	78	81	79	83	93	86	87	82	84

41 5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
% of Volume	93	91	83	81	88	95	87	87

47 3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	9.7	8.3	4.4	0	0	0	0.2	0.1	0.7	2.8	1.1	2.3	1.4
Total Del/Veh (s)	43.5	42.2	14.3	42	27.4	13	61.2	7.2	8.5	82.1	20.4	9.4	18.6
% of Volume	92	96	102	80	84	83	94	97	95	89	100	103	96

48 El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	8.8	8.2	7.5	0	0	0	0	0	0	0	0	0	0.4
Total Del/Veh (s)	47.9	50.3	15.9	49	28.1	15	61.2	11.1	14	63.2	9.8	4.9	15.6
% of Volume	96	96	94	77	82	81	97	97	92	92	98	97	96

67 Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	74	70	67	73	70	68	68	70

111 Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	66	66	69	74	75	73	82	68

202 Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	71	77	85	69	71	75	78	77	83	74	82	83	74

215 El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	97	94	90	84	84	84	95	96	96	87	97	99	95

216 Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	76	75	75	65	71	76	50	78	75	72	72	71	74

217 Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	82	82	83	70	74	80	87	79	79	55	76	87	77

219 Humboldt St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	63	67	67	100	70	72	54	67	97	58	64	67	65

228 5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
% of Volume	90	88	80	74	92	91	85

231 Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	78	76	100	50	64	72	82	76	96	64	68	73	72

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4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	92	88	86	95	98	96	96	100	93	96	98	98	92

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
% of Volume	95	93	95	33	83	81	83	82	111	83	83	88

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	74	86	82	87	85	83	88	86

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	79		76	85	86	89	87	93	95	91	88

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	74	85	77	83	94	90	85	87	93	87

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	83	85	85	84	86	89	93	93	84	79	86	87	88

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	87	85	84	84	84	84	80	90	92	73	81	84	85

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	92	90	89	73	89	92	92	88	86	80	85	82	88

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	82	87	85	83	87	85	84	91	90	77	85	82	87

41	5th Ave & San Mateo Dr Performance by movement													
Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All						
% of Volume	87	91	86	88	86	109	82	88						
47	3rd Ave & El Camino Real Performance by movement													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	92	84	97	83	91	86	87	95	95	87	97	104	94	
48	El Camino Real & 4th Ave Performance by movement													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	106	100	98	91	90	82	89	94	94	98	95	99	94	
67	Fremont St & 4th Ave Performance by movement													
Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All						
% of Volume	79	86	92	87	90	88	94	87						
111	Fremont St & 3rd Ave Performance by movement													
Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All						
% of Volume	91	87	85	91	84	90	88	87						
202	Claremont St & 3rd Ave Performance by movement													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	50	72	81	77	86	90	86	74	79	74	79	79	80	
215	El Camino Real & 5th Ave Performance by movement													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	88	90	97	83	85	88	93	94	94	92	95	96	93	
216	Claremont St & 4th Ave Performance by movement													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	75	87	84	86	93	73	71	91	85	68	69	73	84	
217	Claremont St & 5th Ave Performance by movement													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All	
% of Volume	81	86	75	83	87	91	88	92	97	73	80	75	86	
219	Humboldt St & 5th Ave Performance by movement													

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	87	88	97	0	92	97	80	83	69	88	87	87	87

2285th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
% of Volume	85	88	87	74	72	90	85	87

231Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	85	87	114	86	96	94	92	133	81	96	85	89

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4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	72	72	71	82	82	84	83	86	84	83	87	85	79

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
% of Volume	65	66	67	50	62	82	87	74	0	78	81	71

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	69	74	84	61	65	75	70	72

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	88		80	71	74	75	84	83	81	89	78

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	66	81	81	64	82	82	76	78	77	79

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	81	82	82	84	76	72	89	84	94	94	76	83	80

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	94	94	91	73	80	76	82	89	98	84	91	98	85

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	95	85	90	69	79	83	96	87	89	85	79	83	85

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	88	87	89	77	82	85	82	90	82	86	84	89	85

41 5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
% of Volume	87	91	85	84	88	76	92	88

47 3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	8.4	5.1	6.7	0	0	0	0.2	0	0	8.8	5	8	2.8
Total Del/Veh (s)	35.9	28.3	23.9	42.2	28.5	13.6	63.1	6.7	7.3	68.7	20	8.5	17.6
% of Volume	97	98	101	83	79	92	89	95	94	94	98	96	95

48 El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.2	0.2	3.6	0	0	0	0	0	0	0	0	0	0
Total Del/Veh (s)	35.3	33.7	11.5	48.7	27.6	16.2	61	10.3	11.5	48.3	10.8	5.5	14.6
% of Volume	110	97	99	83	93	86	91	94	90	96	97	100	95

67 Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	84	77	83	77	77	75	73	76

111 Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	69	71	73	68	80	77	86	73

202 Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	71	87	87	73	76	80	85	87	89	88	91	87	80

215 El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	87	92	94	87	88	80	96	94	93	89	96	99	94

216 Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	83	82	82	58	76	87	50	85	90	66	80	94	81

217 Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	87	81	81	79	82	87	74	92	93	64	80	87	82

219 Humboldt St Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	72	77	100	50	83	81	75	71	83	70	68	72	72

228 5th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBR	All
% of Volume	95	89	83	84	79	87	86

231 Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	77	84	50	75	74	79	82	82	112	64	75	73	77

408 E 4th Project
Cumulative PM

5/7/2020

4 Norfolk St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	84	79	75	82	86	80	87	87	81	96	92	84	82

9 Humboldt St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWT	SWR	SWR2	All
% of Volume	77	74	77	33	72	64	64	65	89	69	65	71

10 Humboldt St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	74	70	73	88	87	67	70	72

17 Delaware St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	66		66	67	64	69	63	73	74	67	69

18 Delaware St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	76	63	61	72	72	72	72	69	70	68

19 Delaware St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	53	59	54	63	68	67	69	74	84	66	69	69	67

31 B St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	62	65	61	61	59	61	56	64	60	50	58	59	61

32 B St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	59	60	58	57	62	60	59	63	64	60	60	60	61

33 B St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	61	63	63	61	57	62	63	66	70	56	60	59	62

41 5th Ave & San Mateo Dr Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
% of Volume	64	64	56	55	62	78	62	61

47 3rd Ave & El Camino Real Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	72	71	75	59	62	59	69	71	65	68	77	77	72

48 El Camino Real & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	73	74	81	68	59	61	71	70	63	71	75	76	72

67 Fremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	All
% of Volume	64	68	69	74	67	79	79	70

111 Fremont St & 3rd Ave Performance by movement

Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	All
% of Volume	69	68	72	64	68	73	70	69

202 Claremont St & 3rd Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	40	65	64	57	63	54	64	59	61	56	60	61	62

215 El Camino Real & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	61	65	65	57	57	57	71	70	69	61	75	79	70

216 Claremont St & 4th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	55	64	57	57	68	72	43	64	60	58	58	59	63

217 Claremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	56	53	64	69	68	52	56	68	79	60	60	62	61

219 Humboldt St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	75	75	108	100	92	97	64	92	97	69	71	70	80

2285th Ave & Ellsworth Ave Performance by movement

Movement	EBL	EBT	WBT	WBR	SBL	SBT	SBR	All
% of Volume	57	63	58	54	50	58	52	59

231Fremont St & 5th Ave Performance by movement

Movement	EBL	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
% of Volume	63	66	57	72	72	71	80	133	68	75	77	70

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	741	147	8	726	7	354	0	7	1	5	0
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1435	642	83	1461	14	755	0	335	14	68	0
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.21	0.00	0.21	0.04	0.04	0.00
Sat Flow, veh/h	1774	3539	1582	1774	3592	35	3548	0	1574	308	1539	0
Grp Volume(v), veh/h	7	741	147	8	358	375	354	0	7	6	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1857	1774	0	1574	1847	0	0
Q Serve(g_s), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		0.00
Lane Grp Cap(c), veh/h	81	1435	642	83	720	755	755	0	335	82	0	0
V/C Ratio(X)	0.09	0.52	0.23	0.10	0.50	0.50	0.47	0.00	0.02	0.07	0.00	0.00
Avail Cap(c_a), veh/h	279	3597	1608	279	1799	1887	2833	0	1257	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	9.2	8.0	18.9	9.1	9.1	14.2	0.0	12.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	1.1	0.1	3.1	3.2	1.8	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.5	8.2	19.3	9.6	9.6	14.7	0.0	12.9	19.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B		B	B		
Approach Vol, veh/h		895			741			361			6	
Approach Delay, s/veh		9.4			9.7			14.6			19.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	4.9	19.8		4.8	4.9	19.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.5	5.0	40.5		5.0	5.0	40.5				
Max Q Clear Time (g_c+I1), s		5.6	2.2	8.5		2.1	2.2	8.2				
Green Ext Time (p_c), s		1.3	0.0	6.5		0.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	395	127	172	212	6	310	42	43	2	28	16
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	927	391	417	1034	29	521	247	253	170	215	112
Arrive On Green	0.08	0.25	0.25	0.12	0.29	0.29	0.29	0.29	0.29	0.10	0.10	0.10
Sat Flow, veh/h	1774	3725	1570	3442	3515	99	1774	841	861	1774	2239	1167
Grp Volume(v), veh/h	44	395	127	172	106	112	310	0	85	2	22	22
Grp Sat Flow(s),veh/h/ln	1774	1863	1570	1721	1770	1845	1774	0	1702	1774	1770	1636
Q Serve(g_s), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Cycle Q Clear(g_c), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	135	927	391	417	520	542	521	0	500	170	170	157
V/C Ratio(X)	0.33	0.43	0.33	0.41	0.20	0.21	0.59	0.00	0.17	0.01	0.13	0.14
Avail Cap(c_a), veh/h	818	2763	1164	1587	1313	1368	1316	0	1263	1102	1100	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.3	20.3	13.2	13.2	15.1	0.0	13.1	20.4	20.6	20.7
Incr Delay (d2), s/veh	1.4	0.3	0.5	0.7	0.2	0.2	1.1	0.0	0.2	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.5	1.1	1.1	1.2	3.8	0.0	0.9	0.0	0.3	0.3
LnGrp Delay(d),s/veh	23.2	16.1	15.8	20.9	13.4	13.4	16.2	0.0	13.3	20.4	21.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		B	C	C	C
Approach Vol, veh/h	566				390		395				46	
Approach Delay, s/veh	16.6				16.7		15.5				21.0	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.7	9.0	15.4		7.8	6.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		9.5	4.3	6.4		2.6	3.2	4.3				
Green Ext Time (p_c), s		2.5	0.5	3.2		0.2	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	16.5											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	228	56	60	461	21	272	526	252	41	105	28
Adj No. of Lanes	1	2	1	2	2	0	1	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1065	468	278	961	44	381	1252	528	122	527	136
Arrive On Green	0.10	0.30	0.30	0.08	0.28	0.28	0.22	0.34	0.34	0.07	0.19	0.19
Sat Flow, veh/h	1774	3539	1557	3442	3447	157	1774	3725	1569	1774	2777	714
Grp Volume(v), veh/h	104	228	56	60	236	246	272	526	252	41	65	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1557	1721	1770	1834	1774	1863	1569	1774	1770	1721
Q Serve(g_s), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Cycle Q Clear(g_c), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	182	1065	468	278	494	511	381	1252	528	122	336	327
V/C Ratio(X)	0.57	0.21	0.12	0.22	0.48	0.48	0.71	0.42	0.48	0.34	0.19	0.21
Avail Cap(c_a), veh/h	662	2920	1284	404	1007	1044	978	3868	1629	208	1070	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.3	24.2	16.9	16.9	20.5	14.4	14.8	25.0	19.2	19.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.4	0.7	0.7	2.5	0.2	0.7	1.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	0.6	0.4	3.1	3.2	4.2	3.2	3.1	0.7	0.9	0.9
LnGrp Delay(d),s/veh	26.8	14.8	14.4	24.6	17.6	17.6	23.0	14.7	15.4	26.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		388			542			1050			174	
Approach Delay, s/veh		18.0			18.4			17.0			21.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	21.9	7.5	19.9	15.1	13.7	8.8	18.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	56.9	5.1	44.9	29.5	32.5	19.5	30.5					
Max Q Clear Time (g_c+I), s	9.1	2.9	4.7	10.0	3.9	5.1	8.3					
Green Ext Time (p_c), s	0.0	5.1	0.0	1.8	0.8	0.7	2.9					
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	738	438	73	1148	74	651	155	86	131	190	126
Future Volume (veh/h)	182	738	438	73	1148	74	651	155	86	131	190	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1275	1471	1863	980	1520	1900	1716	1569	1600	1900	1569	1569
Adj Flow Rate, veh/h	182	738	338	73	1148	74	651	155	86	131	190	28
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	981	898	86	1162	75	732	217	121	142	205	279
Arrive On Green	0.15	0.35	0.35	0.09	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1214	2794	1516	934	3973	256	3170	941	522	627	910	1238
Grp Volume(v), veh/h	182	738	338	73	799	423	651	0	241	321	0	28
Grp Sat Flow(s),veh/h/ln	1214	1397	1516	934	1383	1463	1585	0	1463	1537	0	1238
Q Serve(g_s), s	17.9	27.9	14.4	9.2	34.4	34.4	23.8	0.0	18.1	24.4	0.0	2.1
Cycle Q Clear(g_c), s	17.9	27.9	14.4	9.2	34.4	34.4	23.8	0.0	18.1	24.4	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.36	0.41		1.00
Lane Grp Cap(c), veh/h	183	981	898	86	809	428	732	0	338	347	0	279
V/C Ratio(X)	1.00	0.75	0.38	0.85	0.99	0.99	0.89	0.00	0.71	0.93	0.00	0.10
Avail Cap(c_a), veh/h	183	981	898	86	809	428	742	0	342	347	0	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.8	34.2	13.4	53.5	42.1	42.1	44.5	0.0	42.4	45.3	0.0	36.7
Incr Delay (d2), s/veh	65.5	3.3	0.3	51.6	28.4	40.3	12.7	0.0	6.8	30.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.2	9.4	3.6	16.3	18.7	11.7	0.0	7.9	13.2	0.0	0.7
LnGrp Delay(d),s/veh	116.3	37.5	13.7	105.1	70.5	82.4	57.2	0.0	49.1	75.3	0.0	36.8
LnGrp LOS	F	D	B	F	E	F	E		D	E		D
Approach Vol, veh/h	1258			1295			892			349		
Approach Delay, s/veh	42.5			76.3			55.0			72.2		
Approach LOS	D			E			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	14.0	45.0		30.0	21.0	38.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	9.5	40.5		25.5	16.5	33.5				
Max Q Clear Time (g_c+I1), s		25.8	11.2	29.9		26.4	19.9	36.4				
Green Ext Time (p_c), s		0.4	0.0	4.7		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	59.7											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	158	241	62	94	511	0	213	224	132	202	261	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	688	558	153	616	524	278	539	302	271	461	392
Arrive On Green	0.12	0.11	0.11	0.02	0.10	0.00	0.16	0.25	0.25	0.15	0.25	0.00
Sat Flow, veh/h	1774	1863	1511	1774	1863	1583	1774	2150	1204	1774	1863	1583
Grp Volume(v), veh/h	158	241	62	94	511	0	213	182	174	202	261	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1511	1774	1863	1583	1774	1770	1585	1774	1863	1583
Q Serve(g_s), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Cycle Q Clear(g_c), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	221	688	558	153	616	524	278	444	398	271	461	392
V/C Ratio(X)	0.71	0.35	0.11	0.61	0.83	0.00	0.77	0.41	0.44	0.74	0.57	0.00
Avail Cap(c_a), veh/h	250	712	578	258	721	612	312	656	587	445	830	705
HCM Platoon Ratio	1.00	0.30	0.30	0.20	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	28.5	25.3	40.5	36.0	0.0	34.5	26.7	26.9	34.5	28.1	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.1	4.0	7.0	0.0	9.8	0.6	0.8	4.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.3	1.3	2.4	13.1	0.0	5.6	3.7	3.5	4.8	5.5	0.0
LnGrp Delay(d),s/veh	44.0	28.8	25.4	44.5	43.1	0.0	44.3	27.3	27.6	38.6	29.2	0.0
LnGrp LOS	D	C	C	D	D		D	C	C	D	C	
Approach Vol, veh/h		461			605			569			463	
Approach Delay, s/veh		33.5			43.3			33.8			33.3	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	24.4	10.4	34.5	16.3	24.1	13.6	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.9	30.1	10.9	31.1	13.5	36.5	10.5	31.5				
Max Q Clear Time (g_c+1), s	11.3	9.9	6.5	12.2	11.8	12.5	9.3	25.0				
Green Ext Time (p_c), s	0.4	2.1	0.1	1.5	0.1	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			36.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

6: Norfolk St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	👉👉👉	👉👉👉	👉	👉👉👉	👉👉👉		👉👉	👉		👉	👉	👉
Traffic Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	10	30	0	0	0	0	30	27	13
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	2157	2157	1765	2157	2200	1863	2141	2100	1863	1863	2157
Adj Flow Rate, veh/h	308	1041	178	50	1960	84	406	132	59	51	262	210
Adj No. of Lanes	2	3	1	1	3	0	2	1	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	3494	975	104	2611	100	545	220	98	295	314	297
Arrive On Green	0.15	0.56	0.56	0.05	0.45	0.45	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3361	6471	1805	1681	5784	247	3442	1390	621	1774	1863	1783
Grp Volume(v), veh/h	308	1041	178	50	1329	715	406	0	191	51	262	210
Grp Sat Flow(s),veh/h/ln	1681	2157	1805	1681	1963	2106	1721	0	2012	1774	1863	1783
Q Serve(g_s), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Cycle Q Clear(g_c), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	510	3494	975	104	1762	947	545	0	318	295	314	297
V/C Ratio(X)	0.60	0.30	0.18	0.48	0.75	0.76	0.75	0.00	0.60	0.17	0.83	0.71
Avail Cap(c_a), veh/h	519	3600	1004	126	1762	945	663	0	387	299	314	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	20.2	18.8	74.4	38.1	38.0	64.3	0.0	62.6	61.9	66.5	65.2
Incr Delay (d2), s/veh	1.9	0.2	0.4	3.5	3.1	5.6	3.7	0.0	1.8	0.3	17.2	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	130.0	3.8	3.3	0.0	0.0	0.0	90.3	234.3	47.0
%ile BackOfQ(50%),veh/ln	6.5	8.4	4.1	7.8	28.7	31.4	8.8	0.0	8.0	14.8	35.8	15.9
LnGrp Delay(d),s/veh	65.3	20.4	19.2	207.9	44.9	46.9	67.9	0.0	64.4	152.5	318.0	119.5
LnGrp LOS	E	C	B	F	D	D	E		E	F	F	F
Approach Vol, veh/h	1527			2094			597			523		
Approach Delay, s/veh	29.3			49.5			66.8			222.2		
Approach LOS	C			D			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	28.3		10.5	92.0	29.2		27.7	74.8				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	29.3		10.5	76.7	25.5		16.8	70.3				
Max Q Clear Time (g_c+I1), s	20.0		6.7	15.6	23.9		15.6	47.4				
Green Ext Time (p_c), s	1.9		0.0	9.8	0.4		0.1	15.3				
Intersection Summary												
HCM 2010 Ctrl Delay	64.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	818	129	183	656	118	69	56	140	83	153	7
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1247	197	285	998	818	170	111	216	209	297	12
Arrive On Green	0.03	0.41	0.41	0.16	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3041	480	1774	1863	1526	320	437	849	451	1167	48
Grp Volume(v), veh/h	4	476	471	183	656	118	265	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1863	1526	1607	0	0	1666	0	0
Q Serve(g_s), s	0.1	11.1	11.1	5.0	12.9	2.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.1	11.1	5.0	12.9	2.0	7.0	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.26		0.53	0.34		0.03
Lane Grp Cap(c), veh/h	61	725	718	285	998	818	497	0	0	517	0	0
V/C Ratio(X)	0.07	0.66	0.66	0.64	0.66	0.14	0.53	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	228	1210	1198	615	1681	1377	931	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	12.2	12.2	20.2	8.5	6.0	16.9	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	2.4	0.7	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.6	5.6	2.6	6.8	0.8	3.4	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	24.4	13.2	13.2	22.6	9.3	6.1	17.8	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h		951			957			265			243	
Approach Delay, s/veh		13.3			11.4			17.8			17.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.2	24.0		16.0	4.8	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.6	16.3	33.6		26.6	5.1	44.8				
Max Q Clear Time (g_c+I1), s		9.0	7.0	13.1		8.1	2.1	14.9				
Green Ext Time (p_c), s		1.6	0.3	6.4		1.4	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

10/18/2019

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Future Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.95	0.99		0.94	0.99		0.94	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900	
Adj Flow Rate, veh/h	48	291	81	85	277	53	87	254	19	205	230	110	
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	443	645	180	412	696	133	416	788	59	475	539	258	
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	
Sat Flow, veh/h	1035	1395	388	1003	1505	288	988	1704	127	1045	1166	558	
Grp Volume(v), veh/h	48	0	372	85	0	330	87	0	273	205	0	340	
Grp Sat Flow(s),veh/h/ln	1035	0	1784	1003	0	1793	988	0	1831	1045	0	1724	
Q Serve(g_s), s	2.6	0.0	11.3	5.0	0.0	9.7	5.2	0.0	7.5	12.3	0.0	10.6	
Cycle Q Clear(g_c), s	12.3	0.0	11.3	16.4	0.0	9.7	15.7	0.0	7.5	19.9	0.0	10.6	
Prop In Lane	1.00		0.22	1.00		0.16	1.00		0.07	1.00		0.32	
Lane Grp Cap(c), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
V/C Ratio(X)	0.11	0.00	0.45	0.21	0.00	0.40	0.21	0.00	0.32	0.43	0.00	0.43	
Avail Cap(c_a), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	18.2	0.0	14.6	20.2	0.0	14.2	19.7	0.0	13.6	19.9	0.0	14.4	
Incr Delay (d2), s/veh	0.5	0.0	1.8	1.1	0.0	1.4	1.1	0.0	1.0	2.9	0.0	1.7	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.0	1.5	0.0	5.1	1.5	0.0	4.0	3.9	0.0	5.4	
LnGrp Delay(d),s/veh	18.7	0.0	16.4	21.3	0.0	15.6	20.8	0.0	14.6	22.7	0.0	16.1	
LnGrp LOS	B		B	C		B	C		B	C		B	
Approach Vol, veh/h	420				415				360				545
Approach Delay, s/veh	16.6				16.8				16.1				18.6
Approach LOS	B				B				B				B
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	2		4		6		8						
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0						
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5						
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	17.7		14.3		21.9		18.4						
Green Ext Time (p_c), s	2.0		2.5		2.7		2.2						
Intersection Summary													
HCM 2010 Ctrl Delay			17.2										
HCM 2010 LOS			B										

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1236	11	0	0	0	0	57	259	308	253	0
Future Volume (veh/h)	20	1236	11	0	0	0	0	57	259	308	253	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1569	1700				0	1667	1078	1569	1471	0
Adj Flow Rate, veh/h	20	1236	11				0	62	60	280	291	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	609	1680	15				0	236	126	427	421	0
Arrive On Green	0.38	0.38	0.38				0.00	0.14	0.14	0.29	0.29	0.00
Sat Flow, veh/h	1587	4377	39				0	1667	891	1494	1471	0
Grp Volume(v), veh/h	20	806	441				0	62	60	280	291	0
Grp Sat Flow(s),veh/h/ln	1587	1427	1561				0	1667	891	1494	1471	0
Q Serve(g_s), s	0.4	11.6	11.6				0.0	1.6	3.0	7.9	8.4	0.0
Cycle Q Clear(g_c), s	0.4	11.6	11.6				0.0	1.6	3.0	7.9	8.4	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	609	1096	599				0	236	126	427	421	0
V/C Ratio(X)	0.03	0.74	0.74				0.00	0.26	0.48	0.66	0.69	0.00
Avail Cap(c_a), veh/h	664	1195	653				0	733	392	625	616	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.2	12.6	12.6				0.0	18.3	18.9	15.0	15.2	0.0
Incr Delay (d2), s/veh	0.0	2.2	4.0				0.0	0.6	2.8	1.7	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	4.8	5.6				0.0	0.8	0.8	3.4	3.6	0.0
LnGrp Delay(d),s/veh	9.2	14.8	16.6				0.0	18.9	21.6	16.7	17.2	0.0
LnGrp LOS	A	B	B					B	C	B	B	
Approach Vol, veh/h		1267						122			571	
Approach Delay, s/veh		15.4						20.2			17.0	
Approach LOS		B						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		9.8		21.3		16.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		19.5		18.5		18.5						
Max Q Clear Time (g_c+I1), s		5.0		13.6		10.4						
Green Ext Time (p_c), s		0.4		3.2		1.8						
Intersection Summary												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.94	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	331	197	66	78	11	182	206	41	53	224	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	612	355	134	914	126	389	408	328	420	335	87
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.29	0.22	0.22	0.22	0.24	0.24	0.24
Sat Flow, veh/h	1774	2123	1231	1774	3102	426	1774	1863	1497	1774	1416	367
Grp Volume(v), veh/h	52	274	254	66	44	45	182	206	41	53	0	282
Grp Sat Flow(s),veh/h/ln	1774	1770	1584	1774	1770	1758	1774	1863	1497	1774	0	1783
Q Serve(g_s), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Cycle Q Clear(g_c), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Prop In Lane	1.00		0.78	1.00		0.24	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	510	457	134	522	518	389	408	328	420	0	422
V/C Ratio(X)	0.42	0.54	0.56	0.49	0.08	0.09	0.47	0.50	0.12	0.13	0.00	0.67
Avail Cap(c_a), veh/h	189	706	632	187	703	698	667	701	563	654	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	19.9	20.0	29.5	16.9	17.0	22.6	22.8	20.8	20.0	0.0	23.0
Incr Delay (d2), s/veh	2.3	0.9	1.1	2.8	0.1	0.1	0.9	1.0	0.2	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.1	1.3	0.6	0.6	3.0	3.4	0.6	0.8	0.0	4.9
LnGrp Delay(d),s/veh	32.0	20.8	21.1	32.3	17.0	17.0	23.5	23.7	21.0	20.1	0.0	24.8
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h	580				155		429				335	
Approach Delay, s/veh	21.9				23.5		23.4				24.1	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	17.6		8.0	22.2	18.7		7.6	22.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	23.5		5.5	25.0	23.0		5.6	24.9				
Max Q Clear Time (g_c+I1), s	8.5		4.4	11.0	11.5		3.9	3.2				
Green Ext Time (p_c), s	1.6		0.0	3.0	1.4		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	528	219	486	556	0				134	162	228
Adj No. of Lanes	0	1	1	1	1	0				1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	581	469	535	1202	0				517	543	447
Arrive On Green	0.00	0.31	0.31	0.30	0.65	0.00				0.29	0.29	0.29
Sat Flow, veh/h	0	1863	1503	1774	1863	0				1774	1863	1532
Grp Volume(v), veh/h	0	528	219	486	556	0				134	162	228
Grp Sat Flow(s),veh/h/ln	0	1863	1503	1774	1863	0				1774	1863	1532
Q Serve(g_s), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Cycle Q Clear(g_c), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	581	469	535	1202	0				517	543	447
V/C Ratio(X)	0.00	0.91	0.47	0.91	0.46	0.00				0.26	0.30	0.51
Avail Cap(c_a), veh/h	0	588	475	542	1216	0				517	543	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.61	0.61	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	26.3	31.9	8.5	0.0				25.8	26.1	28.0
Incr Delay (d2), s/veh	0.0	12.1	0.4	19.2	0.3	0.0				1.2	1.4	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	4.7	15.1	7.4	0.0				2.9	3.5	5.5
LnGrp Delay(d),s/veh	0.0	43.4	26.7	51.1	8.8	0.0				27.0	27.5	32.1
LnGrp LOS		D	C	D	A					C	C	C
Approach Vol, veh/h		747			1042						524	
Approach Delay, s/veh		38.5			28.5						29.4	
Approach LOS		D			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			31.6	32.7		30.7		64.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			27.5	28.5		25.5		60.5				
Max Q Clear Time (g_c+I1), s			27.0	27.8		13.8		16.3				
Green Ext Time (p_c), s			0.1	0.3		1.7		4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 					  	 	
Traffic Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	980	0				1863	1863	0
Adj Flow Rate, veh/h	0	1270	314	0	1459	0				53	229	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	2358	686	0	1489	0				279	287	0
Arrive On Green	0.00	0.84	0.84	0.00	1.00	0.00				0.08	0.08	0.00
Sat Flow, veh/h	0	2843	812	0	1961	0				3442	3632	0
Grp Volume(v), veh/h	0	1270	314	0	1459	0				53	229	0
Grp Sat Flow(s),veh/h/ln	0	931	812	0	882	0				1721	1770	0
Q Serve(g_s), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Cycle Q Clear(g_c), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	2358	686	0	1489	0				279	287	0
V/C Ratio(X)	0.00	0.54	0.46	0.00	0.98	0.00				0.19	0.80	0.00
Avail Cap(c_a), veh/h	0	2358	686	0	1489	0				1506	1548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.56	0.56	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	1.8	1.6	0.0	0.0	0.0				34.3	36.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	19.0	0.0				0.3	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.9	0.0	3.9	0.0				0.6	2.7	0.0
LnGrp Delay(d),s/veh	0.0	2.3	2.8	0.0	19.0	0.0				34.6	41.2	0.0
LnGrp LOS		A	A		B					C	D	
Approach Vol, veh/h		1584			1459						282	
Approach Delay, s/veh		2.4			19.0						39.9	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				70.5		9.5		70.5				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				37.5		33.5		37.5				
Max Q Clear Time (g_c+l1), s				12.4		3.1		2.0				
Green Ext Time (p_c), s				11.2		0.0		14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.97		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	612	107	118	541	28	144	79	133	51	105	15
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1463	255	458	856	44	457	217	528	235	410	49
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	832	2995	522	722	1753	91	847	630	1534	304	1190	144
Grp Volume(v), veh/h	7	361	358	118	0	569	223	0	133	171	0	0
Grp Sat Flow(s),veh/h/ln	832	1770	1748	722	0	1843	1476	0	1534	1638	0	0
Q Serve(g_s), s	0.2	4.7	4.7	4.5	0.0	8.2	1.2	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	4.7	4.7	9.2	0.0	8.2	3.6	0.0	2.2	2.4	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.05	0.65		1.00	0.30		0.09
Lane Grp Cap(c), veh/h	417	864	854	458	0	900	673	0	528	694	0	0
V/C Ratio(X)	0.02	0.42	0.42	0.26	0.00	0.63	0.33	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	707	1482	1463	710	0	1543	1128	0	1027	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.9	5.9	8.9	0.0	6.8	8.8	0.0	8.4	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.0	0.7	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.3	0.9	0.0	4.3	1.7	0.0	1.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	9.9	6.2	6.2	9.2	0.0	7.5	9.1	0.0	8.7	8.7	0.0	0.0
LnGrp LOS	A	A	A	A		A	A		A	A		
Approach Vol, veh/h		726			687			356			171	
Approach Delay, s/veh		6.3			7.8			8.9			8.7	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		20.5		15.3		20.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.6		10.4		4.4		11.2				
Green Ext Time (p_c), s		1.7		4.4		0.9		4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.89	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	57	19	138	168	117	61	277	73	113	196	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	319	106	223	309	215	144	432	114	192	500	107
Arrive On Green	0.05	0.24	0.24	0.13	0.31	0.31	0.08	0.31	0.31	0.11	0.34	0.34
Sat Flow, veh/h	1774	1325	442	1774	991	690	1774	1383	365	1774	1473	316
Grp Volume(v), veh/h	24	0	76	138	0	285	61	0	350	113	0	238
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	0	1681	1774	0	1748	1774	0	1789
Q Serve(g_s), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Cycle Q Clear(g_c), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Prop In Lane	1.00		0.25	1.00		0.41	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	97	0	425	223	0	525	144	0	545	192	0	607
V/C Ratio(X)	0.25	0.00	0.18	0.62	0.00	0.54	0.42	0.00	0.64	0.59	0.00	0.39
Avail Cap(c_a), veh/h	441	0	941	441	0	896	441	0	931	441	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	17.0	23.3	0.0	16.0	24.6	0.0	16.7	23.9	0.0	14.2
Incr Delay (d2), s/veh	1.3	0.0	0.2	2.8	0.0	0.9	2.0	0.0	1.3	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	2.2	0.0	3.8	1.0	0.0	4.9	1.8	0.0	2.8
LnGrp Delay(d),s/veh	26.8	0.0	17.2	26.1	0.0	16.9	26.6	0.0	17.9	26.7	0.0	14.6
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	100			423			411			351		
Approach Delay, s/veh	19.5			19.9			19.2			18.5		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	20.6	10.1	16.5	7.6	22.1	6.1	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+I_1), s	11.7	11.7	6.2	3.9	3.8	7.7	2.7	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.2	0.3	0.1	1.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	19.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	111	264	459	89	28	268	0	0	529	17
Future Volume (veh/h)	30	0	111	264	459	89	28	268	0	0	529	17
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	1471	980	0	0	1078	1900
Adj Flow Rate, veh/h	30	0	11	264	459	89	28	268	0	0	529	17
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	607	999	192	67	907	0	0	653	21
Arrive On Green	0.02	0.00	0.02	0.34	0.34	0.34	0.05	0.49	0.00	0.00	0.32	0.32
Sat Flow, veh/h		0		1774	2922	561	1401	1912	0	0	2077	65
Grp Volume(v), veh/h		0.0		264	276	272	28	268	0	0	268	278
Grp Sat Flow(s),veh/h/ln				1774	1770	1714	1401	931	0	0	1025	1063
Q Serve(g_s), s				7.4	7.8	8.0	1.2	5.5	0.0	0.0	15.4	15.5
Cycle Q Clear(g_c), s				7.4	7.8	8.0	1.2	5.5	0.0	0.0	15.4	15.5
Prop In Lane				1.00		0.33	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				607	605	586	67	907	0	0	331	343
V/C Ratio(X)				0.44	0.46	0.46	0.42	0.30	0.00	0.00	0.81	0.81
Avail Cap(c_a), veh/h				607	605	586	120	926	0	0	382	397
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.4	16.5	16.6	29.8	9.9	0.0	0.0	20.0	20.0
Incr Delay (d2), s/veh				2.3	2.5	2.6	4.1	0.2	0.0	0.0	10.9	10.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	4.3	4.2	0.6	1.4	0.0	0.0	5.3	5.5
LnGrp Delay(d),s/veh				18.6	19.0	19.2	33.9	10.1	0.0	0.0	30.8	30.7
LnGrp LOS				B	B	B	C	B			C	C
Approach Vol, veh/h					812			296			546	
Approach Delay, s/veh					18.9			12.3			30.8	
Approach LOS					B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		39.3			10.6	28.8		25.0				
Change Period (Y+Rc), s		9.5			9.0	* 9.5		4.5				
Max Green Setting (Gmax), s		30.5			4.0	* 23		20.5				
Max Q Clear Time (g_c+I1), s		7.5			3.2	17.5		10.0				
Green Ext Time (p_c), s		1.8			0.0	1.5		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	456	16	0	0	0	10	273	122	264	554	46
Future Volume (veh/h)	20	456	16	0	0	0	10	273	122	264	554	46
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900				1863	2451	1900	1078	2451	1900
Adj Flow Rate, veh/h	20	456	16				10	273	122	264	554	46
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	80	1919	71				44	418	180	335	1891	157
Arrive On Green	0.43	0.43	0.43				0.02	0.14	0.14	0.33	0.44	0.44
Sat Flow, veh/h	189	4504	166				1774	3092	1328	1027	4335	359
Grp Volume(v), veh/h	259	0	233				10	203	192	264	297	303
Grp Sat Flow(s),veh/h/ln	2442	0	2416				1774	2328	2091	1027	2328	2365
Q Serve(g_s), s	5.4	0.0	4.9				0.4	6.6	7.0	18.6	6.6	6.6
Cycle Q Clear(g_c), s	5.4	0.0	4.9				0.4	6.6	7.0	18.6	6.6	6.6
Prop In Lane	0.08		0.07				1.00		0.63	1.00		0.15
Lane Grp Cap(c), veh/h	1040	0	1030				44	315	283	335	1016	1032
V/C Ratio(X)	0.25	0.00	0.23				0.23	0.64	0.68	0.79	0.29	0.29
Avail Cap(c_a), veh/h	1040	0	1030				400	321	288	335	1016	1032
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.7	0.0	14.5				38.1	32.7	32.9	24.4	14.5	14.5
Incr Delay (d2), s/veh	0.6	0.0	0.5				2.6	4.3	6.2	17.0	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.4				0.2	4.6	4.5	6.9	4.3	4.3
LnGrp Delay(d),s/veh	15.3	0.0	15.1				40.7	36.9	39.0	41.4	14.7	14.7
LnGrp LOS	B		B				D	D	D	D	B	B
Approach Vol, veh/h		492						405			864	
Approach Delay, s/veh		15.2						38.0			22.9	
Approach LOS		B						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc),s	29.0	13.8		37.0	5.0	37.8						
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5						
Max Green Setting (Gmax),s	24.5	9.5		32.5	16.5	17.5						
Max Q Clear Time (g_c+20),s	20.6	9.0		7.4	2.4	8.6						
Green Ext Time (p_c), s	0.3	0.1		3.0	0.0	2.6						
Intersection Summary												
HCM 2010 Ctrl Delay			24.2									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	152	36	13	168	37	35	322	11	4	277	153
Future Volume (veh/h)	55	152	36	13	168	37	35	322	11	4	277	153
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	1900	1900	980	1900	1900	980	1900	1900	980	980
Adj Flow Rate, veh/h	55	152	36	13	168	37	35	322	11	4	277	85
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	186	40	55	226	48	78	467	15	47	536	452
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	138	621	132	25	754	159	53	850	28	3	975	821
Grp Volume(v), veh/h	243	0	0	218	0	0	368	0	0	281	0	85
Grp Sat Flow(s),veh/h/ln	891	0	0	938	0	0	930	0	0	978	0	821
Q Serve(g_s), s	4.3	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	4.2
Cycle Q Clear(g_c), s	21.1	0.0	0.0	16.8	0.0	0.0	22.5	0.0	0.0	14.5	0.0	4.2
Prop In Lane	0.23		0.15	0.06		0.17	0.10		0.03	0.01		1.00
Lane Grp Cap(c), veh/h	322	0	0	329	0	0	561	0	0	584	0	452
V/C Ratio(X)	0.75	0.00	0.00	0.66	0.00	0.00	0.66	0.00	0.00	0.48	0.00	0.19
Avail Cap(c_a), veh/h	322	0	0	329	0	0	561	0	0	584	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	0.0	25.5	0.0	0.0	13.1	0.0	0.0	11.4	0.0	9.0
Incr Delay (d2), s/veh	9.6	0.0	0.0	4.9	0.0	0.0	5.9	0.0	0.0	2.8	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	4.8	0.0	0.0	6.7	0.0	0.0	4.4	0.0	1.1
LnGrp Delay(d),s/veh	36.3	0.0	0.0	30.4	0.0	0.0	18.9	0.0	0.0	14.2	0.0	10.0
LnGrp LOS	D			C			B			B		A
Approach Vol, veh/h	243				218		368				366	
Approach Delay, s/veh	36.3				30.4		18.9				13.2	
Approach LOS	D				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		30.0		50.0		30.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	42.5		22.5		42.5		22.5					
Max Q Clear Time (g_c+I1), s	24.5		23.1		16.5		18.8					
Green Ext Time (p_c), s	2.3		0.0		2.1		0.4					
Intersection Summary												
HCM 2010 Ctrl Delay	22.8											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	194	50	51	235	16	54	261	31	9	343	72
Future Volume (veh/h)	53	194	50	51	235	16	54	261	31	9	343	72
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.97	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	53	194	50	51	235	16	54	261	31	9	343	72
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	217	432	102	213	522	33	213	594	65	134	628	130
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	193	1194	281	187	1441	91	159	1382	152	16	1461	302
Grp Volume(v), veh/h	297	0	0	302	0	0	346	0	0	424	0	0
Grp Sat Flow(s),veh/h/ln	1668	0	0	1719	0	0	1692	0	0	1778	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	3.6	0.0	0.0	3.8	0.0	0.0	5.1	0.0	0.0
Prop In Lane	0.18		0.17	0.17		0.05	0.16		0.09	0.02		0.17
Lane Grp Cap(c), veh/h	751	0	0	768	0	0	872	0	0	892	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.39	0.00	0.00	0.40	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	1670	0	0	1717	0	0	1679	0	0	1784	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.0	0.0	0.0	7.0	0.0	0.0	5.8	0.0	0.0	6.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.8	0.0	0.0	2.0	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	7.4	0.0	0.0	7.4	0.0	0.0	6.1	0.0	0.0	6.5	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	297				302				346		424	
Approach Delay, s/veh	7.4				7.4				6.1		6.5	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	15.4		13.4		15.4		13.4					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	5.8		5.7		7.1		5.6					
Green Ext Time (p_c), s	2.3		1.9		2.7		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	6.8											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	219	260	128	86	288	81	181	391	136	110	439	185
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1287	543	143	758	208	328	783	268	173	734	305
Arrive On Green	0.17	0.36	0.36	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	1774	3539	1493	1774	2721	749	3442	2558	876	1774	2380	989
Grp Volume(v), veh/h	219	260	128	86	185	184	181	269	258	110	325	299
Grp Sat Flow(s),veh/h/ln	1774	1770	1493	1774	1770	1700	1721	1770	1664	1774	1770	1600
Q Serve(g_s), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Cycle Q Clear(g_c), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.53	1.00		0.62
Lane Grp Cap(c), veh/h	295	1287	543	143	493	473	328	542	510	173	546	494
V/C Ratio(X)	0.74	0.20	0.24	0.60	0.38	0.39	0.55	0.50	0.51	0.64	0.59	0.61
Avail Cap(c_a), veh/h	538	1833	773	269	648	623	478	693	652	314	760	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.3	17.5	35.2	23.0	23.1	34.2	22.5	22.6	34.4	23.2	23.3
Incr Delay (d2), s/veh	3.7	0.1	0.2	4.0	0.5	0.5	1.5	0.7	0.8	3.8	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.0	2.0	2.0	3.3	3.3	2.0	4.9	4.7	2.5	6.1	5.7
LnGrp Delay(d),s/veh	35.1	17.4	17.7	39.1	23.5	23.6	35.7	23.2	23.3	38.2	24.2	24.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h	607			455			708			734		
Approach Delay, s/veh	23.8			26.5			26.4			26.4		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	27.3	9.4	31.8	10.5	27.4	16.2	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	29.5	10.5	39.5	9.5	32.5	22.5	27.5				
Max Q Clear Time (g_c+I), s	12.1	12.1	5.7	6.7	6.0	14.6	11.3	8.9				
Green Ext Time (p_c), s	0.1	3.1	0.1	2.2	0.2	3.8	0.5	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay	25.8											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	23	67	665	0	0	63	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	58	169	1219	0	544	386	0	606	0	6	0
Arrive On Green	0.00	0.14	0.14	0.34	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	421	1226	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	90	665	0	0	63	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1646	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.74	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	228	1219	0	544	386	0	606	0	6	0
V/C Ratio(X)	0.00	0.00	0.40	0.55	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1074	2610	0	1165	1157	0	1817	0	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.7	7.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	2.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.9	8.3	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			A					
Approach Vol, veh/h		90			665			63			0	
Approach Delay, s/veh		12.9			8.3			9.7			0.0	
Approach LOS		B			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		7.1		0.0		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		15.5		20.5				
Max Q Clear Time (g_c+I1), s		2.9		3.5		0.0		6.5				
Green Ext Time (p_c), s		0.2		0.3		0.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				8.9								
HCM 2010 LOS				A								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘	↗		↘		↗		↘	↗	
Traffic Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	117	234	35	270	0	392	0	197	248	261	158	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	210	421	507	0	0	0	0	517	448	541	965	0
Arrive On Green	0.34	0.34	0.34	0.03	0.00	0.03	0.00	0.29	0.29	0.16	0.52	0.00
Sat Flow, veh/h	611	1221	1472		0		0	1863	1533	3442	1863	0
Grp Volume(v), veh/h	351	0	35		0.0		0	197	248	261	158	0
Grp Sat Flow(s),veh/h/ln	1832	0	1472				0	1770	1533	1721	1863	0
Q Serve(g_s), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Prop In Lane	0.33		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	507				0	517	448	541	965	0
V/C Ratio(X)	0.56	0.00	0.07				0.00	0.38	0.55	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1468	0	1180				0	1086	940	1198	1919	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	9.6				0.0	12.3	13.0	16.8	5.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.1				0.0	0.5	1.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.3				0.0	1.9	2.6	1.5	1.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	9.7				0.0	12.8	14.1	17.5	5.6	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		386						445			419	
Approach Delay, s/veh		12.1						13.5			13.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	15.8		18.1		25.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	10.7	25.3		33.5		43.5						
Max Q Clear Time (g_c+I_1), s	15.0	8.0		8.8		4.0						
Green Ext Time (p_c), s	0.6	2.6		2.3		0.9						
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	238	352	84				0	436	212	276	579	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	536	563	464				0	1028	424	462	970	0
Arrive On Green	0.30	0.30	0.30				0.00	0.28	0.28	0.26	0.26	0.00
Sat Flow, veh/h	1774	1863	1535				0	3725	1535	1774	3725	0
Grp Volume(v), veh/h	238	352	84				0	436	212	276	579	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1535				0	1863	1535	1774	1863	0
Q Serve(g_s), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Cycle Q Clear(g_c), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	536	563	464				0	1028	424	462	970	0
V/C Ratio(X)	0.44	0.63	0.18				0.00	0.42	0.50	0.60	0.60	0.00
Avail Cap(c_a), veh/h	923	969	798				0	2072	854	668	1404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	16.7	14.4				0.0	16.5	17.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.6	1.1	0.2				0.0	0.3	0.9	1.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	1.0				0.0	2.8	2.8	3.8	3.9	0.0
LnGrp Delay(d),s/veh	16.3	17.9	14.5				0.0	16.8	17.9	19.3	18.6	0.0
LnGrp LOS	B	B	B					B	B	B	B	
Approach Vol, veh/h		674						648			855	
Approach Delay, s/veh		16.9						17.2			18.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		19.8		17.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.5		27.5		19.5						
Max Q Clear Time (g_c+l1), s		8.5		11.1		9.6						
Green Ext Time (p_c), s		3.6		2.9		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.97		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	1	82	0	59	0	518	37	451	608	3
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	159	59	402	0	281	0	1060	458	586	2499	12
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.00	0.30	0.30	0.33	0.69	0.69
Sat Flow, veh/h	431	863	323	1376	0	1528	0	3632	1530	1774	3611	18
Grp Volume(v), veh/h	5	0	0	82	0	59	0	518	37	451	298	313
Grp Sat Flow(s),veh/h/ln	1617	0	0	1376	0	1528	0	1770	1530	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Prop In Lane	0.40		0.20	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	401	0	0	402	0	281	0	1060	458	586	1225	1287
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.21	0.00	0.49	0.08	0.77	0.24	0.24
Avail Cap(c_a), veh/h	1045	0	0	973	0	918	0	2052	887	1616	2748	2887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	17.1	0.0	16.7	0.0	13.9	12.1	14.5	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.1	2.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.0	0.0	0.7	0.0	2.9	0.4	5.7	1.4	1.5
LnGrp Delay(d),s/veh	16.2	0.0	0.0	17.3	0.0	17.1	0.0	14.2	12.2	16.7	2.9	2.9
LnGrp LOS	B			B		B		B	B	B	A	A
Approach Vol, veh/h		5			141			555			1062	
Approach Delay, s/veh		16.2			17.2			14.1			8.7	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.0	17.5		11.9		36.4		11.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	40.5	26.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+1.0), s	13.0	7.8		2.1		5.0		4.5				
Green Ext Time (p_c), s	1.5	3.5		0.0		4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				11.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	448	240	100	197	286	428		
Future Volume (veh/h)	448	240	100	197	286	428		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	448	240	100	197	286	180		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1235	568	450	813	716	1027		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	511	2202	1863	2674		
Grp Volume(v), veh/h	448	240	155	142	286	180		
Grp Sat Flow(s),veh/h/ln	1721	1583	1018	1610	1863	1337		
Q Serve(g_s), s	2.2	2.7	0.6	1.4	2.6	1.0		
Cycle Q Clear(g_c), s	2.2	2.7	3.2	1.4	2.6	1.0		
Prop In Lane	1.00	1.00	0.65			1.00		
Lane Grp Cap(c), veh/h	1235	568	645	619	716	1027		
V/C Ratio(X)	0.36	0.42	0.24	0.23	0.40	0.18		
Avail Cap(c_a), veh/h	3170	1458	1293	1552	1796	2578		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.7	5.1	4.9	5.2	4.7		
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.2	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.8	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	5.7	6.2	5.3	5.0	5.6	4.8		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	688			297	466			
Approach Delay, s/veh	5.9			5.2	5.3			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		12.0		11.4		12.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+l1), s		5.2		4.7		4.6		
Green Ext Time (p_c), s		1.7		2.3		2.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.92	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	34	84	7	189	41	8	184	441	99	122	194	25
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	174	254	316	402	75	245	1661	370	181	1714	218
Arrive On Green	0.05	0.09	0.09	0.09	0.14	0.14	0.14	0.58	0.58	0.10	0.54	0.54
Sat Flow, veh/h	1774	1863	2716	3442	2933	547	1774	2867	638	1774	3156	401
Grp Volume(v), veh/h	34	84	7	189	24	25	184	271	269	122	108	111
Grp Sat Flow(s),veh/h/ln	1774	1863	1358	1721	1770	1710	1774	1770	1735	1774	1770	1788
Q Serve(g_s), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Cycle Q Clear(g_c), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	86	174	254	316	242	234	245	1025	1005	181	961	971
V/C Ratio(X)	0.40	0.48	0.03	0.60	0.10	0.11	0.75	0.26	0.27	0.68	0.11	0.11
Avail Cap(c_a), veh/h	138	503	733	371	531	513	276	1025	1005	250	961	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	37.1	39.3	34.0	34.0	37.3	9.4	9.4	39.0	10.0	10.0
Incr Delay (d2), s/veh	2.9	2.1	0.0	1.9	0.2	0.2	7.6	0.5	0.5	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.1	2.3	0.5	0.6	4.9	3.4	3.4	3.1	1.3	1.4
LnGrp Delay(d),s/veh	44.5	40.8	37.1	41.2	34.1	34.2	44.9	9.9	9.9	43.3	10.2	10.3
LnGrp LOS	D	D	D	D	C	C	D	A	A	D	B	B
Approach Vol, veh/h		125			238			724			341	
Approach Delay, s/veh		41.6			39.7			18.8			22.1	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	55.1	11.3	11.4	15.4	51.9	7.4	15.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.2	29.8	8.2	22.8	12.5	28.5	5.5	25.5				
Max Q Clear Time (g_c+I), s	10.0	9.0	6.7	5.9	11.0	4.7	3.7	3.2				
Green Ext Time (p_c), s	0.1	3.3	0.1	0.3	0.1	1.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.85	0.87		0.72	0.85		0.72	0.80		0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	29	15	17	57	54	38	139	33	36	120	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	450	222	105	294	249	140	465	102	166	514	40
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.83	0.83	0.83	0.41	0.41	0.41
Sat Flow, veh/h	19	1086	535	112	710	600	192	1123	245	249	1240	95
Grp Volume(v), veh/h	46	0	0	128	0	0	210	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1641	0	0	1422	0	0	1561	0	0	1584	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.33	0.13		0.42	0.18		0.16	0.22		0.06
Lane Grp Cap(c), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
V/C Ratio(X)	0.06	0.00	0.00	0.20	0.00	0.00	0.30	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.1	0.0	0.0	3.7	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	13.8	0.0	0.0	4.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	46			128			210			166		
Approach Delay, s/veh	12.5			13.8			4.8			14.0		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		4.0		3.2		6.1		5.9				
Green Ext Time (p_c), s		1.4		0.2		1.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				10.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.90	0.93		0.90	0.91		0.93	0.97		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	59	16	14	174	29	33	153	17	6	121	9
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	384	94	74	593	94	138	593	61	64	714	51
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.86	0.86	0.86
Sat Flow, veh/h	368	960	236	47	1483	236	183	1384	143	24	1666	120
Grp Volume(v), veh/h	106	0	0	217	0	0	203	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1766	0	0	1710	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	0.29		0.15	0.06		0.13	0.16		0.08	0.04		0.07
Lane Grp Cap(c), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.29	0.00	0.00	0.26	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.3	0.0	0.0	12.9	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.0	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.3	0.0	0.0	13.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	106			217			203			136		
Approach Delay, s/veh	13.9			15.3			13.6			3.3		
Approach LOS	B			B			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	7.0		4.7		2.9		7.8					
Green Ext Time (p_c), s	1.2		0.6		0.8		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	69	41	88	283	62	15	115	10	8	106	16
Future Volume (veh/h)	19	69	41	88	283	62	15	115	10	8	106	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.86	0.96		0.88	0.82		0.75	0.86		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	980	980	1961	1900	980	1900	1900	2451	1900
Adj Flow Rate, veh/h	19	69	41	88	283	34	15	115	10	8	106	16
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	244	131	402	499	750	85	217	18	85	523	76
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.55	0.55	0.55	0.27	0.27	0.27
Sat Flow, veh/h	71	480	257	646	980	1473	46	797	65	56	1917	277
Grp Volume(v), veh/h	129	0	0	88	283	34	140	0	0	130	0	0
Grp Sat Flow(s),veh/h/ln	808	0	0	646	980	1473	907	0	0	2250	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	11.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	8.8	11.0	0.6	5.3	0.0	0.0	2.4	0.0	0.0
Prop In Lane	0.15		0.32	1.00		1.00	0.11		0.07	0.06		0.12
Lane Grp Cap(c), veh/h	486	0	0	402	499	750	320	0	0	683	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.22	0.57	0.05	0.44	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	486	0	0	402	499	750	320	0	0	683	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.00	0.98	0.98	0.98	0.84	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	8.8	9.3	6.8	10.3	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.2	4.5	0.1	3.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	1.0	3.5	0.3	1.6	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	10.0	13.8	6.9	13.9	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	A			B	B	A	B			B		
Approach Vol, veh/h	129				405		140				130	
Approach Delay, s/veh	9.1				12.4		13.9				16.0	
Approach LOS	A				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	21.0		34.0		21.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	13.5		26.5		13.5		26.5					
Max Q Clear Time (g_c+I1), s	7.3		13.1		4.4		13.0					
Green Ext Time (p_c), s	0.3		0.5		0.4		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay			12.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	362	20	7	87	7	13	97	44	62	103	59
Future Volume (veh/h)	21	362	20	7	87	7	13	97	44	62	103	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.98		0.95	0.95		0.96	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900	1900	980	1900	1900	980	1900	1900	1176	1900
Adj Flow Rate, veh/h	21	362	20	7	87	7	13	97	44	62	103	59
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	973	53	81	409	31	81	185	78	145	169	83
Arrive On Green	0.48	0.48	0.45	0.48	0.48	0.45	0.30	0.30	0.28	0.51	0.51	0.46
Sat Flow, veh/h	54	2032	110	24	854	65	34	610	257	203	559	273
Grp Volume(v), veh/h	212	0	191	101	0	0	154	0	0	224	0	0
Grp Sat Flow(s),veh/h/ln	150	0	1045	943	0	0	901	0	0	1035	0	0
Q Serve(g_s), s	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	6.4	3.4	0.0	0.0	7.8	0.0	0.0	8.4	0.0	0.0
Prop In Lane	0.10		0.10	0.07		0.07	0.08		0.29	0.28		0.26
Lane Grp Cap(c), veh/h	623	0	501	522	0	0	344	0	0	397	0	0
V/C Ratio(X)	0.34	0.00	0.38	0.19	0.00	0.00	0.45	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	623	0	501	522	0	0	445	0	0	508	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	0.97	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	9.2	8.4	0.0	0.0	16.3	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.2	0.8	0.0	0.0	0.9	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	2.1	1.0	0.0	0.0	2.0	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	10.6	0.0	11.4	9.2	0.0	0.0	17.1	0.0	0.0	13.1	0.0	0.0
LnGrp LOS	B		B	A			B			B		
Approach Vol, veh/h	403				101				154			
Approach Delay, s/veh	11.0				9.2				17.1			
Approach LOS	B				A				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.7		32.3		22.7		32.3					
Change Period (Y+Rc), s	7.5		* 7.5		7.5		7.5					
Max Green Setting (Gmax), s	21.5		* 22		21.5		18.5					
Max Q Clear Time (g_c+I1), s	9.8		8.4		10.4		5.4					
Green Ext Time (p_c), s	0.6		1.9		1.0		0.4					
Intersection Summary												
HCM 2010 Ctrl Delay	12.4											
HCM 2010 LOS	B											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	251	54	21	239	11	32	126	56	13	94	23
Future Volume (veh/h)	16	251	54	21	239	11	32	126	56	13	94	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.98		0.96	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900	1900	1176	1900	1900	2451	1900	1900	1569	1900
Adj Flow Rate, veh/h	16	251	54	21	239	11	32	126	56	13	94	23
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	866	180	74	479	21	133	536	216	82	425	97
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	49	1894	393	41	1049	46	199	1443	582	69	1143	261
Grp Volume(v), veh/h	321	0	0	271	0	0	214	0	0	130	0	0
Grp Sat Flow(s),veh/h/ln	2336	0	0	1136	0	0	2224	0	0	1473	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.0	0.0	0.0	11.5	0.0	0.0	4.5	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.05		0.17	0.08		0.04	0.15		0.26	0.10		0.18
Lane Grp Cap(c), veh/h	1122	0	0	575	0	0	885	0	0	604	0	0
V/C Ratio(X)	0.29	0.00	0.00	0.47	0.00	0.00	0.24	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1122	0	0	575	0	0	885	0	0	604	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.9	0.0	0.0	13.4	0.0	0.0	15.2	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	2.8	0.0	0.0	0.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	0.0	0.0	4.1	0.0	0.0	3.0	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	12.6	0.0	0.0	16.2	0.0	0.0	15.9	0.0	0.0	15.9	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	321				271				214		130	
Approach Delay, s/veh	12.6				16.2				15.9		15.9	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	6.5		8.0		6.1		13.5					
Green Ext Time (p_c), s	1.2		2.1		0.6		1.5					
Intersection Summary												
HCM 2010 Ctrl Delay	14.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.91	0.93		0.87	0.95		0.91	0.94		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	85	26	7	155	51	13	99	15	12	173	66
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	268	73	60	513	164	96	617	88	67	523	191
Arrive On Green	0.67	0.67	0.67	0.80	0.80	0.80	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	549	670	183	18	1282	409	91	1439	205	31	1220	446
Grp Volume(v), veh/h	199	0	0	213	0	0	127	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1402	0	0	1710	0	0	1736	0	0	1698	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.44		0.13	0.03		0.24	0.10		0.12	0.05		0.26
Lane Grp Cap(c), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	0.0	4.4	0.0	0.0	12.3	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	0.0	0.0	1.6	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.4	0.0	0.0	12.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	199			213			127			251		
Approach Delay, s/veh	8.8			5.4			12.7			14.5		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	5.0		5.4		8.9		4.3					
Green Ext Time (p_c), s	0.7		1.3		1.5		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	10.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

35: Ellsowrth Ave/Ellsworth Ave & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	0.94		0.91	0.95		0.91	0.94		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	104	19	12	255	43	3	48	8	8	151	35
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	514	83	104	604	99	104	448	72	103	423	95
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	177	1276	206	28	1500	246	33	1498	240	32	1414	318
Grp Volume(v), veh/h	153	0	0	310	0	0	59	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1660	0	0	1774	0	0	1772	0	0	1764	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.0	0.0	0.0	1.0	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.20		0.12	0.04		0.14	0.05		0.14	0.04		0.18
Lane Grp Cap(c), veh/h	775	0	0	807	0	0	624	0	0	621	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.00	0.00	0.09	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1233	0	0	1321	0	0	1184	0	0	1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.7	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	10.3	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	153			310			59			194		
Approach Delay, s/veh	8.0			9.0			10.3			11.4		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.0		22.2		18.0		22.2					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+l1), s	3.0		4.2		5.5		7.0					
Green Ext Time (p_c), s	0.2		0.8		1.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	9.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	270	10	78	267	115	8	381	101	149	462	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	908	753	527	908	744	56	1500	664	294	906	77
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	989	1863	1546	1090	1863	1526	22	3428	1517	516	2071	176
Grp Volume(v), veh/h	29	270	10	78	267	115	208	181	101	292	0	357
Grp Sat Flow(s),veh/h/ln	989	1863	1546	1090	1863	1526	1839	1610	1517	1112	0	1651
Q Serve(g_s), s	1.4	7.0	0.3	3.7	6.9	3.3	0.0	5.7	3.2	12.3	0.0	12.4
Cycle Q Clear(g_c), s	8.3	7.0	0.3	10.6	6.9	3.3	5.7	5.7	3.2	18.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.11
Lane Grp Cap(c), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
V/C Ratio(X)	0.06	0.30	0.01	0.15	0.29	0.15	0.24	0.26	0.15	0.53	0.00	0.49
Avail Cap(c_a), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	12.3	10.6	15.5	12.3	11.4	14.2	14.3	13.6	18.3	0.0	16.2
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.6	0.8	0.4	0.7	0.9	0.5	3.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	0.1	1.2	3.7	1.5	3.0	2.7	1.4	5.6	0.0	6.1
LnGrp Delay(d),s/veh	15.0	13.1	10.6	16.1	13.1	11.8	14.9	15.1	14.0	21.8	0.0	18.6
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h	309			460			490			649		
Approach Delay, s/veh	13.2			13.3			14.8			20.0		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	33.5		37.5		33.5		37.5					
Max Q Clear Time (g_c+I1), s	7.7		10.3		20.0		12.6					
Green Ext Time (p_c), s	2.7		1.8		3.8		2.3					
Intersection Summary												
HCM 2010 Ctrl Delay	16.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT			NBT			SBT	
Traffic Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.98		0.98	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	342	56	93	260	52	31	526	58	86	463	29
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1123	177	231	476	86	145	1228	133	245	1085	67
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	226	2665	420	254	1129	204	84	2992	323	279	2644	164
Grp Volume(v), veh/h	238	0	214	405	0	0	322	0	293	286	0	292
Grp Sat Flow(s),veh/h/ln	1703	0	1608	1587	0	0	1768	0	1631	1432	0	1655
Q Serve(g_s), s	0.0	0.0	3.2	2.5	0.0	0.0	0.0	0.0	4.6	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.0	0.0	3.2	6.5	0.0	0.0	4.4	0.0	4.6	4.8	0.0	4.5
Prop In Lane	0.23		0.26	0.23		0.13	0.10		0.20	0.30		0.10
Lane Grp Cap(c), veh/h	842	0	678	793	0	0	836	0	670	719	0	679
V/C Ratio(X)	0.28	0.00	0.32	0.51	0.00	0.00	0.39	0.00	0.44	0.40	0.00	0.43
Avail Cap(c_a), veh/h	1548	0	1395	1464	0	0	3347	0	3104	2732	0	3149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	6.9	7.7	0.0	0.0	7.5	0.0	7.6	7.3	0.0	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.4	3.0	0.0	0.0	2.3	0.0	2.1	2.0	0.0	2.1
LnGrp Delay(d),s/veh	7.0	0.0	7.2	8.3	0.0	0.0	7.8	0.0	8.0	7.7	0.0	8.0
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	452				405		615				578	
Approach Delay, s/veh	7.1				8.3		7.9				7.8	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.7		18.1		17.7		18.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		29.5		66.5		29.5					
Max Q Clear Time (g_c+I1), s	6.6		5.2		6.8		8.5					
Green Ext Time (p_c), s	4.5		2.9		4.5		2.8					
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.98		0.93	0.99		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	207	34	9	145	75	13	177	22	29	251	132
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	631	104	63	456	227	73	654	78	596	474	249
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.84	0.84	0.84	0.42	0.42	0.42
Sat Flow, veh/h	1106	1549	255	24	1120	557	43	1552	185	1137	1125	592
Grp Volume(v), veh/h	265	0	241	229	0	0	212	0	0	29	0	383
Grp Sat Flow(s),veh/h/ln	1106	0	1804	1701	0	0	1780	0	0	1137	0	1716
Q Serve(g_s), s	7.3	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Cycle Q Clear(g_c), s	13.7	0.0	6.4	6.4	0.0	0.0	1.7	0.0	0.0	0.7	0.0	11.6
Prop In Lane	1.00		0.14	0.04		0.33	0.06		0.10	1.00		0.34
Lane Grp Cap(c), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
V/C Ratio(X)	0.49	0.00	0.33	0.31	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.53
Avail Cap(c_a), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	14.2	14.2	0.0	0.0	3.3	0.0	0.0	11.9	0.0	15.1
Incr Delay (d2), s/veh	3.1	0.0	1.2	1.1	0.0	0.0	0.8	0.0	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.4	3.2	0.0	0.0	0.9	0.0	0.0	0.4	0.0	6.0
LnGrp Delay(d),s/veh	19.6	0.0	15.4	15.3	0.0	0.0	4.1	0.0	0.0	12.1	0.0	17.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	506			229			212			412		
Approach Delay, s/veh	17.6			15.3			4.1			17.4		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.5		34.5		35.5		34.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.0		27.0		28.0		27.0					
Max Q Clear Time (g_c+I1), s	3.7		15.7		13.6		8.4					
Green Ext Time (p_c), s	1.2		2.1		2.2		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	15.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	0.97		0.96	0.97		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	137	37	27	228	47	6	116	17	16	223	41
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	488	121	93	638	124	63	576	81	581	559	103
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	273	1068	265	80	1397	272	24	1550	219	1215	1505	277
Grp Volume(v), veh/h	224	0	0	302	0	0	139	0	0	16	0	264
Grp Sat Flow(s),veh/h/ln	1607	0	0	1749	0	0	1794	0	0	1215	0	1782
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	7.7	0.0	0.0	3.7	0.0	0.0	0.4	0.0	7.7
Prop In Lane	0.22		0.17	0.09		0.16	0.04		0.12	1.00		0.16
Lane Grp Cap(c), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.40
Avail Cap(c_a), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.4	0.0	0.0	15.0	0.0	0.0	14.0	0.0	16.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	4.1
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.5	0.0	0.0	15.6	0.0	0.0	14.0	0.0	18.0
LnGrp LOS	B			B			B			B		B
Approach Vol, veh/h	224				302				139		280	
Approach Delay, s/veh	12.7				13.5				15.6		17.8	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+l1), s	5.7		7.4		9.7		9.7					
Green Ext Time (p_c), s	0.7		1.4		1.4		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

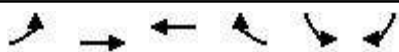
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.97		0.95	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	258	38	14	138	17	8	99	13	75	132	52
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	950	137	115	1025	124	75	751	95	252	429	157
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	289	2621	378	174	2828	341	55	1541	194	398	880	321
Grp Volume(v), veh/h	176	0	160	89	0	80	120	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1696	0	1591	1729	0	1614	1790	0	0	1600	0	0
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	5.7	2.5	0.0	2.7	2.9	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.23		0.24	0.16		0.21	0.07		0.11	0.29		0.20
Lane Grp Cap(c), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.13	0.00	0.14	0.13	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	18.1	17.1	0.0	17.1	11.2	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.4	0.0	0.5	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.7	1.4	0.0	1.3	1.5	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	18.9	0.0	19.3	17.5	0.0	17.6	11.5	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B		B	B		B	B			B		
Approach Vol, veh/h	336				169		120				259	
Approach Delay, s/veh	19.1				17.5		11.5				13.3	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	37.5		27.5		37.5		27.5					
Max Q Clear Time (g_c+l1), s	4.9		7.7		9.3		4.7					
Green Ext Time (p_c), s	0.7		2.0		1.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	16.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	94	282	237	79	100	82		
Future Volume (veh/h)	94	282	237	79	100	82		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.99			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1863	2451	1900	1863	2451		
Adj Flow Rate, veh/h	94	282	237	79	100	15		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	353	946	890	297	535	628		
Arrive On Green	0.51	0.51	0.51	0.51	0.30	0.30		
Sat Flow, veh/h	553	1863	1752	584	1774	2083		
Grp Volume(v), veh/h	94	282	0	316	100	15		
Grp Sat Flow(s),veh/h/ln	553	1863	0	2336	1774	2083		
Q Serve(g_s), s	7.3	5.5	0.0	4.9	2.6	0.3		
Cycle Q Clear(g_c), s	12.2	5.5	0.0	4.9	2.6	0.3		
Prop In Lane	1.00			0.25	1.00	1.00		
Lane Grp Cap(c), veh/h	353	946	0	1186	535	628		
V/C Ratio(X)	0.27	0.30	0.00	0.27	0.19	0.02		
Avail Cap(c_a), veh/h	353	946	0	1186	535	628		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.3	9.0	0.0	8.8	16.3	15.5		
Incr Delay (d2), s/veh	1.8	0.8	0.0	0.6	0.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	3.0	0.0	3.3	1.4	0.2		
LnGrp Delay(d),s/veh	14.1	9.8	0.0	9.4	17.1	15.5		
LnGrp LOS	B	A		A	B	B		
Approach Vol, veh/h		376	316		115			
Approach Delay, s/veh		10.9	9.4		16.9			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				38.0		25.0		38.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				30.5		17.5		30.5
Max Q Clear Time (g_c+l1), s				14.2		4.6		6.9
Green Ext Time (p_c), s				2.5		0.2		2.1
Intersection Summary								
HCM 2010 Ctrl Delay			11.1					
HCM 2010 LOS			B					

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.98		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	116	70	171	77	79	79	1085	178	121	1098	7
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	269	149	389	219	225	138	1520	249	192	1922	12
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.53	0.53
Sat Flow, veh/h	96	1021	567	1174	832	854	1774	3024	494	1774	3604	23
Grp Volume(v), veh/h	208	0	0	171	0	156	79	634	629	121	539	566
Grp Sat Flow(s),veh/h/ln	1684	0	0	1174	0	1686	1774	1770	1749	1774	1770	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	10.5	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Prop In Lane	0.11		0.34	1.00		0.51	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	499	0	0	389	0	444	138	890	879	192	943	990
V/C Ratio(X)	0.42	0.00	0.00	0.44	0.00	0.35	0.57	0.71	0.72	0.63	0.57	0.57
Avail Cap(c_a), veh/h	1147	0	0	851	0	1108	330	1855	1833	471	1996	2096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.5	0.0	21.4	31.8	13.8	13.8	30.5	11.2	11.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	0.5	3.7	1.1	1.1	3.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	3.1	0.0	2.6	1.7	9.8	9.9	2.5	7.2	7.5
LnGrp Delay(d),s/veh	22.6	0.0	0.0	24.3	0.0	21.9	35.5	14.8	14.9	33.9	11.8	11.7
LnGrp LOS	C			C		C	D	B	B	C	B	B
Approach Vol, veh/h	208			327			1342			1226		
Approach Delay, s/veh	22.6			23.1			16.1			13.9		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	39.0		21.8	8.6	41.1		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+I), s	11.5	22.0		9.2	5.1	16.6		12.5				
Green Ext Time (p_c), s	0.2	12.5		1.4	0.1	9.8		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	77	81	54	112	86	50	26	1263	108	34	1197	37
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	213	115	272	185	89	91	1879	159	101	1947	60
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	449	762	414	598	664	319	27	3132	265	41	3246	99
Grp Volume(v), veh/h	212	0	0	248	0	0	728	0	669	643	0	625
Grp Sat Flow(s),veh/h/ln	1624	0	0	1581	0	0	1779	0	1645	1710	0	1676
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	13.6	0.0	0.0	11.8
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.9	0.0	0.0	12.7	0.0	13.6	10.5	0.0	11.8
Prop In Lane	0.36		0.25	0.45		0.20	0.04		0.16	0.05		0.06
Lane Grp Cap(c), veh/h	552	0	0	546	0	0	1142	0	987	1102	0	1005
V/C Ratio(X)	0.38	0.00	0.00	0.45	0.00	0.00	0.64	0.00	0.68	0.58	0.00	0.62
Avail Cap(c_a), veh/h	907	0	0	892	0	0	1779	0	1612	1695	0	1643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.9	0.0	0.0	6.5	0.0	6.7	6.1	0.0	6.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.9	0.0	0.0	6.7	0.0	6.2	5.3	0.0	5.6
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.5	0.0	0.0	7.1	0.0	7.5	6.5	0.0	6.9
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	212			248			1397			1268		
Approach Delay, s/veh	15.1			15.5			7.3			6.7		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.7		16.8		32.7		16.8					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	15.6		6.8		13.8		7.9					
Green Ext Time (p_c), s	12.6		1.2		11.3		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	273	37	73	1105	1334	192		
Future Volume (veh/h)	273	37	73	1105	1334	192		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	273	37	73	1105	1334	192		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	364	49	134	2394	1732	247		
Arrive On Green	0.24	0.24	0.08	0.68	0.56	0.56		
Sat Flow, veh/h	1530	207	1774	3632	3198	443		
Grp Volume(v), veh/h	311	0	73	1105	755	771		
Grp Sat Flow(s),veh/h/ln	1742	0	1774	1770	1770	1778		
Q Serve(g_s), s	11.6	0.0	2.8	10.3	23.1	23.7		
Cycle Q Clear(g_c), s	11.6	0.0	2.8	10.3	23.1	23.7		
Prop In Lane	0.88	0.12	1.00			0.25		
Lane Grp Cap(c), veh/h	414	0	134	2394	987	992		
V/C Ratio(X)	0.75	0.00	0.54	0.46	0.77	0.78		
Avail Cap(c_a), veh/h	572	0	203	3084	1264	1270		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.7	0.0	31.2	5.3	11.9	12.1		
Incr Delay (d2), s/veh	3.6	0.0	3.4	0.1	2.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.5	5.0	11.7	12.0		
LnGrp Delay(d),s/veh	28.3	0.0	34.6	5.5	14.1	14.4		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	311			1178	1526			
Approach Delay, s/veh	28.3			7.3	14.3			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.4		19.7	8.3	42.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	6.5	48.5		
Max Q Clear Time (g_c+I1), s		12.3		13.6	4.8	25.7		
Green Ext Time (p_c), s		10.2		0.6	0.0	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

10/18/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	184	91	1307	436	81	1225		
Future Volume (veh/h)	184	91	1307	436	81	1225		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	184	20	1307	234	81	1225		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	303	270	1921	829	177	2495		
Arrive On Green	0.17	0.17	0.54	0.54	0.10	0.70		
Sat Flow, veh/h	1774	1583	3632	1528	1774	3632		
Grp Volume(v), veh/h	184	20	1307	234	81	1225		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1528	1774	1770		
Q Serve(g_s), s	4.6	0.5	12.9	4.0	2.1	7.5		
Cycle Q Clear(g_c), s	4.6	0.5	12.9	4.0	2.1	7.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	303	270	1921	829	177	2495		
V/C Ratio(X)	0.61	0.07	0.68	0.28	0.46	0.49		
Avail Cap(c_a), veh/h	1123	1002	2497	1078	239	3195		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.5	16.8	8.0	5.9	20.5	3.2		
Incr Delay (d2), s/veh	2.0	0.1	0.5	0.2	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.3	1.7	1.1	3.6		
LnGrp Delay(d),s/veh	20.5	16.9	8.5	6.1	22.3	3.4		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	204		1541			1306		
Approach Delay, s/veh	20.1		8.1			4.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.8	29.2				37.0		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	32.5	32.5				42.0		29.0
Max Q Clear Time (g_c+I_1), s	14.9	14.9				9.5		6.6
Green Ext Time (p_c), s	0.0	9.8				11.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	139	143	97	139	42	63	1318	66	31	1384	84
Future Volume (veh/h)	173	139	143	97	139	42	63	1318	66	31	1384	84
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.94	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	2451	1863	980	1863	1863	980	2451	1900	1765	2451	1900
Adj Flow Rate, veh/h	173	139	30	97	139	9	63	1318	66	31	1384	84
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	717	439	231	545	437	81	3692	185	76	3380	205
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.09	0.57	0.57	0.05	0.53	0.53
Sat Flow, veh/h	1195	2451	1501	620	1863	1494	934	6505	326	1681	6425	390
Grp Volume(v), veh/h	173	139	30	97	139	9	63	904	480	31	961	507
Grp Sat Flow(s),veh/h/ln	1195	2451	1501	620	1863	1494	934	2230	2370	1681	2230	2354
Q Serve(g_s), s	12.3	4.0	1.4	13.2	5.4	0.4	6.3	10.4	10.4	1.7	12.4	12.4
Cycle Q Clear(g_c), s	17.7	4.0	1.4	17.3	5.4	0.4	6.3	10.4	10.4	1.7	12.4	12.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.17
Lane Grp Cap(c), veh/h	357	717	439	231	545	437	81	2531	1345	76	2347	1239
V/C Ratio(X)	0.48	0.19	0.07	0.42	0.26	0.02	0.78	0.36	0.36	0.41	0.41	0.41
Avail Cap(c_a), veh/h	460	929	569	284	706	566	118	2531	1345	212	2347	1239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	0.93	0.93	0.93	0.91	0.91	0.91	0.85	0.85	0.85
Uniform Delay (d), s/veh	32.5	25.2	24.3	31.7	25.7	23.9	42.5	11.1	11.1	44.1	13.6	13.6
Incr Delay (d2), s/veh	1.0	0.1	0.1	1.1	0.2	0.0	16.5	0.4	0.7	3.0	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.8	0.6	2.3	2.8	0.2	2.0	6.5	7.1	0.9	7.8	8.3
LnGrp Delay(d),s/veh	33.5	25.3	24.3	32.8	25.9	23.9	59.0	11.5	11.8	47.1	14.0	14.4
LnGrp LOS	C	C	C	C	C	C	E	B	B	D	B	B
Approach Vol, veh/h		342			245			1447			1499	
Approach Delay, s/veh		29.4			28.6			13.7			14.9	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	56.9		30.8	11.2	53.0		30.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	36.5		34.5	10.5	36.5		34.5				
Max Q Clear Time (g_c+I),s	12.4	12.4		19.7	8.3	14.4		19.3				
Green Ext Time (p_c), s	0.0	10.4		1.3	0.0	10.7		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	112	16	87	57	56	45	1537	104	125	1345	34
Future Volume (veh/h)	63	112	16	87	57	56	45	1537	104	125	1345	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	1863	1900	980	2451	1900	2157	2451	1900
Adj Flow Rate, veh/h	63	112	4	87	57	56	45	1537	104	125	1345	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	169	452	203	255	251	76	3472	235	194	3740	95
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.51	0.51	0.09	0.52	0.52
Sat Flow, veh/h	249	556	1486	1231	839	824	934	6789	459	2054	7133	180
Grp Volume(v), veh/h	175	0	4	87	0	113	45	1110	531	125	924	455
Grp Sat Flow(s),veh/h/ln	805	0	1486	1231	0	1663	934	2451	2346	2054	2451	2411
Q Serve(g_s), s	14.7	0.0	0.2	6.8	0.0	5.1	4.6	14.3	14.3	5.9	11.1	11.1
Cycle Q Clear(g_c), s	19.7	0.0	0.2	26.5	0.0	5.1	4.6	14.3	14.3	5.9	11.1	11.1
Prop In Lane	0.36		1.00	1.00		0.50	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	294	0	452	203	0	506	76	2507	1200	194	2570	1264
V/C Ratio(X)	0.60	0.00	0.01	0.43	0.00	0.22	0.59	0.44	0.44	0.64	0.36	0.36
Avail Cap(c_a), veh/h	295	0	455	206	0	509	116	2507	1200	271	2570	1264
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	0.76	0.76	0.76	0.92	0.92	0.92
Uniform Delay (d), s/veh	31.2	0.0	24.3	42.9	0.0	26.0	44.3	15.4	15.4	43.6	13.9	13.9
Incr Delay (d2), s/veh	3.2	0.0	0.0	1.4	0.0	0.2	5.4	0.4	0.9	3.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.1	2.4	0.0	2.4	1.3	9.7	9.5	3.5	7.6	7.6
LnGrp Delay(d),s/veh	34.4	0.0	24.3	44.4	0.0	26.2	49.7	15.9	16.3	46.9	14.3	14.7
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	179		200			1686			1504			
Approach Delay, s/veh	34.2		34.1			16.9			17.1			
Approach LOS	C		C			B			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	54.1		33.4	11.2	55.4		33.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	45.7			29.1	10.9	46.5		29.1				
Max Q Clear Time (g_c+I),s	16.3			21.7	6.6	13.1		28.5				
Green Ext Time (p_c), s	0.1	14.2		0.5	0.0	11.7		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	187	74	59	1697	1479	154		
Future Volume (veh/h)	187	74	59	1697	1479	154		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	187	74	59	1697	1479	154		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	301	119	124	2870	3009	313		
Arrive On Green	0.25	0.25	0.64	0.64	0.64	0.64		
Sat Flow, veh/h	1217	482	80	4613	4844	487		
Grp Volume(v), veh/h	262	0	569	1187	1072	561		
Grp Sat Flow(s),veh/h/ln	1705	0	1456	1543	1695	1772		
Q Serve(g_s), s	7.5	0.0	0.0	12.2	9.0	9.0		
Cycle Q Clear(g_c), s	7.5	0.0	8.6	12.2	9.0	9.0		
Prop In Lane	0.71	0.28	0.10			0.27		
Lane Grp Cap(c), veh/h	421	0	1009	1985	2182	1141		
V/C Ratio(X)	0.62	0.00	0.56	0.60	0.49	0.49		
Avail Cap(c_a), veh/h	933	0	1426	3039	3340	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	0.0	5.0	5.7	5.1	5.1		
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.4	5.2	4.2	4.5		
LnGrp Delay(d),s/veh	19.9	0.0	5.5	6.0	5.3	5.4		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	262			1756	1633			
Approach Delay, s/veh	19.9			5.8	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		38.3		16.5		38.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		52.5		28.5		52.5		
Max Q Clear Time (g_c+l1), s		14.2		9.5		11.0		
Green Ext Time (p_c), s		19.6		0.8		16.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

10/18/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Future Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	45	86	79	236	84	23	270	1673	194	49	1471	39				
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	439	613	501	434	459	126	337	2349	271	102	1917	51				
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.51	0.51	0.06	0.38	0.38				
Sat Flow, veh/h	1243	1863	1521	1180	1396	382	1774	4616	534	1774	5092	135				
Grp Volume(v), veh/h	45	86	79	236	0	107	270	1227	640	49	979	531				
Grp Sat Flow(s),veh/h/ln	1243	1863	1521	1180	0	1778	1774	1695	1760	1774	1695	1837				
Q Serve(g_s), s	2.3	2.8	3.2	15.1	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Cycle Q Clear(g_c), s	6.0	2.8	3.2	17.9	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.30	1.00		0.07				
Lane Grp Cap(c), veh/h	439	613	501	434	0	585	337	1725	895	102	1276	691				
V/C Ratio(X)	0.10	0.14	0.16	0.54	0.00	0.18	0.80	0.71	0.71	0.48	0.77	0.77				
Avail Cap(c_a), veh/h	514	725	592	505	0	692	433	1990	1033	144	1438	779				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	22.7	20.3	20.4	26.6	0.0	20.6	33.3	16.3	16.3	39.3	23.5	23.5				
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.0	0.1	8.1	1.0	2.0	3.5	2.3	4.1				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.4	5.0	0.0	1.8	6.9	11.3	12.0	1.2	10.6	11.8				
LnGrp Delay(d),s/veh	22.8	20.4	20.6	27.7	0.0	20.8	41.4	17.3	18.3	42.8	25.8	27.7				
LnGrp LOS	C	C	C	C		C	D	B	B	D	C	C				
Approach Vol, veh/h	210			343			2137			1559						
Approach Delay, s/veh	21.0			25.5			20.6			27.0						
Approach LOS	C			C			C			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	46.8	46.8			31.3	19.3	35.4	31.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	49.0	49.0			32.0	19.5	35.0	32.0								
Max Q Clear Time (g_c+I_1), s	26.1	26.1			8.0	14.5	23.8	19.9								
Green Ext Time (p_c), s	0.0	14.4			0.8	0.4	7.1	1.2								
Intersection Summary																
HCM 2010 Ctrl Delay	23.4															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	245	179	102	82	87	17	102	1180	38	119	1144	206
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	255	145	149	158	257	158	1733	56	228	1653	297
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17	0.09	0.34	0.34	0.13	0.38	0.38
Sat Flow, veh/h	1774	1100	627	882	936	1521	1774	5053	163	1774	4320	778
Grp Volume(v), veh/h	245	0	281	169	0	17	102	792	426	119	898	452
Grp Sat Flow(s),veh/h/ln	1774	0	1727	1819	0	1521	1774	1695	1825	1774	1695	1707
Q Serve(g_s), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Cycle Q Clear(g_c), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Prop In Lane	1.00		0.36	0.49		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	410	0	400	308	0	257	158	1163	626	228	1297	653
V/C Ratio(X)	0.60	0.00	0.70	0.55	0.00	0.07	0.65	0.68	0.68	0.52	0.69	0.69
Avail Cap(c_a), veh/h	719	0	700	679	0	568	341	2025	1090	360	2061	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	35.7	0.0	32.7	41.3	26.4	26.4	38.2	24.3	24.3
Incr Delay (d2), s/veh	1.4	0.0	2.3	1.5	0.0	0.1	4.4	0.7	1.3	1.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.8	0.0	6.9	4.1	0.0	0.4	2.7	8.9	9.7	3.0	9.8	10.0
LnGrp Delay(d),s/veh	33.5	0.0	35.3	37.2	0.0	32.8	45.7	27.1	27.7	40.0	25.0	25.6
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h	526			186			1320			1469		
Approach Delay, s/veh	34.5			36.8			28.7			26.4		
Approach LOS	C			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.0	35.2		24.7	11.3	38.9		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.5	54.5		36.5	16.5	55.5		33.5				
Max Q Clear Time (g_c+I), s	17.5	20.8		16.0	7.2	22.9		10.0				
Green Ext Time (p_c), s	0.2	9.9		2.5	0.1	11.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	29.0											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	212	6	208	235	20	48	1059	324	160	996	46
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	289	237	391	410	329	386	1493	457	215	1450	67
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.22	0.39	0.39	0.12	0.29	0.29
Sat Flow, veh/h	1774	1863	1529	1774	1863	1495	1774	3842	1175	1774	4962	229
Grp Volume(v), veh/h	156	212	6	208	235	20	48	934	449	160	680	362
Grp Sat Flow(s),veh/h/ln	1774	1863	1529	1774	1863	1495	1774	1695	1627	1774	1695	1800
Q Serve(g_s), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Cycle Q Clear(g_c), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.13
Lane Grp Cap(c), veh/h	275	289	237	391	410	329	386	1317	632	215	991	526
V/C Ratio(X)	0.57	0.73	0.03	0.53	0.57	0.06	0.12	0.71	0.71	0.75	0.69	0.69
Avail Cap(c_a), veh/h	459	481	395	628	660	530	386	2174	1043	289	2174	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	42.1	37.4	36.0	36.3	32.2	32.9	27.0	27.0	44.4	32.7	32.8
Incr Delay (d2), s/veh	1.8	3.6	0.0	1.1	1.3	0.1	0.1	0.7	1.5	7.0	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	0.1	5.4	6.2	0.5	1.1	11.4	11.1	4.9	8.8	9.5
LnGrp Delay(d),s/veh	42.7	45.6	37.5	37.1	37.6	32.3	33.0	27.7	28.5	51.3	33.6	34.4
LnGrp LOS	D	D	D	D	D	C	C	C	C	D	C	C
Approach Vol, veh/h	374			463			1431			1202		
Approach Delay, s/veh	44.3			37.1			28.1			36.2		
Approach LOS	D			D			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.6	43.6		19.2	25.7	33.5		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	45.5	65.5		25.5	15.5	65.5		35.5				
Max Q Clear Time (g_c+1),s	26.3			13.3	4.3	20.6		13.8				
Green Ext Time (p_c), s	0.2	12.8		1.4	0.1	8.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	33.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT		NBT	NBT		SBT	SBT	
Traffic Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	145	0	24	1	0	3	123	1225	2	19	1306	104
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	0	329	132	36	273	204	2226	4	325	2365	188
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.12	0.42	0.42	0.18	0.49	0.49
Sat Flow, veh/h	1372	0	1386	232	151	1147	1774	5243	9	1774	4800	382
Grp Volume(v), veh/h	145	0	24	4	0	0	123	792	435	19	922	488
Grp Sat Flow(s),veh/h/ln	1372	0	1386	1529	0	0	1774	1695	1861	1774	1695	1792
Q Serve(g_s), s	5.1	0.0	0.8	0.0	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	0.1	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	450	0	329	441	0	0	204	1440	790	325	1671	883
V/C Ratio(X)	0.32	0.00	0.07	0.01	0.00	0.00	0.60	0.55	0.55	0.06	0.55	0.55
Avail Cap(c_a), veh/h	876	0	761	902	0	0	518	5353	2939	518	5353	2829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	17.2	17.0	0.0	0.0	24.5	12.6	12.6	19.6	10.3	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	2.8	0.3	0.6	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.3	0.0	0.0	0.0	2.0	4.8	5.3	0.3	5.2	5.5
LnGrp Delay(d),s/veh	19.3	0.0	17.3	17.0	0.0	0.0	27.4	12.9	13.2	19.7	10.6	10.8
LnGrp LOS	B		B	B			C	B	B	B	B	B
Approach Vol, veh/h	169			4			1350			1429		
Approach Delay, s/veh	19.0			17.0			14.3			10.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	27.7		16.8	9.7	31.7		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	90.5		30.5	15.5	90.5		30.5				
Max Q Clear Time (g_c+I), s	12.2	12.2		7.2	5.8	13.0		2.1				
Green Ext Time (p_c), s	0.0	11.0		1.0	0.2	14.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	152	55	6	1073	1177	56		
Future Volume (veh/h)	152	55	6	1073	1177	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	104	107	6	1073	1177	56		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	289	264	88	2374	2677	127		
Arrive On Green	0.16	0.16	0.05	0.67	0.54	0.54		
Sat Flow, veh/h	1774	1615	1774	3632	5140	236		
Grp Volume(v), veh/h	104	107	6	1073	802	431		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1819		
Q Serve(g_s), s	1.9	2.1	0.1	5.2	5.2	5.2		
Cycle Q Clear(g_c), s	1.9	2.1	0.1	5.2	5.2	5.2		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	289	264	88	2374	1825	979		
V/C Ratio(X)	0.36	0.41	0.07	0.45	0.44	0.44		
Avail Cap(c_a), veh/h	1521	1385	343	5188	4032	2163		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	13.6	16.4	2.8	5.0	5.0		
Incr Delay (d2), s/veh	0.8	1.0	0.3	0.1	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.1	2.4	2.4	2.6		
LnGrp Delay(d),s/veh	14.2	14.6	16.7	2.9	5.2	5.4		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	211			1079	1233			
Approach Delay, s/veh	14.4			3.0	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.3		8.9	4.8	22.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		7.2		4.1	2.1	7.2		
Green Ext Time (p_c), s		10.3		0.6	0.0	10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	167	7	100	115	31	13	846	47	232	982	42
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	271	227	247	260	218	67	1277	568	318	2512	107
Arrive On Green	0.15	0.15	0.15	0.14	0.14	0.14	0.04	0.36	0.36	0.18	0.50	0.50
Sat Flow, veh/h	1774	1863	1557	1774	1863	1563	1774	3539	1575	1774	5000	214
Grp Volume(v), veh/h	54	167	7	100	115	31	13	846	47	232	665	359
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1563	1774	1770	1575	1774	1695	1823
Q Serve(g_s), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Cycle Q Clear(g_c), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	258	271	227	247	260	218	67	1277	568	318	1703	916
V/C Ratio(X)	0.21	0.62	0.03	0.40	0.44	0.14	0.19	0.66	0.08	0.73	0.39	0.39
Avail Cap(c_a), veh/h	569	597	499	827	868	729	310	2372	1056	594	2815	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	27.5	25.2	26.9	27.1	25.9	32.0	18.4	14.5	26.6	10.6	10.6
Incr Delay (d2), s/veh	0.4	2.3	0.1	1.1	1.2	0.3	1.4	0.6	0.1	3.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.1	1.8	2.1	0.5	0.3	6.8	0.6	4.4	3.9	4.3
LnGrp Delay(d),s/veh	26.2	29.8	25.2	28.0	28.3	26.2	33.4	19.0	14.5	29.8	10.7	10.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	228			246			906			1256		
Approach Delay, s/veh	28.8			27.9			19.0			14.3		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	15.3	27.8			13.0	5.6	37.5	12.6				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	44.5			20.5	10.5	55.5	30.5				
Max Q Clear Time (g_c+1),s	10.5	15.8			7.8	2.5	10.4	5.9				
Green Ext Time (p_c), s	0.5	6.6			0.8	0.0	8.2	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.89	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	0	61	3	3	3	311	313	9	6	193	122
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	0	192	87	87	87	429	830	24	63	269	170
Arrive On Green	0.12	0.00	0.12	0.16	0.16	0.16	0.24	0.46	0.46	0.04	0.26	0.26
Sat Flow, veh/h	3548	0	1558	553	553	553	1774	1800	52	1774	1054	666
Grp Volume(v), veh/h	141	0	61	9	0	0	311	0	322	6	0	315
Grp Sat Flow(s),veh/h/ln	1774	0	1558	1660	0	0	1774	0	1851	1774	0	1720
Q Serve(g_s), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Prop In Lane	1.00		1.00	0.33		0.33	1.00		0.03	1.00		0.39
Lane Grp Cap(c), veh/h	438	0	192	262	0	0	429	0	854	63	0	440
V/C Ratio(X)	0.32	0.00	0.32	0.03	0.00	0.00	0.73	0.00	0.38	0.09	0.00	0.72
Avail Cap(c_a), veh/h	1441	0	633	981	0	0	1539	0	1948	393	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	21.7	19.3	0.0	0.0	18.9	0.0	9.5	25.3	0.0	18.4
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.1	0.0	0.0	2.4	0.0	0.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	0.0	4.5	0.0	3.2	0.1	0.0	4.6
LnGrp Delay(d),s/veh	22.1	0.0	22.6	19.4	0.0	0.0	21.2	0.0	9.8	25.9	0.0	20.6
LnGrp LOS	C		C	B			C		A	C		C
Approach Vol, veh/h	202			9			633			321		
Approach Delay, s/veh	22.2			19.4			15.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	28.0		9.7	16.1	16.8		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	55.5		20.5	45.5	20.5		30.5				
Max Q Clear Time (g_c+I), s	12.2	8.1		4.0	10.7	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.2		0.6	1.0	1.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

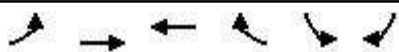
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	9	0	46	20	20	34	688	92	438	564	88
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	51	125	137	60	169	104	1013	135	534	1735	270
Arrive On Green	0.08	0.08	0.00	0.11	0.11	0.11	0.06	0.32	0.32	0.30	0.57	0.57
Sat Flow, veh/h	1155	650	1583	1255	545	1544	1774	3132	418	1774	3069	477
Grp Volume(v), veh/h	25	0	0	66	0	20	34	388	392	438	325	327
Grp Sat Flow(s),veh/h/ln	1805	0	1583	1800	0	1544	1774	1770	1780	1774	1770	1776
Q Serve(g_s), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Prop In Lane	0.64		1.00	0.70		1.00	1.00		0.23	1.00		0.27
Lane Grp Cap(c), veh/h	142	0	125	197	0	169	104	572	576	534	1001	1005
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.12	0.33	0.68	0.68	0.82	0.32	0.33
Avail Cap(c_a), veh/h	720	0	631	718	0	616	183	769	774	810	1395	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	26.3	0.0	25.7	28.9	18.8	18.8	20.7	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.0	0.0	0.3	1.8	1.5	1.5	4.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.1	0.0	0.3	0.6	6.2	6.2	7.8	3.0	3.1
LnGrp Delay(d),s/veh	28.1	0.0	0.0	27.3	0.0	26.0	30.7	20.2	20.3	24.8	7.6	7.6
LnGrp LOS	C			C		C	C	C	C	C	A	A
Approach Vol, veh/h	25			86			814			1090		
Approach Delay, s/veh	28.1			27.0			20.7			14.5		
Approach LOS	C			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.3	23.7		10.0	6.8	39.2		8.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	27.5	26.3		24.0	5.1	48.9		24.0				
Max Q Clear Time (g_c+1.0), s	14.2			4.2	3.2	8.3		2.8				
Green Ext Time (p_c), s	1.1	3.9		0.3	0.0	4.6		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	17.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↰↱	↑↑	↰↱		↰↱	↰↱		
Traffic Volume (veh/h)	332	573	795	49	22	145		
Future Volume (veh/h)	332	573	795	49	22	145		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	332	573	795	49	22	19		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	738	2705	1553	96	148	233		
Arrive On Green	0.21	0.76	0.46	0.46	0.08	0.08		
Sat Flow, veh/h	3442	3632	3480	209	1774	2787		
Grp Volume(v), veh/h	332	573	415	429	22	19		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1826	1774	1393		
Q Serve(g_s), s	2.8	1.5	5.5	5.5	0.4	0.2		
Cycle Q Clear(g_c), s	2.8	1.5	5.5	5.5	0.4	0.2		
Prop In Lane	1.00			0.11	1.00	1.00		
Lane Grp Cap(c), veh/h	738	2705	811	837	148	233		
V/C Ratio(X)	0.45	0.21	0.51	0.51	0.15	0.08		
Avail Cap(c_a), veh/h	2513	7159	2126	2194	998	1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	1.1	6.3	6.3	14.0	13.9		
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.5	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.7	2.7	0.2	0.2		
LnGrp Delay(d),s/veh	11.7	1.1	6.8	6.8	14.4	14.0		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		905	844		41			
Approach Delay, s/veh		5.0	6.8		14.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.6		5.2	10.1	17.6
Change Period (Y+Rc), s				4.0		4.0	4.5	4.0
Max Green Setting (Gmax), s				65.0		17.0	22.5	38.0
Max Q Clear Time (g_c+I1), s				3.5		2.4	4.8	7.5
Green Ext Time (p_c), s				4.5		0.1	1.1	6.1
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

10/18/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	966	180	45	726	232	173		
Future Volume (veh/h)	966	180	45	726	232	173		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	966	180	45	726	232	46		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1530	285	142	2342	368	329		
Arrive On Green	0.52	0.52	0.08	0.66	0.21	0.21		
Sat Flow, veh/h	3058	552	1774	3632	1774	1583		
Grp Volume(v), veh/h	576	570	45	726	232	46		
Grp Sat Flow(s),veh/h/ln	1770	1748	1774	1770	1774	1583		
Q Serve(g_s), s	10.7	10.7	1.1	4.0	5.5	1.1		
Cycle Q Clear(g_c), s	10.7	10.7	1.1	4.0	5.5	1.1		
Prop In Lane		0.32	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	913	902	142	2342	368	329		
V/C Ratio(X)	0.63	0.63	0.32	0.31	0.63	0.14		
Avail Cap(c_a), veh/h	1698	1677	271	4168	1161	1036		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	8.0	19.9	3.3	16.6	14.8		
Incr Delay (d2), s/veh	0.7	0.7	1.3	0.1	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.6	1.9	2.8	0.5		
LnGrp Delay(d),s/veh	8.7	8.7	21.2	3.4	18.3	15.0		
LnGrp LOS	A	A	C	A	B	B		
Approach Vol, veh/h	1146			771	278			
Approach Delay, s/veh	8.7			4.4	17.8			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.5	6.7	26.7				33.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		28.5	5.5	42.5				52.5
Max Q Clear Time (g_c+I1), s		7.5	3.1	12.7				6.0
Green Ext Time (p_c), s		0.8	0.0	9.4				6.0
Intersection Summary								
HCM 2010 Ctrl Delay			8.3					
HCM 2010 LOS			A					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-54020		0	0-55882		0	0-55882		0	0-55882		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	148300	627968	0	78052	2966400	0	78052	2966400	0	78052	2966400	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	259526	1251584	1365926	8972544	1365926	8972544	1365926	8972544	1365926	8972544	1365926	8972544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh14.4

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	273	81	26	308	15	78	79	25	11	56	44
Future Vol, veh/h	55	273	81	26	308	15	78	79	25	11	56	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	273	81	26	308	15	78	79	25	11	56	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.2	14.6	12.1	10.7
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	13%	7%	10%
Vol Thru, %	43%	67%	88%	50%
Vol Right, %	14%	20%	4%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	409	349	111
LT Vol	78	55	26	11
Through Vol	79	273	308	56
RT Vol	25	81	15	44
Lane Flow Rate	182	409	349	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.312	0.603	0.53	0.189
Departure Headway (Hd)	6.171	5.31	5.47	6.136
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	579	675	656	581
Service Time	4.247	3.37	3.533	4.221
HCM Lane V/C Ratio	0.314	0.606	0.532	0.191
HCM Control Delay	12.1	16.2	14.6	10.7
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	1.3	4.1	3.1	0.7

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT						NBT			SBT	
Traffic Volume (veh/h)	16	905	10	0	0	0	0	65	101	202	152	0
Future Volume (veh/h)	16	905	10	0	0	0	0	65	101	202	152	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900				0	1569	1900	1900	1422	0
Adj Flow Rate, veh/h	16	905	10				0	65	101	202	152	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	22	1317	15				0	201	312	269	161	0
Arrive On Green	0.53	0.53	0.53				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	42	2470	29				0	548	851	476	438	0
Grp Volume(v), veh/h	488	0	443				0	0	166	354	0	0
Grp Sat Flow(s),veh/h/ln	272	0	1268				0	0	1398	914	0	0
Q Serve(g_s), s	17.4	0.0	15.0				0.0	0.0	5.1	16.9	0.0	0.0
Cycle Q Clear(g_c), s	17.4	0.0	15.0				0.0	0.0	5.1	22.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.61	0.57		0.00
Lane Grp Cap(c), veh/h	679	0	676				0	0	513	429	0	0
V/C Ratio(X)	0.72	0.00	0.65				0.00	0.00	0.32	0.82	0.00	0.00
Avail Cap(c_a), veh/h	679	0	676				0	0	513	429	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.6	0.0	10.0				0.0	0.0	13.7	20.9	0.0	0.0
Incr Delay (d2), s/veh	6.5	0.0	4.9				0.0	0.0	0.4	12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.2	0.0	6.1				0.0	0.0	2.0	7.3	0.0	0.0
LnGrp Delay(d),s/veh	17.1	0.0	14.9				0.0	0.0	14.0	33.3	0.0	0.0
LnGrp LOS	B		B						B	C		
Approach Vol, veh/h	931							166			354	
Approach Delay, s/veh	16.1							14.0			33.3	
Approach LOS	B							B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	25.0		35.0		25.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	20.5		30.5		20.5							
Max Q Clear Time (g_c+l1), s	7.1		19.4		24.0							
Green Ext Time (p_c), s	0.8		4.5		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay	20.0											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	269	8	110	269	68	7	113	180	80	83	27
Future Volume (veh/h)	25	269	8	110	269	68	7	113	180	80	83	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.98		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	269	8	110	269	68	7	113	180	80	83	27
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	171	662	19	770	565	143	692	243	388	529	516	168
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	78	1663	47	1086	1420	359	1252	631	1004	1070	1338	435
Grp Volume(v), veh/h	302	0	0	110	0	337	7	0	293	80	0	110
Grp Sat Flow(s),veh/h/ln	1788	0	0	1086	0	1779	1252	0	1635	1070	0	1773
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.9	0.1	0.0	3.7	1.7	0.0	1.1
Cycle Q Clear(g_c), s	3.3	0.0	0.0	1.1	0.0	3.9	1.2	0.0	3.7	5.4	0.0	1.1
Prop In Lane	0.08		0.03	1.00		0.20	1.00		0.61	1.00		0.25
Lane Grp Cap(c), veh/h	852	0	0	770	0	708	692	0	631	529	0	684
V/C Ratio(X)	0.35	0.00	0.00	0.14	0.00	0.48	0.01	0.00	0.46	0.15	0.00	0.16
Avail Cap(c_a), veh/h	2158	0	0	1587	0	2047	1424	0	1588	1155	0	1722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.4	0.0	6.2	6.0	0.0	6.4	8.4	0.0	5.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.5	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.5	0.0	2.0	0.0	0.0	1.7	0.5	0.0	0.6
LnGrp Delay(d),s/veh	6.3	0.0	0.0	5.5	0.0	6.7	6.0	0.0	6.9	8.5	0.0	5.7
LnGrp LOS	A			A		A	A		A	A		A
Approach Vol, veh/h		302			447			300			190	
Approach Delay, s/veh		6.3			6.4			6.9			6.9	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		13.7		14.1		13.7		14.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		30.5		25.5		30.5				
Max Q Clear Time (g_c+l1), s		5.7		5.3		7.4		5.9				
Green Ext Time (p_c), s		1.9		2.0		0.9		2.8				
Intersection Summary												
HCM 2010 Ctrl Delay			6.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				400	0	670	0	1431	120	0	1702	442
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	817	0	3290	1022	0	2611	666
Arrive On Green				0.29	0.00	0.29	0.00	0.65	0.65	0.00	0.65	0.65
Sat Flow, veh/h				3442	0	2787	0	5253	1580	0	4204	1029
Grp Volume(v), veh/h				400	0	670	0	1431	120	0	1424	720
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1580	0	1695	1676
Q Serve(g_s), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Cycle Q Clear(g_c), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h				1009	0	817	0	3290	1022	0	2193	1084
V/C Ratio(X)				0.40	0.00	0.82	0.00	0.44	0.12	0.00	0.65	0.66
Avail Cap(c_a), veh/h				1239	0	1003	0	3290	1022	0	2193	1084
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	0.00	1.00	0.00	0.87	0.87	0.00	0.66	0.66
Uniform Delay (d), s/veh				28.3	0.0	32.9	0.0	8.7	6.7	0.0	10.8	10.9
Incr Delay (d2), s/veh				0.3	0.0	4.6	0.0	0.4	0.2	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.1	0.0	6.5	1.3	0.0	12.2	12.8
LnGrp Delay(d),s/veh				28.5	0.0	37.5	0.0	9.0	7.0	0.0	11.7	13.1
LnGrp LOS				C		D		A	A		B	B
Approach Vol, veh/h				1070				1551			2144	
Approach Delay, s/veh				34.1				8.9			12.2	
Approach LOS				C				A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.7				67.7		32.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+l1), s		15.8				28.6		24.4				
Green Ext Time (p_c), s		14.8				19.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TT		TT					TTT			TTT	T
Traffic Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	404	0	210				0	1227	411	0	1327	599
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	545	0	442				0	2966	992	0	4002	1241
Arrive On Green	0.16	0.00	0.16				0.00	0.79	0.79	0.00	0.79	0.79
Sat Flow, veh/h	3442	0	2787				0	3936	1260	0	5253	1577
Grp Volume(v), veh/h	404	0	210				0	1104	534	0	1327	599
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1638	0	1695	1577
Q Serve(g_s), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Cycle Q Clear(g_c), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Prop In Lane	1.00		1.00				0.00		0.77	0.00		1.00
Lane Grp Cap(c), veh/h	545	0	442				0	2668	1289	0	4002	1241
V/C Ratio(X)	0.74	0.00	0.48				0.00	0.41	0.41	0.00	0.33	0.48
Avail Cap(c_a), veh/h	751	0	608				0	2668	1289	0	4002	1241
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.71	0.71	0.00	0.70	0.70
Uniform Delay (d), s/veh	44.1	0.0	42.1				0.0	3.7	3.7	0.0	3.4	4.0
Incr Delay (d2), s/veh	2.5	0.0	0.8				0.0	0.3	0.7	0.0	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	3.0				0.0	5.3	5.3	0.0	3.9	22.4
LnGrp Delay(d),s/veh	46.7	0.0	42.9				0.0	4.0	4.4	0.0	3.5	5.0
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		614						1638			1926	
Approach Delay, s/veh		45.4						4.2			4.0	
Approach LOS		D						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		89.6		20.4		89.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		78.5		22.5		78.5						
Max Q Clear Time (g_c+I1), s		13.3		14.3		16.3						
Green Ext Time (p_c), s		18.9		1.6		19.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	420	65	13	400
Future Vol, veh/h	50	20	420	65	13	400
Conflicting Peds, #/hr	1	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	20	420	65	13	400

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	889	462	0
Stage 1	462	-	-
Stage 2	427	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	314	600	-
Stage 1	634	-	-
Stage 2	658	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	306	595	-
Mov Cap-2 Maneuver	306	-	-
Stage 1	628	-	-
Stage 2	647	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	595
HCM Lane V/C Ratio	-	-	0.163	0.034
HCM Control Delay (s)	-	-	19	11.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection	
Intersection Delay, s/veh	31.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Future Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	38	208	45	28	14	164	457	18	15	418	20
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16.9	14	35.3	36.9
HCM LOS	C	B	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	52%	100%	0%
Vol Thru, %	0%	96%	0%	15%	32%	0%	95%
Vol Right, %	0%	4%	0%	85%	16%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	475	14	246	87	15	438
LT Vol	164	0	14	0	45	15	0
Through Vol	0	457	0	38	28	0	418
RT Vol	0	18	0	208	14	0	20
Lane Flow Rate	164	475	14	246	87	15	438
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.332	0.891	0.033	0.499	0.209	0.031	0.849
Departure Headway (Hd)	7.292	6.753	8.428	7.304	8.634	7.527	6.982
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	537	424	492	414	475	517
Service Time	5.05	4.511	6.188	5.062	6.72	5.286	4.741
HCM Lane V/C Ratio	0.333	0.885	0.033	0.5	0.21	0.032	0.847
HCM Control Delay	13.7	42.7	11.5	17.2	14	10.5	37.8
HCM Lane LOS	B	E	B	C	B	B	E
HCM 95th-tile Q	1.4	10.2	0.1	2.7	0.8	0.1	8.8

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.90	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	1	12	75	0	34	4	519	37	9	692	1
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	27	131	167	8	58	590	1529	1259	692	1526	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	372	204	987	906	61	439	748	1863	1534	847	1859	3
Grp Volume(v), veh/h	19	0	0	109	0	0	4	519	37	9	0	693
Grp Sat Flow(s),veh/h/ln	1563	0	0	1407	0	0	748	1863	1534	847	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	9.0	0.6	0.3	0.0	13.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	9.3	0.0	0.0	14.0	9.0	0.6	9.3	0.0	13.8
Prop In Lane	0.32		0.63	0.69		0.31	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	0	0	234	0	0	590	1529	1259	692	0	1529
V/C Ratio(X)	0.08	0.00	0.00	0.47	0.00	0.00	0.01	0.34	0.03	0.01	0.00	0.45
Avail Cap(c_a), veh/h	362	0	0	348	0	0	590	1529	1259	692	0	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	52.8	0.0	0.0	5.3	2.9	2.1	4.0	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.8	0.0	0.0	0.0	4.7	0.2	0.1	0.0	7.3
LnGrp Delay(d),s/veh	49.6	0.0	0.0	54.2	0.0	0.0	5.3	3.4	2.2	4.1	0.0	4.3
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	19			109			560			702		
Approach Delay, s/veh	49.6			54.2			3.3			4.3		
Approach LOS	D			D			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	109.7		20.3		109.7		20.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	94.5		26.5		94.5		26.5					
Max Q Clear Time (g_c+I1), s	16.0		3.4		15.8		11.3					
Green Ext Time (p_c), s	4.1		0.1		6.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	8.4											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	7	4	328	3	94	1	542	285	37	753	8
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	56	32	395	4	344	45	1130	592	95	1712	18
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	405	232	1759	16	1533	1	2158	1129	88	3267	34
Grp Volume(v), veh/h	30	0	0	331	0	94	468	0	360	402	0	396
Grp Sat Flow(s),veh/h/ln	1737	0	0	1775	0	1533	1862	0	1426	1702	0	1687
Q Serve(g_s), s	1.2	0.0	0.0	14.2	0.0	4.1	0.0	0.0	12.9	0.0	0.0	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	14.2	0.0	4.1	12.8	0.0	12.9	10.5	0.0	11.7
Prop In Lane	0.63		0.13	0.99		1.00	0.00		0.79	0.09		0.02
Lane Grp Cap(c), veh/h	242	0	0	398	0	344	1021	0	747	941	0	884
V/C Ratio(X)	0.12	0.00	0.00	0.83	0.00	0.27	0.46	0.00	0.48	0.43	0.00	0.45
Avail Cap(c_a), veh/h	532	0	0	413	0	356	1021	0	747	941	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.83	0.00	0.83	0.82	0.00	0.82
Uniform Delay (d), s/veh	30.2	0.0	0.0	29.6	0.0	25.6	12.1	0.0	12.1	11.6	0.0	11.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	13.1	0.0	0.4	1.2	0.0	1.8	1.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	8.4	0.0	1.8	6.9	0.0	5.4	5.7	0.0	5.7
LnGrp Delay(d),s/veh	30.4	0.0	0.0	42.7	0.0	26.1	13.3	0.0	14.0	12.7	0.0	13.2
LnGrp LOS	C			D		C	B		B	B		B
Approach Vol, veh/h		30			425			828			798	
Approach Delay, s/veh		30.4			39.0			13.6			13.0	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		44.9		14.1		44.9		21.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		26.4		23.0		26.4		17.1				
Max Q Clear Time (g_c+I1), s		14.9		3.2		13.7		16.2				
Green Ext Time (p_c), s		4.3		0.1		4.3		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											

Intersection

Intersection Delay, s/veh13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Future Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	128	1	0	114	223	16	48	0	162	23	270
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	17.8	11.8	11.6	13.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	57%	0%	0%	88%	0%
Vol Thru, %	75%	43%	100%	0%	12%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	300	114	223	185	270
LT Vol	16	171	0	0	162	0
Through Vol	48	128	114	0	23	0
RT Vol	0	1	0	223	0	270
Lane Flow Rate	64	300	114	223	185	270
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.555	0.209	0.365	0.359	0.437
Departure Headway (Hd)	7.475	6.661	6.6	5.886	6.988	5.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	540	540	607	512	613
Service Time	5.475	4.735	4.377	3.664	4.763	3.605
HCM Lane V/C Ratio	0.133	0.556	0.211	0.367	0.361	0.44
HCM Control Delay	11.6	17.8	11.1	12.1	13.7	13.1
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.8	1.7	1.6	2.2

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	741	73	88	653	113	57	5	61	34	5	3
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	832	82	186	770	133	644	52	613	533	76	38
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	699	1663	164	668	1540	266	1323	130	1533	1061	189	96
Grp Volume(v), veh/h	18	0	814	88	0	766	62	0	61	42	0	0
Grp Sat Flow(s),veh/h/ln	699	0	1827	668	0	1806	1453	0	1533	1347	0	0
Q Serve(g_s), s	1.4	0.0	24.1	5.9	0.0	22.1	0.0	0.0	1.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	24.1	30.0	0.0	22.1	1.3	0.0	1.5	1.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.15	0.92		1.00	0.81		0.07
Lane Grp Cap(c), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.47	0.00	0.85	0.09	0.00	0.10	0.06	0.00	0.00
Avail Cap(c_a), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	13.5	27.8	0.0	13.0	11.2	0.0	11.2	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	10.9	1.6	0.0	6.7	0.3	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.8	1.5	0.0	12.5	0.7	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	24.5	29.4	0.0	19.8	11.4	0.0	11.6	11.5	0.0	0.0
LnGrp LOS	C		C	C		B	B		B	B		
Approach Vol, veh/h		832			854			123			42	
Approach Delay, s/veh		24.4			20.8			11.5			11.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		3.5		26.1		3.8		32.0				
Green Ext Time (p_c), s		0.4		1.3		0.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				21.6								
HCM 2010 LOS				C								

Intersection

Intersection Delay, s/veh 8.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Future Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	35	7	0	35	14	8	23	1	6	27	152
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	7.7	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	74%	0%	3%
Vol Thru, %	72%	22%	71%	15%
Vol Right, %	3%	4%	29%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	159	49	185
LT Vol	8	117	0	6
Through Vol	23	35	35	27
RT Vol	1	7	14	152
Lane Flow Rate	32	159	49	185
Geometry Grp	1	1	1	1
Degree of Util (X)	0.041	0.203	0.06	0.204
Departure Headway (Hd)	4.646	4.587	4.407	3.975
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	787	814	905
Service Time	2.668	2.587	2.428	1.992
HCM Lane V/C Ratio	0.041	0.202	0.06	0.204
HCM Control Delay	7.9	8.8	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	0.2	0.8

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	61	891	325	13	67	0	0	247	37
Future Volume (veh/h)	0	0	0	61	891	325	13	67	0	0	247	37
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1471	1863	1900	980	0	0	2255	1900
Adj Flow Rate, veh/h				61	891	189	13	67	0	0	247	37
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				94	1446	813	133	258	0	0	573	86
Arrive On Green				0.54	0.54	0.54	0.30	0.30	0.00	0.00	0.30	0.30
Sat Flow, veh/h				175	2684	1509	71	857	0	0	1904	285
Grp Volume(v), veh/h				509	443	189	80	0	0	0	0	284
Grp Sat Flow(s),veh/h/ln				1462	1397	1509	928	0	0	0	0	2189
Q Serve(g_s), s				9.2	8.0	2.5	0.0	0.0	0.0	0.0	0.0	3.9
Cycle Q Clear(g_c), s				9.2	8.0	2.5	2.3	0.0	0.0	0.0	0.0	3.9
Prop In Lane				0.12		1.00	0.16		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				788	753	813	391	0	0	0	0	658
V/C Ratio(X)				0.65	0.59	0.23	0.20	0.00	0.00	0.00	0.00	0.43
Avail Cap(c_a), veh/h				1406	1344	1451	900	0	0	0	0	1930
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				6.1	5.8	4.5	10.0	0.0	0.0	0.0	0.0	10.5
Incr Delay (d2), s/veh				0.9	0.7	0.1	0.3	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.9	3.1	1.0	0.7	0.0	0.0	0.0	0.0	2.4
LnGrp Delay(d),s/veh				7.0	6.6	4.7	10.2	0.0	0.0	0.0	0.0	11.0
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h				1141			80			284		
Approach Delay, s/veh				6.4			10.2			11.0		
Approach LOS				A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		14.3				14.3		23.2				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		31.5				31.5		34.5				
Max Q Clear Time (g_c+I1), s		4.3				5.9		11.2				
Green Ext Time (p_c), s		0.4				1.8		7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

137: Curtiss St/Curtiss St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			EBT			EBT	EBT		EBT	
Traffic Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	1058	62	21	912	16	81	9	85	27	7	6
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2249	131	83	2303	40	395	38	329	263	67	41
Arrive On Green	0.68	0.07	0.68	0.68	0.07	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	9	3297	192	30	3376	58	1290	175	1509	747	307	186
Grp Volume(v), veh/h	596	0	534	489	0	460	90	0	85	40	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	1654	1782	0	1682	1465	0	1509	1240	0	0
Q Serve(g_s), s	0.0	0.0	17.9	0.0	0.0	15.5	0.0	0.0	2.8	0.2	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	17.9	14.8	0.0	15.5	2.6	0.0	2.8	2.7	0.0	0.0
Prop In Lane	0.02		0.12	0.04		0.03	0.90		1.00	0.67		0.15
Lane Grp Cap(c), veh/h	1319	0	1128	1278	0	1147	433	0	329	371	0	0
V/C Ratio(X)	0.45	0.00	0.47	0.38	0.00	0.40	0.21	0.00	0.26	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1319	0	1128	1278	0	1147	802	0	730	736	0	0
HCM Platoon Ratio	1.00	0.10	1.00	1.00	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	15.9	15.3	0.0	15.7	19.3	0.0	19.4	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.9	0.0	1.0	0.2	0.0	0.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	8.6	8.0	0.0	7.6	1.3	0.0	1.2	0.6	0.0	0.0
LnGrp Delay(d),s/veh	18.4	0.0	17.3	16.2	0.0	16.8	19.6	0.0	19.9	19.0	0.0	0.0
LnGrp LOS	B		B	B		B	B		B	B		
Approach Vol, veh/h	1130			949			175			40		
Approach Delay, s/veh	17.9			16.5			19.7			19.0		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.9		16.1		43.9		16.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		20.4		4.7		17.5		4.8				
Green Ext Time (p_c), s		2.0		0.1		3.0		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				17.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	77	6	16	473	33	8	62	15	36	79	21
Future Volume (veh/h)	3	77	6	16	473	33	8	62	15	36	79	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	15	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.93	0.98		0.93	0.94		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	3	77	6	16	473	33	8	62	15	36	79	21
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	294	22	125	1420	97	139	592	134	160	230	37
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	12	874	66	65	4221	290	98	1794	405	141	603	136
Grp Volume(v), veh/h	86	0	0	277	0	245	85	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	952	0	0	2421	0	2155	2297	0	0	880	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.9	0.0	2.9	0.9	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.03		0.07	0.06		0.13	0.09		0.18	0.26		0.15
Lane Grp Cap(c), veh/h	421	0	0	917	0	725	865	0	0	427	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.30	0.00	0.34	0.10	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	938	0	0	2237	0	1911	2505	0	0	1032	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.6	0.0	0.0	9.9	0.0	9.9	8.4	0.0	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.0	2.3	0.0	2.0	0.6	0.0	0.0	3.9	0.0	0.0
LnGrp Delay(d),s/veh	9.9	0.0	0.0	10.1	0.0	10.2	8.4	0.0	0.0	24.0	0.0	0.0
LnGrp LOS	A			B		B	A			C		
Approach Vol, veh/h	86		522				85		136			
Approach Delay, s/veh	9.9		10.1				8.4		24.0			
Approach LOS	A		B				A		C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	16.7		18.3		16.7		18.3					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	2.9		4.2		6.1		4.9					
Green Ext Time (p_c), s	0.5		0.4		0.8		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	12.2											
HCM 2010 LOS	B											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	148	92	143	102	52	55	1491	122	45	1518	35
Future Volume (veh/h)	71	148	92	143	102	52	55	1491	122	45	1518	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.94	0.97		0.94	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1176	1863	1900	1275	1863	1900	1176	1765	1900	1471	1863	1900
Adj Flow Rate, veh/h	71	148	92	143	102	52	55	1491	122	45	1518	35
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	253	315	196	221	341	174	125	2460	201	76	2493	57
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.11	0.55	0.55	0.05	0.49	0.49
Sat Flow, veh/h	748	1048	652	757	1135	579	1120	4511	369	1401	5107	118
Grp Volume(v), veh/h	71	0	240	143	0	154	55	1061	552	45	1008	545
Grp Sat Flow(s),veh/h/ln	748	0	1700	757	0	1714	1120	1606	1668	1401	1695	1835
Q Serve(g_s), s	7.2	0.0	10.3	16.7	0.0	6.2	4.1	20.2	20.2	2.8	19.5	19.5
Cycle Q Clear(g_c), s	13.5	0.0	10.3	27.0	0.0	6.2	4.1	20.2	20.2	2.8	19.5	19.5
Prop In Lane	1.00		0.38	1.00		0.34	1.00		0.22	1.00		0.06
Lane Grp Cap(c), veh/h	253	0	511	221	0	515	125	1751	910	76	1655	896
V/C Ratio(X)	0.28	0.00	0.47	0.65	0.00	0.30	0.44	0.61	0.61	0.59	0.61	0.61
Avail Cap(c_a), veh/h	253	0	511	221	0	515	125	1751	910	156	1848	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	25.6	36.8	0.0	24.2	37.3	13.9	13.9	41.5	16.8	16.8
Incr Delay (d2), s/veh	0.6	0.0	0.7	6.5	0.0	0.3	10.9	1.6	3.0	7.2	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	5.0	3.9	0.0	3.0	1.6	9.2	10.0	1.2	9.2	10.1
LnGrp Delay(d),s/veh	29.9	0.0	26.3	43.2	0.0	24.5	48.2	15.4	16.9	48.7	17.2	17.6
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		311			297			1668			1598	
Approach Delay, s/veh		27.1			33.5			17.0			18.3	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	52.0		30.0	13.0	46.9		30.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	47.5	47.5		25.5	8.5	47.5		25.5				
Max Q Clear Time (g_c+I), s	14.8	22.2		15.5	6.1	21.5		29.0				
Green Ext Time (p_c), s	0.0	12.9		1.4	0.0	12.4		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.6									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

10/18/2019

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	438	15	12	68	7	2	78	70	33	95	3
Future Volume (veh/h)	4	438	15	12	68	7	2	78	70	33	95	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	1.00		0.98	0.98		0.95	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	1863	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	4	438	15	12	68	7	2	78	70	33	95	3
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	1054	36	148	805	79	46	122	108	97	184	5
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	3	1795	61	165	1371	134	3	467	411	155	703	20
Grp Volume(v), veh/h	240	0	217	87	0	0	150	0	0	131	0	0
Grp Sat Flow(s),veh/h/ln	979	0	880	1671	0	0	881	0	0	878	0	0
Q Serve(g_s), s	0.0	0.0	10.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.7	0.0	10.8	1.6	0.0	0.0	12.1	0.0	0.0	10.0	0.0	0.0
Prop In Lane	0.02		0.07	0.14		0.08	0.01		0.47	0.25		0.02
Lane Grp Cap(c), veh/h	621	0	517	1033	0	0	277	0	0	287	0	0
V/C Ratio(X)	0.39	0.00	0.42	0.08	0.00	0.00	0.54	0.00	0.00	0.46	0.00	0.00
Avail Cap(c_a), veh/h	621	0	517	1033	0	0	277	0	0	287	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.00	0.93	1.00	0.00	0.00	1.00	0.00	0.00	0.91	0.00	0.00
Uniform Delay (d), s/veh	9.0	0.0	9.0	7.1	0.0	0.0	26.2	0.0	0.0	25.2	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	2.3	0.0	0.0	0.0	7.4	0.0	0.0	4.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	2.9	0.8	0.0	0.0	3.5	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	10.7	0.0	11.3	7.2	0.0	0.0	33.6	0.0	0.0	30.0	0.0	0.0
LnGrp LOS	B		B	A			C			C		
Approach Vol, veh/h	457				87		150				131	
Approach Delay, s/veh	11.0				7.2		33.6				30.0	
Approach LOS	B				A		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		53.0		27.0		53.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	19.5		45.5		19.5		45.5					
Max Q Clear Time (g_c+I1), s	14.1		12.8		12.0		3.6					
Green Ext Time (p_c), s	0.3		3.1		0.4		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh12.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	192	39	83	275	12	27	73	32	5	91	13
Future Vol, veh/h	64	192	39	83	275	12	27	73	32	5	91	13
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	192	39	83	275	12	27	73	32	5	91	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB	WB		NB		SB						
Opposing Approach	WB	EB		SB		NB						
Opposing Lanes	1	1		1		1						
Conflicting Approach Left SB		NB		EB		WB						
Conflicting Lanes Left	1	1		1		1						
Conflicting Approach Right NB		SB		WB		EB						
Conflicting Lanes Right	1	1		1		1						
HCM Control Delay	11.9	13.6		10.3		10.1						
HCM LOS	B	B		B		B						

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	22%	22%	5%
Vol Thru, %	55%	65%	74%	83%
Vol Right, %	24%	13%	3%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	132	295	370	109
LT Vol	27	64	83	5
Through Vol	73	192	275	91
RT Vol	32	39	12	13
Lane Flow Rate	132	295	370	109
Geometry Grp	1	1	1	1
Degree of Util (X)	0.211	0.421	0.524	0.177
Departure Headway (Hd)	5.743	5.142	5.099	5.833
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	624	699	707	614
Service Time	3.786	3.177	3.132	3.878
HCM Lane V/C Ratio	0.212	0.422	0.523	0.178
HCM Control Delay	10.3	11.9	13.6	10.1
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.8	2.1	3.1	0.6

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	24	3	2	16	47	15	167	7	24	169	72
Future Vol, veh/h	103	24	3	2	16	47	15	167	7	24	169	72
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	24	3	2	16	47	15	167	7	24	169	72
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	8.2	9.3	9.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	79%	3%	9%
Vol Thru, %	88%	18%	25%	64%
Vol Right, %	4%	2%	72%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	130	65	265
LT Vol	15	103	2	24
Through Vol	167	24	16	169
RT Vol	7	3	47	72
Lane Flow Rate	189	130	65	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.248	0.188	0.085	0.332
Departure Headway (Hd)	4.722	5.198	4.731	4.505
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	758	686	751	795
Service Time	2.773	3.26	2.8	2.552
HCM Lane V/C Ratio	0.249	0.19	0.087	0.333
HCM Control Delay	9.3	9.5	8.2	9.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.7	0.3	1.5

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Future Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Conflicting Peds, #/hr	12	0	8	8	0	12	9	0	14	14	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	3	0	7	40	11	395	0	15	167	38
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	460	656	203	658	675	224	214	0	0	409	0	0
Stage 1	225	225	-	431	431	-	-	-	-	-	-	-
Stage 2	235	431	-	227	244	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	498	384	837	363	375	780	1355	-	-	1148	-	-
Stage 1	777	717	-	574	582	-	-	-	-	-	-	-
Stage 2	748	582	-	775	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	447	366	824	345	358	761	1343	-	-	1133	-	-
Mov Cap-2 Maneuver	447	366	-	345	358	-	-	-	-	-	-	-
Stage 1	763	700	-	561	569	-	-	-	-	-	-	-
Stage 2	685	569	-	752	686	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.2		11		0.2		0.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1343	-	-	462	652	1133	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.048	0.072	0.013	-	-				
HCM Control Delay (s)	7.7	0	-	13.2	11	8.2	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	161	85	1549	106	113	1563		
Future Volume (veh/h)	161	85	1549	106	113	1563		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	161	17	1549	106	113	1563		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	281	251	2532	173	210	3595		
Arrive On Green	0.16	0.16	0.52	0.52	0.12	0.71		
Sat Flow, veh/h	1774	1583	5021	332	1774	5253		
Grp Volume(v), veh/h	161	17	1082	573	113	1563		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1795	1774	1695		
Q Serve(g_s), s	3.7	0.4	10.0	10.0	2.7	5.8		
Cycle Q Clear(g_c), s	3.7	0.4	10.0	10.0	2.7	5.8		
Prop In Lane	1.00	1.00		0.18	1.00			
Lane Grp Cap(c), veh/h	281	251	1768	937	210	3595		
V/C Ratio(X)	0.57	0.07	0.61	0.61	0.54	0.43		
Avail Cap(c_a), veh/h	1392	1243	2204	1167	676	5587		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.4	16.0	7.5	7.5	18.5	2.8		
Incr Delay (d2), s/veh	1.8	0.1	0.3	0.7	2.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.2	4.6	4.9	1.4	2.6		
LnGrp Delay(d),s/veh	19.2	16.1	7.8	8.1	20.7	2.8		
LnGrp LOS	B	B	A	A	C	A		
Approach Vol, veh/h	178		1655			1676		
Approach Delay, s/veh	18.9		7.9			4.0		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.3	26.3				34.5		10.1
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	27.5				47.5		33.5
Max Q Clear Time (g_c+I1), s	4.7	12.0				7.8		5.7
Green Ext Time (p_c), s	0.2	9.8				15.9		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	284	284	10	21	63
Future Vol, veh/h	36	284	284	10	21	63
Conflicting Peds, #/hr	32	0	0	21	21	32
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	284	284	10	21	63

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	326	0	0 698 353
Stage 1	-	-	- 321 -
Stage 2	-	-	- 377 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1234	-	- 407 691
Stage 1	-	-	- 735 -
Stage 2	-	-	- 694 -
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	1196	-	- 369 650
Mov Cap-2 Maneuver	-	-	- 369 -
Stage 1	-	-	- 687 -
Stage 2	-	-	- 673 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	12.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	546
HCM Lane V/C Ratio	0.03	-	-	-	0.154
HCM Control Delay (s)	8.1	0	-	-	12.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	0			0			0			0		
HCM LOS	-			-			-			-		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	86	2	4	140	25	12	75	6	15	84	64
Future Vol, veh/h	65	86	2	4	140	25	12	75	6	15	84	64
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	86	2	4	140	25	12	75	6	15	84	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9	8.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	42%	2%	9%
Vol Thru, %	81%	56%	83%	52%
Vol Right, %	6%	1%	15%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	153	169	163
LT Vol	12	65	4	15
Through Vol	75	86	140	84
RT Vol	6	2	25	64
Lane Flow Rate	93	153	169	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.205	0.218	0.208
Departure Headway (Hd)	4.888	4.821	4.646	4.6
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	742	771	778
Service Time	2.94	2.867	2.692	2.647
HCM Lane V/C Ratio	0.127	0.206	0.219	0.21
HCM Control Delay	8.7	9.1	9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.8	0.8	0.8

Intersection						
Int Delay, s/veh	-					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor			Major2		Minor2	
Conflicting Flow All			-	0	-	0
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Critical Hdwy			-	-	-	6.22
Critical Hdwy Stg 1			-	-	-	-
Critical Hdwy Stg 2			-	-	-	-
Follow-up Hdwy			-	-	-	3.318
Pot Cap-1 Maneuver			-	0	0	-
Stage 1			-	0	0	-
Stage 2			-	0	0	-
Platoon blocked, %			-			
Mov Cap-1 Maneuver			-	-	-	-
Mov Cap-2 Maneuver			-	-	-	-
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Approach			WB		SB	
HCM Control Delay, s			0		0	
HCM LOS					A	
Minor Lane/Major Mvmt		WBT SBLn1				
Capacity (veh/h)		- -				
HCM Lane V/C Ratio		- -				
HCM Control Delay (s)		- 0				
HCM Lane LOS		- A				
HCM 95th %tile Q(veh)		- -				

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations		↑↑			↑↑	↔								↔
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	-	0	-	0	0	- 23
Stage 1	-	-	-	-	-	- -
Stage 2	-	-	-	-	-	- -
Critical Hdwy	-	-	-	4.13	-	- 6.23
Critical Hdwy Stg 1	-	-	-	-	-	- -
Critical Hdwy Stg 2	-	-	-	-	-	- -
Follow-up Hdwy	-	-	-	2.219	-	- 3.319
Pot Cap-1 Maneuver	0	-	0	-	-	0 1053
Stage 1	0	-	0	-	-	0 -
Stage 2	0	-	0	-	-	0 -
Platoon blocked, %	-	-	-	-	-	- -
Mov Cap-1 Maneuver	-	-	-	-	-	- 1053
Mov Cap-2 Maneuver	-	-	-	-	-	- -
Stage 1	-	-	-	-	-	- -
Stage 2	-	-	-	-	-	- -

Approach	EB	WB	SW
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	0	-	0 0
HCM Lane LOS	-	A	-	A A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 2010 Research does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Future Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	142	76	49	2	68	158	39	1	206	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	10.7	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	1%	60%	0%
Vol Thru, %	60%	3%	39%	92%
Vol Right, %	15%	96%	2%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	148	127	225
LT Vol	68	2	76	1
Through Vol	158	4	49	206
RT Vol	39	142	2	18
Lane Flow Rate	265	148	127	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.358	0.194	0.191	0.306
Departure Headway (Hd)	4.86	4.719	5.411	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	750	655	725
Service Time	2.943	2.814	3.51	2.987
HCM Lane V/C Ratio	0.363	0.197	0.194	0.31
HCM Control Delay	10.7	9	9.8	10.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.7	1.3

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	784	250	68	592	11	344	0	4	11	47	29
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1422	636	154	1512	28	687	0	303	21	89	55
Arrive On Green	0.06	0.40	0.40	0.09	0.43	0.43	0.19	0.00	0.19	0.10	0.10	0.10
Sat Flow, veh/h	1774	3539	1582	1774	3554	66	3548	0	1566	220	938	579
Grp Volume(v), veh/h	32	784	250	68	295	308	344	0	4	87	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1850	1774	0	1566	1737	0	0
Q Serve(g_s), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.13		0.33
Lane Grp Cap(c), veh/h	112	1422	636	154	753	787	687	0	303	166	0	0
V/C Ratio(X)	0.29	0.55	0.39	0.44	0.39	0.39	0.50	0.00	0.01	0.53	0.00	0.00
Avail Cap(c_a), veh/h	214	2657	1188	263	1378	1440	2072	0	914	258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	12.4	11.5	23.4	10.7	10.7	19.4	0.0	17.6	23.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.4	2.0	0.3	0.3	0.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	2.7	1.0	3.0	3.2	2.3	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	25.5	12.7	11.9	25.3	11.0	11.0	20.0	0.0	17.6	25.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h	1066				671				348		87	
Approach Delay, s/veh	12.9				12.5				20.0		25.8	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.4		7.7	24.7	8.1		6.4	26.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	30.0		6.5	39.0	6.5		5.0	40.5				
Max Q Clear Time (g_c+I1), s	6.7		4.0	11.2	4.6		2.9	8.2				
Green Ext Time (p_c), s	1.2		0.0	7.2	0.1		0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	14.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	561	275	464	342	7	129	12	48	12	222	49
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1089	458	677	1474	30	284	52	207	307	499	108
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1774	3725	1567	3442	3547	72	1774	322	1290	1774	2886	624
Grp Volume(v), veh/h	63	561	275	464	170	179	129	0	60	12	134	137
Grp Sat Flow(s),veh/h/ln	1774	1863	1567	1721	1770	1849	1774	0	1612	1774	1770	1740
Q Serve(g_s), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Cycle Q Clear(g_c), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	131	1089	458	677	735	769	284	0	258	307	306	301
V/C Ratio(X)	0.48	0.51	0.60	0.69	0.23	0.23	0.45	0.00	0.23	0.04	0.44	0.45
Avail Cap(c_a), veh/h	604	2042	859	1173	970	1014	972	0	884	815	813	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	19.9	20.5	25.2	12.8	12.8	25.7	0.0	24.7	23.2	25.0	25.1
Incr Delay (d2), s/veh	2.7	0.4	1.3	1.2	0.2	0.2	1.1	0.0	0.5	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.4	4.5	4.1	2.1	2.2	2.3	0.0	1.0	0.2	2.3	2.4
LnGrp Delay(d),s/veh	32.8	20.3	21.8	26.4	12.9	12.9	26.8	0.0	25.2	23.3	26.0	26.1
LnGrp LOS	C	C	C	C	B	B	C		C	C	C	C
Approach Vol, veh/h	899			813			189			283		
Approach Delay, s/veh	21.6			20.6			26.3			25.9		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.8	16.3	22.7		14.7	8.0	31.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		6.4	10.4	12.2		6.8	4.3	6.2				
Green Ext Time (p_c), s		1.1	1.3	5.0		1.6	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay	22.2											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	530	384	239	293	16	160	116	148	70	447	109
Adj No. of Lanes	1	2	1	2	2	0	1	1	2	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1144	505	400	1179	64	232	640	1069	124	796	193
Arrive On Green	0.09	0.32	0.32	0.12	0.35	0.35	0.13	0.34	0.34	0.07	0.28	0.28
Sat Flow, veh/h	1774	3539	1563	3442	3410	185	1774	1863	3109	1774	2817	681
Grp Volume(v), veh/h	104	530	384	239	151	158	160	116	148	70	279	277
Grp Sat Flow(s),veh/h/ln	1774	1770	1563	1721	1770	1826	1774	1863	1554	1774	1770	1729
Q Serve(g_s), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Cycle Q Clear(g_c), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	166	1144	505	400	612	631	232	640	1069	124	500	489
V/C Ratio(X)	0.63	0.46	0.76	0.60	0.25	0.25	0.69	0.18	0.14	0.57	0.56	0.57
Avail Cap(c_a), veh/h	478	1388	613	928	694	716	631	799	1334	631	759	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	22.0	24.8	34.2	19.1	19.1	33.9	18.7	18.4	36.8	24.9	25.0
Incr Delay (d2), s/veh	3.8	0.3	4.5	1.4	0.2	0.2	3.6	0.1	0.1	4.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.8	8.3	2.6	2.5	2.6	3.7	1.9	1.2	1.7	5.5	5.4
LnGrp Delay(d),s/veh	39.4	22.3	29.3	35.7	19.3	19.3	37.5	18.9	18.5	40.8	25.9	26.0
LnGrp LOS	D	C	C	D	B	B	D	B	B	D	C	C
Approach Vol, veh/h	1018				548		424				626	
Approach Delay, s/veh	26.7				26.4		25.8				27.6	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	12.5	29.4	13.7	26.1	10.7	31.2					
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5					
Max Green Setting (Gmax), s	33.5	20.5	30.5	27.5	33.5	20.5	30.5					
Max Q Clear Time (g_c+I_1), s	5.6	7.4	20.0	9.0	13.1	6.6	7.0					
Green Ext Time (p_c), s	0.1	1.2	0.6	3.7	0.4	3.4	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	26.7											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1292	681	64	740	50	317	83	70	179	109	27
Future Volume (veh/h)	222	1292	681	64	740	50	317	83	70	179	109	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1471	1471	1569	1863	1471	1900	1275	1863	1900	1900	1275	1863
Adj Flow Rate, veh/h	222	1292	401	64	740	50	317	83	70	179	109	6
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1217	566	104	1297	87	417	164	138	177	108	348
Arrive On Green	0.16	0.44	0.44	0.06	0.34	0.34	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	1401	2794	1299	1774	3839	258	2355	926	781	768	468	1511
Grp Volume(v), veh/h	222	1292	401	64	515	275	317	0	153	288	0	6
Grp Sat Flow(s),veh/h/ln	1401	1397	1299	1774	1338	1421	1177	0	1707	1236	0	1511
Q Serve(g_s), s	19.0	53.0	30.7	4.3	19.2	19.4	15.6	0.0	9.9	28.0	0.0	0.4
Cycle Q Clear(g_c), s	19.0	53.0	30.7	4.3	19.2	19.4	15.6	0.0	9.9	28.0	0.0	0.4
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.46	0.62		1.00
Lane Grp Cap(c), veh/h	219	1217	566	104	904	480	417	0	303	284	0	348
V/C Ratio(X)	1.02	1.06	0.71	0.62	0.57	0.57	0.76	0.00	0.51	1.01	0.00	0.02
Avail Cap(c_a), veh/h	219	1217	566	219	1078	572	522	0	379	284	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	34.3	28.0	56.0	33.0	33.1	47.6	0.0	45.2	46.8	0.0	36.2
Incr Delay (d2), s/veh	64.8	43.9	4.1	5.8	0.6	1.1	5.0	0.0	1.3	56.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	27.7	11.6	2.3	7.1	7.7	5.4	0.0	4.7	14.0	0.0	0.2
LnGrp Delay(d),s/veh	116.3	78.2	32.1	61.8	33.6	34.2	52.6	0.0	46.5	103.5	0.0	36.2
LnGrp LOS	F	F	C	E	C	C	D		D	F		D
Approach Vol, veh/h	1915			854			470			294		
Approach Delay, s/veh	73.0			35.9			50.6			102.1		
Approach LOS	E			D			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	10.1	56.0		31.0	22.0	44.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	13.5	51.5		26.5	17.5	47.5				
Max Q Clear Time (g_c+I1), s		17.6	6.3	55.0		30.0	21.0	21.4				
Green Ext Time (p_c), s		1.4	0.1	0.0		0.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay	63.5											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1667	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	677	628	133	691	588	258	325	272	298	384	326
Arrive On Green	0.11	0.41	0.41	0.08	0.37	0.00	0.15	0.18	0.18	0.17	0.21	0.00
Sat Flow, veh/h	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Grp Volume(v), veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Grp Sat Flow(s),veh/h/ln	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Q Serve(g_s), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Cycle Q Clear(g_c), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	677	628	133	691	588	258	325	272	298	384	326
V/C Ratio(X)	0.79	0.97	0.10	0.89	0.54	0.00	0.82	0.43	0.63	0.83	0.46	0.00
Avail Cap(c_a), veh/h	244	677	628	133	691	588	468	467	390	601	631	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	27.8	17.6	44.0	23.7	0.0	39.8	34.7	36.4	38.6	33.4	0.0
Incr Delay (d2), s/veh	13.1	26.5	0.1	45.7	0.8	0.0	6.3	0.9	2.4	6.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	21.9	1.0	4.8	7.9	0.0	5.8	3.3	4.4	6.8	4.1	0.0
LnGrp Delay(d),s/veh	54.7	54.3	17.7	89.7	24.5	0.0	46.0	35.6	38.8	44.7	34.2	0.0
LnGrp LOS	D	D	B	F	C		D	D	D	D	C	
Approach Vol, veh/h	872				489			522			423	
Approach Delay, s/veh	51.8				40.2			40.9			40.3	
Approach LOS	D				D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.1	21.6	11.2	43.0	18.0	23.8	14.6	39.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	30.0	24.8	6.7	38.5	24.8	32.0	12.7	32.5				
Max Q Clear Time (g_c+1), s	15.0	12.3	8.3	38.9	13.1	9.9	10.2	17.0				
Green Ext Time (p_c), s	0.6	1.5	0.0	0.0	0.4	0.9	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	44.8											
HCM 2010 LOS	D											

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	7	670	151	196	808	107	66	27	154	95	129	12
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1187	267	298	1021	843	165	68	246	227	247	20
Arrive On Green	0.04	0.42	0.42	0.17	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	2844	640	1774	1863	1537	326	275	995	538	998	82
Grp Volume(v), veh/h	7	417	404	196	808	107	247	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1863	1537	1596	0	0	1618	0	0
Q Serve(g_s), s	0.2	9.7	9.7	5.6	18.6	1.8	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.7	9.7	5.6	18.6	1.8	6.8	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.27		0.62	0.40		0.05
Lane Grp Cap(c), veh/h	66	739	716	298	1021	843	480	0	0	494	0	0
V/C Ratio(X)	0.11	0.56	0.57	0.66	0.79	0.13	0.52	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	214	1252	1213	672	1799	1484	729	0	0	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	11.9	12.0	21.0	9.7	5.9	17.8	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.7	2.5	1.4	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	4.6	2.9	9.8	0.8	3.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	25.8	12.6	12.7	23.4	11.1	6.0	18.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	A	B			B		
Approach Vol, veh/h		828			1111			247			236	
Approach Delay, s/veh		12.8			12.8			18.7			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	12.0	25.5		16.3	5.0	32.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	18.9	36.6		21.0	5.0	50.5				
Max Q Clear Time (g_c+I1), s		8.8	7.6	11.7		8.4	2.2	20.6				
Green Ext Time (p_c), s		1.2	0.4	5.8		1.1	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.98	0.98		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	56	276	39	80	433	100	49	255	13	195	157	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	734	104	457	675	156	517	810	41	479	597	213
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	868	1588	224	1050	1459	337	1100	1751	89	1048	1291	460
Grp Volume(v), veh/h	56	0	315	80	0	533	49	0	268	195	0	213
Grp Sat Flow(s),veh/h/ln	868	0	1812	1050	0	1796	1100	0	1840	1048	0	1751
Q Serve(g_s), s	4.2	0.0	9.0	4.3	0.0	18.1	2.3	0.0	7.3	11.5	0.0	6.0
Cycle Q Clear(g_c), s	22.4	0.0	9.0	13.3	0.0	18.1	8.2	0.0	7.3	18.8	0.0	6.0
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
V/C Ratio(X)	0.19	0.00	0.38	0.18	0.00	0.64	0.09	0.00	0.31	0.41	0.00	0.26
Avail Cap(c_a), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	14.0	18.3	0.0	16.4	15.7	0.0	13.5	19.5	0.0	13.2
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.8	0.0	3.8	0.4	0.0	1.0	2.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.8	1.4	0.0	9.8	0.7	0.0	4.0	3.6	0.0	3.0
LnGrp Delay(d),s/veh	26.4	0.0	15.3	19.2	0.0	20.2	16.0	0.0	14.5	22.0	0.0	13.9
LnGrp LOS	C		B	B		C	B		B	C		B
Approach Vol, veh/h	371				613				317		408	
Approach Delay, s/veh	17.0				20.1				14.7		17.8	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+l1), s	10.2		24.4		20.8		20.1					
Green Ext Time (p_c), s	1.9		1.7		1.9		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲							↰ ↱ ↲		↰ ↱ ↲	↰ ↱ ↲	
Traffic Volume (veh/h)	28	1514	10	0	0	0	0	71	241	363	209	0
Future Volume (veh/h)	28	1514	10	0	0	0	0	71	241	363	209	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1176	1900				0	980	1863	1863	980	0
Adj Flow Rate, veh/h	29	1577	10				0	108	97	298	330	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	834	1547	10				0	118	183	568	314	0
Arrive On Green	0.47	0.47	0.47				0.00	0.12	0.12	0.32	0.32	0.00
Sat Flow, veh/h	1774	3292	21				0	980	1523	1774	980	0
Grp Volume(v), veh/h	29	1026	561				0	108	97	298	330	0
Grp Sat Flow(s),veh/h/ln	1774	1071	1172				0	980	1523	1774	980	0
Q Serve(g_s), s	0.9	47.0	47.0				0.0	10.9	6.0	13.7	32.0	0.0
Cycle Q Clear(g_c), s	0.9	47.0	47.0				0.0	10.9	6.0	13.7	32.0	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	834	1006	551				0	118	183	568	314	0
V/C Ratio(X)	0.03	1.02	1.02				0.00	0.92	0.53	0.52	1.05	0.00
Avail Cap(c_a), veh/h	834	1006	551				0	118	183	568	314	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	26.5	26.5				0.0	43.5	41.4	27.8	34.0	0.0
Incr Delay (d2), s/veh	0.0	33.3	43.3				0.0	63.2	10.6	0.9	65.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	18.5	21.8				0.0	5.0	3.0	6.8	14.3	0.0
LnGrp Delay(d),s/veh	14.3	59.8	69.8				0.0	106.7	52.0	28.7	99.1	0.0
LnGrp LOS	B	F	F					F	D	C	F	
Approach Vol, veh/h		1616						205			628	
Approach Delay, s/veh		62.4						80.8			65.7	
Approach LOS		E						F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		50.0		35.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		10.5		45.5		30.5						
Max Q Clear Time (g_c+I1), s		12.9		49.0		34.0						
Green Ext Time (p_c), s		0.0		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			64.8									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	95	116	188	160	272	55	226	254	10	21	129	30
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	478	407	234	909	180	423	444	357	338	275	64
Arrive On Green	0.09	0.27	0.27	0.13	0.31	0.31	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	1774	1770	1505	1774	2906	575	1774	1863	1497	1774	1441	335
Grp Volume(v), veh/h	95	116	188	160	163	164	226	254	10	21	0	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1505	1774	1770	1711	1774	1863	1497	1774	0	1776
Q Serve(g_s), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Cycle Q Clear(g_c), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	159	478	407	234	554	535	423	444	357	338	0	338
V/C Ratio(X)	0.60	0.24	0.46	0.68	0.29	0.31	0.53	0.57	0.03	0.06	0.00	0.47
Avail Cap(c_a), veh/h	297	660	561	312	675	653	612	642	516	612	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.6	29.4	18.5	18.5	23.6	23.9	20.8	23.6	0.0	25.6
Incr Delay (d2), s/veh	3.6	0.3	0.8	3.8	0.3	0.3	1.1	1.2	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	3.2	3.2	2.4	2.5	4.0	4.5	0.2	0.3	0.0	2.9
LnGrp Delay(d),s/veh	34.7	20.5	22.4	33.2	18.8	18.9	24.7	25.0	20.8	23.6	0.0	26.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		399			487			490			180	
Approach Delay, s/veh		24.8			23.6			24.8			26.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	12.4	22.2		16.5	9.4	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.0	11.0	25.0		23.0	10.4	25.6				
Max Q Clear Time (g_c+I1), s		10.5	8.1	9.4		7.7	5.7	7.2				
Green Ext Time (p_c), s		1.8	0.1	1.7		0.8	0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	66	0	0	0	0				43	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	683	132	206	412	0				506	0	63
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916	699	255	1164	0				1279	0	497
Arrive On Green	0.00	0.77	0.77	0.14	0.55	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	1863	1529	1774	1863	0				3548	0	1534
Grp Volume(v), veh/h	0	683	132	206	412	0				506	0	63
Grp Sat Flow(s),veh/h/ln	0	1863	1529	1774	1863	0				1774	0	1534
Q Serve(g_s), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Cycle Q Clear(g_c), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916	699	255	1164	0				1279	0	497
V/C Ratio(X)	0.00	0.75	0.19	0.81	0.35	0.00				0.40	0.00	0.13
Avail Cap(c_a), veh/h	0	916	752	340	1319	0				1403	0	607
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	1.0	3.3	49.8	11.0	0.0				31.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	2.2	0.1	10.1	0.2	0.0				0.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	145.0	0.0	0.0	0.0	0.0				13.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	38.0	0.5	7.4	6.6	0.0				12.1	0.0	1.5
LnGrp Delay(d),s/veh	0.0	148.2	3.4	59.9	11.2	0.0				45.6	0.0	29.2
LnGrp LOS		F	A	E	B					D		C
Approach Vol, veh/h		815			618						569	
Approach Delay, s/veh		124.7			27.4						43.8	
Approach LOS		F			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	49.3		50.5		69.5				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			21.5	57.5		27.5		83.5				
Max Q Clear Time (g_c+I1), s			15.5	39.8		14.1		17.2				
Green Ext Time (p_c), s			0.3	5.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			71.7									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary
14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 					  	 	
Traffic Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	92	22	0	0	0				20	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	1863	0				980	1078	0
Adj Flow Rate, veh/h	0	1076	57	0	1000	0				402	391	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	1275	350	0	2306	0				430	489	0
Arrive On Green	0.00	0.62	0.62	0.00	0.62	0.00				0.33	0.32	0.00
Sat Flow, veh/h	0	2353	566	0	3725	0				1307	1833	0
Grp Volume(v), veh/h	0	1076	57	0	1000	0				402	391	0
Grp Sat Flow(s),veh/h/ln	0	686	566	0	1863	0				654	755	0
Q Serve(g_s), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Cycle Q Clear(g_c), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1275	350	0	2306	0				430	489	0
V/C Ratio(X)	0.00	0.84	0.16	0.00	0.43	0.00				0.94	0.80	0.00
Avail Cap(c_a), veh/h	0	1275	350	0	2306	0				430	489	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	11.9	0.0	10.4	0.0				35.2	32.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	0.6	0.0				28.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	189.8	33.9	0.0	0.0	0.0				138.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.6	6.8	0.0	7.7	0.0				16.2	5.8	0.0
LnGrp Delay(d),s/veh	0.0	210.5	45.9	0.0	11.0	0.0				202.0	41.6	0.0
LnGrp LOS		F	D		B					F	D	
Approach Vol, veh/h	1133			1000						793		
Approach Delay, s/veh	202.2			11.0						122.9		
Approach LOS	F			B						F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	68.0		37.0		68.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	63.5		32.5		63.5							
Max Q Clear Time (g_c+I1), s	45.8		33.3		16.7							
Green Ext Time (p_c), s	7.0		0.0		8.4							
Intersection Summary												
HCM 2010 Ctrl Delay	115.4											
HCM 2010 LOS	F											

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	563	150	94	655	28	149	94	64	48	113	11
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1385	367	454	896	38	424	234	518	216	436	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	752	2737	726	723	1771	76	811	684	1511	293	1272	107
Grp Volume(v), veh/h	16	363	350	94	0	683	243	0	64	172	0	0
Grp Sat Flow(s),veh/h/ln	752	1770	1693	723	0	1846	1494	0	1511	1672	0	0
Q Serve(g_s), s	0.7	5.1	5.1	3.7	0.0	11.5	1.8	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	5.1	5.1	8.8	0.0	11.5	4.5	0.0	1.2	2.7	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.04	0.61		1.00	0.28		0.06
Lane Grp Cap(c), veh/h	344	896	857	454	0	934	659	0	518	689	0	0
V/C Ratio(X)	0.05	0.41	0.41	0.21	0.00	0.73	0.37	0.00	0.12	0.25	0.00	0.00
Avail Cap(c_a), veh/h	550	1381	1321	653	0	1440	992	0	875	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.1	6.1	8.8	0.0	7.7	9.9	0.0	9.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.2	0.0	1.1	0.3	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.4	0.8	0.0	6.0	2.1	0.0	0.5	1.4	0.0	0.0
LnGrp Delay(d),s/veh	12.5	6.4	6.4	9.1	0.0	8.8	10.3	0.0	9.1	9.7	0.0	0.0
LnGrp LOS	B	A	A	A		A	B		A	A		
Approach Vol, veh/h		729			777			307			172	
Approach Delay, s/veh		6.5			8.8			10.0			9.7	
Approach LOS		A			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		23.1		16.6		23.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		21.5		29.5		21.5		29.5				
Max Q Clear Time (g_c+l1), s		6.5		14.2		4.7		13.5				
Green Ext Time (p_c), s		1.5		4.2		0.8		5.1				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	17	12	122	197	178	32	315	61	85	241	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	249	176	207	281	254	114	468	91	171	567	59
Arrive On Green	0.05	0.25	0.25	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1774	1008	712	1774	895	809	1774	1508	292	1774	1656	172
Grp Volume(v), veh/h	18	0	29	122	0	375	32	0	376	85	0	266
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	0	1703	1774	0	1800	1774	0	1828
Q Serve(g_s), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Cycle Q Clear(g_c), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Prop In Lane	1.00		0.41	1.00		0.47	1.00		0.16	1.00		0.09
Lane Grp Cap(c), veh/h	90	0	426	207	0	534	114	0	558	171	0	626
V/C Ratio(X)	0.20	0.00	0.07	0.59	0.00	0.70	0.28	0.00	0.67	0.50	0.00	0.43
Avail Cap(c_a), veh/h	474	0	985	474	0	976	474	0	1031	474	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.1	21.9	0.0	15.8	23.4	0.0	15.8	22.5	0.0	13.3
Incr Delay (d2), s/veh	1.1	0.0	0.1	2.6	0.0	1.7	1.3	0.0	1.4	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.8	0.0	4.9	0.5	0.0	4.9	1.3	0.0	3.0
LnGrp Delay(d),s/veh	24.9	0.0	15.2	24.6	0.0	17.5	24.7	0.0	17.2	24.7	0.0	13.7
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	47				497				408		351	
Approach Delay, s/veh	18.9				19.2				17.8		16.4	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	19.2	9.1	16.0	6.4	20.9	5.7	19.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+I), s	14.4	11.5	5.4	2.7	2.9	7.9	2.5	12.1				
Green Ext Time (p_c), s	0.1	2.2	0.2	0.1	0.0	1.6	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			18.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	0	201	242	420	92	44	310	0	0	495	28
Future Volume (veh/h)	49	0	201	242	420	92	44	310	0	0	495	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		1.00	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	980	980	0	0	1373	1400
Adj Flow Rate, veh/h	49	0	33	242	420	92	44	310	0	0	495	28
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	864	1392	301	70	733	0	0	644	36
Arrive On Green	0.09	0.00	0.09	0.49	0.49	0.43	0.08	0.39	0.00	0.00	0.26	0.20
Sat Flow, veh/h		0		1774	2858	619	934	1912	0	0	2561	140
Grp Volume(v), veh/h		0.0		242	258	254	44	310	0	0	258	265
Grp Sat Flow(s),veh/h/ln				1774	1770	1707	934	931	0	0	1304	1329
Q Serve(g_s), s				4.1	4.4	4.7	2.3	6.1	0.0	0.0	9.2	9.3
Cycle Q Clear(g_c), s				4.1	4.4	4.7	2.3	6.1	0.0	0.0	9.2	9.3
Prop In Lane				1.00		0.36	1.00		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				864	862	831	70	733	0	0	337	344
V/C Ratio(X)				0.28	0.30	0.31	0.62	0.42	0.00	0.00	0.77	0.77
Avail Cap(c_a), veh/h				864	862	831	176	944	0	0	337	344
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.7	7.7	8.1	22.6	11.1	0.0	0.0	17.2	17.4
Incr Delay (d2), s/veh				0.8	0.9	0.9	8.7	0.4	0.0	0.0	10.1	10.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.1	2.4	2.4	0.8	1.6	0.0	0.0	4.2	4.4
LnGrp Delay(d),s/veh				8.5	8.6	9.1	31.3	11.5	0.0	0.0	27.3	27.7
LnGrp LOS				A	A	A	C	B			C	C
Approach Vol, veh/h					754			354			523	
Approach Delay, s/veh					8.7			13.9			27.5	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		22.8			6.8	16.0		27.5				
Change Period (Y+Rc), s		7.5			4.5	7.5		7.5				
Max Green Setting (Gmax), s		21.0			8.0	8.5		20.0				
Max Q Clear Time (g_c+I1), s		8.1			4.3	11.3		6.7				
Green Ext Time (p_c), s		1.6			0.0	0.0		3.3				
Intersection Summary												
HCM 2010 Ctrl Delay			15.9									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	650	22	0	0	0	30	334	140	343	447	83
Future Volume (veh/h)	36	650	22	0	0	0	30	334	140	343	447	83
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900				1863	1618	1900	1275	980	1900
Adj Flow Rate, veh/h	36	650	22				30	334	140	343	447	83
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	45	847	30				82	426	173	459	836	154
Arrive On Green	0.32	0.32	0.28				0.05	0.21	0.17	0.38	0.54	0.50
Sat Flow, veh/h	141	2674	95				1774	2071	843	1214	1556	286
Grp Volume(v), veh/h	373	0	335				30	245	229	343	266	264
Grp Sat Flow(s),veh/h/ln	1464	0	1447				1774	1537	1376	1214	931	911
Q Serve(g_s), s	21.0	0.0	18.6				1.5	13.6	14.3	22.1	16.6	17.2
Cycle Q Clear(g_c), s	21.0	0.0	18.6				1.5	13.6	14.3	22.1	16.6	17.2
Prop In Lane	0.10		0.07				1.00		0.61	1.00		0.31
Lane Grp Cap(c), veh/h	463	0	458				82	316	283	459	500	489
V/C Ratio(X)	0.80	0.00	0.73				0.37	0.78	0.81	0.75	0.53	0.54
Avail Cap(c_a), veh/h	463	0	458				296	316	283	459	500	489
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	27.4				41.7	33.8	35.0	24.3	13.5	13.9
Incr Delay (d2), s/veh	13.8	0.0	9.9				2.7	11.5	15.8	10.7	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	0.0	8.6				0.8	6.7	6.7	8.7	4.4	4.5
LnGrp Delay(d),s/veh	42.0	0.0	37.4				44.4	45.3	50.8	34.9	14.6	15.1
LnGrp LOS	D		D				D	D	D	C	B	B
Approach Vol, veh/h	708						504			873		
Approach Delay, s/veh	39.8						47.8			22.7		
Approach LOS	D						D			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc),s	37.0	21.5		31.5	7.1	51.4						
Change Period (Y+Rc), s	4.5	7.5		7.5	4.5	7.5						
Max Green Setting (Gmax),s	30.5	14.0		24.0	13.5	33.0						
Max Q Clear Time (g_c+24),s	24.1	16.3		23.0	3.5	19.2						
Green Ext Time (p_c), s	0.7	0.0		0.5	0.0	2.9						
Intersection Summary												
HCM 2010 Ctrl Delay			34.6									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	269	45	7	112	37	43	428	14	15	288	139
Future Volume (veh/h)	65	269	45	7	112	37	43	428	14	15	288	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	980	1900	1900	1324	1900	1900	980	1863
Adj Flow Rate, veh/h	65	269	45	7	112	37	43	428	14	15	288	69
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	287	45	54	292	93	79	513	16	58	466	767
Arrive On Green	0.43	0.43	0.39	0.43	0.43	0.39	0.50	0.50	0.46	0.50	0.50	0.50
Sat Flow, veh/h	116	676	107	16	688	219	60	1025	32	21	932	1534
Grp Volume(v), veh/h	379	0	0	156	0	0	485	0	0	303	0	69
Grp Sat Flow(s),veh/h/ln	899	0	0	923	0	0	1118	0	0	953	0	1534
Q Serve(g_s), s	24.2	0.0	0.0	0.0	0.0	0.0	14.1	0.0	0.0	0.0	0.0	1.9
Cycle Q Clear(g_c), s	33.5	0.0	0.0	9.3	0.0	0.0	32.0	0.0	0.0	17.9	0.0	1.9
Prop In Lane	0.17		0.12	0.04		0.24	0.09		0.03	0.05		1.00
Lane Grp Cap(c), veh/h	435	0	0	439	0	0	608	0	0	524	0	767
V/C Ratio(X)	0.87	0.00	0.00	0.36	0.00	0.00	0.80	0.00	0.00	0.58	0.00	0.09
Avail Cap(c_a), veh/h	435	0	0	439	0	0	608	0	0	524	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	22.8	0.0	0.0	16.1	0.0	0.0	17.8	0.0	0.0	14.5	0.0	10.5
Incr Delay (d2), s/veh	17.3	0.0	0.0	0.5	0.0	0.0	10.5	0.0	0.0	4.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	10.3	0.0	0.0	2.5	0.0	0.0	11.3	0.0	0.0	5.5	0.0	0.8
LnGrp Delay(d),s/veh	40.1	0.0	0.0	16.6	0.0	0.0	28.3	0.0	0.0	19.1	0.0	10.7
LnGrp LOS	D			B			C			B		B
Approach Vol, veh/h	379				156		485				372	
Approach Delay, s/veh	40.1				16.6		28.3				17.5	
Approach LOS	D				B		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	34.0		35.5		19.9		11.3					
Green Ext Time (p_c), s	0.5		0.0		1.9		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay	27.3											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

10/18/2019

	            											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	301	75	26	157	13	58	363	34	13	301	59
Future Volume (veh/h)	72	301	75	26	157	13	58	363	34	13	301	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.98		0.94	0.99		0.93	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	72	301	75	26	157	13	58	363	34	13	301	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	512	118	162	630	48	172	598	53	117	603	115
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	181	1225	283	111	1509	115	137	1452	128	26	1466	280
Grp Volume(v), veh/h	448	0	0	196	0	0	455	0	0	373	0	0
Grp Sat Flow(s),veh/h/ln	1688	0	0	1735	0	0	1717	0	0	1772	0	0
Q Serve(g_s), s	2.5	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	2.5	0.0	0.0	7.1	0.0	0.0	5.4	0.0	0.0
Prop In Lane	0.16		0.17	0.13		0.07	0.13		0.07	0.03		0.16
Lane Grp Cap(c), veh/h	824	0	0	841	0	0	822	0	0	836	0	0
V/C Ratio(X)	0.54	0.00	0.00	0.23	0.00	0.00	0.55	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	1398	0	0	1415	0	0	1409	0	0	1455	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	6.7	0.0	0.0	8.1	0.0	0.0	7.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	1.2	0.0	0.0	3.5	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	6.8	0.0	0.0	8.7	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	448				196		455				373	
Approach Delay, s/veh	8.5				6.8		8.7				8.1	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.5		17.7		17.5		17.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+l1), s	9.1		9.1		7.4		4.5					
Green Ext Time (p_c), s	2.9		2.8		2.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			8.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.93	1.00		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	258	48	206	378	169	209	507	112	163	412	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	950	385	246	650	285	289	804	176	200	782	267
Arrive On Green	0.13	0.27	0.27	0.14	0.28	0.29	0.08	0.28	0.30	0.11	0.31	0.33
Sat Flow, veh/h	1774	3539	1434	1774	2337	1022	3442	2852	626	1774	2520	859
Grp Volume(v), veh/h	189	258	48	206	284	263	209	313	306	163	287	268
Grp Sat Flow(s),veh/h/ln	1774	1770	1434	1774	1770	1590	1721	1770	1708	1774	1770	1610
Q Serve(g_s), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Cycle Q Clear(g_c), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.37	1.00		0.53
Lane Grp Cap(c), veh/h	228	950	385	246	492	442	289	499	481	200	549	500
V/C Ratio(X)	0.83	0.27	0.12	0.84	0.58	0.59	0.72	0.63	0.64	0.82	0.52	0.54
Avail Cap(c_a), veh/h	413	1094	443	421	555	498	471	586	565	343	685	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.2	25.1	38.0	28.1	27.8	40.5	28.4	28.2	39.3	25.7	25.5
Incr Delay (d2), s/veh	7.5	0.2	0.1	7.4	1.2	1.5	3.4	1.6	1.8	7.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.9	5.5	6.2	5.8	2.7	7.0	6.9	4.4	6.0	5.6
LnGrp Delay(d),s/veh	46.0	26.3	25.2	45.4	29.3	29.4	43.9	30.0	30.0	47.2	26.5	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h	495				753				828		718	
Approach Delay, s/veh	33.7				33.7				33.5		31.2	
Approach LOS	C				C				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	30.0	17.1	28.8	12.1	32.6	16.2	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	17.5	30.0	21.5	28.0	12.4	35.1	21.1	28.4				
Max Q Clear Time (g_c+10),s	16.1	12.3	7.2	7.4	14.4	11.4	14.9					
Green Ext Time (p_c), s	0.2	3.3	0.4	1.7	0.3	3.5	0.3	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations									 			
Traffic Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	31	128	773	0	0	40	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	56	229	1318	0	542	286	0	530	0	5	0
Arrive On Green	0.00	0.17	0.17	0.37	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	318	1311	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	159	773	0	0	40	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1629	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.81	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	285	1318	0	542	286	0	530	0	5	0
V/C Ratio(X)	0.00	0.00	0.56	0.59	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	953	4154	0	1807	1220	0	1998	0	409	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	12.9	8.6	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.6	9.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			B					
Approach Vol, veh/h	159				773				40		0	
Approach Delay, s/veh	14.6				9.0				12.1		0.0	
Approach LOS	B				A				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.5		9.0		0.0		15.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.0		18.5		7.0		38.5					
Max Q Clear Time (g_c+I1), s	2.6		5.1		0.0		8.0					
Green Ext Time (p_c), s	0.1		0.7		0.0		3.2					
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	41	179	33	162	0	296	0	86	152	364	130	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	98	429	420	0	0	0	0	457	392	735	1029	0
Arrive On Green	0.29	0.29	0.29	0.04	0.00	0.04	0.00	0.26	0.26	0.21	0.55	0.00
Sat Flow, veh/h	344	1502	1469		0		0	1863	1516	3442	1863	0
Grp Volume(v), veh/h	220	0	33		0.0		0	86	152	364	130	0
Grp Sat Flow(s),veh/h/ln	1846	0	1469				0	1770	1516	1721	1863	0
Q Serve(g_s), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Prop In Lane	0.19		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	528	0	420				0	457	392	735	1029	0
V/C Ratio(X)	0.42	0.00	0.08				0.00	0.19	0.39	0.50	0.13	0.00
Avail Cap(c_a), veh/h	1415	0	1126				0	1285	1101	2037	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	9.7				0.0	10.7	11.4	12.9	4.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1				0.0	0.2	0.6	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3				0.0	0.7	1.3	1.7	0.6	0.0
LnGrp Delay(d),s/veh	11.3	0.0	9.8				0.0	10.9	12.0	13.4	4.1	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		253						238			494	
Approach Delay, s/veh		11.1						11.6			10.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.9	12.6		13.6		23.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	20.5	25.5		27.0		50.5						
Max Q Clear Time (g_c+I), s	15.5	5.1		5.6		3.2						
Green Ext Time (p_c), s	1.1	1.4		1.3		0.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	233	344	32				0	661	309	286	624	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	516	425				0	1235	517	451	948	0
Arrive On Green	0.28	0.28	0.28				0.00	0.33	0.34	0.25	0.25	0.00
Sat Flow, veh/h	1774	1863	1533				0	3725	1524	1774	3725	0
Grp Volume(v), veh/h	233	344	32				0	661	309	286	624	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1533				0	1863	1524	1774	1863	0
Q Serve(g_s), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Cycle Q Clear(g_c), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	516	425				0	1235	517	451	948	0
V/C Ratio(X)	0.47	0.67	0.08				0.00	0.54	0.60	0.63	0.66	0.00
Avail Cap(c_a), veh/h	769	807	665				0	1728	718	593	1246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.8	21.1	17.5				0.0	17.9	18.0	21.8	22.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	0.1				0.0	0.4	1.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	5.8	0.4				0.0	4.9	4.8	4.8	5.1	0.0
LnGrp Delay(d),s/veh	20.5	22.6	17.6				0.0	18.2	19.1	23.3	22.7	0.0
LnGrp LOS	C	C	B					B	B	C	C	
Approach Vol, veh/h		609						970			910	
Approach Delay, s/veh		21.5						18.5			22.9	
Approach LOS		C						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.8		21.2		19.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.0		27.0		20.5						
Max Q Clear Time (g_c+I1), s		13.1		12.8		11.9						
Green Ext Time (p_c), s		5.2		2.5		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.97		0.96	0.98		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	4	133	0	180	1	699	45	213	488	2
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	113	297	535	0	439	70	1243	548	317	2150	9
Arrive On Green	0.29	0.29	0.29	0.29	0.00	0.29	0.36	0.36	0.36	0.18	0.59	0.59
Sat Flow, veh/h	124	390	1028	1370	0	1520	1	3471	1531	1774	3614	15
Grp Volume(v), veh/h	6	0	0	133	0	180	375	325	45	213	239	251
Grp Sat Flow(s),veh/h/ln	1543	0	0	1370	0	1520	1862	1610	1531	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	4.9	0.0	8.4	1.0	5.8	3.3	3.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.9	0.0	4.9	8.4	8.4	1.0	5.8	3.3	3.3
Prop In Lane	0.17		0.67	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	527	0	0	535	0	439	737	577	548	317	1053	1106
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.41	0.51	0.56	0.08	0.67	0.23	0.23
Avail Cap(c_a), veh/h	887	0	0	867	0	809	1059	857	815	549	1592	1673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	14.4	0.0	14.8	13.3	13.3	11.0	19.8	4.9	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.5	0.9	0.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.1	4.4	3.8	0.4	3.1	1.6	1.7
LnGrp Delay(d),s/veh	13.1	0.0	0.0	14.7	0.0	15.4	13.9	14.2	11.0	22.3	5.0	5.0
LnGrp LOS	B			B		B	B	B	B	C	A	A
Approach Vol, veh/h		6			313			745			703	
Approach Delay, s/veh		13.1			15.1			13.8			10.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.2	21.5		17.9		33.8		17.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	14.5	26.0		26.0		45.0		26.0				
Max Q Clear Time (g_c+I), s	17.8	10.4		2.1		5.3		6.9				
Green Ext Time (p_c), s	0.3	4.1		0.0		3.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	502	221	143	305	146	483		
Future Volume (veh/h)	502	221	143	305	146	483		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.94		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	502	221	143	305	146	192		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1244	572	493	871	708	996		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	646	2377	1863	2621		
Grp Volume(v), veh/h	502	221	239	209	146	192		
Grp Sat Flow(s),veh/h/ln	1721	1583	1328	1610	1863	1311		
Q Serve(g_s), s	2.5	2.4	1.5	2.1	1.2	1.1		
Cycle Q Clear(g_c), s	2.5	2.4	2.7	2.1	1.2	1.1		
Prop In Lane	1.00	1.00	0.60			1.00		
Lane Grp Cap(c), veh/h	1244	572	753	612	708	996		
V/C Ratio(X)	0.40	0.39	0.32	0.34	0.21	0.19		
Avail Cap(c_a), veh/h	3189	1467	1491	1561	1806	2541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.5	5.2	5.1	4.8	4.8		
Incr Delay (d2), s/veh	0.2	0.4	0.2	0.3	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.0	0.6	0.4		
LnGrp Delay(d),s/veh	5.7	5.9	5.4	5.5	5.0	4.9		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	723			448	338			
Approach Delay, s/veh	5.8			5.5	4.9			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	11.8		11.4		11.8			
Change Period (Y+Rc), s	4.5		4.5		4.5			
Max Green Setting (Gmax), s	21.0		20.0		21.0			
Max Q Clear Time (g_c+I1), s	4.7		4.5		3.2			
Green Ext Time (p_c), s	2.6		2.4		1.5			
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	8	20	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	2157	2157	2157	2157	2157	2200	1863	1863	1900	1078	1078	1100
Adj Flow Rate, veh/h	85	134	26	378	232	65	46	271	45	131	313	31
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	198	325	504	493	133	79	1656	271	172	1251	114
Arrive On Green	0.06	0.09	0.09	0.12	0.15	0.15	0.01	0.18	0.18	0.15	0.66	0.66
Sat Flow, veh/h	2054	2157	3540	4108	3217	871	1774	3029	495	1027	1882	185
Grp Volume(v), veh/h	85	134	26	378	153	144	46	157	159	131	169	175
Grp Sat Flow(s),veh/h/ln	2054	2157	1770	2054	2157	1931	1774	1770	1755	1027	1025	1042
Q Serve(g_s), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Cycle Q Clear(g_c), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.28	1.00		0.18
Lane Grp Cap(c), veh/h	133	198	325	504	331	296	79	968	959	172	675	689
V/C Ratio(X)	0.64	0.68	0.08	0.75	0.46	0.49	0.58	0.16	0.17	0.76	0.25	0.25
Avail Cap(c_a), veh/h	470	478	784	939	485	434	317	981	973	183	675	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	61.6	58.2	59.4	54.0	54.3	67.7	30.3	30.4	57.7	10.9	10.9
Incr Delay (d2), s/veh	5.0	4.0	0.1	2.3	1.0	1.2	5.6	0.3	0.3	16.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	2.1	2.0
%ile BackOfQ(50%),veh/ln	6.4	5.2	0.5	7.2	5.5	5.2	1.9	5.2	5.3	10.2	5.1	5.2
LnGrp Delay(d),s/veh	68.9	65.6	58.3	61.6	55.0	55.6	73.3	30.6	30.7	139.8	13.9	13.8
LnGrp LOS	E	E	E	E	E	E	E	C	C	F	B	B
Approach Vol, veh/h	245				675			362			475	
Approach Delay, s/veh	66.0				58.8			36.1			48.6	
Approach LOS	E				E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.9	80.1	20.2	15.9	9.2	94.8	12.1	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	29.5	38.5	30.5	29.5	23.5	38.5	30.5	29.5				
Max Q Clear Time (g_c+I), s	19.4	12.7	14.4	10.4	5.6	11.6	7.7	11.6				
Green Ext Time (p_c), s	0.1	1.9	1.2	0.7	0.1	2.1	0.2	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	52.4											
HCM 2010 LOS	D											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.79		0.68	0.80		0.66	0.86		0.75	0.84		0.71
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	27	23	71	49	26	183	48	73	161	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	437	150	116	307	190	104	629	155	246	511	59
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	1.00	1.00	0.94	0.51	0.51	0.47
Sat Flow, veh/h	64	1093	376	142	768	474	92	1224	302	349	994	115
Grp Volume(v), veh/h	110	0	0	143	0	0	257	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1533	0	0	1383	0	0	1618	0	0	1458	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.6	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0
Prop In Lane	0.09		0.25	0.16		0.34	0.10		0.19	0.29		0.08
Lane Grp Cap(c), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.00	0.00	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	14.3	0.0	0.0	0.2	0.0	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	14.3	0.0	0.0	15.2	0.0	0.0	1.0	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	110				143				257		254	
Approach Delay, s/veh	14.3				15.2				1.0		10.7	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	2.2		5.2		8.0		6.6					
Green Ext Time (p_c), s	1.8		0.6		1.8		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		0.68	0.87		0.71	0.89		0.79	0.94		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	149	49	22	105	40	42	185	57	33	151	29
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	429	130	104	418	146	141	571	164	148	629	113
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	0.51	0.51	0.47	0.51	0.51	0.47
Sat Flow, veh/h	129	1071	325	115	1045	366	159	1111	319	173	1223	220
Grp Volume(v), veh/h	230	0	0	167	0	0	284	0	0	213	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1526	0	0	1589	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	4.9	0.0	0.0	6.9	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.14		0.21	0.13		0.24	0.15		0.20	0.15		0.14
Lane Grp Cap(c), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.25	0.00	0.00	0.32	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	14.3	0.0	0.0	10.1	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.2	0.0	0.0	11.1	0.0	0.0	10.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	230			167			284			213		
Approach Delay, s/veh	16.4			15.2			11.1			10.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	8.9		9.1		6.8		6.9					
Green Ext Time (p_c), s	1.9		1.3		1.4		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	13.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	110	61	104	261	118	24	133	31	21	124	56
Future Volume (veh/h)	38	110	61	104	261	118	24	133	31	21	124	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.69	1.00		0.73	0.97		0.72	0.92		0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1863	980	1863	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	38	110	61	104	261	58	24	133	31	21	124	56
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	193	96	536	483	573	88	273	59	79	214	89
Arrive On Green	0.49	0.49	0.45	0.49	0.49	0.49	0.42	0.42	0.37	0.42	0.42	0.37
Sat Flow, veh/h	82	392	195	1206	980	1164	62	658	142	43	514	215
Grp Volume(v), veh/h	209	0	0	104	261	58	188	0	0	201	0	0
Grp Sat Flow(s),veh/h/ln	670	0	0	1206	980	1164	861	0	0	773	0	0
Q Serve(g_s), s	4.9	0.0	0.0	0.0	12.0	1.7	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	16.8	0.0	0.0	7.6	12.0	1.7	10.3	0.0	0.0	13.0	0.0	0.0
Prop In Lane	0.18		0.29	1.00		1.00	0.13		0.16	0.10		0.28
Lane Grp Cap(c), veh/h	395	0	0	536	483	573	420	0	0	382	0	0
V/C Ratio(X)	0.53	0.00	0.00	0.19	0.54	0.10	0.45	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	395	0	0	536	483	573	420	0	0	382	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	0.98	0.98	0.98	0.81	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	10.3	11.4	8.8	14.3	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.8	4.2	0.3	2.8	0.0	0.0	5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	1.3	3.8	0.6	2.8	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	13.7	0.0	0.0	11.1	15.6	9.2	17.1	0.0	0.0	20.2	0.0	0.0
LnGrp LOS	B			B	B	A	B			C		
Approach Vol, veh/h	209				423				188		201	
Approach Delay, s/veh	13.7				13.6				17.1		20.2	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		35.0		30.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	22.5		27.5		22.5		27.5					
Max Q Clear Time (g_c+I1), s	12.3		18.8		15.0		14.0					
Green Ext Time (p_c), s	0.8		0.9		0.7		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	15.6											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	509	47	10	111	22	18	127	55	60	112	97
Future Volume (veh/h)	37	509	47	10	111	22	18	127	55	60	112	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.81	0.97		0.77	1.00		0.85	0.99		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	980	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	37	509	47	10	111	22	18	127	55	60	112	97
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1461	132	62	350	66	67	260	106	116	159	124
Arrive On Green	0.49	0.49	0.43	0.49	0.49	0.43	0.44	0.44	0.38	0.44	0.44	0.38
Sat Flow, veh/h	133	2958	266	29	710	134	42	595	242	137	358	279
Grp Volume(v), veh/h	315	0	278	143	0	0	200	0	0	269	0	0
Grp Sat Flow(s),veh/h/ln	1782	0	1576	873	0	0	878	0	0	775	0	0
Q Serve(g_s), s	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	9.8	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	8.8	7.7	0.0	0.0	13.4	0.0	0.0	23.2	0.0	0.0
Prop In Lane	0.12		0.17	0.07		0.15	0.09		0.27	0.22		0.36
Lane Grp Cap(c), veh/h	930	0	778	479	0	0	433	0	0	399	0	0
V/C Ratio(X)	0.34	0.00	0.36	0.30	0.00	0.00	0.46	0.00	0.00	0.67	0.00	0.00
Avail Cap(c_a), veh/h	930	0	778	479	0	0	433	0	0	399	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	0.0	12.7	12.4	0.0	0.0	16.9	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.3	1.6	0.0	0.0	3.5	0.0	0.0	8.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.0	4.1	2.1	0.0	0.0	3.7	0.0	0.0	6.0	0.0	0.0
LnGrp Delay(d),s/veh	13.3	0.0	14.0	14.0	0.0	0.0	20.4	0.0	0.0	28.2	0.0	0.0
LnGrp LOS	B		B	B			C			C		
Approach Vol, veh/h	593				143		200				269	
Approach Delay, s/veh	13.7				14.0		20.4				28.2	
Approach LOS	B				B		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	30.5		34.5		30.5		34.5					
Max Q Clear Time (g_c+I1), s	15.4		10.8		25.2		9.7					
Green Ext Time (p_c), s	1.0		4.1		0.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay			18.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	321	55	25	223	30	38	137	72	18	117	34
Future Volume (veh/h)	38	321	55	25	223	30	38	137	72	18	117	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	0.99		0.92	0.94		0.89	0.98		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900	1900	980	1900	1900	1275	1900	1900	1863	1900
Adj Flow Rate, veh/h	38	321	55	25	223	30	38	137	72	18	117	34
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	555	91	78	386	49	104	279	133	96	522	141
Arrive On Green	0.50	0.50	0.46	0.50	0.50	0.46	0.41	0.41	0.37	0.41	0.41	0.37
Sat Flow, veh/h	78	1110	182	44	772	99	108	674	322	94	1261	341
Grp Volume(v), veh/h	414	0	0	278	0	0	247	0	0	169	0	0
Grp Sat Flow(s),veh/h/ln	1370	0	0	914	0	0	1103	0	0	1695	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.5	0.0	0.0	14.5	0.0	0.0	11.3	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.09		0.13	0.09		0.11	0.15		0.29	0.11		0.20
Lane Grp Cap(c), veh/h	741	0	0	513	0	0	516	0	0	759	0	0
V/C Ratio(X)	0.56	0.00	0.00	0.54	0.00	0.00	0.48	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	741	0	0	513	0	0	516	0	0	759	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	0.0	0.0	12.5	0.0	0.0	15.6	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	3.0	0.0	0.0	4.1	0.0	0.0	3.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	0.0	4.4	0.0	0.0	4.1	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	15.6	0.0	0.0	16.6	0.0	0.0	18.8	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	414			278			247			169		
Approach Delay, s/veh	15.6			16.6			18.8			14.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	13.3		16.5		6.4		16.5					
Green Ext Time (p_c), s	1.1		2.4		0.9		1.5					
Intersection Summary												
HCM 2010 Ctrl Delay	16.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.71	0.92		0.82	0.95		0.81	0.87		0.77
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	182	57	26	101	34	9	76	26	28	239	82
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	432	125	130	469	146	82	575	186	85	565	185
Arrive On Green	0.44	0.44	0.40	0.44	0.44	0.40	0.49	0.49	0.45	0.49	0.49	0.45
Sat Flow, veh/h	243	988	286	178	1072	335	68	1179	382	74	1158	379
Grp Volume(v), veh/h	302	0	0	161	0	0	111	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1517	0	0	1585	0	0	1629	0	0	1611	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	4.7	0.0	0.0	2.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.21		0.19	0.16		0.21	0.08		0.23	0.08		0.23
Lane Grp Cap(c), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	14.2	0.0	0.0	11.5	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.0	2.4	0.0	0.0	1.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	17.5	0.0	0.0	14.9	0.0	0.0	11.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		302			161			111			349	
Approach Delay, s/veh		17.5			14.9			11.8			15.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.0		38.0		42.0		38.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		34.5		30.5		34.5		30.5				
Max Q Clear Time (g_c+I1), s		4.9		12.5		13.1		6.7				
Green Ext Time (p_c), s		0.7		2.0		2.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay				15.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.80	0.89		0.78	0.92		0.81	0.88		0.81
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	165	38	18	224	65	10	69	12	20	217	36
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	607	131	97	595	166	113	563	91	103	579	92
Arrive On Green	0.48	0.48	0.42	0.48	0.48	0.42	0.41	0.41	0.35	0.41	0.41	0.35
Sat Flow, veh/h	97	1275	275	49	1252	349	86	1381	223	70	1420	226
Grp Volume(v), veh/h	228	0	0	307	0	0	91	0	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1647	0	0	1650	0	0	1690	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	6.1	0.0	0.0	1.7	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.11		0.17	0.06		0.21	0.11		0.13	0.07		0.13
Lane Grp Cap(c), veh/h	861	0	0	859	0	0	767	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.36	0.00	0.00	0.12	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1060	0	0	1062	0	0	986	0	0	1002	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.9	0.0	0.0	9.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.9	0.0	0.0	0.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	A			A			A			B		
Approach Vol, veh/h	228				307				91		273	
Approach Delay, s/veh	8.5				9.1				9.7		11.1	
Approach LOS	A				A				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		27.5		24.0		27.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.7		6.2		7.7		8.1					
Green Ext Time (p_c), s	0.4		1.4		1.5		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	19	274	14	102	296	174	12	450	85	209	439	36
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	920	760	529	920	752	62	1511	676	344	771	66
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	913	1863	1538	1080	1863	1523	33	3405	1522	598	1737	148
Grp Volume(v), veh/h	19	274	14	102	296	174	246	216	85	282	0	402
Grp Sat Flow(s),veh/h/ln	913	1863	1538	1080	1863	1523	1828	1610	1522	825	0	1658
Q Serve(g_s), s	1.0	7.0	0.4	5.0	7.7	5.2	0.0	6.9	2.6	19.2	0.0	14.3
Cycle Q Clear(g_c), s	8.7	7.0	0.4	11.9	7.7	5.2	6.8	6.9	2.6	26.1	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	0.05		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
V/C Ratio(X)	0.04	0.30	0.02	0.19	0.32	0.23	0.29	0.30	0.13	0.63	0.00	0.55
Avail Cap(c_a), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	12.0	10.3	15.6	12.2	11.6	14.3	14.3	13.1	22.2	0.0	16.4
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.8	0.9	0.7	0.8	1.1	0.4	6.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	0.2	1.6	4.1	2.3	3.7	3.3	1.2	6.3	0.0	7.1
LnGrp Delay(d),s/veh	15.0	12.8	10.4	16.4	13.1	12.3	15.1	15.4	13.5	28.9	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		307			572			547			684	
Approach Delay, s/veh		12.9			13.4			15.0			23.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		8.9		10.7		28.1		13.9				
Green Ext Time (p_c), s		3.2		1.8		2.2		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

10/18/2019

	            											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WB			NBT			SBT	
Traffic Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	266	32	90	224	65	25	596	75	108	430	41
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1088	126	234	414	108	135	1309	162	281	994	97
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	233	2782	323	271	1058	275	56	2997	371	314	2275	221
Grp Volume(v), veh/h	180	0	161	379	0	0	368	0	328	273	0	306
Grp Sat Flow(s),veh/h/ln	1709	0	1629	1604	0	0	1804	0	1620	1161	0	1649
Q Serve(g_s), s	0.0	0.0	2.3	2.6	0.0	0.0	0.0	0.0	5.0	1.3	0.0	4.5
Cycle Q Clear(g_c), s	2.3	0.0	2.3	6.2	0.0	0.0	4.8	0.0	5.0	6.2	0.0	4.5
Prop In Lane	0.24		0.20	0.24		0.17	0.07		0.23	0.40		0.13
Lane Grp Cap(c), veh/h	796	0	637	755	0	0	898	0	708	651	0	720
V/C Ratio(X)	0.23	0.00	0.25	0.50	0.00	0.00	0.41	0.00	0.46	0.42	0.00	0.42
Avail Cap(c_a), veh/h	1131	0	981	1079	0	0	3530	0	3160	2440	0	3216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	7.2	8.2	0.0	0.0	6.9	0.0	6.9	6.7	0.0	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	3.0	0.0	0.0	2.5	0.0	2.3	2.0	0.0	2.0
LnGrp Delay(d),s/veh	7.3	0.0	7.4	8.8	0.0	0.0	7.2	0.0	7.4	7.2	0.0	7.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	341				379		696				579	
Approach Delay, s/veh	7.3				8.8		7.3				7.2	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.2		16.6		18.2		16.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		19.5		66.5		19.5					
Max Q Clear Time (g_c+I1), s	7.0		4.3		8.2		8.2					
Green Ext Time (p_c), s	5.2		1.8		4.8		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			7.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.87	0.95		0.93	0.97		0.91	0.95		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	206	63	25	161	49	13	170	51	63	249	121
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	602	184	102	568	161	74	594	171	614	518	252
Arrive On Green	0.46	0.46	0.41	0.46	0.46	0.41	0.91	0.91	0.83	0.46	0.46	0.41
Sat Flow, veh/h	1122	1317	403	98	1242	353	43	1299	374	1093	1134	551
Grp Volume(v), veh/h	177	0	269	235	0	0	234	0	0	63	0	370
Grp Sat Flow(s),veh/h/ln	1122	0	1720	1694	0	0	1716	0	0	1093	0	1685
Q Serve(g_s), s	1.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.9
Cycle Q Clear(g_c), s	7.1	0.0	7.1	5.9	0.0	0.0	1.3	0.0	0.0	1.6	0.0	10.9
Prop In Lane	1.00		0.23	0.11		0.21	0.06		0.22	1.00		0.33
Lane Grp Cap(c), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
V/C Ratio(X)	0.29	0.00	0.34	0.28	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.48
Avail Cap(c_a), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.5	12.1	0.0	0.0	2.1	0.0	0.0	10.7	0.0	13.6
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.9	0.0	0.0	0.8	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	3.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	5.5
LnGrp Delay(d),s/veh	13.4	0.0	13.7	13.0	0.0	0.0	2.9	0.0	0.0	11.1	0.0	15.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	446				235		234				433	
Approach Delay, s/veh	13.6				13.0		2.9				15.1	
Approach LOS	B				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	3.3		9.1		12.9		7.9					
Green Ext Time (p_c), s	1.4		2.4		2.3		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.82		0.73	0.93		0.70	0.92		0.71	0.85		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	202	73	30	200	40	22	125	28	42	240	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	500	170	106	591	111	113	565	118	605	617	152
Arrive On Green	0.46	0.46	0.41	0.93	0.93	0.83	0.46	0.46	0.41	0.46	0.46	0.41
Sat Flow, veh/h	99	1076	365	105	1273	240	120	1218	255	1045	1330	327
Grp Volume(v), veh/h	308	0	0	270	0	0	175	0	0	42	0	299
Grp Sat Flow(s),veh/h/ln	1540	0	0	1617	0	0	1592	0	0	1045	0	1657
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	1.2	0.0	8.4
Prop In Lane	0.11		0.24	0.11		0.15	0.13		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
V/C Ratio(X)	0.40	0.00	0.00	0.33	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.39
Avail Cap(c_a), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	1.7	0.0	0.0	11.4	0.0	0.0	10.4	0.0	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	0.5	0.0	4.1
LnGrp Delay(d),s/veh	14.2	0.0	0.0	2.8	0.0	0.0	12.0	0.0	0.0	10.6	0.0	14.0
LnGrp LOS	B			A			B			B		B
Approach Vol, veh/h	308				270				175		341	
Approach Delay, s/veh	14.2				2.8				12.0		13.6	
Approach LOS	B				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	6.4		10.9		10.4		3.4					
Green Ext Time (p_c), s	1.1		2.0		2.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

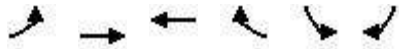
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.74	0.96		0.69	0.97		0.89	0.94		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	320	48	30	160	31	6	110	37	109	164	64
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	887	129	155	755	143	60	734	238	309	450	164
Arrive On Green	0.35	0.35	0.31	0.35	0.35	0.31	0.57	0.57	0.54	0.57	0.57	0.54
Sat Flow, veh/h	223	2536	367	281	2158	409	24	1276	415	435	783	285
Grp Volume(v), veh/h	218	0	193	115	0	106	153	0	0	337	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	1477	1446	0	1403	1715	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	7.9	0.2	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.9	8.1	0.0	4.3	3.4	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.20		0.25	0.26		0.29	0.04		0.24	0.32		0.19
Lane Grp Cap(c), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.20	0.00	0.22	0.15	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	0.0	19.7	18.0	0.0	18.6	8.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	1.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	3.5	1.9	0.0	1.8	1.7	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	20.6	0.0	21.8	18.9	0.0	19.6	8.4	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	C		C	B		B	A			B		
Approach Vol, veh/h	411				221		153				337	
Approach Delay, s/veh	21.2				19.2		8.4				10.3	
Approach LOS	C				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	49.0		31.0		49.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	41.5		23.5		41.5		23.5					
Max Q Clear Time (g_c+l1), s	5.4		9.9		11.2		10.1					
Green Ext Time (p_c), s	1.0		2.3		2.6		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	15.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	85	329	216	104	136	98		
Future Volume (veh/h)	85	329	216	104	136	98		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.97			0.94	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1471	1863	1900	980	1863		
Adj Flow Rate, veh/h	85	329	216	104	136	33		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	380	665	526	253	195	330		
Arrive On Green	0.45	0.45	0.45	0.45	0.21	0.21		
Sat Flow, veh/h	539	1471	1163	560	934	1583		
Grp Volume(v), veh/h	85	329	0	320	136	33		
Grp Sat Flow(s),veh/h/ln	539	1471	0	1723	934	1583		
Q Serve(g_s), s	4.5	5.6	0.0	4.4	4.8	0.6		
Cycle Q Clear(g_c), s	8.9	5.6	0.0	4.4	4.8	0.6		
Prop In Lane	1.00			0.32	1.00	1.00		
Lane Grp Cap(c), veh/h	380	665	0	779	195	330		
V/C Ratio(X)	0.22	0.49	0.00	0.41	0.70	0.10		
Avail Cap(c_a), veh/h	380	665	0	779	976	1656		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	9.5	6.8	0.0	6.5	13.0	11.3		
Incr Delay (d2), s/veh	1.4	2.6	0.0	1.6	4.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	2.7	0.0	2.4	1.5	0.3		
LnGrp Delay(d),s/veh	10.9	9.5	0.0	8.1	17.4	11.4		
LnGrp LOS	B	A		A	B	B		
Approach Vol, veh/h		414	320		169			
Approach Delay, s/veh		9.7	8.1		16.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				22.0		13.4		22.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				14.5		35.5		14.5
Max Q Clear Time (g_c+I1), s				10.9		6.8		6.4
Green Ext Time (p_c), s				1.0		0.5		1.2
Intersection Summary								
HCM 2010 Ctrl Delay		10.4						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

10/18/2019

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Traffic Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9						
Future Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9						
Number	7	4	14	3	8	18	5	2	12	1	6	16						
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0						
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.98						
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900						
Adj Flow Rate, veh/h	19	56	31	200	31	64	34	1244	145	105	1126	9						
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2						
Cap, veh/h	101	227	109	417	118	244	102	1791	208	175	2167	17						
Arrive On Green	0.22	0.22	0.21	0.22	0.22	0.21	0.06	0.56	0.55	0.10	0.60	0.59						
Sat Flow, veh/h	171	1027	495	1295	534	1103	1774	3194	371	1774	3598	29						
Grp Volume(v), veh/h	106	0	0	200	0	95	34	687	702	105	554	581						
Grp Sat Flow(s),veh/h/ln	1693	0	0	1295	0	1638	1774	1770	1795	1774	1770	1857						
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2						
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.1	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2						
Prop In Lane	0.18		0.29	1.00		0.67	1.00		0.21	1.00		0.02						
Lane Grp Cap(c), veh/h	437	0	0	417	0	362	102	992	1007	175	1066	1119						
V/C Ratio(X)	0.24	0.00	0.00	0.48	0.00	0.26	0.33	0.69	0.70	0.60	0.52	0.52						
Avail Cap(c_a), veh/h	1236	0	0	1048	0	1160	352	1991	2020	502	2142	2247						
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	21.8	30.4	10.6	10.7	29.0	7.7	7.7						
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.4	1.9	0.9	0.9	3.3	0.4	0.4						
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0						
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.4	0.0	1.5	0.7	9.2	9.4	2.0	6.0	6.3						
LnGrp Delay(d),s/veh	22.0	0.0	0.0	24.1	0.0	22.1	32.3	11.5	11.5	32.2	8.1	8.1						
LnGrp LOS	C			C		C	C	B	B	C	A	A						
Approach Vol, veh/h	106			295			1423			1240								
Approach Delay, s/veh	22.0			23.5			12.0			10.1								
Approach LOS	C			C			B			B								
Timer	1	2	3	4	5	6	7	8										
Assigned Phs	1	2			4	5	6	8										
Phs Duration (G+Y+Rc), s	9.6	40.1			17.3	6.8	42.9	17.3										
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5										
Max Green Setting (Gmax), s	17.5	73.5			45.5	11.8	79.2	45.5										
Max Q Clear Time (g_c+I), s	1.8	20.9			5.3	3.2	14.2	10.1										
Green Ext Time (p_c), s	0.2	14.7			0.6	0.0	10.3	1.3										
Intersection Summary																		
HCM 2010 Ctrl Delay	12.7																	
HCM 2010 LOS	B																	

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	110	37	104	72	29	14	1458	126	18	1231	53
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	235	70	273	165	55	76	2102	180	81	2170	93
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	427	955	282	693	669	224	10	3188	273	17	3292	141
Grp Volume(v), veh/h	218	0	0	205	0	0	840	0	758	674	0	628
Grp Sat Flow(s),veh/h/ln	1664	0	0	1586	0	0	1829	0	1643	1781	0	1668
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	10.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	0.0	0.0	14.8	0.0	15.5	10.2	0.0	10.9
Prop In Lane	0.33		0.17	0.51		0.14	0.02		0.17	0.03		0.08
Lane Grp Cap(c), veh/h	500	0	0	493	0	0	1275	0	1083	1244	0	1100
V/C Ratio(X)	0.44	0.00	0.00	0.42	0.00	0.00	0.66	0.00	0.70	0.54	0.00	0.57
Avail Cap(c_a), veh/h	883	0	0	844	0	0	1743	0	1520	1682	0	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	17.0	0.0	0.0	5.6	0.0	5.7	4.8	0.0	4.9
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.6	0.0	0.0	7.7	0.0	7.0	5.2	0.0	5.0
LnGrp Delay(d),s/veh	17.8	0.0	0.0	17.6	0.0	0.0	6.2	0.0	6.6	5.2	0.0	5.4
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	218				205		1598				1302	
Approach Delay, s/veh	17.8				17.6		6.4				5.3	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.4		15.6		37.4		15.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	17.5		7.5		12.9		7.2					
Green Ext Time (p_c), s	15.4		1.1		12.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	257	74	77	1139	1269	201		
Future Volume (veh/h)	257	74	77	1139	1269	201		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	257	74	77	1139	1269	201		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	334	96	138	2342	1655	260		
Arrive On Green	0.25	0.25	0.08	0.66	0.54	0.54		
Sat Flow, veh/h	1329	383	1774	3632	3154	481		
Grp Volume(v), veh/h	332	0	77	1139	730	740		
Grp Sat Flow(s),veh/h/ln	1717	0	1774	1770	1770	1772		
Q Serve(g_s), s	12.4	0.0	2.9	11.1	22.2	22.7		
Cycle Q Clear(g_c), s	12.4	0.0	2.9	11.1	22.2	22.7		
Prop In Lane	0.77	0.22	1.00			0.27		
Lane Grp Cap(c), veh/h	431	0	138	2342	957	958		
V/C Ratio(X)	0.77	0.00	0.56	0.49	0.76	0.77		
Avail Cap(c_a), veh/h	623	0	206	3030	1232	1234		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	0.0	30.6	5.8	12.4	12.5		
Incr Delay (d2), s/veh	3.6	0.0	3.5	0.2	2.1	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	1.5	5.4	11.3	11.5		
LnGrp Delay(d),s/veh	27.6	0.0	34.2	6.0	14.5	14.8		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	332			1216	1470			
Approach Delay, s/veh	27.6			7.8	14.7			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.6		20.3	8.4	40.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		57.5		23.5	6.5	46.5		
Max Q Clear Time (g_c+I1), s		13.1		14.4	4.9	24.7		
Green Ext Time (p_c), s		10.6		0.7	0.0	11.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

10/18/2019



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations			 			 		
Traffic Volume (veh/h)	276	118	1404	282	74	1208		
Future Volume (veh/h)	276	118	1404	282	74	1208		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	276	31	1404	145	74	1208		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	1865	802	157	2371		
Arrive On Green	0.22	0.22	0.53	0.53	0.09	0.67		
Sat Flow, veh/h	1774	1583	3632	1522	1774	3632		
Grp Volume(v), veh/h	276	31	1404	145	74	1208		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1522	1774	1770		
Q Serve(g_s), s	7.9	0.9	17.2	2.7	2.2	9.4		
Cycle Q Clear(g_c), s	7.9	0.9	17.2	2.7	2.2	9.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	392	350	1865	802	157	2371		
V/C Ratio(X)	0.70	0.09	0.75	0.18	0.47	0.51		
Avail Cap(c_a), veh/h	981	875	2181	938	209	2791		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	17.1	10.2	6.8	23.9	4.6		
Incr Delay (d2), s/veh	2.3	0.1	1.3	0.1	2.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.4	8.5	1.2	1.2	4.6		
LnGrp Delay(d),s/veh	22.1	17.2	11.5	6.9	26.1	4.7		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	307		1549			1282		
Approach Delay, s/veh	21.6		11.1			6.0		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	32.1				40.0		15.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	32.5					42.0		29.0
Max Q Clear Time (g_c+I_1), s	19.2					11.4		9.9
Green Ext Time (p_c), s	0.0	8.4				10.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	119	170	132	104	92	91	1520	171	72	1262	116
Future Volume (veh/h)	112	119	170	132	104	92	91	1520	171	72	1262	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.90	0.94		0.87	1.00		0.86	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1569	1863	980	1569	1863	1863	2451	1900	1863	1863	1900
Adj Flow Rate, veh/h	112	119	44	132	104	24	91	1520	171	72	1262	116
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	346	459	416	212	466	411	140	3363	378	117	2578	237
Arrive On Green	0.29	0.29	0.29	0.30	0.30	0.30	0.08	0.56	0.56	0.07	0.55	0.54
Sat Flow, veh/h	1147	1569	1422	601	1569	1382	1774	5991	673	1774	4700	432
Grp Volume(v), veh/h	112	119	44	132	104	24	91	1131	560	72	910	468
Grp Sat Flow(s),veh/h/ln	1147	1569	1422	601	1569	1382	1774	2230	2203	1774	1695	1741
Q Serve(g_s), s	8.7	6.2	2.4	22.7	5.3	1.3	5.3	15.8	15.9	4.2	17.6	17.6
Cycle Q Clear(g_c), s	14.0	6.2	2.4	28.8	5.3	1.3	5.3	15.8	15.9	4.2	17.6	17.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		0.25
Lane Grp Cap(c), veh/h	346	459	416	212	466	411	140	2505	1237	117	1859	955
V/C Ratio(X)	0.32	0.26	0.11	0.62	0.22	0.06	0.65	0.45	0.45	0.62	0.49	0.49
Avail Cap(c_a), veh/h	346	459	416	212	466	411	234	2505	1237	184	1859	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.7	28.7	27.4	39.3	28.0	26.6	47.4	13.7	13.7	48.2	14.8	14.8
Incr Delay (d2), s/veh	0.5	0.3	0.1	5.6	0.2	0.1	5.0	0.6	1.2	5.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.7	1.0	4.1	2.3	0.5	2.8	9.8	10.1	2.2	8.3	8.6
LnGrp Delay(d),s/veh	34.2	29.0	27.5	44.9	28.3	26.7	52.4	14.2	14.9	53.4	15.0	15.2
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h		275			260			1782			1450	
Approach Delay, s/veh		30.9			36.6			16.4			17.0	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	62.0		34.0	11.3	60.6		34.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	57.5		29.5	12.5	54.5		29.5				
Max Q Clear Time (g_c+I), s	11.2	17.9		16.0	7.3	19.6		30.8				
Green Ext Time (p_c), s	0.0	18.1		1.0	0.1	12.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	74	54	127	41	82	17	1541	162	177	1387	30
Future Volume (veh/h)	54	74	54	127	41	82	17	1541	162	177	1387	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.92	0.95		0.94	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	2451	1900	980	2451	1900	2451	2451	1900
Adj Flow Rate, veh/h	54	74	17	127	41	82	17	1541	162	177	1387	30
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	152	573	289	217	434	71	2937	308	262	3468	75
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.48	0.48	0.22	0.52	0.52
Sat Flow, veh/h	290	492	1458	1232	701	1401	934	6122	643	2334	6727	146
Grp Volume(v), veh/h	128	0	17	127	0	123	17	1122	581	177	920	497
Grp Sat Flow(s),veh/h/ln	781	0	1458	1232	0	2102	934	2230	2304	2334	2230	2412
Q Serve(g_s), s	8.8	0.0	0.7	8.7	0.0	3.9	1.6	16.0	16.1	6.4	11.5	11.5
Cycle Q Clear(g_c), s	12.8	0.0	0.7	21.5	0.0	3.9	1.6	16.0	16.1	6.4	11.5	11.5
Prop In Lane	0.42		1.00	1.00		0.67	1.00		0.28	1.00		0.06
Lane Grp Cap(c), veh/h	298	0	573	289	0	652	71	2140	1105	262	2300	1243
V/C Ratio(X)	0.43	0.00	0.03	0.44	0.00	0.19	0.24	0.52	0.53	0.68	0.40	0.40
Avail Cap(c_a), veh/h	303	0	582	296	0	665	71	2140	1105	713	3161	1709
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	0.0	17.5	35.2	0.0	23.2	39.9	16.6	16.6	34.1	13.6	13.6
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.1	0.0	0.1	7.7	0.9	1.8	3.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	0.3	3.0	0.0	2.3	0.6	10.1	10.7	4.3	7.1	7.7
LnGrp Delay(d),s/veh	27.3	0.0	17.5	36.2	0.0	23.3	47.6	17.5	18.4	37.1	13.7	13.8
LnGrp LOS	C		B	D		C	D	B	B	D	B	B
Approach Vol, veh/h	145		250			1720			1594			
Approach Delay, s/veh	26.1		29.9			18.1			16.3			
Approach LOS	C		C			B			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.3	47.0		31.4	10.0	50.3		31.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	42.5		27.5	5.5	63.5		27.5				
Max Q Clear Time (g_c+I), s	18.1	18.1		14.8	3.6	13.5		23.5				
Green Ext Time (p_c), s	0.4	13.5		0.6	0.0	13.5		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	154	48	44	1861	1532	67		
Future Volume (veh/h)	154	48	44	1861	1532	67		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.96	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	154	48	44	1861	1532	67		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	310	97	101	3047	3284	144		
Arrive On Green	0.24	0.24	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1294	403	54	4785	5160	218		
Grp Volume(v), veh/h	203	0	658	1247	1040	559		
Grp Sat Flow(s),veh/h/ln	1706	0	1601	1543	1695	1821		
Q Serve(g_s), s	6.0	0.0	0.0	13.6	8.8	8.8		
Cycle Q Clear(g_c), s	6.0	0.0	10.9	13.6	8.8	8.8		
Prop In Lane	0.76	0.24	0.07			0.12		
Lane Grp Cap(c), veh/h	408	0	1119	2030	2230	1198		
V/C Ratio(X)	0.50	0.00	0.59	0.61	0.47	0.47		
Avail Cap(c_a), veh/h	818	0	1541	2958	3251	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	0.0	5.3	5.7	4.9	4.9		
Incr Delay (d2), s/veh	0.9	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.6	5.6	4.1	4.4		
LnGrp Delay(d),s/veh	20.1	0.0	5.8	6.0	5.1	5.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	203			1905	1599			
Approach Delay, s/veh	20.1			6.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		41.4		17.0		41.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		54.5		26.5		54.5		
Max Q Clear Time (g_c+I1), s		15.6		8.0		10.8		
Green Ext Time (p_c), s		21.4		0.6		15.9		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.97	0.98		0.95	1.00		0.95	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	95	72	195	68	50	256	1772	274	86	1470	57
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	552	457	384	290	213	320	2343	359	137	2145	83
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.18	0.53	0.53	0.08	0.43	0.43
Sat Flow, veh/h	1223	1863	1540	1189	977	718	1774	4420	676	1774	5020	195
Grp Volume(v), veh/h	104	95	72	195	0	118	256	1355	691	86	993	534
Grp Sat Flow(s),veh/h/ln	1223	1863	1540	1189	0	1695	1774	1695	1706	1774	1695	1824
Q Serve(g_s), s	6.6	3.6	3.2	13.7	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Cycle Q Clear(g_c), s	11.5	3.6	3.2	17.2	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.40	1.00		0.11
Lane Grp Cap(c), veh/h	375	552	457	384	0	502	320	1798	904	137	1448	779
V/C Ratio(X)	0.28	0.17	0.16	0.51	0.00	0.23	0.80	0.75	0.76	0.63	0.69	0.69
Avail Cap(c_a), veh/h	436	645	533	443	0	587	482	2061	1037	215	1552	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	24.5	24.4	30.9	0.0	25.0	36.9	17.3	17.4	42.0	21.8	21.8
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.2	5.6	1.4	3.0	4.6	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.8	1.4	4.6	0.0	2.3	6.8	13.9	14.8	2.3	10.6	11.6
LnGrp Delay(d),s/veh	29.7	24.6	24.5	31.9	0.0	25.2	42.5	18.7	20.4	46.6	22.9	23.9
LnGrp LOS	C	C	C	C		C	D	B	C	D	C	C
Approach Vol, veh/h		271			313			2302			1613	
Approach Delay, s/veh		26.6			29.4			21.8			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.3	52.8		30.8	19.9	43.1		30.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	55.6		31.0	24.0	41.5		31.0				
Max Q Clear Time (g_c+I), s	11.4	32.0		13.5	15.0	24.3		19.2				
Green Ext Time (p_c), s	0.0	16.2		1.0	0.5	9.6		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				23.6								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	332	241	135	88	71	50	85	1393	29	101	1333	149
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	282	158	177	143	261	130	1909	40	166	1809	202
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	1774	1110	622	1003	809	1482	1774	5125	107	1774	4610	515
Grp Volume(v), veh/h	332	0	376	159	0	50	85	922	500	101	980	502
Grp Sat Flow(s),veh/h/ln	1774	0	1732	1813	0	1482	1774	1695	1841	1774	1695	1735
Q Serve(g_s), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Cycle Q Clear(g_c), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Prop In Lane	1.00		0.36	0.55		1.00	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	451	0	441	319	0	261	130	1263	686	166	1331	681
V/C Ratio(X)	0.74	0.00	0.85	0.50	0.00	0.19	0.65	0.73	0.73	0.61	0.74	0.74
Avail Cap(c_a), veh/h	489	0	478	500	0	409	260	1958	1063	260	1958	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	43.1	0.0	40.7	52.3	31.4	31.4	50.5	30.1	30.1
Incr Delay (d2), s/veh	5.3	0.0	13.2	1.2	0.0	0.4	5.4	0.8	1.5	3.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	10.4	0.0	13.1	4.7	0.0	1.4	2.8	12.8	14.1	3.3	13.5	14.0
LnGrp Delay(d),s/veh	44.9	0.0	54.4	44.3	0.0	41.1	57.7	32.2	32.9	54.1	30.9	31.7
LnGrp LOS	D		D	D		D	E	C	C	D	C	C
Approach Vol, veh/h	708			209			1507			1583		
Approach Delay, s/veh	49.9			43.6			33.9			32.7		
Approach LOS	D			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	46.2		32.5	11.5	48.5		23.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	65.5		30.5	15.5	65.5		30.5				
Max Q Clear Time (g_c+I), s	10.3	29.2		26.0	7.4	30.7		11.2				
Green Ext Time (p_c), s	0.1	12.5		1.6	0.1	13.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.7											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.90	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	178	4	222	260	28	78	1206	336	204	1102	102
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	187	425	446	339	385	1545	430	251	1500	139
Arrive On Green	0.13	0.13	0.13	0.24	0.24	0.24	0.22	0.40	0.40	0.14	0.32	0.32
Sat Flow, veh/h	1774	1863	1491	1774	1863	1418	1774	3909	1089	1774	4698	434
Grp Volume(v), veh/h	152	178	4	222	260	28	78	1046	496	204	795	409
Grp Sat Flow(s),veh/h/ln	1774	1863	1491	1774	1863	1418	1774	1695	1608	1774	1695	1742
Q Serve(g_s), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Cycle Q Clear(g_c), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.25
Lane Grp Cap(c), veh/h	222	233	187	425	446	339	385	1340	635	251	1082	556
V/C Ratio(X)	0.68	0.76	0.02	0.52	0.58	0.08	0.20	0.78	0.78	0.81	0.73	0.74
Avail Cap(c_a), veh/h	264	277	222	476	500	380	385	1637	776	278	1746	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	51.2	46.5	40.1	40.7	35.8	38.8	32.0	32.1	50.5	36.7	36.7
Incr Delay (d2), s/veh	5.7	10.0	0.0	1.0	1.4	0.1	0.3	2.0	4.2	15.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	6.4	0.1	6.6	7.8	0.7	2.2	15.6	15.2	7.7	12.0	12.5
LnGrp Delay(d),s/veh	56.4	61.2	46.5	41.1	42.1	35.9	39.1	34.1	36.3	65.9	37.7	38.6
LnGrp LOS	E	E	D	D	D	D	D	C	D	E	D	D
Approach Vol, veh/h	334				510				1620		1408	
Approach Delay, s/veh	58.8				41.3				35.0		42.0	
Approach LOS	E				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	20.1	50.9			32.0	29.3	41.7	18.2				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	47.5	57.0			31.0	13.6	60.9	16.5				
Max Q Clear Time (g_c+1.5s), s	15.5	34.7			16.9	6.4	27.3	13.2				
Green Ext Time (p_c), s	0.1	11.7			2.0	0.1	9.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			40.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			WB		NB	NT	NR	SB	ST	SR
Traffic Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	160	0	26	2	0	6	133	1528	0	32	1338	81
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	388	140	34	317	208	2694	0	100	2298	139
Arrive On Green	0.28	0.00	0.28	0.28	0.00	0.28	0.12	0.53	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1373	0	1396	259	122	1143	1774	5253	0	1774	4899	297
Grp Volume(v), veh/h	160	0	26	8	0	0	133	1528	0	32	926	493
Grp Sat Flow(s),veh/h/ln	1373	0	1396	1524	0	0	1774	1695	0	1774	1695	1805
Q Serve(g_s), s	6.0	0.0	0.9	0.0	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Cycle Q Clear(g_c), s	6.3	0.0	0.9	0.2	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	490	0	388	491	0	0	208	2694	0	100	1590	847
V/C Ratio(X)	0.33	0.00	0.07	0.02	0.00	0.00	0.64	0.57	0.00	0.32	0.58	0.58
Avail Cap(c_a), veh/h	773	0	676	798	0	0	322	7463	0	322	4975	2649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.6	17.3	0.0	0.0	27.9	10.4	0.0	30.0	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	3.3	0.2	0.0	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.4	0.1	0.0	0.0	2.5	6.3	0.0	0.6	6.1	6.6
LnGrp Delay(d),s/veh	19.9	0.0	17.6	17.3	0.0	0.0	31.1	10.6	0.0	31.8	13.2	13.5
LnGrp LOS	B		B	B			C	B		C	B	B
Approach Vol, veh/h	186			8			1661			1451		
Approach Delay, s/veh	19.5			17.3			12.3			13.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.0		21.4	10.7	34.0		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	95.5		30.5	10.5	95.5		30.5				
Max Q Clear Time (g_c+I), s	13.1	15.3		8.3	6.7	15.2		2.2				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.1	14.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	54	30	1361	1427	107		
Future Volume (veh/h)	103	54	30	1361	1427	107		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	78	80	30	1361	1427	107		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	238	216	124	2569	2823	212		
Arrive On Green	0.13	0.13	0.07	0.73	0.59	0.59		
Sat Flow, veh/h	1774	1615	1774	3632	4988	361		
Grp Volume(v), veh/h	78	80	30	1361	1004	530		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1792		
Q Serve(g_s), s	1.7	1.9	0.7	7.3	7.5	7.5		
Cycle Q Clear(g_c), s	1.7	1.9	0.7	7.3	7.5	7.5		
Prop In Lane	1.00	1.00	1.00			0.20		
Lane Grp Cap(c), veh/h	238	216	124	2569	1985	1049		
V/C Ratio(X)	0.33	0.37	0.24	0.53	0.51	0.51		
Avail Cap(c_a), veh/h	1285	1170	290	4383	3406	1800		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.8	16.9	18.8	2.6	5.2	5.2		
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.2	0.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.4	3.5	3.4	3.6		
LnGrp Delay(d),s/veh	17.6	17.9	19.8	2.8	5.4	5.6		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	158			1391	1534			
Approach Delay, s/veh	17.8			3.2	5.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.1		8.7	6.0	28.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		9.3		3.9	2.7	9.5		
Green Ext Time (p_c), s		14.6		0.4	0.0	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	86	138	3	123	149	34	42	1147	77	260	1128	82
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	221	180	239	251	212	95	1498	669	330	2686	195
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.05	0.42	0.42	0.19	0.56	0.56
Sat Flow, veh/h	1774	1863	1519	1774	1863	1576	1774	3539	1580	1774	4834	351
Grp Volume(v), veh/h	86	138	3	123	149	34	42	1147	77	260	791	419
Grp Sat Flow(s),veh/h/ln	1774	1863	1519	1774	1863	1576	1774	1770	1580	1774	1695	1795
Q Serve(g_s), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Cycle Q Clear(g_c), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	211	221	180	239	251	212	95	1498	669	330	1883	997
V/C Ratio(X)	0.41	0.62	0.02	0.51	0.59	0.16	0.44	0.77	0.12	0.79	0.42	0.42
Avail Cap(c_a), veh/h	446	469	382	649	682	577	142	2105	940	548	2792	1479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	36.7	34.0	35.2	35.6	33.4	40.1	21.5	15.3	33.9	11.3	11.3
Incr Delay (d2), s/veh	1.3	2.9	0.0	1.7	2.2	0.3	3.2	1.1	0.1	4.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.4	0.1	2.9	3.5	0.7	1.1	12.0	1.1	6.4	5.5	5.9
LnGrp Delay(d),s/veh	37.0	39.5	34.1	36.9	37.8	33.8	43.3	22.6	15.4	38.1	11.4	11.5
LnGrp LOS	D	D	C	D	D	C	D	C	B	D	B	B
Approach Vol, veh/h	227				306				1266		1470	
Approach Delay, s/veh	38.5				37.0				22.9		16.2	
Approach LOS	D				D				C		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	19.3	40.0			13.4	7.7	51.6	14.8				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	50.5			20.5	5.5	70.5	30.5				
Max Q Clear Time (g_c+1.2), s	14.2	26.2			8.2	4.0	13.8	8.6				
Green Ext Time (p_c), s	0.6	9.3			0.7	0.0	10.7	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	22.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

10/18/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169				
Future Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.87	1.00		0.96	1.00		0.96				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	235	0	56	5	7	4	311	451	3	2	267	169				
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	444	0	197	89	124	71	397	961	6	41	336	212				
Arrive On Green	0.13	0.00	0.13	0.17	0.17	0.17	0.22	0.52	0.52	0.02	0.32	0.32				
Sat Flow, veh/h	3548	0	1571	527	738	422	1774	1848	12	1774	1051	665				
Grp Volume(v), veh/h	235	0	56	16	0	0	311	0	454	2	0	436				
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1687	0	0	1774	0	1860	1774	0	1716				
Q Serve(g_s), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0				
Cycle Q Clear(g_c), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0				
Prop In Lane	1.00		1.00	0.31		0.25	1.00		0.01	1.00		0.39				
Lane Grp Cap(c), veh/h	444	0	197	284	0	0	397	0	968	41	0	548				
V/C Ratio(X)	0.53	0.00	0.28	0.06	0.00	0.00	0.78	0.00	0.47	0.05	0.00	0.80				
Avail Cap(c_a), veh/h	1280	0	567	471	0	0	797	0	1758	159	0	1005				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00				
Uniform Delay (d), s/veh	30.1	0.0	29.1	25.7	0.0	0.0	26.8	0.0	11.2	35.1	0.0	22.8				
Incr Delay (d2), s/veh	1.0	0.0	0.8	0.1	0.0	0.0	3.4	0.0	0.4	0.5	0.0	2.7				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.1	0.3	0.0	0.0	6.3	0.0	5.9	0.0	0.0	8.4				
LnGrp Delay(d),s/veh	31.1	0.0	29.9	25.7	0.0	0.0	30.2	0.0	11.5	35.6	0.0	25.5				
LnGrp LOS	C		C	C			C		B	D		C				
Approach Vol, veh/h	291			16			765			438						
Approach Delay, s/veh	30.9			25.7			19.1			25.5						
Approach LOS	C			C			B			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	4.7	41.2			12.2	19.4	26.5	15.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	67.9				25.0	31.5	41.5	19.0								
Max Q Clear Time (g_c+I_2), s	13.4				6.6	14.1	19.0	2.6								
Green Ext Time (p_c), s	0.0	3.3			0.9	0.9	2.9	0.0								
Intersection Summary																
HCM 2010 Ctrl Delay	23.3															
HCM 2010 LOS	C															
Notes																

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

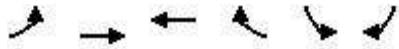
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	86	30	1	59	1	21	13	544	118	347	714	8
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	63	210	195	3	173	73	873	189	443	1832	21
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.04	0.30	0.30	0.25	0.51	0.51
Sat Flow, veh/h	1332	465	1552	1746	30	1545	1774	2885	623	1774	3585	40
Grp Volume(v), veh/h	116	0	1	60	0	21	13	333	329	347	352	370
Grp Sat Flow(s),veh/h/ln	1796	0	1552	1775	0	1545	1774	1770	1739	1774	1770	1855
Q Serve(g_s), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Prop In Lane	0.74		1.00	0.98		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	243	0	210	198	0	173	73	535	526	443	904	948
V/C Ratio(X)	0.48	0.00	0.00	0.30	0.00	0.12	0.18	0.62	0.63	0.78	0.39	0.39
Avail Cap(c_a), veh/h	765	0	661	756	0	658	193	786	772	604	1197	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	22.4	24.5	0.0	24.0	27.7	17.9	18.0	21.0	8.9	8.9
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.8	0.0	0.3	1.1	1.2	1.2	4.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.0	0.0	0.3	0.2	4.9	4.8	5.9	3.6	3.8
LnGrp Delay(d),s/veh	25.4	0.0	22.4	25.3	0.0	24.3	28.9	19.1	19.2	25.6	9.2	9.2
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h	117			81			675			1069		
Approach Delay, s/veh	25.3			25.0			19.3			14.5		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	21.1		9.7	5.5	33.6		11.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	25.1		24.0	5.0	39.0		24.0				
Max Q Clear Time (g_c+1.2), s	12.9	11.8		3.9	2.4	9.3		5.6				
Green Ext Time (p_c), s	0.6	3.5		0.3	0.0	4.9		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	17.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	195	929	562	51	103	437		
Future Volume (veh/h)	195	929	562	51	103	437		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	195	929	562	51	103	98		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	615	2349	1276	116	312	491		
Arrive On Green	0.18	0.66	0.39	0.37	0.18	0.18		
Sat Flow, veh/h	3442	3632	3375	297	1774	2787		
Grp Volume(v), veh/h	195	929	303	310	103	98		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1809	1774	1393		
Q Serve(g_s), s	1.5	3.7	3.9	4.0	1.6	0.9		
Cycle Q Clear(g_c), s	1.5	3.7	3.9	4.0	1.6	0.9		
Prop In Lane	1.00			0.16	1.00	1.00		
Lane Grp Cap(c), veh/h	615	2349	688	703	312	491		
V/C Ratio(X)	0.32	0.40	0.44	0.44	0.33	0.20		
Avail Cap(c_a), veh/h	1764	6066	1956	1999	1790	2812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	2.4	7.0	7.1	11.2	11.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.4	0.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.9	2.0	0.8	0.8		
LnGrp Delay(d),s/veh	11.5	2.5	7.5	7.5	11.9	11.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		1124	613		201			
Approach Delay, s/veh		4.1	7.5		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.2		8.0	8.6	14.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				51.5		29.5	14.5	32.5
Max Q Clear Time (g_c+I1), s				5.7		3.6	3.5	6.0
Green Ext Time (p_c), s				8.4		0.7	0.5	4.0
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

10/18/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	646	350	215	833	246	72		
Future Volume (veh/h)	646	350	215	833	246	72		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	646	350	215	833	246	19		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	869	471	329	2301	377	336		
Arrive On Green	0.40	0.40	0.19	0.65	0.21	0.21		
Sat Flow, veh/h	2286	1188	1774	3632	1774	1583		
Grp Volume(v), veh/h	521	475	215	833	246	19		
Grp Sat Flow(s),veh/h/ln	1770	1612	1774	1770	1774	1583		
Q Serve(g_s), s	11.0	11.0	4.9	4.7	5.5	0.4		
Cycle Q Clear(g_c), s	11.0	11.0	4.9	4.7	5.5	0.4		
Prop In Lane		0.74	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	701	638	329	2301	377	336		
V/C Ratio(X)	0.74	0.74	0.65	0.36	0.65	0.06		
Avail Cap(c_a), veh/h	791	720	488	2798	793	708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	11.3	16.5	3.5	15.7	13.7		
Incr Delay (d2), s/veh	3.4	3.7	2.2	0.1	1.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	5.5	2.6	2.2	2.9	0.2		
LnGrp Delay(d),s/veh	14.7	15.0	18.7	3.6	17.6	13.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	996			1048	265			
Approach Delay, s/veh	14.8			6.7	17.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	11.1	20.3				31.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	10.5	18.0				33.0
Max Q Clear Time (g_c+I1), s		7.5	6.9	13.0				6.7
Green Ext Time (p_c), s		0.6	0.2	2.8				6.5
Intersection Summary								
HCM 2010 Ctrl Delay			11.4					
HCM 2010 LOS			B					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-72647		0	0-74510		0	0-74510		0	0-74510		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	18356480	0	71114932224	0	71114932224	0	71114932224	0	71114932224	0	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	18356480	0	71114932224	0	71114932224	0	71114932224	0	71114932224	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh15.4

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	387	61	26	240	10	45	63	25	36	53	47
Future Vol, veh/h	43	387	61	26	240	10	45	63	25	36	53	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	387	61	26	240	10	45	63	25	36	53	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.5	12.5	11.1	11
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	9%	9%	26%
Vol Thru, %	47%	79%	87%	39%
Vol Right, %	19%	12%	4%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	491	276	136
LT Vol	45	43	26	36
Through Vol	63	387	240	53
RT Vol	25	61	10	47
Lane Flow Rate	133	491	276	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.228	0.702	0.421	0.229
Departure Headway (Hd)	6.181	5.145	5.493	6.068
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	577	702	651	589
Service Time	4.253	3.192	3.551	4.14
HCM Lane V/C Ratio	0.231	0.699	0.424	0.231
HCM Control Delay	11.1	19.5	12.5	11
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	0.9	5.8	2.1	0.9

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1181	11	0	0	0	0	71	97	205	91	0
Future Volume (veh/h)	20	1181	11	0	0	0	0	71	97	205	91	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900				0	980	1900	1900	1863	0
Adj Flow Rate, veh/h	20	1181	11				0	71	97	205	91	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	21	1278	12				0	124	169	246	95	0
Arrive On Green	0.56	0.56	0.55				0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	37	2286	22				0	371	507	494	285	0
Grp Volume(v), veh/h	635	0	577				0	0	168	296	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1171				0	0	877	779	0	0
Q Serve(g_s), s	38.9	0.0	32.0				0.0	0.0	11.8	13.2	0.0	0.0
Cycle Q Clear(g_c), s	38.9	0.0	32.0				0.0	0.0	11.8	25.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.58	0.69		0.00
Lane Grp Cap(c), veh/h	657	0	655				0	0	293	342	0	0
V/C Ratio(X)	0.97	0.00	0.88				0.00	0.00	0.57	0.87	0.00	0.00
Avail Cap(c_a), veh/h	659	0	657				0	0	293	342	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	14.3				0.0	0.0	20.7	30.3	0.0	0.0
Incr Delay (d2), s/veh	27.0	0.0	13.2				0.0	0.0	2.7	20.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/mi	17.3	0.0	12.6				0.0	0.0	3.1	7.9	0.0	0.0
LnGrp Delay(d),s/veh	42.9	0.0	27.5				0.0	0.0	23.3	50.6	0.0	0.0
LnGrp LOS	D		C						C	D		
Approach Vol, veh/h	1212							168		296		
Approach Delay, s/veh	35.6							23.3		50.6		
Approach LOS	D							C		D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	29.0		45.8		29.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	24.5		41.5		24.5							
Max Q Clear Time (g_c+I1), s	13.8		40.9		27.0							
Green Ext Time (p_c), s	0.7		0.5		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay	37.0											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	268	11	89	191	106	11	127	207	75	74	39
Future Volume (veh/h)	47	268	11	89	191	106	11	127	207	75	74	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.92	0.97		0.91	0.95		0.93	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	268	11	89	191	106	11	127	207	75	74	39
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	562	21	652	397	220	643	242	395	455	442	233
Arrive On Green	0.37	0.37	0.35	0.37	0.37	0.35	0.40	0.40	0.38	0.40	0.40	0.38
Sat Flow, veh/h	141	1537	59	1063	1086	603	1211	609	992	1018	1110	585
Grp Volume(v), veh/h	326	0	0	89	0	297	11	0	334	75	0	113
Grp Sat Flow(s),veh/h/ln	1736	0	0	1063	0	1689	1211	0	1601	1018	0	1695
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.6	0.2	0.0	5.4	2.1	0.0	1.5
Cycle Q Clear(g_c), s	4.6	0.0	0.0	1.4	0.0	4.6	1.7	0.0	5.4	7.5	0.0	1.5
Prop In Lane	0.14		0.03	1.00		0.36	1.00		0.62	1.00		0.35
Lane Grp Cap(c), veh/h	756	0	0	652	0	617	643	0	638	455	0	675
V/C Ratio(X)	0.43	0.00	0.00	0.14	0.00	0.48	0.02	0.00	0.52	0.16	0.00	0.17
Avail Cap(c_a), veh/h	1423	0	0	1080	0	1297	1269	0	1466	981	0	1552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	7.3	0.0	8.3	7.1	0.0	7.9	10.6	0.0	6.6
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.7	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	0.6	0.0	2.2	0.1	0.0	2.5	0.6	0.0	0.7
LnGrp Delay(d),s/veh	8.7	0.0	0.0	7.4	0.0	8.9	7.1	0.0	8.5	10.8	0.0	6.7
LnGrp LOS	A			A		A	A		A	B		A
Approach Vol, veh/h	326				386				345		188	
Approach Delay, s/veh	8.7				8.6				8.5		8.4	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.5		16.4		17.5		16.4					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.5		25.5		30.5		25.5					
Max Q Clear Time (g_c+I1), s	7.4		6.6		9.5		6.6					
Green Ext Time (p_c), s	2.3		2.0		1.0		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay	8.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↰		↰			↰	
Traffic Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				392	0	718	0	1601	169	0	1498	515
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1032	0	836	0	3206	990	0	2362	799
Arrive On Green				0.30	0.00	0.30	0.00	0.63	0.63	0.00	0.63	0.63
Sat Flow, veh/h				3442	0	2787	0	5253	1571	0	3915	1267
Grp Volume(v), veh/h				392	0	718	0	1601	169	0	1353	660
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1571	0	1695	1624
Q Serve(g_s), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Cycle Q Clear(g_c), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.78
Lane Grp Cap(c), veh/h				1032	0	836	0	3206	990	0	2137	1024
V/C Ratio(X)				0.38	0.00	0.86	0.00	0.50	0.17	0.00	0.63	0.64
Avail Cap(c_a), veh/h				1317	0	1066	0	3206	990	0	2137	1024
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.81	0.00	0.71	0.71
Uniform Delay (d), s/veh				31.8	0.0	38.0	0.0	11.5	8.8	0.0	13.1	13.4
Incr Delay (d2), s/veh				0.2	0.0	5.9	0.0	0.5	0.3	0.0	1.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	11.4	0.0	9.2	2.3	0.0	13.5	13.7
LnGrp Delay(d),s/veh				32.0	0.0	43.8	0.0	11.9	9.1	0.0	14.1	15.6
LnGrp LOS				C		D		B	A		B	B
Approach Vol, veh/h				1110				1770			2013	
Approach Delay, s/veh				39.6				11.6			14.6	
Approach LOS				D				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.5				76.5		38.5				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		62.5				62.5		43.5				
Max Q Clear Time (g_c+I1), s		21.5				31.3		29.9				
Green Ext Time (p_c), s		17.9				19.5		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

10/18/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	TT		TT					TTT			TTT	T
Traffic Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	346	0	201				0	1505	547	0	1493	310
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	441	0	357				0	3011	1073	0	4143	1279
Arrive On Green	0.13	0.00	0.13				0.00	0.81	0.81	0.00	0.81	0.81
Sat Flow, veh/h	3442	0	2787				0	3863	1317	0	5253	1570
Grp Volume(v), veh/h	346	0	201				0	1378	674	0	1493	310
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1622	0	1695	1570
Q Serve(g_s), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Cycle Q Clear(g_c), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Prop In Lane	1.00		1.00				0.00		0.81	0.00		1.00
Lane Grp Cap(c), veh/h	441	0	357				0	2762	1321	0	4143	1279
V/C Ratio(X)	0.78	0.00	0.56				0.00	0.50	0.51	0.00	0.36	0.24
Avail Cap(c_a), veh/h	737	0	597				0	2762	1321	0	4143	1279
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.00	0.72	0.72
Uniform Delay (d), s/veh	59.2	0.0	57.4				0.0	4.0	4.2	0.0	3.4	3.0
Incr Delay (d2), s/veh	3.1	0.0	1.4				0.0	0.4	0.9	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	3.7				0.0	8.4	8.6	0.0	5.0	14.3
LnGrp Delay(d),s/veh	62.3	0.0	58.7				0.0	4.4	5.1	0.0	3.6	3.3
LnGrp LOS	E		E					A	A		A	A
Approach Vol, veh/h		547						2052			1803	
Approach Delay, s/veh		61.0						4.7			3.5	
Approach LOS		E						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		101.5		29.5		101.5						
Max Q Clear Time (g_c+I1), s		20.7		15.6		12.8						
Green Ext Time (p_c), s		31.4		1.8		20.5						
Intersection Summary												
HCM 2010 Ctrl Delay			11.2									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	15	487	95	17	369
Future Vol, veh/h	26	15	487	95	17	369
Conflicting Peds, #/hr	1	0	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	15	487	95	17	369
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	954	550	0	0	597	0
Stage 1	550	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	287	535	-	-	980	-
Stage 1	578	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	276	527	-	-	966	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	16.7	0	0.4			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 276 527	966	-		
HCM Lane V/C Ratio	-	- 0.094 0.028	0.018	-		
HCM Control Delay (s)	-	- 19.4 12	8.8	0		
HCM Lane LOS	-	- C B	A	A		
HCM 95th %tile Q(veh)	-	- 0.3 0.1	0.1	-		

Intersection												
Intersection Delay, s/veh	38.1											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Future Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	213	21	23	13	161	551	16	14	364	15
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16	12.8	54.9	25.3
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	37%	100%	0%
Vol Thru, %	0%	97%	0%	12%	40%	0%	96%
Vol Right, %	0%	3%	0%	88%	23%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	567	16	243	57	14	379
LT Vol	161	0	16	0	21	14	0
Through Vol	0	551	0	30	23	0	364
RT Vol	0	16	0	213	13	0	15
Lane Flow Rate	161	567	16	243	57	14	379
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.312	1.014	0.036	0.481	0.132	0.029	0.726
Departure Headway (Hd)	6.97	6.44	8.315	7.13	8.536	7.435	6.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	567	433	505	422	482	523
Service Time	4.705	4.175	6.015	4.87	6.536	5.174	4.634
HCM Lane V/C Ratio	0.311	1	0.037	0.481	0.135	0.029	0.725
HCM Control Delay	12.8	66.8	11.3	16.3	12.8	10.4	25.9
HCM Lane LOS	B	F	B	C	B	B	D
HCM 95th-tile Q	1.3	15	0.1	2.6	0.5	0.1	6

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.95	0.97		0.86	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	0	11	50	0	20	4	654	68	37	629	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	20	134	190	10	55	595	1453	1192	552	1431	18
Arrive On Green	0.14	0.00	0.13	0.14	0.00	0.13	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	383	142	961	917	69	394	787	1863	1528	727	1834	23
Grp Volume(v), veh/h	17	0	0	70	0	0	4	654	68	37	0	637
Grp Sat Flow(s),veh/h/ln	1486	0	0	1381	0	0	787	1863	1528	727	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	0.2	11.9	1.0	1.8	0.0	11.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	4.4	0.0	0.0	11.6	11.9	1.0	13.7	0.0	11.5
Prop In Lane	0.35		0.65	0.71		0.29	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	255	0	0	595	1453	1192	552	0	1449
V/C Ratio(X)	0.07	0.00	0.00	0.27	0.00	0.00	0.01	0.45	0.06	0.07	0.00	0.44
Avail Cap(c_a), veh/h	412	0	0	404	0	0	595	1453	1192	552	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.64	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	38.9	0.0	0.0	5.6	3.7	2.5	6.0	0.0	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	0.0	0.0	0.0	6.3	0.4	0.4	0.0	6.1
LnGrp Delay(d),s/veh	37.6	0.0	0.0	39.5	0.0	0.0	5.6	4.4	2.6	6.3	0.0	4.6
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h		17			70			726			674	
Approach Delay, s/veh		37.6			39.5			4.2			4.7	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		82.0		18.0		82.0		18.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		66.5		24.5		66.5		24.5				
Max Q Clear Time (g_c+I1), s		13.9		2.9		15.7		6.4				
Green Ext Time (p_c), s		5.7		0.0		5.6		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			6.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.95	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	2	3	238	4	56	1	863	238	37	479	11
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	22	33	240	4	207	45	1597	440	133	1698	40
Arrive On Green	0.11	0.11	0.10	0.14	0.14	0.14	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1200	200	300	1746	29	1503	0	2653	730	135	2820	67
Grp Volume(v), veh/h	17	0	0	242	0	56	606	0	496	249	0	278
Grp Sat Flow(s),veh/h/ln	1701	0	0	1775	0	1503	1862	0	1521	1341	0	1681
Q Serve(g_s), s	0.7	0.0	0.0	10.9	0.0	2.7	0.0	0.0	15.5	1.0	0.0	6.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	10.9	0.0	2.7	15.4	0.0	15.5	16.5	0.0	6.3
Prop In Lane	0.71		0.18	0.98		1.00	0.00		0.48	0.15		0.04
Lane Grp Cap(c), veh/h	188	0	0	244	0	207	1167	0	916	859	0	1012
V/C Ratio(X)	0.09	0.00	0.00	0.99	0.00	0.27	0.52	0.00	0.54	0.29	0.00	0.27
Avail Cap(c_a), veh/h	544	0	0	244	0	207	1167	0	916	859	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.73	0.00	0.73	0.76	0.00	0.76
Uniform Delay (d), s/veh	32.0	0.0	0.0	34.5	0.0	30.9	9.4	0.0	9.5	7.4	0.0	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	55.0	0.0	0.7	1.2	0.0	1.7	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.0	0.0	1.1	8.1	0.0	6.8	2.6	0.0	3.1
LnGrp Delay(d),s/veh	32.2	0.0	0.0	89.5	0.0	31.6	10.6	0.0	11.2	8.1	0.0	8.1
LnGrp LOS	C			F		C	B		B	A		A
Approach Vol, veh/h	17			298			1102			527		
Approach Delay, s/veh	32.2			78.6			10.9			8.1		
Approach LOS	C			E			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	52.2		12.8		52.2		15.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.9		25.1		30.9		10.5					
Max Q Clear Time (g_c+I1), s	17.5		2.7		18.5		12.9					
Green Ext Time (p_c), s	6.3		0.0		2.8		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Future Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	58	4	0	33	58	6	17	0	84	20	256
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	12.4	8.5	9.3	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	75%	0%	0%	81%	0%
Vol Thru, %	74%	23%	100%	0%	19%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	248	33	58	104	256
LT Vol	6	186	0	0	84	0
Through Vol	17	58	33	0	20	0
RT Vol	0	4	0	58	0	256
Lane Flow Rate	23	248	33	58	104	256
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.038	0.392	0.053	0.082	0.17	0.34
Departure Headway (Hd)	5.982	5.691	5.773	5.066	5.898	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	627	614	699	605	748
Service Time	4.082	3.764	3.566	2.857	3.661	2.549
HCM Lane V/C Ratio	0.039	0.396	0.054	0.083	0.172	0.342
HCM Control Delay	9.3	12.4	8.9	8.3	9.9	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.9	0.2	0.3	0.6	1.5

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	4	756	24	17	395	40	36	0	30	130	8	14
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	836	27	113	772	78	722	0	712	598	38	59
Arrive On Green	0.47	0.47	0.46	0.93	0.93	0.92	0.47	0.00	0.47	0.47	0.47	0.46
Sat Flow, veh/h	944	1793	57	690	1656	168	1418	0	1525	1162	82	126
Grp Volume(v), veh/h	4	0	780	17	0	435	36	0	30	152	0	0
Grp Sat Flow(s),veh/h/ln	944	0	1850	690	0	1824	1418	0	1525	1369	0	0
Q Serve(g_s), s	0.3	0.0	46.7	2.6	0.0	3.7	0.0	0.0	1.3	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	46.7	49.3	0.0	3.7	1.5	0.0	1.3	9.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.09	1.00		1.00	0.86		0.09
Lane Grp Cap(c), veh/h	471	0	863	113	0	851	722	0	712	695	0	0
V/C Ratio(X)	0.01	0.00	0.90	0.15	0.00	0.51	0.05	0.00	0.04	0.22	0.00	0.00
Avail Cap(c_a), veh/h	676	0	1264	263	0	1246	722	0	712	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	29.6	24.6	0.0	2.3	17.4	0.0	17.4	19.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.6	0.0	0.5	0.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	25.5	0.5	0.0	1.6	0.7	0.0	0.6	3.2	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	36.3	25.2	0.0	2.8	17.6	0.0	17.5	20.5	0.0	0.0
LnGrp LOS	B		D	C		A	B		B	C		
Approach Vol, veh/h	784				452				66		152	
Approach Delay, s/veh	36.3				3.6				17.5		20.5	
Approach LOS	D				A				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	60.0		60.0		60.0		60.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	29.5		81.5		29.5		81.5					
Max Q Clear Time (g_c+I1), s	3.5		48.7		11.0		51.3					
Green Ext Time (p_c), s	0.2		6.8		0.7		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay	23.6											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 8.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Future Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	64	5	0	21	6	4	20	0	12	29	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	7.5	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	69%	0%	9%
Vol Thru, %	83%	29%	78%	23%
Vol Right, %	0%	2%	22%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	220	27	127
LT Vol	4	151	0	12
Through Vol	20	64	21	29
RT Vol	0	5	6	86
Lane Flow Rate	24	220	27	127
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.265	0.033	0.146
Departure Headway (Hd)	4.681	4.34	4.374	4.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	768	816	821	869
Service Time	2.688	2.432	2.386	2.153
HCM Lane V/C Ratio	0.031	0.27	0.033	0.146
HCM Control Delay	7.8	9	7.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.5

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔	↔		↔			↔	
Traffic Volume (veh/h)	0	0	0	57	801	235	10	74	0	0	241	30
Future Volume (veh/h)	0	0	0	57	801	235	10	74	0	0	241	30
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	980	1863	1900	980	0	0	2451	1900
Adj Flow Rate, veh/h				57	801	144	10	74	0	0	241	30
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				68	1010	847	97	240	0	0	561	70
Arrive On Green				0.57	0.57	0.57	0.26	0.26	0.00	0.00	0.26	0.25
Sat Flow, veh/h				121	1785	1497	43	905	0	0	2117	263
Grp Volume(v), veh/h				459	399	144	84	0	0	0	0	271
Grp Sat Flow(s),veh/h/ln				974	931	1497	948	0	0	0	0	2380
Q Serve(g_s), s				18.3	15.4	2.2	0.0	0.0	0.0	0.0	0.0	4.5
Cycle Q Clear(g_c), s				18.3	15.4	2.2	3.3	0.0	0.0	0.0	0.0	4.5
Prop In Lane				0.12		1.00	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				551	527	847	336	0	0	0	0	631
V/C Ratio(X)				0.83	0.76	0.17	0.25	0.00	0.00	0.00	0.00	0.43
Avail Cap(c_a), veh/h				824	788	1266	612	0	0	0	0	1359
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				8.4	7.8	4.9	14.0	0.0	0.0	0.0	0.0	14.4
Incr Delay (d2), s/veh				4.7	2.4	0.1	0.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.6	4.2	0.9	0.9	0.0	0.0	0.0	0.0	3.0
LnGrp Delay(d),s/veh				13.1	10.2	5.0	14.4	0.0	0.0	0.0	0.0	14.9
LnGrp LOS				B	B	A	B					B
Approach Vol, veh/h					1002			84			271	
Approach Delay, s/veh					10.8			14.4			14.9	
Approach LOS					B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		16.5				16.5		30.8				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		26.5				26.5		39.5				
Max Q Clear Time (g_c+I1), s		5.3				6.5		20.3				
Green Ext Time (p_c), s		0.4				1.6		6.0				
Intersection Summary												
HCM 2010 Ctrl Delay					11.8							
HCM 2010 LOS					B							

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

137: Curtiss St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			EBT			EBT			EBT	
Traffic Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	10	0	0	0	0	0	0	0	0	10	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1245	1900	1900	1863	1900	1900	1078	1078	1900	1275	1900
Adj Flow Rate, veh/h	2	1003	45	5	835	27	36	22	16	15	5	1
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1058	11	72	1451	49	193	74	341	214	427	3
Arrive On Green	0.65	0.65	0.64	0.65	0.65	0.64	0.19	0.19	0.19	0.19	0.19	0.18
Sat Flow, veh/h	1	2254	101	4	3411	110	489	431	871	528	273	40
Grp Volume(v), veh/h	555	0	495	456	0	411	58	0	16	21	0	0
Grp Sat Flow(s),veh/h/ln	1244	0	1111	1853	0	1672	920	0	871	842	0	0
Q Serve(g_s), s	0.0	0.0	14.4	0.0	0.0	5.8	0.0	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.3	0.0	14.4	5.8	0.0	5.8	2.4	0.0	0.8	2.4	0.0	0.0
Prop In Lane	0.00		0.09	0.01		0.07	0.62		1.00	0.71		0.05
Lane Grp Cap(c), veh/h	534	0	420	805	0	768	266	0	341	308	0	0
V/C Ratio(X)	1.04	0.00	1.18	0.57	0.00	0.54	0.22	0.00	0.05	0.07	0.00	0.00
Avail Cap(c_a), veh/h	879	0	722	1276	0	1086	535	0	410	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.0	10.5	0.0	10.6	10.7	0.0	10.3	16.8	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	103.3	2.9	0.0	2.7	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	31.8	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	0.0	22.9	5.0	0.0	4.8	0.6	0.0	0.1	1.5	0.0	0.0
LnGrp Delay(d),s/veh	98.2	0.0	154.8	13.3	0.0	13.3	11.1	0.0	10.3	25.0	0.0	0.0
LnGrp LOS	F		F	B		B	B		B	C		
Approach Vol, veh/h	1050			867			74			21		
Approach Delay, s/veh	124.9			13.3			11.0			25.0		
Approach LOS	F			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.1		13.9		37.1		13.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		23.5		18.5		23.5				
Max Q Clear Time (g_c+I1), s		16.4		4.4		7.8		4.4				
Green Ext Time (p_c), s		1.3		0.0		4.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay				71.6								
HCM 2010 LOS				E								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	114	38	25	479	35	16	119	31	16	124	30
Future Volume (veh/h)	9	114	38	25	479	35	16	119	31	16	124	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.97		0.92	0.99		0.86	0.93		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	9	114	38	25	479	35	16	119	31	16	124	30
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	349	111	111	2162	155	90	643	157	65	266	60
Arrive On Green	0.52	0.52	0.48	0.52	0.52	0.48	0.38	0.38	0.33	0.38	0.38	0.33
Sat Flow, veh/h	21	664	212	119	4118	294	108	1715	419	42	710	161
Grp Volume(v), veh/h	161	0	0	284	0	255	166	0	0	170	0	0
Grp Sat Flow(s),veh/h/ln	897	0	0	2385	0	2147	2242	0	0	913	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	0.0	5.0	0.0	5.2	3.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.06		0.24	0.09		0.14	0.10		0.19	0.09		0.18
Lane Grp Cap(c), veh/h	518	0	0	1301	0	1127	890	0	0	392	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.22	0.00	0.23	0.19	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	518	0	0	1301	0	1127	890	0	0	392	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.00	0.00	0.88	0.00	0.88	0.91	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	10.2	0.0	10.4	17.1	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.3	0.0	0.4	0.1	0.0	0.0	3.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	3.4	0.0	3.2	2.5	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	0.0	10.5	0.0	10.8	17.2	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	B			B		B	B			C		
Approach Vol, veh/h	161				539		166				170	
Approach Delay, s/veh	12.4				10.7		17.2				22.8	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	34.0		46.0		34.0		46.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	26.5		38.5		26.5		38.5					
Max Q Clear Time (g_c+I1), s	5.9		10.2		13.1		7.2					
Green Ext Time (p_c), s	0.9		1.0		0.8		3.8					
Intersection Summary												
HCM 2010 Ctrl Delay	14.0											
HCM 2010 LOS	B											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	146	66	119	118	88	95	1635	222	93	1356	90
Future Volume (veh/h)	53	146	66	119	118	88	95	1635	222	93	1356	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.82	0.92		0.86	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1961	2451	1900	2451	2451	1900	1863	1324	1900	2451	2451	1900
Adj Flow Rate, veh/h	53	146	66	119	118	88	95	1635	222	93	1356	90
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	256	116	210	208	155	136	1928	260	150	3781	251
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.61	0.60	0.06	0.59	0.59
Sat Flow, veh/h	1155	1490	674	1408	1211	903	1774	3183	430	2334	6369	423
Grp Volume(v), veh/h	53	0	212	119	0	206	95	1235	622	93	950	496
Grp Sat Flow(s),veh/h/ln	1155	0	2164	1408	0	2114	1774	1204	1204	2334	2230	2331
Q Serve(g_s), s	3.3	0.0	6.8	6.2	0.0	6.8	4.0	31.5	32.0	2.9	8.3	8.3
Cycle Q Clear(g_c), s	10.1	0.0	6.8	13.0	0.0	6.8	4.0	31.5	32.0	2.9	8.3	8.3
Prop In Lane	1.00		0.31	1.00		0.43	1.00		0.36	1.00		0.18
Lane Grp Cap(c), veh/h	190	0	371	210	0	363	136	1459	730	150	2648	1384
V/C Ratio(X)	0.28	0.00	0.57	0.57	0.00	0.57	0.70	0.85	0.85	0.62	0.36	0.36
Avail Cap(c_a), veh/h	190	0	371	210	0	363	468	1459	730	616	2648	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.5	0.0	28.9	34.9	0.0	28.9	34.2	12.1	12.3	34.5	7.9	8.0
Incr Delay (d2), s/veh	0.8	0.0	2.1	3.6	0.0	2.1	6.4	6.2	12.1	4.1	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.3	2.7	0.0	4.2	2.2	11.6	12.8	2.1	5.2	5.5
LnGrp Delay(d),s/veh	34.3	0.0	31.0	38.5	0.0	31.0	40.6	18.3	24.3	38.6	8.3	8.7
LnGrp LOS	C		C	D		C	D	B	C	D	A	A
Approach Vol, veh/h	265				325		1952				1539	
Approach Delay, s/veh	31.7				33.8		21.3				10.3	
Approach LOS	C				C		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	49.9	49.9		17.0	9.8	49.0		17.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	44.5	44.5		12.5	19.5	44.5		12.5				
Max Q Clear Time (g_c+1.0), s	34.0	34.0		12.1	6.0	10.3		15.0				
Green Ext Time (p_c), s	0.2	8.0		0.1	0.2	12.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	577	28	6	96	19	6	123	51	56	108	20
Future Volume (veh/h)	21	577	28	6	96	19	6	123	51	56	108	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	24	0	0	35	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	0.99		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	2500	1900	980	1900	1000	980	1000	1900	980	1900
Adj Flow Rate, veh/h	21	577	28	6	96	19	6	123	51	56	108	20
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	676	32	53	243	46	52	365	85	118	310	30
Arrive On Green	0.39	0.36	0.34	0.39	0.36	0.34	0.51	0.48	0.46	0.51	0.48	0.46
Sat Flow, veh/h	35	1880	90	11	676	128	10	646	259	222	529	92
Grp Volume(v), veh/h	328	0	298	121	0	0	180	0	0	184	0	0
Grp Sat Flow(s),veh/h/ln	1046	0	959	815	0	0	915	0	0	843	0	0
Q Serve(g_s), s	0.0	0.0	22.1	0.5	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	21.6	0.0	22.1	22.6	0.0	0.0	9.6	0.0	0.0	9.8	0.0	0.0
Prop In Lane	0.06		0.09	0.05		0.16	0.03		0.28	0.30		0.11
Lane Grp Cap(c), veh/h	453	0	345	363	0	0	523	0	0	491	0	0
V/C Ratio(X)	0.72	0.00	0.87	0.33	0.00	0.00	0.34	0.00	0.00	0.37	0.00	0.00
Avail Cap(c_a), veh/h	501	0	389	404	0	0	515	0	0	491	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.4	0.0	22.8	18.1	0.0	0.0	15.2	0.0	0.0	16.6	0.0	0.0
Incr Delay (d2), s/veh	4.6	0.0	16.7	0.5	0.0	0.0	1.8	0.0	0.0	2.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	23.2	0.0	0.0	58.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	7.4	1.8	0.0	0.0	8.2	0.0	0.0	14.1	0.0	0.0
LnGrp Delay(d),s/veh	27.0	0.0	39.5	18.7	0.0	0.0	40.2	0.0	0.0	77.3	0.0	0.0
LnGrp LOS	C		D	B			D			E		
Approach Vol, veh/h	626				121		180				184	
Approach Delay, s/veh	33.0				18.7		40.2				77.3	
Approach LOS	C				B		D				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		33.5		43.0		33.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	11.6		24.1		11.8		24.6					
Green Ext Time (p_c), s	1.1		1.9		1.1		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay			39.9									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh29.6

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	54	318	23	30	245	19	13	126	27	29	103	21
Future Vol, veh/h	54	318	23	30	245	19	13	126	27	29	103	21
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	69	408	29	38	306	24	19	180	39	36	129	26
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	45.1	23.5	17.1	15.6
HCM LOS	E	C	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	14%	10%	19%
Vol Thru, %	76%	81%	83%	67%
Vol Right, %	16%	6%	6%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	395	294	153
LT Vol	13	54	30	29
Through Vol	126	318	245	103
RT Vol	27	23	19	21
Lane Flow Rate	237	506	368	191
Geometry Grp	1	1	1	1
Degree of Util (X)	0.483	0.913	0.688	0.401
Departure Headway (Hd)	7.336	6.492	6.735	7.547
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	489	562	537	474
Service Time	5.41	4.492	4.797	5.624
HCM Lane V/C Ratio	0.485	0.9	0.685	0.403
HCM Control Delay	17.1	45.1	23.5	15.6
HCM Lane LOS	C	E	C	C
HCM 95th-tile Q	2.6	11.1	5.3	1.9

HCM 2010 Signalized Intersection Summary

219: Humboldt St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	47	9	1	15	41	6	181	7	20	146	53
Future Volume (veh/h)	94	47	9	1	15	41	6	181	7	20	146	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900	1900	1765	1900	1900	1422	1900	1900	2451	1900
Adj Flow Rate, veh/h	94	47	9	1	15	41	6	181	7	20	146	53
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	41	8	1	14	39	5	141	5	23	165	60
Arrive On Green	0.11	0.11	0.11	0.04	0.04	0.04	0.11	0.11	0.11	0.11	0.21	0.11
Sat Flow, veh/h	765	383	73	26	392	1070	44	1313	51	211	1542	560
Grp Volume(v), veh/h	150	0	0	57	0	0	194	0	0	219	0	0
Grp Sat Flow(s),veh/h/ln	1221	0	0	1488	0	0	1408	0	0	2313	0	0
Q Serve(g_s), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.7	0.0	0.0
Prop In Lane	0.63		0.06	0.02		0.72	0.03		0.04	0.09		0.24
Lane Grp Cap(c), veh/h	131	0	0	55	0	0	151	0	0	248	0	0
V/C Ratio(X)	1.15	0.00	0.00	1.04	0.00	0.00	1.29	0.00	0.00	0.88	0.00	0.00
Avail Cap(c_a), veh/h	131	0	0	159	0	0	151	0	0	248	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	9.0	0.0	0.0	8.3	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	124.0	0.0	0.0	67.2	0.0	0.0	170.1	0.0	0.0	29.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.0	1.3	0.0	0.0	7.8	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	132.4	0.0	0.0	77.1	0.0	0.0	178.5	0.0	0.0	36.8	0.0	0.0
LnGrp LOS	F			F			F			D		
Approach Vol, veh/h	150			57			194			219		
Approach Delay, s/veh	132.4			77.1			178.5			36.8		
Approach LOS	F			E			F			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	5.0		5.0		5.0		3.7					
Change Period (Y+Rc), s	3.0		3.0		3.0		3.0					
Max Green Setting (Gmax), s	2.0		2.0		2.0		2.0					
Max Q Clear Time (g_c+l1), s	4.0		4.0		3.7		2.7					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	108.0											
HCM 2010 LOS	F											

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↕			↕	
Traffic Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Future Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Conflicting Peds, #/hr	8	0	5	5	0	8	8	0	28	28	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	4	5	1	2	24	5	260	3	38	232	34
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	634	262	635	650	168	274	0	0	291	0	0
Stage 1	333	333	-	300	300	-	-	-	-	-	-	-
Stage 2	149	301	-	335	350	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	481	396	776	377	387	847	1288	-	-	1269	-	-
Stage 1	680	643	-	685	665	-	-	-	-	-	-	-
Stage 2	839	664	-	678	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	443	367	766	349	358	818	1278	-	-	1235	-	-
Mov Cap-2 Maneuver	443	367	-	349	358	-	-	-	-	-	-	-
Stage 1	671	615	-	663	644	-	-	-	-	-	-	-
Stage 2	802	643	-	642	604	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	16.2		10.2		0.1		1					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1278	-	-	448	714	1235	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.283	0.038	0.031	-	-				
HCM Control Delay (s)	7.8	0	-	16.2	10.2	8	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-	-				

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	116	107	1783	154	134	1499		
Future Volume (veh/h)	116	107	1783	154	134	1499		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	116	16	1783	154	134	1499		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	181	162	2619	225	193	3755		
Arrive On Green	0.10	0.10	0.55	0.54	0.11	0.74		
Sat Flow, veh/h	1774	1583	4931	410	1774	5253		
Grp Volume(v), veh/h	116	16	1267	670	134	1499		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1784	1774	1695		
Q Serve(g_s), s	3.1	0.5	13.5	13.6	3.7	5.5		
Cycle Q Clear(g_c), s	3.1	0.5	13.5	13.6	3.7	5.5		
Prop In Lane	1.00	1.00		0.23	1.00			
Lane Grp Cap(c), veh/h	181	162	1864	981	193	3755		
V/C Ratio(X)	0.64	0.10	0.68	0.68	0.69	0.40		
Avail Cap(c_a), veh/h	1062	947	2164	1138	566	5275		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.6	20.4	8.1	8.2	21.5	2.4		
Incr Delay (d2), s/veh	3.7	0.3	0.7	1.4	4.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.2	6.3	6.9	2.0	2.5		
LnGrp Delay(d),s/veh	25.4	20.7	8.8	9.6	26.0	2.5		
LnGrp LOS	C	C	A	A	C	A		
Approach Vol, veh/h	132		1937			1633		
Approach Delay, s/veh	24.8		9.1			4.4		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.5	31.6				41.0		9.1
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	31.5				51.5		29.5
Max Q Clear Time (g_c+I1), s	5.7	15.6				7.5		5.1
Green Ext Time (p_c), s	0.2	11.5				15.5		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	318	226	27	32	120
Future Vol, veh/h	45	318	226	27	32	120
Conflicting Peds, #/hr	36	0	0	22	22	36
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	318	226	27	32	120

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	289	0	0 706 312
Stage 1	-	-	- 276 -
Stage 2	-	-	- 430 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1273	-	- 402 728
Stage 1	-	-	- 771 -
Stage 2	-	-	- 656 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1229	-	- 359 679
Mov Cap-2 Maneuver	-	-	- 359 -
Stage 1	-	-	- 712 -
Stage 2	-	-	- 634 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1229	-	-	-	572
HCM Lane V/C Ratio	0.037	-	-	-	0.266
HCM Control Delay (s)	8	0	-	-	13.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	0			0			0			0		
HCM LOS	-			-			-			-		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 8.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	149	5	0	103	21	13	67	3	11	56	34
Future Vol, veh/h	80	149	5	0	103	21	13	67	3	11	56	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	149	5	0	103	21	13	67	3	11	56	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	8.4	8.6	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	34%	0%	11%
Vol Thru, %	81%	64%	83%	55%
Vol Right, %	4%	2%	17%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	234	124	101
LT Vol	13	80	0	11
Through Vol	67	149	103	56
RT Vol	3	5	21	34
Lane Flow Rate	83	234	124	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.297	0.157	0.132
Departure Headway (Hd)	4.899	4.575	4.546	4.689
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	784	787	763
Service Time	2.944	2.61	2.585	2.732
HCM Lane V/C Ratio	0.114	0.298	0.158	0.132
HCM Control Delay	8.6	9.5	8.4	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.2	0.6	0.5

Intersection						
Int Delay, s/veh	-					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.22	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.318	
Pot Cap-1 Maneuver	-		0		0	
Stage 1	-		0		0	
Stage 2	-		0		0	
Platoon blocked, %	-					
Mov Cap-1 Maneuver	-		-		-	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB		SB			
HCM Control Delay, s	0		0			
HCM LOS			A			
Minor Lane/Major Mvmt	WBT SBLn1					
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations		↑↑			↑↑	↑								↑
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1		Major2				Minor2	
Conflicting Flow All	-	0	-	0	0	0	-	0
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	-	4.13	-	-	-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	2.219	-	-	-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-	0	-
Stage 1	0	-	0	-	-	-	0	-
Stage 2	0	-	0	-	-	-	0	-
Platoon blocked, %	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-

Approach	EB	WB	SW
HCM Control Delay, s	0		0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0 0
HCM Lane LOS	-	-	-	A A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 analysis supports yellow change in the range of 3 and 6 seconds

Intersection

Intersection Delay, s/veh10.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Future Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	163	41	39	2	78	164	117	2	137	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.3	11.5	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	1%	50%	1%
Vol Thru, %	46%	1%	48%	86%
Vol Right, %	33%	98%	2%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	167	82	160
LT Vol	78	2	41	2
Through Vol	164	2	39	137
RT Vol	117	163	2	21
Lane Flow Rate	359	167	82	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.217	0.124	0.217
Departure Headway (Hd)	4.583	4.669	5.446	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	762	651	726
Service Time	2.649	2.748	3.539	2.967
HCM Lane V/C Ratio	0.461	0.219	0.126	0.22
HCM Control Delay	11.5	9.1	9.3	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.8	0.4	0.8

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	741	147	8	726	7	354	0	7	1	5	0
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1435	642	83	1461	14	755	0	335	14	68	0
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.21	0.00	0.21	0.04	0.04	0.00
Sat Flow, veh/h	1774	3539	1582	1774	3592	35	3548	0	1574	308	1539	0
Grp Volume(v), veh/h	7	741	147	8	358	375	354	0	7	6	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1857	1774	0	1574	1847	0	0
Q Serve(g_s), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		0.00
Lane Grp Cap(c), veh/h	81	1435	642	83	720	755	755	0	335	82	0	0
V/C Ratio(X)	0.09	0.52	0.23	0.10	0.50	0.50	0.47	0.00	0.02	0.07	0.00	0.00
Avail Cap(c_a), veh/h	279	3597	1608	279	1799	1887	2833	0	1257	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	9.2	8.0	18.9	9.1	9.1	14.2	0.0	12.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	1.1	0.1	3.1	3.2	1.8	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.5	8.2	19.3	9.6	9.6	14.7	0.0	12.9	19.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B		B	B		
Approach Vol, veh/h		895			741			361			6	
Approach Delay, s/veh		9.4			9.7			14.6			19.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	4.9	19.8		4.8	4.9	19.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.5	5.0	40.5		5.0	5.0	40.5				
Max Q Clear Time (g_c+l1), s		5.6	2.2	8.5		2.1	2.2	8.2				
Green Ext Time (p_c), s		1.3	0.0	6.5		0.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	395	127	172	212	6	310	42	43	2	28	16
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	927	391	417	1034	29	521	247	253	170	215	112
Arrive On Green	0.08	0.25	0.25	0.12	0.29	0.29	0.29	0.29	0.29	0.10	0.10	0.10
Sat Flow, veh/h	1774	3725	1570	3442	3515	99	1774	841	861	1774	2239	1167
Grp Volume(v), veh/h	44	395	127	172	106	112	310	0	85	2	22	22
Grp Sat Flow(s),veh/h/ln	1774	1863	1570	1721	1770	1845	1774	0	1702	1774	1770	1636
Q Serve(g_s), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Cycle Q Clear(g_c), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	135	927	391	417	520	542	521	0	500	170	170	157
V/C Ratio(X)	0.33	0.43	0.33	0.41	0.20	0.21	0.59	0.00	0.17	0.01	0.13	0.14
Avail Cap(c_a), veh/h	818	2763	1164	1587	1313	1368	1316	0	1263	1102	1100	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.3	20.3	13.2	13.2	15.1	0.0	13.1	20.4	20.6	20.7
Incr Delay (d2), s/veh	1.4	0.3	0.5	0.7	0.2	0.2	1.1	0.0	0.2	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.5	1.1	1.1	1.2	3.8	0.0	0.9	0.0	0.3	0.3
LnGrp Delay(d),s/veh	23.2	16.1	15.8	20.9	13.4	13.4	16.2	0.0	13.3	20.4	21.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		B	C	C	C
Approach Vol, veh/h		566			390			395			46	
Approach Delay, s/veh		16.6			16.7			15.5			21.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.7	9.0	15.4		7.8	6.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		9.5	4.3	6.4		2.6	3.2	4.3				
Green Ext Time (p_c), s		2.5	0.5	3.2		0.2	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	228	56	60	461	21	272	526	252	41	105	28
Adj No. of Lanes	1	2	1	2	2	0	1	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1065	468	278	961	44	381	1252	528	122	527	136
Arrive On Green	0.10	0.30	0.30	0.08	0.28	0.28	0.22	0.34	0.34	0.07	0.19	0.19
Sat Flow, veh/h	1774	3539	1557	3442	3447	157	1774	3725	1569	1774	2777	714
Grp Volume(v), veh/h	104	228	56	60	236	246	272	526	252	41	65	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1557	1721	1770	1834	1774	1863	1569	1774	1770	1721
Q Serve(g_s), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Cycle Q Clear(g_c), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	182	1065	468	278	494	511	381	1252	528	122	336	327
V/C Ratio(X)	0.57	0.21	0.12	0.22	0.48	0.48	0.71	0.42	0.48	0.34	0.19	0.21
Avail Cap(c_a), veh/h	662	2920	1284	404	1007	1044	978	3868	1629	208	1070	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.3	24.2	16.9	16.9	20.5	14.4	14.8	25.0	19.2	19.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.4	0.7	0.7	2.5	0.2	0.7	1.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	0.6	0.4	3.1	3.2	4.2	3.2	3.1	0.7	0.9	0.9
LnGrp Delay(d),s/veh	26.8	14.8	14.4	24.6	17.6	17.6	23.0	14.7	15.4	26.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		388			542			1050			174	
Approach Delay, s/veh		18.0			18.4			17.0			21.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	21.9	7.5	19.9	15.1	13.7	8.8	18.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	56.9	5.1	44.9	29.5	32.5	19.5	30.5					
Max Q Clear Time (g_c+I13), s	9.1	2.9	4.7	10.0	3.9	5.1	8.3					
Green Ext Time (p_c), s	0.0	5.1	0.0	1.8	0.8	0.7	2.9					
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	741	438	73	1149	74	651	155	86	131	190	126
Future Volume (veh/h)	182	741	438	73	1149	74	651	155	86	131	190	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1275	1471	1863	980	1520	1900	1716	1569	1600	1900	1569	1569
Adj Flow Rate, veh/h	182	741	338	73	1149	74	651	155	86	131	190	27
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	981	898	86	1162	75	732	217	121	142	205	279
Arrive On Green	0.15	0.35	0.35	0.09	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1214	2794	1516	934	3973	256	3170	941	522	627	910	1238
Grp Volume(v), veh/h	182	741	338	73	800	423	651	0	241	321	0	27
Grp Sat Flow(s),veh/h/ln	1214	1397	1516	934	1383	1463	1585	0	1463	1537	0	1238
Q Serve(g_s), s	17.9	28.0	14.4	9.2	34.4	34.5	23.8	0.0	18.1	24.4	0.0	2.1
Cycle Q Clear(g_c), s	17.9	28.0	14.4	9.2	34.4	34.5	23.8	0.0	18.1	24.4	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.36	0.41		1.00
Lane Grp Cap(c), veh/h	183	981	898	86	809	428	732	0	338	347	0	279
V/C Ratio(X)	1.00	0.76	0.38	0.85	0.99	0.99	0.89	0.00	0.71	0.93	0.00	0.10
Avail Cap(c_a), veh/h	183	981	898	86	809	428	742	0	342	347	0	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.8	34.3	13.4	53.5	42.1	42.1	44.5	0.0	42.4	45.3	0.0	36.7
Incr Delay (d2), s/veh	65.5	3.4	0.3	51.6	28.6	40.5	12.7	0.0	6.8	30.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	11.3	9.4	3.6	16.3	18.7	11.7	0.0	7.9	13.2	0.0	0.7
LnGrp Delay(d),s/veh	116.3	37.7	13.7	105.1	70.7	82.6	57.2	0.0	49.1	75.3	0.0	36.8
LnGrp LOS	F	D	B	F	E	F	E		D	E		D
Approach Vol, veh/h	1261			1296			892			348		
Approach Delay, s/veh	42.6			76.5			55.0			72.3		
Approach LOS	D			E			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	14.0	45.0		30.0	21.0	38.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	9.5	40.5		25.5	16.5	33.5				
Max Q Clear Time (g_c+I1), s		25.8	11.2	30.0		26.4	19.9	36.5				
Green Ext Time (p_c), s		0.4	0.0	4.7		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	59.8											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	158	241	62	94	511	0	213	224	132	202	261	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	688	558	153	616	524	278	539	302	271	461	392
Arrive On Green	0.12	0.11	0.11	0.02	0.10	0.00	0.16	0.25	0.25	0.15	0.25	0.00
Sat Flow, veh/h	1774	1863	1511	1774	1863	1583	1774	2150	1204	1774	1863	1583
Grp Volume(v), veh/h	158	241	62	94	511	0	213	182	174	202	261	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1511	1774	1863	1583	1774	1770	1585	1774	1863	1583
Q Serve(g_s), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Cycle Q Clear(g_c), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	221	688	558	153	616	524	278	444	398	271	461	392
V/C Ratio(X)	0.71	0.35	0.11	0.61	0.83	0.00	0.77	0.41	0.44	0.74	0.57	0.00
Avail Cap(c_a), veh/h	250	712	578	258	721	612	312	656	587	445	830	705
HCM Platoon Ratio	1.00	0.30	0.30	0.20	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	28.5	25.3	40.5	36.0	0.0	34.5	26.7	26.9	34.5	28.1	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.1	4.0	7.0	0.0	9.8	0.6	0.8	4.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.3	1.3	2.4	13.1	0.0	5.6	3.7	3.5	4.8	5.5	0.0
LnGrp Delay(d),s/veh	44.0	28.8	25.4	44.5	43.1	0.0	44.3	27.3	27.6	38.6	29.2	0.0
LnGrp LOS	D	C	C	D	D		D	C	C	D	C	
Approach Vol, veh/h		461			605			569			463	
Approach Delay, s/veh		33.5			43.3			33.8			33.3	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	24.4	10.4	34.5	16.3	24.1	13.6	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.9	30.1	10.9	31.1	13.5	36.5	10.5	31.5				
Max Q Clear Time (g_c+I1), s	11.3	9.9	6.5	12.2	11.8	12.5	9.3	25.0				
Green Ext Time (p_c), s	0.4	2.1	0.1	1.5	0.1	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			36.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	10	30	0	0	0	0	30	27	13
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	2157	2157	1765	2157	2200	1863	2141	2100	1863	1863	2157
Adj Flow Rate, veh/h	308	1041	178	50	1960	84	406	132	59	51	262	210
Adj No. of Lanes	2	3	1	1	3	0	2	1	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	3494	975	104	2611	100	545	220	98	295	314	297
Arrive On Green	0.15	0.56	0.56	0.05	0.45	0.45	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3361	6471	1805	1681	5784	247	3442	1390	621	1774	1863	1783
Grp Volume(v), veh/h	308	1041	178	50	1329	715	406	0	191	51	262	210
Grp Sat Flow(s),veh/h/ln	1681	2157	1805	1681	1963	2106	1721	0	2012	1774	1863	1783
Q Serve(g_s), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Cycle Q Clear(g_c), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	510	3494	975	104	1762	947	545	0	318	295	314	297
V/C Ratio(X)	0.60	0.30	0.18	0.48	0.75	0.76	0.75	0.00	0.60	0.17	0.83	0.71
Avail Cap(c_a), veh/h	519	3600	1004	126	1762	945	663	0	387	299	314	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	20.2	18.8	74.4	38.1	38.0	64.3	0.0	62.6	61.9	66.5	65.2
Incr Delay (d2), s/veh	1.9	0.2	0.4	3.5	3.1	5.6	3.7	0.0	1.8	0.3	17.2	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	130.0	3.8	3.3	0.0	0.0	0.0	90.3	234.3	47.0
%ile BackOfQ(50%),veh/ln	6.5	8.4	4.1	7.8	28.7	31.4	8.8	0.0	8.0	14.8	35.8	15.9
LnGrp Delay(d),s/veh	65.3	20.4	19.2	207.9	44.9	46.9	67.9	0.0	64.4	152.5	318.0	119.5
LnGrp LOS	E	C	B	F	D	D	E		E	F	F	F
Approach Vol, veh/h	1527		2094				597			523		
Approach Delay, s/veh	29.3		49.5				66.8			222.2		
Approach LOS	C		D				E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.3	10.5	92.0		29.2	27.7	74.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		29.3	10.5	76.7		25.5	16.8	70.3				
Max Q Clear Time (g_c+I1), s		20.0	6.7	15.6		23.9	15.6	47.4				
Green Ext Time (p_c), s		1.9	0.0	9.8		0.4	0.1	15.3				
Intersection Summary												
HCM 2010 Ctrl Delay			64.2									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	818	129	183	656	118	69	56	140	83	153	7
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1247	197	285	998	818	170	111	216	209	297	12
Arrive On Green	0.03	0.41	0.41	0.16	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3041	480	1774	1863	1526	320	437	849	451	1167	48
Grp Volume(v), veh/h	4	476	471	183	656	118	265	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1863	1526	1607	0	0	1666	0	0
Q Serve(g_s), s	0.1	11.1	11.1	5.0	12.9	2.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.1	11.1	5.0	12.9	2.0	7.0	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.26		0.53	0.34		0.03
Lane Grp Cap(c), veh/h	61	725	718	285	998	818	497	0	0	517	0	0
V/C Ratio(X)	0.07	0.66	0.66	0.64	0.66	0.14	0.53	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	228	1210	1198	615	1681	1377	931	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	12.2	12.2	20.2	8.5	6.0	16.9	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	2.4	0.7	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.6	5.6	2.6	6.8	0.8	3.4	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	24.4	13.2	13.2	22.6	9.3	6.1	17.8	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h	951			957			265			243		
Approach Delay, s/veh	13.3			11.4			17.8			17.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.2	24.0		16.0	4.8	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.6	16.3	33.6		26.6	5.1	44.8				
Max Q Clear Time (g_c+I1), s		9.0	7.0	13.1		8.1	2.1	14.9				
Green Ext Time (p_c), s		1.6	0.3	6.4		1.4	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay	13.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110
Future Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.95	0.99		0.94	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	48	291	81	85	277	53	87	254	19	205	230	110
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	645	180	412	696	133	416	788	59	475	539	258
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1035	1395	388	1003	1505	288	988	1704	127	1045	1166	558
Grp Volume(v), veh/h	48	0	372	85	0	330	87	0	273	205	0	340
Grp Sat Flow(s),veh/h/ln	1035	0	1784	1003	0	1793	988	0	1831	1045	0	1724
Q Serve(g_s), s	2.6	0.0	11.3	5.0	0.0	9.7	5.2	0.0	7.5	12.3	0.0	10.6
Cycle Q Clear(g_c), s	12.3	0.0	11.3	16.4	0.0	9.7	15.7	0.0	7.5	19.9	0.0	10.6
Prop In Lane	1.00		0.22	1.00		0.16	1.00		0.07	1.00		0.32
Lane Grp Cap(c), veh/h	443	0	825	412	0	829	416	0	847	475	0	797
V/C Ratio(X)	0.11	0.00	0.45	0.21	0.00	0.40	0.21	0.00	0.32	0.43	0.00	0.43
Avail Cap(c_a), veh/h	443	0	825	412	0	829	416	0	847	475	0	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	14.6	20.2	0.0	14.2	19.7	0.0	13.6	19.9	0.0	14.4
Incr Delay (d2), s/veh	0.5	0.0	1.8	1.1	0.0	1.4	1.1	0.0	1.0	2.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.0	1.5	0.0	5.1	1.5	0.0	4.0	3.9	0.0	5.4
LnGrp Delay(d),s/veh	18.7	0.0	16.4	21.3	0.0	15.6	20.8	0.0	14.6	22.7	0.0	16.1
LnGrp LOS	B		B	C		B	C		B	C		B
Approach Vol, veh/h	420				415				360		545	
Approach Delay, s/veh	16.6				16.8				16.1		18.6	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+I1), s	17.7		14.3		21.9		18.4					
Green Ext Time (p_c), s	2.0		2.5		2.7		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1248	11	0	0	0	0	57	259	308	259	0
Future Volume (veh/h)	20	1248	11	0	0	0	0	57	259	308	259	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1569	1700				0	1667	1078	1569	1471	0
Adj Flow Rate, veh/h	20	1248	11				0	62	60	284	293	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	610	1682	15				0	236	126	429	422	0
Arrive On Green	0.38	0.38	0.38				0.00	0.14	0.14	0.29	0.29	0.00
Sat Flow, veh/h	1587	4377	39				0	1667	891	1494	1471	0
Grp Volume(v), veh/h	20	814	445				0	62	60	284	293	0
Grp Sat Flow(s),veh/h/ln	1587	1427	1561				0	1667	891	1494	1471	0
Q Serve(g_s), s	0.4	11.8	11.8				0.0	1.6	3.0	8.0	8.5	0.0
Cycle Q Clear(g_c), s	0.4	11.8	11.8				0.0	1.6	3.0	8.0	8.5	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	610	1097	600				0	236	126	429	422	0
V/C Ratio(X)	0.03	0.74	0.74				0.00	0.26	0.48	0.66	0.69	0.00
Avail Cap(c_a), veh/h	661	1189	650				0	729	390	622	613	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.2	12.7	12.7				0.0	18.4	19.0	15.1	15.2	0.0
Incr Delay (d2), s/veh	0.0	2.3	4.2				0.0	0.6	2.8	1.8	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.0	5.8				0.0	0.8	0.8	3.5	3.7	0.0
LnGrp Delay(d),s/veh	9.2	15.1	16.9				0.0	19.0	21.7	16.8	17.3	0.0
LnGrp LOS	A	B	B					B	C	B	B	
Approach Vol, veh/h		1279						122			577	
Approach Delay, s/veh		15.6						20.3			17.1	
Approach LOS		B						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		9.8		21.4		16.8						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		19.5		18.5		18.5						
Max Q Clear Time (g_c+I1), s		5.0		13.8		10.5						
Green Ext Time (p_c), s		0.4		3.1		1.8						
Intersection Summary												
HCM 2010 Ctrl Delay			16.3									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.94	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	331	197	66	78	11	182	206	41	53	224	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	612	355	134	914	126	389	408	328	420	335	87
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.29	0.22	0.22	0.22	0.24	0.24	0.24
Sat Flow, veh/h	1774	2123	1231	1774	3102	426	1774	1863	1497	1774	1416	367
Grp Volume(v), veh/h	52	274	254	66	44	45	182	206	41	53	0	282
Grp Sat Flow(s),veh/h/ln	1774	1770	1584	1774	1770	1758	1774	1863	1497	1774	0	1783
Q Serve(g_s), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Cycle Q Clear(g_c), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Prop In Lane	1.00		0.78	1.00		0.24	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	510	457	134	522	518	389	408	328	420	0	422
V/C Ratio(X)	0.42	0.54	0.56	0.49	0.08	0.09	0.47	0.50	0.12	0.13	0.00	0.67
Avail Cap(c_a), veh/h	189	706	632	187	703	698	667	701	563	654	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	19.9	20.0	29.5	16.9	17.0	22.6	22.8	20.8	20.0	0.0	23.0
Incr Delay (d2), s/veh	2.3	0.9	1.1	2.8	0.1	0.1	0.9	1.0	0.2	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.1	1.3	0.6	0.6	3.0	3.4	0.6	0.8	0.0	4.9
LnGrp Delay(d),s/veh	32.0	20.8	21.1	32.3	17.0	17.0	23.5	23.7	21.0	20.1	0.0	24.8
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		580			155			429			335	
Approach Delay, s/veh		21.9			23.5			23.4			24.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.6	8.0	22.2		18.7	7.6	22.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.5	5.5	25.0		23.0	5.6	24.9				
Max Q Clear Time (g_c+I1), s		8.5	4.4	11.0		11.5	3.9	3.2				
Green Ext Time (p_c), s		1.6	0.0	3.0		1.4	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	528	219	486	556	0				134	162	228
Adj No. of Lanes	0	1	1	1	1	0				1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	581	469	535	1202	0				517	543	447
Arrive On Green	0.00	0.31	0.31	0.30	0.65	0.00				0.29	0.29	0.29
Sat Flow, veh/h	0	1863	1503	1774	1863	0				1774	1863	1532
Grp Volume(v), veh/h	0	528	219	486	556	0				134	162	228
Grp Sat Flow(s),veh/h/ln	0	1863	1503	1774	1863	0				1774	1863	1532
Q Serve(g_s), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Cycle Q Clear(g_c), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	581	469	535	1202	0				517	543	447
V/C Ratio(X)	0.00	0.91	0.47	0.91	0.46	0.00				0.26	0.30	0.51
Avail Cap(c_a), veh/h	0	588	475	542	1216	0				517	543	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.61	0.61	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	26.3	31.9	8.5	0.0				25.8	26.1	28.0
Incr Delay (d2), s/veh	0.0	12.1	0.4	19.2	0.3	0.0				1.2	1.4	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	4.7	15.1	7.4	0.0				2.9	3.5	5.5
LnGrp Delay(d),s/veh	0.0	43.4	26.7	51.1	8.8	0.0				27.0	27.5	32.1
LnGrp LOS		D	C	D	A					C	C	C
Approach Vol, veh/h		747			1042						524	
Approach Delay, s/veh		38.5			28.5						29.4	
Approach LOS		D			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			31.6	32.7		30.7		64.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			27.5	28.5		25.5		60.5				
Max Q Clear Time (g_c+I1), s			27.0	27.8		13.8		16.3				
Green Ext Time (p_c), s			0.1	0.3		1.7		4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	980	0				1863	1863	0
Adj Flow Rate, veh/h	0	1270	314	0	1459	0				53	229	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	2358	686	0	1489	0				279	287	0
Arrive On Green	0.00	0.84	0.84	0.00	1.00	0.00				0.08	0.08	0.00
Sat Flow, veh/h	0	2843	812	0	1961	0				3442	3632	0
Grp Volume(v), veh/h	0	1270	314	0	1459	0				53	229	0
Grp Sat Flow(s),veh/h/ln	0	931	812	0	882	0				1721	1770	0
Q Serve(g_s), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Cycle Q Clear(g_c), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	2358	686	0	1489	0				279	287	0
V/C Ratio(X)	0.00	0.54	0.46	0.00	0.98	0.00				0.19	0.80	0.00
Avail Cap(c_a), veh/h	0	2358	686	0	1489	0				1506	1548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	1.8	1.6	0.0	0.0	0.0				34.3	36.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	19.0	0.0				0.3	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.9	0.0	3.9	0.0				0.6	2.7	0.0
LnGrp Delay(d),s/veh	0.0	2.3	2.8	0.0	19.0	0.0				34.6	41.2	0.0
LnGrp LOS		A	A		B					C	D	
Approach Vol, veh/h		1584			1459						282	
Approach Delay, s/veh		2.4			19.0						39.9	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				70.5		9.5		70.5				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s				12.4		3.1		2.0				
Green Ext Time (p_c), s				11.2		0.0		14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.97		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	612	107	118	541	28	144	79	133	51	105	15
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1463	255	458	856	44	457	217	528	235	410	49
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	832	2995	522	722	1753	91	847	630	1534	304	1190	144
Grp Volume(v), veh/h	7	361	358	118	0	569	223	0	133	171	0	0
Grp Sat Flow(s),veh/h/ln	832	1770	1748	722	0	1843	1476	0	1534	1638	0	0
Q Serve(g_s), s	0.2	4.7	4.7	4.5	0.0	8.2	1.2	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	4.7	4.7	9.2	0.0	8.2	3.6	0.0	2.2	2.4	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.05	0.65		1.00	0.30		0.09
Lane Grp Cap(c), veh/h	417	864	854	458	0	900	673	0	528	694	0	0
V/C Ratio(X)	0.02	0.42	0.42	0.26	0.00	0.63	0.33	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	707	1482	1463	710	0	1543	1128	0	1027	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.9	5.9	8.9	0.0	6.8	8.8	0.0	8.4	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.0	0.7	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.3	0.9	0.0	4.3	1.7	0.0	1.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	9.9	6.2	6.2	9.2	0.0	7.5	9.1	0.0	8.7	8.7	0.0	0.0
LnGrp LOS	A	A	A	A		A	A		A	A		
Approach Vol, veh/h		726			687			356			171	
Approach Delay, s/veh		6.3			7.8			8.9			8.7	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		20.5		15.3		20.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.6		10.4		4.4		11.2				
Green Ext Time (p_c), s		1.7		4.4		0.9		4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.89	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	57	19	138	168	117	61	277	73	113	196	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	319	106	223	309	215	144	432	114	192	500	107
Arrive On Green	0.05	0.24	0.24	0.13	0.31	0.31	0.08	0.31	0.31	0.11	0.34	0.34
Sat Flow, veh/h	1774	1325	442	1774	991	690	1774	1383	365	1774	1473	316
Grp Volume(v), veh/h	24	0	76	138	0	285	61	0	350	113	0	238
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	0	1681	1774	0	1748	1774	0	1789
Q Serve(g_s), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Cycle Q Clear(g_c), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Prop In Lane	1.00		0.25	1.00		0.41	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	97	0	425	223	0	525	144	0	545	192	0	607
V/C Ratio(X)	0.25	0.00	0.18	0.62	0.00	0.54	0.42	0.00	0.64	0.59	0.00	0.39
Avail Cap(c_a), veh/h	441	0	941	441	0	896	441	0	931	441	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	17.0	23.3	0.0	16.0	24.6	0.0	16.7	23.9	0.0	14.2
Incr Delay (d2), s/veh	1.3	0.0	0.2	2.8	0.0	0.9	2.0	0.0	1.3	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	2.2	0.0	3.8	1.0	0.0	4.9	1.8	0.0	2.8
LnGrp Delay(d),s/veh	26.8	0.0	17.2	26.1	0.0	16.9	26.6	0.0	17.9	26.7	0.0	14.6
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	100				423				411		351	
Approach Delay, s/veh	19.5				19.9				19.2		18.5	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	20.6	10.1	16.5	7.6	22.1	6.1	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+I), s	15.4	11.7	6.2	3.9	3.8	7.7	2.7	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.2	0.3	0.1	1.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			19.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	0	111	275	451	89	28	271	0	0	532	15
Future Volume (veh/h)	30	0	111	275	451	89	28	271	0	0	532	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	1471	980	0	0	1078	1900
Adj Flow Rate, veh/h	30	0	11	275	451	89	28	271	0	0	532	15
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	607	996	195	67	907	0	0	656	18
Arrive On Green	0.02	0.00	0.02	0.34	0.34	0.34	0.05	0.49	0.00	0.00	0.32	0.32
Sat Flow, veh/h		0		1774	2913	569	1401	1912	0	0	2086	57
Grp Volume(v), veh/h		0.0		275	272	268	28	271	0	0	268	279
Grp Sat Flow(s),veh/h/ln				1774	1770	1712	1401	931	0	0	1025	1065
Q Serve(g_s), s				7.8	7.7	7.8	1.2	5.6	0.0	0.0	15.4	15.5
Cycle Q Clear(g_c), s				7.8	7.7	7.8	1.2	5.6	0.0	0.0	15.4	15.5
Prop In Lane				1.00		0.33	1.00		0.00	0.00		0.05
Lane Grp Cap(c), veh/h				607	605	585	67	907	0	0	331	344
V/C Ratio(X)				0.45	0.45	0.46	0.42	0.30	0.00	0.00	0.81	0.81
Avail Cap(c_a), veh/h				607	605	585	120	926	0	0	382	397
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				16.5	16.5	16.5	29.8	9.9	0.0	0.0	20.0	20.0
Incr Delay (d2), s/veh				2.4	2.4	2.6	4.1	0.2	0.0	0.0	10.9	10.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.2	4.1	4.1	0.6	1.5	0.0	0.0	5.3	5.5
LnGrp Delay(d),s/veh				18.9	18.9	19.1	33.9	10.1	0.0	0.0	30.9	30.7
LnGrp LOS				B	B	B	C	B			C	C
Approach Vol, veh/h					815			299			547	
Approach Delay, s/veh					19.0			12.3			30.8	
Approach LOS					B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		39.3			10.6	28.8		25.0				
Change Period (Y+Rc), s		9.5			9.0	* 9.5		4.5				
Max Green Setting (Gmax), s		30.5			4.0	* 23		20.5				
Max Q Clear Time (g_c+I1), s		7.6			3.2	17.5		9.8				
Green Ext Time (p_c), s		1.8			0.0	1.5		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT					NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	20	464	16	0	0	0	10	276	126	264	576	38
Future Volume (veh/h)	20	464	16	0	0	0	10	276	126	264	576	38
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900				1863	2451	1900	1078	2451	1900
Adj Flow Rate, veh/h	20	464	16				10	276	126	264	576	38
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	79	1920	69				44	417	183	334	1929	127
Arrive On Green	0.43	0.43	0.43				0.02	0.14	0.14	0.33	0.44	0.44
Sat Flow, veh/h	186	4510	163				1774	3069	1346	1027	4419	291
Grp Volume(v), veh/h	263	0	237				10	207	195	264	303	311
Grp Sat Flow(s),veh/h/ln	2442	0	2417				1774	2328	2087	1027	2328	2382
Q Serve(g_s), s	5.5	0.0	5.0				0.4	6.7	7.1	18.6	6.7	6.8
Cycle Q Clear(g_c), s	5.5	0.0	5.0				0.4	6.7	7.1	18.6	6.7	6.8
Prop In Lane	0.08		0.07				1.00		0.65	1.00		0.12
Lane Grp Cap(c), veh/h	1040	0	1029				44	316	283	334	1017	1040
V/C Ratio(X)	0.25	0.00	0.23				0.23	0.65	0.69	0.79	0.30	0.30
Avail Cap(c_a), veh/h	1040	0	1029				400	321	287	334	1017	1040
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.8	0.0	14.6				38.2	32.7	32.9	24.4	14.6	14.6
Incr Delay (d2), s/veh	0.6	0.0	0.5				2.6	4.6	6.7	17.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	3.4				0.2	4.7	4.6	6.9	4.3	4.5
LnGrp Delay(d),s/veh	15.3	0.0	15.1				40.7	37.3	39.6	41.5	14.7	14.7
LnGrp LOS	B		B				D	D	D	D	B	B
Approach Vol, veh/h		500						412			878	
Approach Delay, s/veh		15.2						38.5			22.8	
Approach LOS		B						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	29.0	13.8		37.0	5.0	37.9						
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5						
Max Green Setting (Gmax), s	24.5	9.5		32.5	16.5	17.5						
Max Q Clear Time (g_c+20.6), s	20.6	9.1		7.5	2.4	8.8						
Green Ext Time (p_c), s	0.3	0.1		3.1	0.0	2.6						
Intersection Summary												
HCM 2010 Ctrl Delay			24.3									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	164	44	13	174	37	40	322	11	4	277	175
Future Volume (veh/h)	62	164	44	13	174	37	40	322	11	4	277	175
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	1900	1900	980	1900	1900	980	1900	1900	980	980
Adj Flow Rate, veh/h	62	164	44	13	174	37	40	322	11	4	277	108
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	173	42	55	226	46	84	457	15	47	536	452
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	138	578	140	24	753	154	62	831	27	3	975	821
Grp Volume(v), veh/h	270	0	0	224	0	0	373	0	0	281	0	108
Grp Sat Flow(s),veh/h/ln	856	0	0	930	0	0	920	0	0	978	0	821
Q Serve(g_s), s	6.4	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0	0.0	0.0	5.5
Cycle Q Clear(g_c), s	24.0	0.0	0.0	17.6	0.0	0.0	23.5	0.0	0.0	14.5	0.0	5.5
Prop In Lane	0.23		0.16	0.06		0.17	0.11		0.03	0.01		1.00
Lane Grp Cap(c), veh/h	312	0	0	327	0	0	556	0	0	584	0	452
V/C Ratio(X)	0.86	0.00	0.00	0.69	0.00	0.00	0.67	0.00	0.00	0.48	0.00	0.24
Avail Cap(c_a), veh/h	312	0	0	327	0	0	556	0	0	584	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	0.0	25.7	0.0	0.0	13.2	0.0	0.0	11.4	0.0	9.3
Incr Delay (d2), s/veh	21.5	0.0	0.0	5.9	0.0	0.0	6.3	0.0	0.0	2.8	0.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	0.0	5.1	0.0	0.0	7.0	0.0	0.0	4.4	0.0	1.4
LnGrp Delay(d),s/veh	49.8	0.0	0.0	31.5	0.0	0.0	19.5	0.0	0.0	14.2	0.0	10.6
LnGrp LOS	D			C			B			B		B
Approach Vol, veh/h	270				224				373		389	
Approach Delay, s/veh	49.8				31.5				19.5		13.2	
Approach LOS	D				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		30.0		50.0		30.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	42.5		22.5		42.5		22.5					
Max Q Clear Time (g_c+I1), s	25.5		26.0		16.5		19.6					
Green Ext Time (p_c), s	2.3		0.0		2.2		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			26.2									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	194	50	51	235	16	52	266	31	9	351	72
Future Volume (veh/h)	53	194	50	51	235	16	52	266	31	9	351	72
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.97	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	53	194	50	51	235	16	52	266	31	9	351	72
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	216	431	101	212	520	33	207	604	65	133	635	128
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	193	1194	281	187	1441	91	150	1396	151	15	1468	297
Grp Volume(v), veh/h	297	0	0	302	0	0	349	0	0	432	0	0
Grp Sat Flow(s),veh/h/ln	1669	0	0	1719	0	0	1698	0	0	1780	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	3.6	0.0	0.0	3.9	0.0	0.0	5.2	0.0	0.0
Prop In Lane	0.18		0.17	0.17		0.05	0.15		0.09	0.02		0.17
Lane Grp Cap(c), veh/h	748	0	0	765	0	0	877	0	0	897	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.39	0.00	0.00	0.40	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	1659	0	0	1706	0	0	1673	0	0	1773	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.1	0.0	0.0	7.1	0.0	0.0	5.8	0.0	0.0	6.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.9	0.0	0.0	2.0	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	7.5	0.0	0.0	7.4	0.0	0.0	6.1	0.0	0.0	6.6	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	297				302				349		432	
Approach Delay, s/veh	7.5				7.4				6.1		6.6	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	15.6		13.5		15.6		13.5					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	5.9		5.7		7.2		5.6					
Green Ext Time (p_c), s	2.3		1.9		2.8		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			6.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	219	260	128	86	288	81	181	391	136	110	439	185
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1287	543	143	758	208	328	783	268	173	734	305
Arrive On Green	0.17	0.36	0.36	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	1774	3539	1493	1774	2721	749	3442	2558	876	1774	2380	989
Grp Volume(v), veh/h	219	260	128	86	185	184	181	269	258	110	325	299
Grp Sat Flow(s),veh/h/ln	1774	1770	1493	1774	1770	1700	1721	1770	1664	1774	1770	1600
Q Serve(g_s), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Cycle Q Clear(g_c), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.53	1.00		0.62
Lane Grp Cap(c), veh/h	295	1287	543	143	493	473	328	542	510	173	546	494
V/C Ratio(X)	0.74	0.20	0.24	0.60	0.38	0.39	0.55	0.50	0.51	0.64	0.59	0.61
Avail Cap(c_a), veh/h	538	1833	773	269	648	623	478	693	652	314	760	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.3	17.5	35.2	23.0	23.1	34.2	22.5	22.6	34.4	23.2	23.3
Incr Delay (d2), s/veh	3.7	0.1	0.2	4.0	0.5	0.5	1.5	0.7	0.8	3.8	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.0	2.0	2.0	3.3	3.3	2.0	4.9	4.7	2.5	6.1	5.7
LnGrp Delay(d),s/veh	35.1	17.4	17.7	39.1	23.5	23.6	35.7	23.2	23.3	38.2	24.2	24.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		607			455			708			734	
Approach Delay, s/veh		23.8			26.5			26.4			26.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.7	27.3	9.4	31.8	10.5	27.4	16.2	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	29.5	10.5	39.5	9.5	32.5	22.5	27.5				
Max Q Clear Time (g_c+I10), s	12.1	12.1	5.7	6.7	6.0	14.6	11.3	8.9				
Green Ext Time (p_c), s	0.1	3.1	0.1	2.2	0.2	3.8	0.5	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay					25.8							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	23	67	665	0	0	63	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	58	169	1219	0	544	386	0	606	0	6	0
Arrive On Green	0.00	0.14	0.14	0.34	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	421	1226	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	90	665	0	0	63	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1646	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.74	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	228	1219	0	544	386	0	606	0	6	0
V/C Ratio(X)	0.00	0.00	0.40	0.55	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1074	2610	0	1165	1157	0	1817	0	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.7	7.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	2.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.9	8.3	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			A					
Approach Vol, veh/h		90			665			63			0	
Approach Delay, s/veh		12.9			8.3			9.7			0.0	
Approach LOS		B			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		7.1		0.0		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		15.5		20.5				
Max Q Clear Time (g_c+I1), s		2.9		3.5		0.0		6.5				
Green Ext Time (p_c), s		0.2		0.3		0.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱	↰		↱		↰		↱	↰	↱
Traffic Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	117	234	35	270	0	392	0	197	248	261	158	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	210	421	507	0	0	0	0	517	448	541	965	0
Arrive On Green	0.34	0.34	0.34	0.03	0.00	0.03	0.00	0.29	0.29	0.16	0.52	0.00
Sat Flow, veh/h	611	1221	1472		0		0	1863	1533	3442	1863	0
Grp Volume(v), veh/h	351	0	35		0.0		0	197	248	261	158	0
Grp Sat Flow(s),veh/h/ln	1832	0	1472				0	1770	1533	1721	1863	0
Q Serve(g_s), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Prop In Lane	0.33		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	507				0	517	448	541	965	0
V/C Ratio(X)	0.56	0.00	0.07				0.00	0.38	0.55	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1468	0	1180				0	1086	940	1198	1919	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	9.6				0.0	12.3	13.0	16.8	5.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.1				0.0	0.5	1.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.3				0.0	1.9	2.6	1.5	1.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	9.7				0.0	12.8	14.1	17.5	5.6	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		386						445			419	
Approach Delay, s/veh		12.1						13.5			13.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	15.8		18.1		25.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	3.7	25.3		33.5		43.5						
Max Q Clear Time (g_c+1.0), s	15.0	8.0		8.8		4.0						
Green Ext Time (p_c), s	0.6	2.6		2.3		0.9						
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	238	352	84				0	436	212	276	579	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	536	563	464				0	1028	424	462	970	0
Arrive On Green	0.30	0.30	0.30				0.00	0.28	0.28	0.26	0.26	0.00
Sat Flow, veh/h	1774	1863	1535				0	3725	1535	1774	3725	0
Grp Volume(v), veh/h	238	352	84				0	436	212	276	579	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1535				0	1863	1535	1774	1863	0
Q Serve(g_s), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Cycle Q Clear(g_c), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	536	563	464				0	1028	424	462	970	0
V/C Ratio(X)	0.44	0.63	0.18				0.00	0.42	0.50	0.60	0.60	0.00
Avail Cap(c_a), veh/h	923	969	798				0	2072	854	668	1404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	16.7	14.4				0.0	16.5	17.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.6	1.1	0.2				0.0	0.3	0.9	1.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.8	1.0				0.0	2.8	2.8	3.8	3.9	0.0
LnGrp Delay(d),s/veh	16.3	17.9	14.5				0.0	16.8	17.9	19.3	18.6	0.0
LnGrp LOS	B	B	B					B	B	B	B	
Approach Vol, veh/h		674						648			855	
Approach Delay, s/veh		16.9						17.2			18.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		19.8		17.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.5		27.5		19.5						
Max Q Clear Time (g_c+I1), s		8.5		11.1		9.6						
Green Ext Time (p_c), s		3.6		2.9		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.97		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	1	82	0	59	0	518	37	451	608	3
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	159	59	402	0	281	0	1060	458	586	2499	12
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.00	0.30	0.30	0.33	0.69	0.69
Sat Flow, veh/h	431	863	323	1376	0	1528	0	3632	1530	1774	3611	18
Grp Volume(v), veh/h	5	0	0	82	0	59	0	518	37	451	298	313
Grp Sat Flow(s), veh/h/ln	1617	0	0	1376	0	1528	0	1770	1530	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Prop In Lane	0.40		0.20	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	401	0	0	402	0	281	0	1060	458	586	1225	1287
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.21	0.00	0.49	0.08	0.77	0.24	0.24
Avail Cap(c_a), veh/h	1045	0	0	973	0	918	0	2052	887	1616	2748	2887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	17.1	0.0	16.7	0.0	13.9	12.1	14.5	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.1	2.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.0	0.0	0.7	0.0	2.9	0.4	5.7	1.4	1.5
LnGrp Delay(d),s/veh	16.2	0.0	0.0	17.3	0.0	17.1	0.0	14.2	12.2	16.7	2.9	2.9
LnGrp LOS	B			B		B		B	B	B	A	A
Approach Vol, veh/h	5			141			555			1062		
Approach Delay, s/veh	16.2			17.2			14.1			8.7		
Approach LOS	B			B			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.0	17.5		11.9		36.4		11.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	42.5	26.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+11.3), s	11.3	7.8		2.1		5.0		4.5				
Green Ext Time (p_c), s	1.5	3.5		0.0		4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay	11.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	448	240	100	197	286	428		
Future Volume (veh/h)	448	240	100	197	286	428		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	448	240	100	197	286	180		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1235	568	450	813	716	1027		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	511	2202	1863	2674		
Grp Volume(v), veh/h	448	240	155	142	286	180		
Grp Sat Flow(s),veh/h/ln	1721	1583	1018	1610	1863	1337		
Q Serve(g_s), s	2.2	2.7	0.6	1.4	2.6	1.0		
Cycle Q Clear(g_c), s	2.2	2.7	3.2	1.4	2.6	1.0		
Prop In Lane	1.00	1.00	0.65			1.00		
Lane Grp Cap(c), veh/h	1235	568	645	619	716	1027		
V/C Ratio(X)	0.36	0.42	0.24	0.23	0.40	0.18		
Avail Cap(c_a), veh/h	3170	1458	1293	1552	1796	2578		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.7	5.1	4.9	5.2	4.7		
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.2	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.8	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	5.7	6.2	5.3	5.0	5.6	4.8		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	688			297	466			
Approach Delay, s/veh	5.9			5.2	5.3			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		12.0		11.4		12.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+I1), s		5.2		4.7		4.6		
Green Ext Time (p_c), s		1.7		2.3		2.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.92	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	34	84	7	189	41	8	184	441	99	122	194	25
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	174	254	316	402	75	245	1661	370	181	1714	218
Arrive On Green	0.05	0.09	0.09	0.09	0.14	0.14	0.14	0.58	0.58	0.10	0.54	0.54
Sat Flow, veh/h	1774	1863	2716	3442	2933	547	1774	2867	638	1774	3156	401
Grp Volume(v), veh/h	34	84	7	189	24	25	184	271	269	122	108	111
Grp Sat Flow(s),veh/h/ln	1774	1863	1358	1721	1770	1710	1774	1770	1735	1774	1770	1788
Q Serve(g_s), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Cycle Q Clear(g_c), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	86	174	254	316	242	234	245	1025	1005	181	961	971
V/C Ratio(X)	0.40	0.48	0.03	0.60	0.10	0.11	0.75	0.26	0.27	0.68	0.11	0.11
Avail Cap(c_a), veh/h	138	503	733	371	531	513	276	1025	1005	250	961	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	37.1	39.3	34.0	34.0	37.3	9.4	9.4	39.0	10.0	10.0
Incr Delay (d2), s/veh	2.9	2.1	0.0	1.9	0.2	0.2	7.6	0.5	0.5	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.1	2.3	0.5	0.6	4.9	3.4	3.4	3.1	1.3	1.4
LnGrp Delay(d),s/veh	44.5	40.8	37.1	41.2	34.1	34.2	44.9	9.9	9.9	43.3	10.2	10.3
LnGrp LOS	D	D	D	D	C	C	D	A	A	D	B	B
Approach Vol, veh/h	125			238			724			341		
Approach Delay, s/veh	41.6			39.7			18.8			22.1		
Approach LOS	D			D			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.2	55.1	11.3	11.4	15.4	51.9	7.4	15.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	1.2	29.8	8.2	22.8	12.5	28.5	5.5	25.5				
Max Q Clear Time (g_c+1/3), s	9.0	9.0	6.7	5.9	11.0	4.7	3.7	3.2				
Green Ext Time (p_c), s	0.1	3.3	0.1	0.3	0.1	1.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	25.1											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.85	0.87		0.72	0.85		0.72	0.80		0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	29	15	17	57	54	38	139	33	36	120	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	450	222	105	294	249	140	465	102	166	514	40
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.83	0.83	0.83	0.41	0.41	0.41
Sat Flow, veh/h	19	1086	535	112	710	600	192	1123	245	249	1240	95
Grp Volume(v), veh/h	46	0	0	128	0	0	210	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1641	0	0	1422	0	0	1561	0	0	1584	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.33	0.13		0.42	0.18		0.16	0.22		0.06
Lane Grp Cap(c), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
V/C Ratio(X)	0.06	0.00	0.00	0.20	0.00	0.00	0.30	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.1	0.0	0.0	3.7	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	13.8	0.0	0.0	4.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	46			128			210			166		
Approach Delay, s/veh	12.5			13.8			4.8			14.0		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		4.0		3.2		6.1		5.9				
Green Ext Time (p_c), s		1.4		0.2		1.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				10.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.90	0.93		0.90	0.91		0.93	0.97		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	59	16	14	174	29	33	153	17	6	121	9
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	384	94	74	593	94	138	593	61	64	714	51
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.86	0.86	0.86
Sat Flow, veh/h	368	960	236	47	1483	236	183	1384	143	24	1666	120
Grp Volume(v), veh/h	106	0	0	217	0	0	203	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1766	0	0	1710	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	0.29		0.15	0.06		0.13	0.16		0.08	0.04		0.07
Lane Grp Cap(c), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.29	0.00	0.00	0.26	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.3	0.0	0.0	12.9	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.0	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.3	0.0	0.0	13.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	106				217				203		136	
Approach Delay, s/veh	13.9				15.3				13.6		3.3	
Approach LOS	B				B				B		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	7.0		4.7		2.9		7.8					
Green Ext Time (p_c), s	1.2		0.6		0.8		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	69	41	66	283	62	15	115	10	8	106	16
Future Volume (veh/h)	19	69	41	66	283	62	15	115	10	8	106	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.86	0.96		0.88	0.82		0.75	0.86		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	980	980	1961	1900	980	1900	1900	2451	1900
Adj Flow Rate, veh/h	19	69	41	66	283	34	15	115	10	8	106	16
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	244	131	402	499	750	85	217	18	85	523	76
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.55	0.55	0.55	0.27	0.27	0.27
Sat Flow, veh/h	71	480	257	646	980	1473	46	797	65	56	1917	277
Grp Volume(v), veh/h	129	0	0	66	283	34	140	0	0	130	0	0
Grp Sat Flow(s),veh/h/ln	808	0	0	646	980	1473	907	0	0	2250	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	11.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.1	0.0	0.0	6.1	11.0	0.6	5.3	0.0	0.0	2.4	0.0	0.0
Prop In Lane	0.15		0.32	1.00		1.00	0.11		0.07	0.06		0.12
Lane Grp Cap(c), veh/h	486	0	0	402	499	750	320	0	0	683	0	0
V/C Ratio(X)	0.27	0.00	0.00	0.16	0.57	0.05	0.44	0.00	0.00	0.19	0.00	0.00
Avail Cap(c_a), veh/h	486	0	0	402	499	750	320	0	0	683	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.00	0.98	0.98	0.98	0.84	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	8.1	9.3	6.8	10.3	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.9	4.5	0.1	3.6	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	0.0	0.7	3.5	0.3	1.6	0.0	0.0	1.6	0.0	0.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	9.0	13.8	6.9	13.9	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	A			A	B	A	B			B		
Approach Vol, veh/h		129			383			140			130	
Approach Delay, s/veh		9.1			12.4			13.9			16.0	
Approach LOS		A			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.0		34.0		21.0		34.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		13.5		26.5		13.5		26.5				
Max Q Clear Time (g_c+I1), s		7.3		13.1		4.4		13.0				
Green Ext Time (p_c), s		0.3		0.5		0.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay				12.7								
HCM 2010 LOS				B								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	356	20	7	86	7	13	95	44	60	103	59
Future Volume (veh/h)	21	356	20	7	86	7	13	95	44	60	103	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.98		0.95	0.95		0.96	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900	1900	980	1900	1900	980	1900	1900	1176	1900
Adj Flow Rate, veh/h	21	356	20	7	86	7	13	95	44	60	103	59
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	973	53	82	409	32	81	183	79	142	170	83
Arrive On Green	0.48	0.48	0.45	0.48	0.48	0.45	0.30	0.30	0.27	0.50	0.50	0.46
Sat Flow, veh/h	55	2028	111	24	853	66	34	605	261	196	564	275
Grp Volume(v), veh/h	209	0	188	100	0	0	152	0	0	222	0	0
Grp Sat Flow(s),veh/h/ln	150	0	1045	943	0	0	900	0	0	1035	0	0
Q Serve(g_s), s	0.0	0.0	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0
Cycle Q Clear(g_c), s	6.2	0.0	6.3	3.3	0.0	0.0	7.7	0.0	0.0	8.4	0.0	0.0
Prop In Lane	0.10		0.11	0.07		0.07	0.09		0.29	0.27		0.27
Lane Grp Cap(c), veh/h	624	0	501	522	0	0	343	0	0	396	0	0
V/C Ratio(X)	0.34	0.00	0.37	0.19	0.00	0.00	0.44	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	624	0	501	522	0	0	445	0	0	508	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.97	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	9.1	8.3	0.0	0.0	16.2	0.0	0.0	11.9	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	0.0	0.9	0.0	0.0	1.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	2.1	1.0	0.0	0.0	2.0	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	10.5	0.0	11.3	9.2	0.0	0.0	17.1	0.0	0.0	13.1	0.0	0.0
LnGrp LOS	B		B	A			B			B		
Approach Vol, veh/h	397				100				152		222	
Approach Delay, s/veh	10.9				9.2				17.1		13.1	
Approach LOS	B				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.6		32.4		22.6		32.4					
Change Period (Y+Rc), s	7.5		* 7.5		7.5		7.5					
Max Green Setting (Gmax), s	21.5		* 22		21.5		18.5					
Max Q Clear Time (g_c+I1), s	9.7		8.3		10.4		5.3					
Green Ext Time (p_c), s	0.6		1.9		1.0		0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			12.3									
HCM 2010 LOS			B									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	287	54	21	262	11	32	124	56	13	94	23
Future Volume (veh/h)	16	287	54	21	262	11	32	124	56	13	94	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.98		0.96	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900	1900	1176	1900	1900	2451	1900	1900	1569	1900
Adj Flow Rate, veh/h	16	287	54	21	262	11	32	124	56	13	94	23
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	890	162	72	483	19	134	532	218	82	425	97
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	45	1946	355	38	1057	43	202	1433	587	69	1143	261
Grp Volume(v), veh/h	357	0	0	294	0	0	212	0	0	130	0	0
Grp Sat Flow(s),veh/h/ln	2346	0	0	1137	0	0	2222	0	0	1473	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	0.0	12.8	0.0	0.0	4.4	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.15	0.07		0.04	0.15		0.26	0.10		0.18
Lane Grp Cap(c), veh/h	1126	0	0	575	0	0	884	0	0	604	0	0
V/C Ratio(X)	0.32	0.00	0.00	0.51	0.00	0.00	0.24	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1126	0	0	575	0	0	884	0	0	604	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	0.0	0.0	13.8	0.0	0.0	15.2	0.0	0.0	15.1	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	3.2	0.0	0.0	0.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	4.6	0.0	0.0	3.0	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	12.9	0.0	0.0	17.0	0.0	0.0	15.9	0.0	0.0	15.9	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	357				294				212		130	
Approach Delay, s/veh	12.9				17.0				15.9		15.9	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	6.4		8.7		6.1		14.8					
Green Ext Time (p_c), s	1.2		2.3		0.6		1.6					
Intersection Summary												
HCM 2010 Ctrl Delay			15.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.91	0.93		0.87	0.95		0.91	0.94		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	85	26	7	155	51	13	99	15	12	173	66
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	268	73	60	513	164	96	617	88	67	523	191
Arrive On Green	0.67	0.67	0.67	0.80	0.80	0.80	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	549	670	183	18	1282	409	91	1439	205	31	1220	446
Grp Volume(v), veh/h	199	0	0	213	0	0	127	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1402	0	0	1710	0	0	1736	0	0	1698	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.44		0.13	0.03		0.24	0.10		0.12	0.05		0.26
Lane Grp Cap(c), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	0.0	4.4	0.0	0.0	12.3	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	0.0	0.0	1.6	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.4	0.0	0.0	12.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	199				213				127		251	
Approach Delay, s/veh	8.8				5.4				12.7		14.5	
Approach LOS	A				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	5.0		5.4		8.9		4.3					
Green Ext Time (p_c), s	0.7		1.3		1.5		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	10.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave/Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	0.94		0.91	0.95		0.91	0.94		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	104	19	12	255	43	3	48	8	8	151	35
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	514	83	104	604	99	104	448	72	103	423	95
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	177	1276	206	28	1500	246	33	1498	240	32	1414	318
Grp Volume(v), veh/h	153	0	0	310	0	0	59	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1660	0	0	1774	0	0	1772	0	0	1764	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.0	0.0	0.0	1.0	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.20		0.12	0.04		0.14	0.05		0.14	0.04		0.18
Lane Grp Cap(c), veh/h	775	0	0	807	0	0	624	0	0	621	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.00	0.00	0.09	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1233	0	0	1321	0	0	1184	0	0	1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.7	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	10.3	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h		153			310			59			194	
Approach Delay, s/veh		8.0			9.0			10.3			11.4	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.0		22.2		18.0		22.2				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		23.5		26.5		23.5		26.5				
Max Q Clear Time (g_c+I1), s		3.0		4.2		5.5		7.0				
Green Ext Time (p_c), s		0.2		0.8		1.0		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				9.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	270	10	78	267	115	8	381	101	149	462	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	908	753	527	908	744	56	1500	664	294	906	77
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	989	1863	1546	1090	1863	1526	22	3428	1517	516	2071	176
Grp Volume(v), veh/h	29	270	10	78	267	115	208	181	101	292	0	357
Grp Sat Flow(s),veh/h/ln	989	1863	1546	1090	1863	1526	1839	1610	1517	1112	0	1651
Q Serve(g_s), s	1.4	7.0	0.3	3.7	6.9	3.3	0.0	5.7	3.2	12.3	0.0	12.4
Cycle Q Clear(g_c), s	8.3	7.0	0.3	10.6	6.9	3.3	5.7	5.7	3.2	18.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.11
Lane Grp Cap(c), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
V/C Ratio(X)	0.06	0.30	0.01	0.15	0.29	0.15	0.24	0.26	0.15	0.53	0.00	0.49
Avail Cap(c_a), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	12.3	10.6	15.5	12.3	11.4	14.2	14.3	13.6	18.3	0.0	16.2
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.6	0.8	0.4	0.7	0.9	0.5	3.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	0.1	1.2	3.7	1.5	3.0	2.7	1.4	5.6	0.0	6.1
LnGrp Delay(d),s/veh	15.0	13.1	10.6	16.1	13.1	11.8	14.9	15.1	14.0	21.8	0.0	18.6
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		309			460			490			649	
Approach Delay, s/veh		13.2			13.3			14.8			20.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		7.7		10.3		20.0		12.6				
Green Ext Time (p_c), s		2.7		1.8		3.8		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.98		0.98	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	342	56	93	260	52	31	526	58	86	463	29
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1123	177	231	476	86	145	1228	133	245	1085	67
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	226	2665	420	254	1129	204	84	2992	323	279	2644	164
Grp Volume(v), veh/h	238	0	214	405	0	0	322	0	293	286	0	292
Grp Sat Flow(s),veh/h/ln	1703	0	1608	1587	0	0	1768	0	1631	1432	0	1655
Q Serve(g_s), s	0.0	0.0	3.2	2.5	0.0	0.0	0.0	0.0	4.6	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.0	0.0	3.2	6.5	0.0	0.0	4.4	0.0	4.6	4.8	0.0	4.5
Prop In Lane	0.23		0.26	0.23		0.13	0.10		0.20	0.30		0.10
Lane Grp Cap(c), veh/h	842	0	678	793	0	0	836	0	670	719	0	679
V/C Ratio(X)	0.28	0.00	0.32	0.51	0.00	0.00	0.39	0.00	0.44	0.40	0.00	0.43
Avail Cap(c_a), veh/h	1548	0	1395	1464	0	0	3347	0	3104	2732	0	3149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	6.9	7.7	0.0	0.0	7.5	0.0	7.6	7.3	0.0	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.4	3.0	0.0	0.0	2.3	0.0	2.1	2.0	0.0	2.1
LnGrp Delay(d),s/veh	7.0	0.0	7.2	8.3	0.0	0.0	7.8	0.0	8.0	7.7	0.0	8.0
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	452				405				615		578	
Approach Delay, s/veh	7.1				8.3				7.9		7.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.7		18.1		17.7		18.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		29.5		66.5		29.5					
Max Q Clear Time (g_c+I1), s	6.6		5.2		6.8		8.5					
Green Ext Time (p_c), s	4.5		2.9		4.5		2.8					
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.98		0.93	0.99		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	207	34	9	145	75	13	177	22	29	251	132
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	631	104	63	456	227	73	654	78	596	474	249
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.84	0.84	0.84	0.42	0.42	0.42
Sat Flow, veh/h	1106	1549	255	24	1120	557	43	1552	185	1137	1125	592
Grp Volume(v), veh/h	265	0	241	229	0	0	212	0	0	29	0	383
Grp Sat Flow(s),veh/h/ln	1106	0	1804	1701	0	0	1780	0	0	1137	0	1716
Q Serve(g_s), s	7.3	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Cycle Q Clear(g_c), s	13.7	0.0	6.4	6.4	0.0	0.0	1.7	0.0	0.0	0.7	0.0	11.6
Prop In Lane	1.00		0.14	0.04		0.33	0.06		0.10	1.00		0.34
Lane Grp Cap(c), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
V/C Ratio(X)	0.49	0.00	0.33	0.31	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.53
Avail Cap(c_a), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	14.2	14.2	0.0	0.0	3.3	0.0	0.0	11.9	0.0	15.1
Incr Delay (d2), s/veh	3.1	0.0	1.2	1.1	0.0	0.0	0.8	0.0	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.4	3.2	0.0	0.0	0.9	0.0	0.0	0.4	0.0	6.0
LnGrp Delay(d),s/veh	19.6	0.0	15.4	15.3	0.0	0.0	4.1	0.0	0.0	12.1	0.0	17.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	506				229				212		412	
Approach Delay, s/veh	17.6				15.3				4.1		17.4	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.5		34.5		35.5		34.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.0		27.0		28.0		27.0					
Max Q Clear Time (g_c+I1), s	3.7		15.7		13.6		8.4					
Green Ext Time (p_c), s	1.2		2.1		2.2		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay			15.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	0.97		0.96	0.97		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	137	37	27	228	47	6	116	17	16	223	41
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	488	121	93	638	124	63	576	81	581	559	103
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	273	1068	265	80	1397	272	24	1550	219	1215	1505	277
Grp Volume(v), veh/h	224	0	0	302	0	0	139	0	0	16	0	264
Grp Sat Flow(s),veh/h/ln	1607	0	0	1749	0	0	1794	0	0	1215	0	1782
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	7.7	0.0	0.0	3.7	0.0	0.0	0.4	0.0	7.7
Prop In Lane	0.22		0.17	0.09		0.16	0.04		0.12	1.00		0.16
Lane Grp Cap(c), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.40
Avail Cap(c_a), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.4	0.0	0.0	15.0	0.0	0.0	14.0	0.0	16.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	4.1
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.5	0.0	0.0	15.6	0.0	0.0	14.0	0.0	18.0
LnGrp LOS	B			B			B			B		B
Approach Vol, veh/h	224				302				139		280	
Approach Delay, s/veh	12.7				13.5				15.6		17.8	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	5.7		7.4		9.7		9.7					
Green Ext Time (p_c), s	0.7		1.4		1.4		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

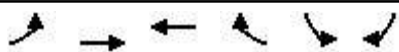
06/12/2020

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.97		0.95	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	258	38	14	138	17	8	99	13	75	132	52
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	950	137	115	1025	124	75	751	95	252	429	157
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	289	2621	378	174	2828	341	55	1541	194	398	880	321
Grp Volume(v), veh/h	176	0	160	89	0	80	120	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1696	0	1591	1729	0	1614	1790	0	0	1600	0	0
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	5.7	2.5	0.0	2.7	2.9	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.23		0.24	0.16		0.21	0.07		0.11	0.29		0.20
Lane Grp Cap(c), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.13	0.00	0.14	0.13	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	18.1	17.1	0.0	17.1	11.2	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.4	0.0	0.5	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.7	1.4	0.0	1.3	1.5	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	18.9	0.0	19.3	17.5	0.0	17.6	11.5	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B		B	B		B	B			B		
Approach Vol, veh/h	336				169		120				259	
Approach Delay, s/veh	19.1				17.5		11.5				13.3	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	37.5		27.5		37.5		27.5					
Max Q Clear Time (g_c+I1), s	4.9		7.7		9.3		4.7					
Green Ext Time (p_c), s	0.7		2.0		1.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	93	316	259	79	102	82		
Future Volume (veh/h)	93	316	259	79	102	82		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.99			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1863	2451	1900	1863	2451		
Adj Flow Rate, veh/h	93	316	259	79	102	25		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	345	946	912	278	535	628		
Arrive On Green	0.51	0.51	0.51	0.51	0.30	0.30		
Sat Flow, veh/h	543	1863	1795	548	1774	2083		
Grp Volume(v), veh/h	93	316	0	338	102	25		
Grp Sat Flow(s),veh/h/ln	543	1863	0	2343	1774	2083		
Q Serve(g_s), s	7.5	6.3	0.0	5.2	2.7	0.5		
Cycle Q Clear(g_c), s	12.7	6.3	0.0	5.2	2.7	0.5		
Prop In Lane	1.00			0.23	1.00	1.00		
Lane Grp Cap(c), veh/h	345	946	0	1190	535	628		
V/C Ratio(X)	0.27	0.33	0.00	0.28	0.19	0.04		
Avail Cap(c_a), veh/h	345	946	0	1190	535	628		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.6	9.2	0.0	8.9	16.3	15.6		
Incr Delay (d2), s/veh	1.9	1.0	0.0	0.6	0.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	3.5	0.0	3.6	1.4	0.3		
LnGrp Delay(d),s/veh	14.5	10.1	0.0	9.5	17.1	15.7		
LnGrp LOS	B	B		A	B	B		
Approach Vol, veh/h		409	338		127			
Approach Delay, s/veh		11.1	9.5		16.8			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				38.0		25.0		38.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				30.5		17.5		30.5
Max Q Clear Time (g_c+I1), s				14.7		4.7		7.2
Green Ext Time (p_c), s				2.7		0.2		2.2
Intersection Summary								
HCM 2010 Ctrl Delay		11.3						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.98		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	116	70	171	77	79	79	1085	178	121	1098	7
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	269	149	389	219	225	138	1520	249	192	1922	12
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.53	0.53
Sat Flow, veh/h	96	1021	567	1174	832	854	1774	3024	494	1774	3604	23
Grp Volume(v), veh/h	208	0	0	171	0	156	79	634	629	121	539	566
Grp Sat Flow(s), veh/h/ln	1684	0	0	1174	0	1686	1774	1770	1749	1774	1770	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	10.5	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Prop In Lane	0.11		0.34	1.00		0.51	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	499	0	0	389	0	444	138	890	879	192	943	990
V/C Ratio(X)	0.42	0.00	0.00	0.44	0.00	0.35	0.57	0.71	0.72	0.63	0.57	0.57
Avail Cap(c_a), veh/h	1147	0	0	851	0	1108	330	1855	1833	471	1996	2096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.5	0.0	21.4	31.8	13.8	13.8	30.5	11.2	11.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	0.5	3.7	1.1	1.1	3.4	0.5	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%), veh/ln	3.5	0.0	0.0	3.1	0.0	2.6	1.7	9.8	9.9	2.5	7.2	7.5
LnGrp Delay(d), s/veh	22.6	0.0	0.0	24.3	0.0	21.9	35.5	14.8	14.9	33.9	11.8	11.7
LnGrp LOS	C			C		C	D	B	B	C	B	B
Approach Vol, veh/h	208			327			1342			1226		
Approach Delay, s/veh	22.6			23.1			16.1			13.9		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.7	39.0		21.8	8.6	41.1		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+10), s	10.5	22.0		9.2	5.1	16.6		12.5				
Green Ext Time (p_c), s	0.2	12.5		1.4	0.1	9.8		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	77	81	54	112	86	50	26	1263	108	34	1197	37
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	213	115	272	185	89	91	1879	159	101	1947	60
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	449	762	414	598	664	319	27	3132	265	41	3246	99
Grp Volume(v), veh/h	212	0	0	248	0	0	728	0	669	643	0	625
Grp Sat Flow(s),veh/h/ln	1624	0	0	1581	0	0	1779	0	1645	1710	0	1676
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	13.6	0.0	0.0	11.8
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.9	0.0	0.0	12.7	0.0	13.6	10.5	0.0	11.8
Prop In Lane	0.36		0.25	0.45		0.20	0.04		0.16	0.05		0.06
Lane Grp Cap(c), veh/h	552	0	0	546	0	0	1142	0	987	1102	0	1005
V/C Ratio(X)	0.38	0.00	0.00	0.45	0.00	0.00	0.64	0.00	0.68	0.58	0.00	0.62
Avail Cap(c_a), veh/h	907	0	0	892	0	0	1779	0	1612	1695	0	1643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.9	0.0	0.0	6.5	0.0	6.7	6.1	0.0	6.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.9	0.0	0.0	6.7	0.0	6.2	5.3	0.0	5.6
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.5	0.0	0.0	7.1	0.0	7.5	6.5	0.0	6.9
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	212				248		1397				1268	
Approach Delay, s/veh	15.1				15.5		7.3				6.7	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.7		16.8		32.7		16.8					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	15.6		6.8		13.8		7.9					
Green Ext Time (p_c), s	12.6		1.2		11.3		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	273	37	73	1105	1334	192		
Future Volume (veh/h)	273	37	73	1105	1334	192		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	273	37	73	1105	1334	192		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	364	49	134	2394	1732	247		
Arrive On Green	0.24	0.24	0.08	0.68	0.56	0.56		
Sat Flow, veh/h	1530	207	1774	3632	3198	443		
Grp Volume(v), veh/h	311	0	73	1105	755	771		
Grp Sat Flow(s),veh/h/ln	1742	0	1774	1770	1770	1778		
Q Serve(g_s), s	11.6	0.0	2.8	10.3	23.1	23.7		
Cycle Q Clear(g_c), s	11.6	0.0	2.8	10.3	23.1	23.7		
Prop In Lane	0.88	0.12	1.00			0.25		
Lane Grp Cap(c), veh/h	414	0	134	2394	987	992		
V/C Ratio(X)	0.75	0.00	0.54	0.46	0.77	0.78		
Avail Cap(c_a), veh/h	572	0	203	3084	1264	1270		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.7	0.0	31.2	5.3	11.9	12.1		
Incr Delay (d2), s/veh	3.6	0.0	3.4	0.1	2.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.5	5.0	11.7	12.0		
LnGrp Delay(d),s/veh	28.3	0.0	34.6	5.5	14.1	14.4		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	311			1178	1526			
Approach Delay, s/veh	28.3			7.3	14.3			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.4		19.7	8.3	42.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	6.5	48.5		
Max Q Clear Time (g_c+I1), s		12.3		13.6	4.8	25.7		
Green Ext Time (p_c), s		10.2		0.6	0.0	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	184	91	1307	436	81	1225		
Future Volume (veh/h)	184	91	1307	436	81	1225		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	184	20	1307	234	81	1225		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	303	270	1921	829	177	2495		
Arrive On Green	0.17	0.17	0.54	0.54	0.10	0.70		
Sat Flow, veh/h	1774	1583	3632	1528	1774	3632		
Grp Volume(v), veh/h	184	20	1307	234	81	1225		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1528	1774	1770		
Q Serve(g_s), s	4.6	0.5	12.9	4.0	2.1	7.5		
Cycle Q Clear(g_c), s	4.6	0.5	12.9	4.0	2.1	7.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	303	270	1921	829	177	2495		
V/C Ratio(X)	0.61	0.07	0.68	0.28	0.46	0.49		
Avail Cap(c_a), veh/h	1123	1002	2497	1078	239	3195		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.5	16.8	8.0	5.9	20.5	3.2		
Incr Delay (d2), s/veh	2.0	0.1	0.5	0.2	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.3	1.7	1.1	3.6		
LnGrp Delay(d),s/veh	20.5	16.9	8.5	6.1	22.3	3.4		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	204		1541			1306		
Approach Delay, s/veh	20.1		8.1			4.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.8	29.2				37.0		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+14), s	14.9	14.9				9.5		6.6
Green Ext Time (p_c), s	0.0	9.8				11.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	138	144	97	139	41	63	1327	66	24	1394	84
Future Volume (veh/h)	173	138	144	97	139	41	63	1327	66	24	1394	84
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.94	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	2451	1863	980	1863	1863	980	2451	1900	1765	2451	1900
Adj Flow Rate, veh/h	173	138	35	97	139	10	63	1327	66	24	1394	84
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	357	717	439	230	545	437	81	3723	185	68	3382	204
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.09	0.57	0.57	0.04	0.53	0.53
Sat Flow, veh/h	1194	2451	1501	618	1863	1494	934	6508	324	1681	6428	387
Grp Volume(v), veh/h	173	138	35	97	139	10	63	910	483	24	967	511
Grp Sat Flow(s), veh/h/ln	1194	2451	1501	618	1863	1494	934	2230	2371	1681	2230	2355
Q Serve(g_s), s	12.3	4.0	1.6	13.3	5.4	0.5	6.3	10.4	10.4	1.3	12.5	12.5
Cycle Q Clear(g_c), s	17.7	4.0	1.6	17.3	5.4	0.5	6.3	10.4	10.4	1.3	12.5	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	357	717	439	230	545	437	81	2552	1356	68	2347	1239
V/C Ratio(X)	0.48	0.19	0.08	0.42	0.25	0.02	0.78	0.36	0.36	0.35	0.41	0.41
Avail Cap(c_a), veh/h	460	929	569	284	706	566	118	2552	1356	212	2347	1239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.91	0.91	0.91	0.85	0.85	0.85
Uniform Delay (d), s/veh	32.5	25.2	24.3	31.7	25.7	23.9	42.5	10.9	10.9	44.4	13.6	13.6
Incr Delay (d2), s/veh	1.0	0.1	0.1	1.1	0.2	0.0	16.6	0.4	0.7	2.6	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.7	0.7	2.3	2.8	0.2	2.0	6.4	7.0	0.7	7.8	8.4
LnGrp Delay(d),s/veh	33.5	25.3	24.4	32.8	25.9	23.9	59.1	11.3	11.6	47.0	14.1	14.5
LnGrp LOS	C	C	C	C	C	C	E	B	B	D	B	B
Approach Vol, veh/h		346			246			1456			1502	
Approach Delay, s/veh		29.3			28.5			13.5			14.7	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.8	57.4		30.8	11.2	53.0		30.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	36.5		34.5	10.5	36.5		34.5				
Max Q Clear Time (g_c+13), s	13.3	12.4		19.7	8.3	14.5		19.3				
Green Ext Time (p_c), s	0.0	10.5		1.4	0.0	10.8		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			16.6									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	112	16	85	57	55	45	1547	92	119	1362	34
Future Volume (veh/h)	63	112	16	85	57	55	45	1547	92	119	1362	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	1863	1900	980	2451	1900	2157	2451	1900
Adj Flow Rate, veh/h	63	112	4	85	57	55	45	1547	92	119	1362	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	169	451	203	257	248	76	3527	210	189	3744	93
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.51	0.51	0.09	0.52	0.52
Sat Flow, veh/h	249	557	1486	1231	847	817	934	6852	407	2054	7136	178
Grp Volume(v), veh/h	175	0	4	85	0	112	45	1106	533	119	936	460
Grp Sat Flow(s),veh/h/ln	806	0	1486	1231	0	1665	934	2451	2358	2054	2451	2412
Q Serve(g_s), s	14.7	0.0	0.2	6.6	0.0	5.0	4.6	14.1	14.2	5.6	11.2	11.2
Cycle Q Clear(g_c), s	19.7	0.0	0.2	26.3	0.0	5.0	4.6	14.1	14.2	5.6	11.2	11.2
Prop In Lane	0.36		1.00	1.00		0.49	1.00		0.17	1.00		0.07
Lane Grp Cap(c), veh/h	294	0	451	203	0	505	76	2523	1214	189	2572	1266
V/C Ratio(X)	0.60	0.00	0.01	0.42	0.00	0.22	0.59	0.44	0.44	0.63	0.36	0.36
Avail Cap(c_a), veh/h	296	0	455	206	0	509	116	2523	1214	271	2572	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	0.73	0.73	0.73	0.92	0.92	0.92
Uniform Delay (d), s/veh	31.2	0.0	24.3	42.9	0.0	26.0	44.3	15.2	15.2	43.8	14.0	14.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	1.4	0.0	0.2	5.2	0.4	0.8	3.2	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.1	2.3	0.0	2.3	1.3	9.7	9.5	3.3	7.7	7.7
LnGrp Delay(d),s/veh	34.4	0.0	24.3	44.2	0.0	26.2	49.5	15.6	16.1	47.0	14.3	14.7
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	179				197				1684		1515	
Approach Delay, s/veh	34.2				34.0				16.7		17.0	
Approach LOS	C				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	2.2	54.5			33.4	11.2	55.5	33.4				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	1.3	45.7			29.1	10.9	46.5	29.1				
Max Q Clear Time (g_c+I1), s	16.2	16.2			21.7	6.6	13.2	28.3				
Green Ext Time (p_c), s	0.1	14.2			0.5	0.0	11.9	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			18.6									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	187	74	59	1697	1479	154		
Future Volume (veh/h)	187	74	59	1697	1479	154		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	187	74	59	1697	1479	154		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	301	119	124	2870	3009	313		
Arrive On Green	0.25	0.25	0.64	0.64	0.64	0.64		
Sat Flow, veh/h	1217	482	80	4613	4844	487		
Grp Volume(v), veh/h	262	0	569	1187	1072	561		
Grp Sat Flow(s),veh/h/ln	1705	0	1456	1543	1695	1772		
Q Serve(g_s), s	7.5	0.0	0.0	12.2	9.0	9.0		
Cycle Q Clear(g_c), s	7.5	0.0	8.6	12.2	9.0	9.0		
Prop In Lane	0.71	0.28	0.10			0.27		
Lane Grp Cap(c), veh/h	421	0	1009	1985	2182	1141		
V/C Ratio(X)	0.62	0.00	0.56	0.60	0.49	0.49		
Avail Cap(c_a), veh/h	933	0	1426	3039	3340	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	0.0	5.0	5.7	5.1	5.1		
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.4	5.2	4.2	4.5		
LnGrp Delay(d),s/veh	19.9	0.0	5.5	6.0	5.3	5.4		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	262			1756	1633			
Approach Delay, s/veh	19.9			5.8	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		38.3		16.5		38.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		52.5		28.5		52.5		
Max Q Clear Time (g_c+I1), s		14.2		9.5		11.0		
Green Ext Time (p_c), s		19.6		0.8		16.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Future Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	45	86	79	236	84	23	270	1673	194	49	1471	39				
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	439	613	501	434	459	126	337	2349	271	102	1917	51				
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.51	0.51	0.06	0.38	0.38				
Sat Flow, veh/h	1243	1863	1521	1180	1396	382	1774	4616	534	1774	5092	135				
Grp Volume(v), veh/h	45	86	79	236	0	107	270	1227	640	49	979	531				
Grp Sat Flow(s),veh/h/ln	1243	1863	1521	1180	0	1778	1774	1695	1760	1774	1695	1837				
Q Serve(g_s), s	2.3	2.8	3.2	15.1	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Cycle Q Clear(g_c), s	6.0	2.8	3.2	17.9	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.30	1.00		0.07				
Lane Grp Cap(c), veh/h	439	613	501	434	0	585	337	1725	895	102	1276	691				
V/C Ratio(X)	0.10	0.14	0.16	0.54	0.00	0.18	0.80	0.71	0.71	0.48	0.77	0.77				
Avail Cap(c_a), veh/h	514	725	592	505	0	692	433	1990	1033	144	1438	779				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	22.7	20.3	20.4	26.6	0.0	20.6	33.3	16.3	16.3	39.3	23.5	23.5				
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.0	0.1	8.1	1.0	2.0	3.5	2.3	4.1				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.4	5.0	0.0	1.8	6.9	11.3	12.0	1.2	10.6	11.8				
LnGrp Delay(d),s/veh	22.8	20.4	20.6	27.7	0.0	20.8	41.4	17.3	18.3	42.8	25.8	27.7				
LnGrp LOS	C	C	C	C		C	D	B	B	D	C	C				
Approach Vol, veh/h	210			343			2137			1559						
Approach Delay, s/veh	21.0			25.5			20.6			27.0						
Approach LOS	C			C			C			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	8.0	46.8			31.3	19.3	35.4	31.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	5.5	49.0			32.0	19.5	35.0	32.0								
Max Q Clear Time (g_c+14), s	14.3	26.1			8.0	14.5	23.8	19.9								
Green Ext Time (p_c), s	0.0	14.4			0.8	0.4	7.1	1.2								
Intersection Summary																
HCM 2010 Ctrl Delay	23.4															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	245	179	102	82	87	17	102	1180	38	119	1144	206
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	255	145	149	158	257	158	1733	56	228	1653	297
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17	0.09	0.34	0.34	0.13	0.38	0.38
Sat Flow, veh/h	1774	1100	627	882	936	1521	1774	5053	163	1774	4320	778
Grp Volume(v), veh/h	245	0	281	169	0	17	102	792	426	119	898	452
Grp Sat Flow(s),veh/h/ln	1774	0	1727	1819	0	1521	1774	1695	1825	1774	1695	1707
Q Serve(g_s), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Cycle Q Clear(g_c), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Prop In Lane	1.00		0.36	0.49		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	410	0	400	308	0	257	158	1163	626	228	1297	653
V/C Ratio(X)	0.60	0.00	0.70	0.55	0.00	0.07	0.65	0.68	0.68	0.52	0.69	0.69
Avail Cap(c_a), veh/h	719	0	700	679	0	568	341	2025	1090	360	2061	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	35.7	0.0	32.7	41.3	26.4	26.4	38.2	24.3	24.3
Incr Delay (d2), s/veh	1.4	0.0	2.3	1.5	0.0	0.1	4.4	0.7	1.3	1.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	6.9	4.1	0.0	0.4	2.7	8.9	9.7	3.0	9.8	10.0
LnGrp Delay(d),s/veh	33.5	0.0	35.3	37.2	0.0	32.8	45.7	27.1	27.7	40.0	25.0	25.6
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h	526				186		1320				1469	
Approach Delay, s/veh	34.5				36.8		28.7				26.4	
Approach LOS	C				D		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	35.2		24.7	11.3	38.9		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	54.5		36.5	16.5	55.5		33.5				
Max Q Clear Time (g_c+I1),s	20.8			16.0	7.2	22.9		10.0				
Green Ext Time (p_c), s	0.2	9.9		2.5	0.1	11.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			29.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	212	6	208	235	20	48	1059	324	160	996	46
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	289	237	391	410	329	386	1493	457	215	1450	67
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.22	0.39	0.39	0.12	0.29	0.29
Sat Flow, veh/h	1774	1863	1529	1774	1863	1495	1774	3842	1175	1774	4962	229
Grp Volume(v), veh/h	156	212	6	208	235	20	48	934	449	160	680	362
Grp Sat Flow(s),veh/h/ln	1774	1863	1529	1774	1863	1495	1774	1695	1627	1774	1695	1800
Q Serve(g_s), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Cycle Q Clear(g_c), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.13
Lane Grp Cap(c), veh/h	275	289	237	391	410	329	386	1317	632	215	991	526
V/C Ratio(X)	0.57	0.73	0.03	0.53	0.57	0.06	0.12	0.71	0.71	0.75	0.69	0.69
Avail Cap(c_a), veh/h	459	481	395	628	660	530	386	2174	1043	289	2174	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	42.1	37.4	36.0	36.3	32.2	32.9	27.0	27.0	44.4	32.7	32.8
Incr Delay (d2), s/veh	1.8	3.6	0.0	1.1	1.3	0.1	0.1	0.7	1.5	7.0	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	0.1	5.4	6.2	0.5	1.1	11.4	11.1	4.9	8.8	9.5
LnGrp Delay(d),s/veh	42.7	45.6	37.5	37.1	37.6	32.3	33.0	27.7	28.5	51.3	33.6	34.4
LnGrp LOS	D	D	D	D	D	C	C	C	C	D	C	C
Approach Vol, veh/h	374				463				1431		1202	
Approach Delay, s/veh	44.3				37.1				28.1		36.2	
Approach LOS	D				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	43.6		19.2	25.7	33.5		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	65.5		25.5	15.5	65.5		35.5				
Max Q Clear Time (g_c+I1), s	26.3			13.3	4.3	20.6		13.8				
Green Ext Time (p_c), s	0.2	12.8		1.4	0.1	8.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	33.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT		NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	145	0	24	1	0	3	123	1225	2	19	1306	104
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	0	329	132	36	273	204	2226	4	325	2365	188
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.12	0.42	0.42	0.18	0.49	0.49
Sat Flow, veh/h	1372	0	1386	232	151	1147	1774	5243	9	1774	4800	382
Grp Volume(v), veh/h	145	0	24	4	0	0	123	792	435	19	922	488
Grp Sat Flow(s),veh/h/ln	1372	0	1386	1529	0	0	1774	1695	1861	1774	1695	1792
Q Serve(g_s), s	5.1	0.0	0.8	0.0	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	0.1	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	450	0	329	441	0	0	204	1440	790	325	1671	883
V/C Ratio(X)	0.32	0.00	0.07	0.01	0.00	0.00	0.60	0.55	0.55	0.06	0.55	0.55
Avail Cap(c_a), veh/h	876	0	761	902	0	0	518	5353	2939	518	5353	2829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	17.2	17.0	0.0	0.0	24.5	12.6	12.6	19.6	10.3	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	2.8	0.3	0.6	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.3	0.0	0.0	0.0	2.0	4.8	5.3	0.3	5.2	5.5
LnGrp Delay(d),s/veh	19.3	0.0	17.3	17.0	0.0	0.0	27.4	12.9	13.2	19.7	10.6	10.8
LnGrp LOS	B		B	B			C	B	B	B	B	B
Approach Vol, veh/h	169			4			1350			1429		
Approach Delay, s/veh	19.0			17.0			14.3			10.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.7	27.7		16.8	9.7	31.7		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	90.5		30.5	15.5	90.5		30.5				
Max Q Clear Time (g_c+I), s	12.5	12.2		7.2	5.8	13.0		2.1				
Green Ext Time (p_c), s	0.0	11.0		1.0	0.2	14.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	152	55	6	1073	1177	56		
Future Volume (veh/h)	152	55	6	1073	1177	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	104	107	6	1073	1177	56		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	289	264	88	2374	2677	127		
Arrive On Green	0.16	0.16	0.05	0.67	0.54	0.54		
Sat Flow, veh/h	1774	1615	1774	3632	5140	236		
Grp Volume(v), veh/h	104	107	6	1073	802	431		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1819		
Q Serve(g_s), s	1.9	2.1	0.1	5.2	5.2	5.2		
Cycle Q Clear(g_c), s	1.9	2.1	0.1	5.2	5.2	5.2		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	289	264	88	2374	1825	979		
V/C Ratio(X)	0.36	0.41	0.07	0.45	0.44	0.44		
Avail Cap(c_a), veh/h	1521	1385	343	5188	4032	2163		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	13.6	16.4	2.8	5.0	5.0		
Incr Delay (d2), s/veh	0.8	1.0	0.3	0.1	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.1	2.4	2.4	2.6		
LnGrp Delay(d),s/veh	14.2	14.6	16.7	2.9	5.2	5.4		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	211			1079	1233			
Approach Delay, s/veh	14.4			3.0	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.3		8.9	4.8	22.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+l1), s		7.2		4.1	2.1	7.2		
Green Ext Time (p_c), s		10.3		0.6	0.0	10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	167	7	100	115	31	13	846	47	232	982	42
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	271	227	247	260	218	67	1277	568	318	2512	107
Arrive On Green	0.15	0.15	0.15	0.14	0.14	0.14	0.04	0.36	0.36	0.18	0.50	0.50
Sat Flow, veh/h	1774	1863	1557	1774	1863	1563	1774	3539	1575	1774	5000	214
Grp Volume(v), veh/h	54	167	7	100	115	31	13	846	47	232	665	359
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1563	1774	1770	1575	1774	1695	1823
Q Serve(g_s), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Cycle Q Clear(g_c), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	258	271	227	247	260	218	67	1277	568	318	1703	916
V/C Ratio(X)	0.21	0.62	0.03	0.40	0.44	0.14	0.19	0.66	0.08	0.73	0.39	0.39
Avail Cap(c_a), veh/h	569	597	499	827	868	729	310	2372	1056	594	2815	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	27.5	25.2	26.9	27.1	25.9	32.0	18.4	14.5	26.6	10.6	10.6
Incr Delay (d2), s/veh	0.4	2.3	0.1	1.1	1.2	0.3	1.4	0.6	0.1	3.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.1	1.8	2.1	0.5	0.3	6.8	0.6	4.4	3.9	4.3
LnGrp Delay(d),s/veh	26.2	29.8	25.2	28.0	28.3	26.2	33.4	19.0	14.5	29.8	10.7	10.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	228				246		906				1256	
Approach Delay, s/veh	28.8				27.9		19.0				14.3	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	5.3	27.8			13.0	5.6	37.5	12.6				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	21.5	44.5			20.5	10.5	55.5	30.5				
Max Q Clear Time (g_c+10), s	110.5	15.8			7.8	2.5	10.4	5.9				
Green Ext Time (p_c), s	0.5	6.6			0.8	0.0	8.2	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.89	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	0	61	3	3	3	311	313	9	6	193	122
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	0	192	87	87	87	429	830	24	63	269	170
Arrive On Green	0.12	0.00	0.12	0.16	0.16	0.16	0.24	0.46	0.46	0.04	0.26	0.26
Sat Flow, veh/h	3548	0	1558	553	553	553	1774	1800	52	1774	1054	666
Grp Volume(v), veh/h	141	0	61	9	0	0	311	0	322	6	0	315
Grp Sat Flow(s),veh/h/ln	1774	0	1558	1660	0	0	1774	0	1851	1774	0	1720
Q Serve(g_s), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Prop In Lane	1.00		1.00	0.33		0.33	1.00		0.03	1.00		0.39
Lane Grp Cap(c), veh/h	438	0	192	262	0	0	429	0	854	63	0	440
V/C Ratio(X)	0.32	0.00	0.32	0.03	0.00	0.00	0.73	0.00	0.38	0.09	0.00	0.72
Avail Cap(c_a), veh/h	1441	0	633	981	0	0	1539	0	1948	393	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	21.7	19.3	0.0	0.0	18.9	0.0	9.5	25.3	0.0	18.4
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.1	0.0	0.0	2.4	0.0	0.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	0.0	4.5	0.0	3.2	0.1	0.0	4.6
LnGrp Delay(d),s/veh	22.1	0.0	22.6	19.4	0.0	0.0	21.2	0.0	9.8	25.9	0.0	20.6
LnGrp LOS	C		C	B			C		A	C		C
Approach Vol, veh/h	202			9			633			321		
Approach Delay, s/veh	22.2			19.4			15.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	28.0		9.7	16.1	16.8		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	55.5		20.5	45.5	20.5		30.5				
Max Q Clear Time (g_c+I12, s)	12.2	8.1		4.0	10.7	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.2		0.6	1.0	1.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

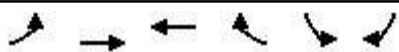
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	9	0	46	20	20	34	688	92	438	564	88
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	51	125	137	60	169	104	1013	135	534	1735	270
Arrive On Green	0.08	0.08	0.00	0.11	0.11	0.11	0.06	0.32	0.32	0.30	0.57	0.57
Sat Flow, veh/h	1155	650	1583	1255	545	1544	1774	3132	418	1774	3069	477
Grp Volume(v), veh/h	25	0	0	66	0	20	34	388	392	438	325	327
Grp Sat Flow(s),veh/h/ln	1805	0	1583	1800	0	1544	1774	1770	1780	1774	1770	1776
Q Serve(g_s), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Prop In Lane	0.64		1.00	0.70		1.00	1.00		0.23	1.00		0.27
Lane Grp Cap(c), veh/h	142	0	125	197	0	169	104	572	576	534	1001	1005
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.12	0.33	0.68	0.68	0.82	0.32	0.33
Avail Cap(c_a), veh/h	720	0	631	718	0	616	183	769	774	810	1395	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	26.3	0.0	25.7	28.9	18.8	18.8	20.7	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.0	0.0	0.3	1.8	1.5	1.5	4.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.1	0.0	0.3	0.6	6.2	6.2	7.8	3.0	3.1
LnGrp Delay(d),s/veh	28.1	0.0	0.0	27.3	0.0	26.0	30.7	20.2	20.3	24.8	7.6	7.6
LnGrp LOS	C			C		C	C	C	C	C	A	A
Approach Vol, veh/h	25				86		814				1090	
Approach Delay, s/veh	28.1				27.0		20.7				14.5	
Approach LOS	C				C		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	23.3	23.7			10.0	6.8	39.2	8.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.3	26.3			24.0	5.1	48.9	24.0				
Max Q Clear Time (g_c+11g), s	14.2	14.2			4.2	3.2	8.3	2.8				
Green Ext Time (p_c), s	1.1	3.9			0.3	0.0	4.6	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay		17.7										
HCM 2010 LOS		B										

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↰↱	↑↑	↰↱		↰	↰↱		
Traffic Volume (veh/h)	332	573	795	49	22	145		
Future Volume (veh/h)	332	573	795	49	22	145		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	332	573	795	49	22	19		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	738	2705	1553	96	148	233		
Arrive On Green	0.21	0.76	0.46	0.46	0.08	0.08		
Sat Flow, veh/h	3442	3632	3480	209	1774	2787		
Grp Volume(v), veh/h	332	573	415	429	22	19		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1826	1774	1393		
Q Serve(g_s), s	2.8	1.5	5.5	5.5	0.4	0.2		
Cycle Q Clear(g_c), s	2.8	1.5	5.5	5.5	0.4	0.2		
Prop In Lane	1.00			0.11	1.00	1.00		
Lane Grp Cap(c), veh/h	738	2705	811	837	148	233		
V/C Ratio(X)	0.45	0.21	0.51	0.51	0.15	0.08		
Avail Cap(c_a), veh/h	2513	7159	2126	2194	998	1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	1.1	6.3	6.3	14.0	13.9		
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.5	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.7	2.7	0.2	0.2		
LnGrp Delay(d),s/veh	11.7	1.1	6.8	6.8	14.4	14.0		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		905	844		41			
Approach Delay, s/veh		5.0	6.8		14.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.6		5.2	10.1	17.6
Change Period (Y+Rc), s				4.0		4.0	4.5	4.0
Max Green Setting (Gmax), s				65.0		17.0	22.5	38.0
Max Q Clear Time (g_c+I1), s				3.5		2.4	4.8	7.5
Green Ext Time (p_c), s				4.5		0.1	1.1	6.1
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	966	180	45	726	232	173		
Future Volume (veh/h)	966	180	45	726	232	173		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	966	180	45	726	232	46		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1530	285	142	2342	368	329		
Arrive On Green	0.52	0.52	0.08	0.66	0.21	0.21		
Sat Flow, veh/h	3058	552	1774	3632	1774	1583		
Grp Volume(v), veh/h	576	570	45	726	232	46		
Grp Sat Flow(s),veh/h/ln	1770	1748	1774	1770	1774	1583		
Q Serve(g_s), s	10.7	10.7	1.1	4.0	5.5	1.1		
Cycle Q Clear(g_c), s	10.7	10.7	1.1	4.0	5.5	1.1		
Prop In Lane		0.32	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	913	902	142	2342	368	329		
V/C Ratio(X)	0.63	0.63	0.32	0.31	0.63	0.14		
Avail Cap(c_a), veh/h	1698	1677	271	4168	1161	1036		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	8.0	19.9	3.3	16.6	14.8		
Incr Delay (d2), s/veh	0.7	0.7	1.3	0.1	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.6	1.9	2.8	0.5		
LnGrp Delay(d),s/veh	8.7	8.7	21.2	3.4	18.3	15.0		
LnGrp LOS	A	A	C	A	B	B		
Approach Vol, veh/h	1146			771	278			
Approach Delay, s/veh	8.7			4.4	17.8			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.5	6.7	26.7				33.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		28.5	5.5	42.5				52.5
Max Q Clear Time (g_c+I1), s		7.5	3.1	12.7				6.0
Green Ext Time (p_c), s		0.8	0.0	9.4				6.0
Intersection Summary								
HCM 2010 Ctrl Delay			8.3					
HCM 2010 LOS			A					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT			NBT			SBT	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-54020		0	0-55882		0	0-55882		0	0-55882		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	148300	627968		0	780529	66400		0	780529	66400		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	259526	12515840		1365926	8972544		1365926	8972544		1365926	8972544	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 14.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	273	81	26	306	15	78	79	25	11	56	44
Future Vol, veh/h	55	273	81	26	306	15	78	79	25	11	56	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	273	81	26	306	15	78	79	25	11	56	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.2	14.5	12	10.7
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	13%	7%	10%
Vol Thru, %	43%	67%	88%	50%
Vol Right, %	14%	20%	4%	40%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	409	347	111
LT Vol	78	55	26	11
Through Vol	79	273	306	56
RT Vol	25	81	15	44
Lane Flow Rate	182	409	347	111
Geometry Grp	1	1	1	1
Degree of Util (X)	0.312	0.603	0.527	0.189
Departure Headway (Hd)	6.166	5.305	5.468	6.129
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	579	679	656	581
Service Time	4.242	3.366	3.533	4.216
HCM Lane V/C Ratio	0.314	0.602	0.529	0.191
HCM Control Delay	12	16.2	14.5	10.7
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	1.3	4.1	3.1	0.7

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT						NBT			SBT	
Traffic Volume (veh/h)	16	917	10	0	0	0	0	65	101	202	152	0
Future Volume (veh/h)	16	917	10	0	0	0	0	65	101	202	152	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900				0	1569	1900	1900	1422	0
Adj Flow Rate, veh/h	16	917	10				0	65	101	202	152	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	22	1318	15				0	201	312	269	161	0
Arrive On Green	0.53	0.53	0.53				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	41	2471	28				0	548	851	476	438	0
Grp Volume(v), veh/h	495	0	448				0	0	166	354	0	0
Grp Sat Flow(s),veh/h/ln	1272	0	1268				0	0	1398	914	0	0
Q Serve(g_s), s	17.8	0.0	15.3				0.0	0.0	5.1	16.9	0.0	0.0
Cycle Q Clear(g_c), s	17.8	0.0	15.3				0.0	0.0	5.1	22.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.61	0.57		0.00
Lane Grp Cap(c), veh/h	679	0	676				0	0	513	429	0	0
V/C Ratio(X)	0.73	0.00	0.66				0.00	0.00	0.32	0.82	0.00	0.00
Avail Cap(c_a), veh/h	679	0	676				0	0	513	429	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.7	0.0	10.1				0.0	0.0	13.7	20.9	0.0	0.0
Incr Delay (d2), s/veh	6.8	0.0	5.1				0.0	0.0	0.4	12.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	0.0	6.2				0.0	0.0	2.0	7.3	0.0	0.0
LnGrp Delay(d),s/veh	17.4	0.0	15.2				0.0	0.0	14.0	33.3	0.0	0.0
LnGrp LOS	B		B						B	C		
Approach Vol, veh/h		943						166			354	
Approach Delay, s/veh		16.4						14.0			33.3	
Approach LOS		B						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		25.0		35.0		25.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		20.5		30.5		20.5						
Max Q Clear Time (g_c+I1), s		7.1		19.8		24.0						
Green Ext Time (p_c), s		0.8		4.5		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			20.2									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	269	8	110	269	66	7	113	180	80	83	27
Future Volume (veh/h)	25	269	8	110	269	66	7	113	180	80	83	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.98		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	269	8	110	269	66	7	113	180	80	83	27
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	172	661	19	770	568	139	693	244	388	530	517	168
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.39	0.39	0.39	0.39	0.39	0.39
Sat Flow, veh/h	78	1663	47	1086	1430	351	1252	631	1004	1070	1338	435
Grp Volume(v), veh/h	302	0	0	110	0	335	7	0	293	80	0	110
Grp Sat Flow(s),veh/h/ln	1788	0	0	1086	0	1780	1252	0	1635	1070	0	1773
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.9	0.1	0.0	3.7	1.7	0.0	1.1
Cycle Q Clear(g_c), s	3.3	0.0	0.0	1.1	0.0	3.9	1.2	0.0	3.7	5.4	0.0	1.1
Prop In Lane	0.08		0.03	1.00		0.20	1.00		0.61	1.00		0.25
Lane Grp Cap(c), veh/h	851	0	0	770	0	707	693	0	632	530	0	685
V/C Ratio(X)	0.35	0.00	0.00	0.14	0.00	0.47	0.01	0.00	0.46	0.15	0.00	0.16
Avail Cap(c_a), veh/h	2164	0	0	1590	0	2054	1428	0	1591	1158	0	1726
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.4	0.0	6.2	6.0	0.0	6.4	8.4	0.0	5.6
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.5	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	0.5	0.0	2.0	0.0	0.0	1.7	0.5	0.0	0.6
LnGrp Delay(d),s/veh	6.3	0.0	0.0	5.5	0.0	6.7	6.0	0.0	6.9	8.5	0.0	5.7
LnGrp LOS	A			A		A	A		A	A		A
Approach Vol, veh/h	302				445				300		190	
Approach Delay, s/veh	6.3				6.4				6.9		6.9	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	13.7		14.0		13.7		14.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		30.5		25.5		30.5					
Max Q Clear Time (g_c+I1), s	5.7		5.3		7.4		5.9					
Green Ext Time (p_c), s	1.9		2.0		0.9		2.7					
Intersection Summary												
HCM 2010 Ctrl Delay			6.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				400	0	670	0	1431	120	0	1702	442
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	817	0	3290	1022	0	2611	666
Arrive On Green				0.29	0.00	0.29	0.00	0.65	0.65	0.00	0.65	0.65
Sat Flow, veh/h				3442	0	2787	0	5253	1580	0	4204	1029
Grp Volume(v), veh/h				400	0	670	0	1431	120	0	1424	720
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1580	0	1695	1676
Q Serve(g_s), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Cycle Q Clear(g_c), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h				1009	0	817	0	3290	1022	0	2193	1084
V/C Ratio(X)				0.40	0.00	0.82	0.00	0.44	0.12	0.00	0.65	0.66
Avail Cap(c_a), veh/h				1239	0	1003	0	3290	1022	0	2193	1084
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.87	0.87	0.00	0.66	0.66
Uniform Delay (d), s/veh				28.3	0.0	32.9	0.0	8.7	6.7	0.0	10.8	10.9
Incr Delay (d2), s/veh				0.3	0.0	4.6	0.0	0.4	0.2	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.1	0.0	6.5	1.3	0.0	12.2	12.8
LnGrp Delay(d),s/veh				28.5	0.0	37.5	0.0	9.0	7.0	0.0	11.7	13.1
LnGrp LOS				C		D		A	A		B	B
Approach Vol, veh/h					1070			1551			2144	
Approach Delay, s/veh					34.1			8.9			12.2	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.7				67.7		32.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+l1), s		15.8				28.6		24.4				
Green Ext Time (p_c), s		14.8				19.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱					↑↑↑			↑↑↑	↱
Traffic Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	404	0	210				0	1227	411	0	1327	599
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	545	0	442				0	2966	992	0	4002	1241
Arrive On Green	0.16	0.00	0.16				0.00	0.79	0.79	0.00	0.79	0.79
Sat Flow, veh/h	3442	0	2787				0	3936	1260	0	5253	1577
Grp Volume(v), veh/h	404	0	210				0	1104	534	0	1327	599
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1638	0	1695	1577
Q Serve(g_s), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Cycle Q Clear(g_c), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Prop In Lane	1.00		1.00				0.00		0.77	0.00		1.00
Lane Grp Cap(c), veh/h	545	0	442				0	2668	1289	0	4002	1241
V/C Ratio(X)	0.74	0.00	0.48				0.00	0.41	0.41	0.00	0.33	0.48
Avail Cap(c_a), veh/h	751	0	608				0	2668	1289	0	4002	1241
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.71	0.71	0.00	0.70	0.70
Uniform Delay (d), s/veh	44.1	0.0	42.1				0.0	3.7	3.7	0.0	3.4	4.0
Incr Delay (d2), s/veh	2.5	0.0	0.8				0.0	0.3	0.7	0.0	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	3.0				0.0	5.3	5.3	0.0	3.9	22.4
LnGrp Delay(d),s/veh	46.7	0.0	42.9				0.0	4.0	4.4	0.0	3.5	5.0
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		614						1638			1926	
Approach Delay, s/veh		45.4						4.2			4.0	
Approach LOS		D						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		89.6		20.4		89.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		78.5		22.5		78.5						
Max Q Clear Time (g_c+I1), s		13.3		14.3		16.3						
Green Ext Time (p_c), s		18.9		1.6		19.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	420	65	13	400
Future Vol, veh/h	50	20	420	65	13	400
Conflicting Peds, #/hr	1	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	20	420	65	13	400

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	889	462	0
Stage 1	462	-	-
Stage 2	427	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	314	600	-
Stage 1	634	-	-
Stage 2	658	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	306	595	-
Mov Cap-2 Maneuver	306	-	-
Stage 1	628	-	-
Stage 2	647	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	595
HCM Lane V/C Ratio	-	-	0.163	0.034
HCM Control Delay (s)	-	-	19	11.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection												
Intersection Delay, s/veh	31.2											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Future Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	38	208	45	28	14	164	457	18	15	418	20
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16.9	14	35.3	36.9
HCM LOS	C	B	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	52%	100%	0%
Vol Thru, %	0%	96%	0%	15%	32%	0%	95%
Vol Right, %	0%	4%	0%	85%	16%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	475	14	246	87	15	438
LT Vol	164	0	14	0	45	15	0
Through Vol	0	457	0	38	28	0	418
RT Vol	0	18	0	208	14	0	20
Lane Flow Rate	164	475	14	246	87	15	438
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.332	0.891	0.033	0.499	0.209	0.031	0.849
Departure Headway (Hd)	7.292	6.753	8.428	7.304	8.634	7.527	6.982
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	537	424	492	414	475	517
Service Time	5.05	4.511	6.188	5.062	6.72	5.286	4.741
HCM Lane V/C Ratio	0.333	0.885	0.033	0.5	0.21	0.032	0.847
HCM Control Delay	13.7	42.7	11.5	17.2	14	10.5	37.8
HCM Lane LOS	B	E	B	C	B	B	E
HCM 95th-tile Q	1.4	10.2	0.1	2.7	0.8	0.1	8.8

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.90	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	1	12	75	0	34	4	519	37	9	692	1
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	27	131	167	8	58	590	1529	1259	692	1526	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	372	204	987	906	61	439	748	1863	1534	847	1859	3
Grp Volume(v), veh/h	19	0	0	109	0	0	4	519	37	9	0	693
Grp Sat Flow(s),veh/h/ln	1563	0	0	1407	0	0	748	1863	1534	847	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	9.0	0.6	0.3	0.0	13.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	9.3	0.0	0.0	14.0	9.0	0.6	9.3	0.0	13.8
Prop In Lane	0.32		0.63	0.69		0.31	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	0	0	234	0	0	590	1529	1259	692	0	1529
V/C Ratio(X)	0.08	0.00	0.00	0.47	0.00	0.00	0.01	0.34	0.03	0.01	0.00	0.45
Avail Cap(c_a), veh/h	362	0	0	348	0	0	590	1529	1259	692	0	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	52.8	0.0	0.0	5.3	2.9	2.1	4.0	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.8	0.0	0.0	0.0	4.7	0.2	0.1	0.0	7.3
LnGrp Delay(d),s/veh	49.6	0.0	0.0	54.2	0.0	0.0	5.3	3.4	2.2	4.1	0.0	4.3
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h		19			109			560			702	
Approach Delay, s/veh		49.6			54.2			3.3			4.3	
Approach LOS		D			D			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		109.7		20.3		109.7		20.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		94.5		26.5		94.5		26.5				
Max Q Clear Time (g_c+I1), s		16.0		3.4		15.8		11.3				
Green Ext Time (p_c), s		4.1		0.1		6.0		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	8.4											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	7	4	328	3	94	1	542	285	37	753	8
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	56	32	395	4	344	45	1130	592	95	1712	18
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	405	232	1759	16	1533	1	2158	1129	88	3267	34
Grp Volume(v), veh/h	30	0	0	331	0	94	468	0	360	402	0	396
Grp Sat Flow(s),veh/h/ln	1737	0	0	1775	0	1533	1862	0	1426	1702	0	1687
Q Serve(g_s), s	1.2	0.0	0.0	14.2	0.0	4.1	0.0	0.0	12.9	0.0	0.0	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	14.2	0.0	4.1	12.8	0.0	12.9	10.5	0.0	11.7
Prop In Lane	0.63		0.13	0.99		1.00	0.00		0.79	0.09		0.02
Lane Grp Cap(c), veh/h	242	0	0	398	0	344	1021	0	747	941	0	884
V/C Ratio(X)	0.12	0.00	0.00	0.83	0.00	0.27	0.46	0.00	0.48	0.43	0.00	0.45
Avail Cap(c_a), veh/h	532	0	0	413	0	356	1021	0	747	941	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.83	0.00	0.83	0.82	0.00	0.82
Uniform Delay (d), s/veh	30.2	0.0	0.0	29.6	0.0	25.6	12.1	0.0	12.1	11.6	0.0	11.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	13.1	0.0	0.4	1.2	0.0	1.8	1.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	8.4	0.0	1.8	6.9	0.0	5.4	5.7	0.0	5.7
LnGrp Delay(d),s/veh	30.4	0.0	0.0	42.7	0.0	26.1	13.3	0.0	14.0	12.7	0.0	13.2
LnGrp LOS	C			D		C	B		B	B		B
Approach Vol, veh/h	30			425			828			798		
Approach Delay, s/veh	30.4			39.0			13.6			13.0		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	44.9		14.1		44.9		21.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	26.4		23.0		26.4		17.1					
Max Q Clear Time (g_c+I1), s	14.9		3.2		13.7		16.2					
Green Ext Time (p_c), s	4.3		0.1		4.3		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											

Intersection

Intersection Delay, s/veh 13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Future Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	128	1	0	114	223	16	48	0	162	23	270
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	17.8	11.8	11.6	13.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	57%	0%	0%	88%	0%
Vol Thru, %	75%	43%	100%	0%	12%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	300	114	223	185	270
LT Vol	16	171	0	0	162	0
Through Vol	48	128	114	0	23	0
RT Vol	0	1	0	223	0	270
Lane Flow Rate	64	300	114	223	185	270
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.555	0.209	0.365	0.359	0.437
Departure Headway (Hd)	7.475	6.661	6.6	5.886	6.988	5.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	540	540	607	512	613
Service Time	5.475	4.735	4.377	3.664	4.763	3.605
HCM Lane V/C Ratio	0.133	0.556	0.211	0.367	0.361	0.44
HCM Control Delay	11.6	17.8	11.1	12.1	13.7	13.1
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.8	1.7	1.6	2.2

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	741	73	88	653	113	57	5	61	34	5	3
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	832	82	186	770	133	644	52	613	533	76	38
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	699	1663	164	668	1540	266	1323	130	1533	1061	189	96
Grp Volume(v), veh/h	18	0	814	88	0	766	62	0	61	42	0	0
Grp Sat Flow(s),veh/h/ln	699	0	1827	668	0	1806	1453	0	1533	1347	0	0
Q Serve(g_s), s	1.4	0.0	24.1	5.9	0.0	22.1	0.0	0.0	1.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	24.1	30.0	0.0	22.1	1.3	0.0	1.5	1.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.15	0.92		1.00	0.81		0.07
Lane Grp Cap(c), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.47	0.00	0.85	0.09	0.00	0.10	0.06	0.00	0.00
Avail Cap(c_a), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	13.5	27.8	0.0	13.0	11.2	0.0	11.2	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	10.9	1.6	0.0	6.7	0.3	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.8	1.5	0.0	12.5	0.7	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	24.5	29.4	0.0	19.8	11.4	0.0	11.6	11.5	0.0	0.0
LnGrp LOS	C		C	C		B	B		B	B		
Approach Vol, veh/h		832			854			123			42	
Approach Delay, s/veh		24.4			20.8			11.5			11.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		3.5		26.1		3.8		32.0				
Green Ext Time (p_c), s		0.4		1.3		0.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				21.6								
HCM 2010 LOS				C								

Intersection

Intersection Delay, s/veh 8.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Future Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	35	7	0	35	14	8	23	1	6	27	152
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	7.7	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	74%	0%	3%
Vol Thru, %	72%	22%	71%	15%
Vol Right, %	3%	4%	29%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	159	49	185
LT Vol	8	117	0	6
Through Vol	23	35	35	27
RT Vol	1	7	14	152
Lane Flow Rate	32	159	49	185
Geometry Grp	1	1	1	1
Degree of Util (X)	0.041	0.203	0.06	0.204
Departure Headway (Hd)	4.646	4.587	4.407	3.975
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	787	814	905
Service Time	2.668	2.587	2.428	1.992
HCM Lane V/C Ratio	0.041	0.202	0.06	0.204
HCM Control Delay	7.9	8.8	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	0.2	0.8

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	61	893	325	13	67	0	0	247	37
Future Volume (veh/h)	0	0	0	61	893	325	13	67	0	0	247	37
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1471	1863	1900	980	0	0	2255	1900
Adj Flow Rate, veh/h				61	893	189	13	67	0	0	247	37
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				94	1448	814	133	258	0	0	572	86
Arrive On Green				0.54	0.54	0.54	0.30	0.30	0.00	0.00	0.30	0.30
Sat Flow, veh/h				175	2684	1509	71	857	0	0	1904	285
Grp Volume(v), veh/h				510	444	189	80	0	0	0	0	284
Grp Sat Flow(s),veh/h/ln				1462	1397	1509	928	0	0	0	0	2189
Q Serve(g_s), s				9.3	8.0	2.5	0.0	0.0	0.0	0.0	0.0	3.9
Cycle Q Clear(g_c), s				9.3	8.0	2.5	2.3	0.0	0.0	0.0	0.0	3.9
Prop In Lane				0.12		1.00	0.16		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				789	754	814	391	0	0	0	0	658
V/C Ratio(X)				0.65	0.59	0.23	0.20	0.00	0.00	0.00	0.00	0.43
Avail Cap(c_a), veh/h				1404	1342	1449	898	0	0	0	0	1928
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				6.1	5.8	4.5	10.0	0.0	0.0	0.0	0.0	10.5
Incr Delay (d2), s/veh				0.9	0.7	0.1	0.3	0.0	0.0	0.0	0.0	0.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				3.9	3.1	1.0	0.7	0.0	0.0	0.0	0.0	2.4
LnGrp Delay(d),s/veh				7.0	6.6	4.7	10.2	0.0	0.0	0.0	0.0	11.0
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h				1143			80			284		
Approach Delay, s/veh				6.5			10.2			11.0		
Approach LOS				A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		14.3				14.3		23.2				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		31.5				31.5		34.5				
Max Q Clear Time (g_c+I1), s		4.3				5.9		11.3				
Green Ext Time (p_c), s		0.4				1.8		7.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

137: Curtiss St/Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	1058	62	21	912	16	81	9	85	27	7	6
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2249	131	83	2303	40	395	38	329	263	67	41
Arrive On Green	0.68	0.07	0.68	0.68	0.07	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	9	3297	192	30	3376	58	1290	175	1509	747	307	186
Grp Volume(v), veh/h	596	0	534	489	0	460	90	0	85	40	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	1654	1782	0	1682	1465	0	1509	1240	0	0
Q Serve(g_s), s	0.0	0.0	17.9	0.0	0.0	15.5	0.0	0.0	2.8	0.2	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	17.9	14.8	0.0	15.5	2.6	0.0	2.8	2.7	0.0	0.0
Prop In Lane	0.02		0.12	0.04		0.03	0.90		1.00	0.67		0.15
Lane Grp Cap(c), veh/h	1319	0	1128	1278	0	1147	433	0	329	371	0	0
V/C Ratio(X)	0.45	0.00	0.47	0.38	0.00	0.40	0.21	0.00	0.26	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1319	0	1128	1278	0	1147	802	0	730	736	0	0
HCM Platoon Ratio	1.00	0.10	1.00	1.00	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	15.9	15.3	0.0	15.7	19.3	0.0	19.4	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.9	0.0	1.0	0.2	0.0	0.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	8.6	8.0	0.0	7.6	1.3	0.0	1.2	0.6	0.0	0.0
LnGrp Delay(d),s/veh	18.4	0.0	17.3	16.2	0.0	16.8	19.6	0.0	19.9	19.0	0.0	0.0
LnGrp LOS	B		B	B		B	B		B	B		
Approach Vol, veh/h	1130				949				175		40	
Approach Delay, s/veh	17.9				16.5				19.7		19.0	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.9		16.1		43.9		16.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.5		27.5		23.5		27.5					
Max Q Clear Time (g_c+I1), s	20.4		4.7		17.5		4.8					
Green Ext Time (p_c), s	2.0		0.1		3.0		0.7					
Intersection Summary												
HCM 2010 Ctrl Delay	17.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	77	6	27	451	33	8	62	15	36	79	21
Future Volume (veh/h)	3	77	6	27	451	33	8	62	15	36	79	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	15	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.93	0.98		0.93	0.94		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	3	77	6	27	451	33	8	62	15	36	79	21
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	293	22	150	1380	99	139	593	134	160	230	37
Arrive On Green	0.35	0.35	0.35	0.35	0.35	0.35	0.31	0.31	0.31	0.31	0.31	0.31
Sat Flow, veh/h	12	874	66	126	4124	295	98	1793	405	141	603	136
Grp Volume(v), veh/h	86	0	0	270	0	241	85	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	952	0	0	2392	0	2153	2297	0	0	880	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	2.9	0.0	0.0	0.0	0.2	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	2.8	0.0	2.9	0.9	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.03		0.07	0.10		0.14	0.09		0.18	0.26		0.15
Lane Grp Cap(c), veh/h	420	0	0	908	0	721	867	0	0	428	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.30	0.00	0.33	0.10	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	942	0	0	2215	0	1917	2514	0	0	1035	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	9.9	0.0	9.9	8.4	0.0	0.0	10.5	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.7	0.0	0.0	2.2	0.0	2.0	0.6	0.0	0.0	0.0	3.9	0.0	0.0
LnGrp Delay(d),s/veh	9.9	0.0	0.0	10.1	0.0	10.2	8.4	0.0	0.0	23.9	0.0	0.0
LnGrp LOS	A			B		B	A			C		
Approach Vol, veh/h	86			511			85			136		
Approach Delay, s/veh	9.9			10.1			8.4			23.9		
Approach LOS	A			B			A			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2			4		6		8				
Phs Duration (G+Y+Rc), s	16.7			18.1		16.7		18.1				
Change Period (Y+Rc), s	7.5			7.5		7.5		7.5				
Max Green Setting (Gmax), s	35.5			29.5		35.5		29.5				
Max Q Clear Time (g_c+I1), s	2.9			4.2		6.1		4.9				
Green Ext Time (p_c), s	0.5			0.4		0.8		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				12.2								
HCM 2010 LOS				B								

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	148	92	155	102	62	55	1479	138	62	1516	35
Future Volume (veh/h)	71	148	92	155	102	62	55	1479	138	62	1516	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.93	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1176	1863	1900	1275	1863	1900	1176	1765	1900	1471	1863	1900
Adj Flow Rate, veh/h	71	148	92	155	102	62	55	1479	138	62	1516	35
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	310	193	215	312	190	123	2392	223	95	2532	58
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.11	0.54	0.54	0.07	0.50	0.50
Sat Flow, veh/h	742	1048	652	757	1055	641	1120	4452	415	1401	5107	118
Grp Volume(v), veh/h	71	0	240	155	0	164	55	1067	550	62	1006	545
Grp Sat Flow(s),veh/h/ln	742	0	1700	757	0	1697	1120	1606	1656	1401	1695	1835
Q Serve(g_s), s	7.5	0.0	10.6	16.4	0.0	6.9	4.2	21.0	21.0	3.9	19.4	19.4
Cycle Q Clear(g_c), s	14.4	0.0	10.6	27.0	0.0	6.9	4.2	21.0	21.0	3.9	19.4	19.4
Prop In Lane	1.00		0.38	1.00		0.38	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	243	0	503	215	0	502	123	1725	889	95	1681	910
V/C Ratio(X)	0.29	0.00	0.48	0.72	0.00	0.33	0.45	0.62	0.62	0.65	0.60	0.60
Avail Cap(c_a), veh/h	243	0	503	215	0	502	123	1725	889	154	1821	986
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.6	0.0	26.3	38.4	0.0	25.0	38.0	14.6	14.6	41.4	16.5	16.5
Incr Delay (d2), s/veh	0.7	0.0	0.7	11.1	0.0	0.4	11.4	1.7	3.2	7.2	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	5.0	4.5	0.0	3.3	1.7	9.6	10.3	1.7	9.1	9.9
LnGrp Delay(d),s/veh	31.3	0.0	27.0	49.4	0.0	25.4	49.4	16.3	17.9	48.6	17.0	17.4
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	311				319				1672		1613	
Approach Delay, s/veh	28.0				37.1				17.9		18.3	
Approach LOS	C				D				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.2	52.0			30.0	13.0	48.2	30.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	47.5			25.5	8.5	47.5	25.5				
Max Q Clear Time (g_c+I15), s	23.0	23.0			16.4	6.2	21.4	29.0				
Green Ext Time (p_c), s	0.0	12.7			1.3	0.0	12.4	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			20.4									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	433	15	12	60	7	2	78	83	33	106	3
Future Volume (veh/h)	4	433	15	12	60	7	2	78	83	33	106	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	1.00		0.98	0.98		0.95	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	1863	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	4	433	15	12	60	7	2	78	83	33	106	3
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	1054	36	161	774	86	46	112	117	91	188	5
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	4	1794	62	186	1317	146	3	425	444	136	718	18
Grp Volume(v), veh/h	238	0	214	79	0	0	163	0	0	142	0	0
Grp Sat Flow(s),veh/h/ln	979	0	880	1649	0	0	873	0	0	872	0	0
Q Serve(g_s), s	0.0	0.0	10.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.6	0.0	10.6	1.5	0.0	0.0	13.5	0.0	0.0	11.2	0.0	0.0
Prop In Lane	0.02		0.07	0.15		0.09	0.01		0.51	0.23		0.02
Lane Grp Cap(c), veh/h	621	0	517	1021	0	0	275	0	0	284	0	0
V/C Ratio(X)	0.38	0.00	0.41	0.08	0.00	0.00	0.59	0.00	0.00	0.50	0.00	0.00
Avail Cap(c_a), veh/h	621	0	517	1021	0	0	275	0	0	284	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.00	0.93	1.00	0.00	0.00	1.00	0.00	0.00	0.91	0.00	0.00
Uniform Delay (d), s/veh	9.0	0.0	9.0	7.1	0.0	0.0	26.7	0.0	0.0	25.6	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	2.3	0.0	0.0	0.0	9.1	0.0	0.0	5.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	2.9	0.8	0.0	0.0	4.0	0.0	0.0	3.2	0.0	0.0
LnGrp Delay(d),s/veh	10.7	0.0	11.3	7.1	0.0	0.0	35.9	0.0	0.0	31.3	0.0	0.0
LnGrp LOS	B		B	A			D			C		
Approach Vol, veh/h	452				79		163				142	
Approach Delay, s/veh	10.9				7.1		35.9				31.3	
Approach LOS	B				A		D				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		53.0		27.0		53.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	19.5		45.5		19.5		45.5					
Max Q Clear Time (g_c+I1), s	15.5		12.6		13.2		3.5					
Green Ext Time (p_c), s	0.3		3.1		0.3		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	18.9											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 13.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	77	221	39	83	308	12	27	73	32	4	91	30
Future Vol, veh/h	77	221	39	83	308	12	27	73	32	4	91	30
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	77	221	39	83	308	12	27	73	32	4	91	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.5	15.5	10.8	10.7
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	23%	21%	3%
Vol Thru, %	55%	66%	76%	73%
Vol Right, %	24%	12%	3%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	132	337	403	125
LT Vol	27	77	83	4
Through Vol	73	221	308	91
RT Vol	32	39	12	30
Lane Flow Rate	132	337	403	125
Geometry Grp	1	1	1	1
Degree of Util (X)	0.221	0.496	0.587	0.208
Departure Headway (Hd)	6.016	5.295	5.248	6.001
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	594	677	685	595
Service Time	4.079	3.344	3.295	4.066
HCM Lane V/C Ratio	0.222	0.498	0.588	0.21
HCM Control Delay	10.8	13.5	15.5	10.7
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	0.8	2.8	3.8	0.8

Intersection

Intersection Delay, s/veh 9.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	36	3	2	16	47	15	167	7	24	169	78
Future Vol, veh/h	103	36	3	2	16	47	15	167	7	24	169	78
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	36	3	2	16	47	15	167	7	24	169	78
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	8.3	9.4	9.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	73%	3%	9%
Vol Thru, %	88%	25%	25%	62%
Vol Right, %	4%	2%	72%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	142	65	271
LT Vol	15	103	2	24
Through Vol	167	36	16	169
RT Vol	7	3	47	78
Lane Flow Rate	189	142	65	271
Geometry Grp	1	1	1	1
Degree of Util (X)	0.25	0.205	0.086	0.341
Departure Headway (Hd)	4.764	5.205	4.768	4.532
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	750	686	745	791
Service Time	2.819	3.269	2.841	2.58
HCM Lane V/C Ratio	0.252	0.207	0.087	0.343
HCM Control Delay	9.4	9.6	8.3	9.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.8	0.3	1.5

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Future Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Conflicting Peds, #/hr	12	0	8	8	0	12	9	0	14	14	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	3	0	7	40	11	395	0	15	167	38
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	460	656	203	658	675	224	214	0	0	409	0	0
Stage 1	225	225	-	431	431	-	-	-	-	-	-	-
Stage 2	235	431	-	227	244	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	498	384	837	363	375	780	1355	-	-	1148	-	-
Stage 1	777	717	-	574	582	-	-	-	-	-	-	-
Stage 2	748	582	-	775	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	447	366	824	345	358	761	1343	-	-	1133	-	-
Mov Cap-2 Maneuver	447	366	-	345	358	-	-	-	-	-	-	-
Stage 1	763	700	-	561	569	-	-	-	-	-	-	-
Stage 2	685	569	-	752	686	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	13.2		11			0.2			0.6			
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1343	-	-	462 652	1133	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.048 0.072	0.013	-	-					
HCM Control Delay (s)	7.7	0	-	13.2 11	8.2	0	-					
HCM Lane LOS	A	A	-	B B	A A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-					

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	161	85	1553	106	113	1574		
Future Volume (veh/h)	161	85	1553	106	113	1574		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	161	17	1553	106	113	1574		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	281	251	2534	173	209	3596		
Arrive On Green	0.16	0.16	0.52	0.52	0.12	0.71		
Sat Flow, veh/h	1774	1583	5022	331	1774	5253		
Grp Volume(v), veh/h	161	17	1084	575	113	1574		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1796	1774	1695		
Q Serve(g_s), s	3.8	0.4	10.0	10.0	2.7	5.9		
Cycle Q Clear(g_c), s	3.8	0.4	10.0	10.0	2.7	5.9		
Prop In Lane	1.00	1.00		0.18	1.00			
Lane Grp Cap(c), veh/h	281	251	1770	937	209	3596		
V/C Ratio(X)	0.57	0.07	0.61	0.61	0.54	0.44		
Avail Cap(c_a), veh/h	1391	1241	2202	1166	675	5581		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	17.4	16.0	7.5	7.5	18.5	2.8		
Incr Delay (d2), s/veh	1.8	0.1	0.3	0.7	2.2	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.2	4.6	5.1	1.4	2.7		
LnGrp Delay(d),s/veh	19.2	16.1	7.8	8.2	20.7	2.9		
LnGrp LOS	B	B	A	A	C	A		
Approach Vol, veh/h	178		1659			1687		
Approach Delay, s/veh	18.9		8.0			4.1		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	8.3	26.3				34.6		10.1
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	27.5				47.5		33.5
Max Q Clear Time (g_c+I1), s	4.7	12.0				7.9		5.8
Green Ext Time (p_c), s	0.2	9.8				16.1		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	320	307	10	21	63
Future Vol, veh/h	36	320	307	10	21	63
Conflicting Peds, #/hr	32	0	0	21	21	32
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	320	307	10	21	63
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	349	0	-	0	757	376
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1210	-	-	-	375	670
Stage 1	-	-	-	-	718	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1173	-	-	-	340	630
Mov Cap-2 Maneuver	-	-	-	-	340	-
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	648	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		13.3		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1173	-	-	-	519	
HCM Lane V/C Ratio	0.031	-	-	-	0.162	
HCM Control Delay (s)	8.2	0	-	-	13.3	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	98	2	4	146	25	12	75	6	15	84	64
Future Vol, veh/h	65	98	2	4	146	25	12	75	6	15	84	64
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	98	2	4	146	25	12	75	6	15	84	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	8.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	39%	2%	9%
Vol Thru, %	81%	59%	83%	52%
Vol Right, %	6%	1%	14%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	165	175	163
LT Vol	12	65	4	15
Through Vol	75	98	146	84
RT Vol	6	2	25	64
Lane Flow Rate	93	165	175	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.127	0.221	0.227	0.21
Departure Headway (Hd)	4.933	4.827	4.668	4.644
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	723	741	767	769
Service Time	2.991	2.877	2.717	2.695
HCM Lane V/C Ratio	0.129	0.223	0.228	0.212
HCM Control Delay	8.7	9.3	9.1	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.8	0.9	0.8

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection																
Int Delay, s/veh	0															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR		
Lane Configurations		↑↑			↑↑	↔								↔		
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-		
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80		
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-		
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Major/Minor	Major1			Major2			Minor2									
Conflicting Flow All	-	0	-	0	0	0									-	23
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Critical Hdwy	-	-	-	4.13	-	-									-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-									-	-
Critical Hdwy Stg 2	-	-	-	-	-	-									-	-
Follow-up Hdwy	-	-	-	2.219	-	-									-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-									0	1053
Stage 1	0	-	0	-	-	-									0	-
Stage 2	0	-	0	-	-	-									0	-
Platoon blocked, %		-			-	-										
Mov Cap-1 Maneuver	-	-	-	-	-	-									-	1053
Mov Cap-2 Maneuver	-	-	-	-	-	-									-	-
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Approach	EB		WB			SW										
HCM Control Delay, s	0		0			0										
HCM LOS						A										
Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2												
Capacity (veh/h)	-	-	-	-	-	-										
HCM Lane V/C Ratio	-	-	-	-	-	-										
HCM Control Delay (s)	-	0	-	-	0	0										
HCM Lane LOS	-	A	-	-	A	A										
HCM 95th %tile Q(veh)	-	-	-	-	-	-										

HCM 2010 Research does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh 10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↔	
Traffic Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Future Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	142	76	49	2	68	158	39	1	206	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	10.7	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	1%	60%	0%
Vol Thru, %	60%	3%	39%	92%
Vol Right, %	15%	96%	2%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	148	127	225
LT Vol	68	2	76	1
Through Vol	158	4	49	206
RT Vol	39	142	2	18
Lane Flow Rate	265	148	127	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.358	0.194	0.191	0.306
Departure Headway (Hd)	4.86	4.719	5.411	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	750	655	725
Service Time	2.943	2.814	3.51	2.987
HCM Lane V/C Ratio	0.363	0.197	0.194	0.31
HCM Control Delay	10.7	9	9.8	10.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.7	1.3

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	784	250	68	592	11	344	0	4	11	47	29
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1422	636	154	1512	28	687	0	303	21	89	55
Arrive On Green	0.06	0.40	0.40	0.09	0.43	0.43	0.19	0.00	0.19	0.10	0.10	0.10
Sat Flow, veh/h	1774	3539	1582	1774	3554	66	3548	0	1566	220	938	579
Grp Volume(v), veh/h	32	784	250	68	295	308	344	0	4	87	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1850	1774	0	1566	1737	0	0
Q Serve(g_s), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.13		0.33
Lane Grp Cap(c), veh/h	112	1422	636	154	753	787	687	0	303	166	0	0
V/C Ratio(X)	0.29	0.55	0.39	0.44	0.39	0.39	0.50	0.00	0.01	0.53	0.00	0.00
Avail Cap(c_a), veh/h	214	2657	1188	263	1378	1440	2072	0	914	258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	12.4	11.5	23.4	10.7	10.7	19.4	0.0	17.6	23.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.4	2.0	0.3	0.3	0.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	2.7	1.0	3.0	3.2	2.3	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	25.5	12.7	11.9	25.3	11.0	11.0	20.0	0.0	17.6	25.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h	1066				671				348		87	
Approach Delay, s/veh	12.9				12.5				20.0		25.8	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.4		7.7	24.7	8.1		6.4	26.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	30.0		6.5	39.0	6.5		5.0	40.5				
Max Q Clear Time (g_c+I1), s	6.7		4.0	11.2	4.6		2.9	8.2				
Green Ext Time (p_c), s	1.2		0.0	7.2	0.1		0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	14.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	561	275	464	342	7	129	12	48	12	222	49
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1089	458	677	1474	30	284	52	207	307	499	108
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1774	3725	1567	3442	3547	72	1774	322	1290	1774	2886	624
Grp Volume(v), veh/h	63	561	275	464	170	179	129	0	60	12	134	137
Grp Sat Flow(s),veh/h/ln	1774	1863	1567	1721	1770	1849	1774	0	1612	1774	1770	1740
Q Serve(g_s), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Cycle Q Clear(g_c), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	131	1089	458	677	735	769	284	0	258	307	306	301
V/C Ratio(X)	0.48	0.51	0.60	0.69	0.23	0.23	0.45	0.00	0.23	0.04	0.44	0.45
Avail Cap(c_a), veh/h	604	2042	859	1173	970	1014	972	0	884	815	813	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	19.9	20.5	25.2	12.8	12.8	25.7	0.0	24.7	23.2	25.0	25.1
Incr Delay (d2), s/veh	2.7	0.4	1.3	1.2	0.2	0.2	1.1	0.0	0.5	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.4	4.5	4.1	2.1	2.2	2.3	0.0	1.0	0.2	2.3	2.4
LnGrp Delay(d),s/veh	32.8	20.3	21.8	26.4	12.9	12.9	26.8	0.0	25.2	23.3	26.0	26.1
LnGrp LOS	C	C	C	C	B	B	C		C	C	C	C
Approach Vol, veh/h		899			813			189			283	
Approach Delay, s/veh		21.6			20.6			26.3			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.8	16.3	22.7		14.7	8.0	31.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		6.4	10.4	12.2		6.8	4.3	6.2				
Green Ext Time (p_c), s		1.1	1.3	5.0		1.6	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	530	384	239	293	16	160	116	148	70	447	109
Adj No. of Lanes	1	2	1	2	2	0	1	1	2	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1144	505	400	1179	64	232	640	1069	124	796	193
Arrive On Green	0.09	0.32	0.32	0.12	0.35	0.35	0.13	0.34	0.34	0.07	0.28	0.28
Sat Flow, veh/h	1774	3539	1563	3442	3410	185	1774	1863	3109	1774	2817	681
Grp Volume(v), veh/h	104	530	384	239	151	158	160	116	148	70	279	277
Grp Sat Flow(s),veh/h/ln	1774	1770	1563	1721	1770	1826	1774	1863	1554	1774	1770	1729
Q Serve(g_s), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Cycle Q Clear(g_c), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	166	1144	505	400	612	631	232	640	1069	124	500	489
V/C Ratio(X)	0.63	0.46	0.76	0.60	0.25	0.25	0.69	0.18	0.14	0.57	0.56	0.57
Avail Cap(c_a), veh/h	478	1388	613	928	694	716	631	799	1334	631	759	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	22.0	24.8	34.2	19.1	19.1	33.9	18.7	18.4	36.8	24.9	25.0
Incr Delay (d2), s/veh	3.8	0.3	4.5	1.4	0.2	0.2	3.6	0.1	0.1	4.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.8	8.3	2.6	2.5	2.6	3.7	1.9	1.2	1.7	5.5	5.4
LnGrp Delay(d),s/veh	39.4	22.3	29.3	35.7	19.3	19.3	37.5	18.9	18.5	40.8	25.9	26.0
LnGrp LOS	D	C	C	D	B	B	D	B	B	D	C	C
Approach Vol, veh/h	1018				548		424				626	
Approach Delay, s/veh	26.7				26.4		25.8				27.6	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	31.0	12.5	29.4	13.7	26.1	10.7	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.5	33.5	20.5	30.5	27.5	33.5	20.5	30.5				
Max Q Clear Time (g_c+1.5I), s	15.6	5.6	7.4	20.0	9.0	13.1	6.6	7.0				
Green Ext Time (p_c), s	0.1	1.2	0.6	3.7	0.4	3.4	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	26.7											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1294	681	64	743	50	317	83	70	179	109	27
Future Volume (veh/h)	222	1294	681	64	743	50	317	83	70	179	109	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1471	1471	1569	1863	1471	1900	1275	1863	1900	1900	1275	1863
Adj Flow Rate, veh/h	222	1294	401	64	743	50	317	83	70	179	109	5
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1217	566	104	1298	87	417	164	138	177	108	348
Arrive On Green	0.16	0.44	0.44	0.06	0.34	0.34	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	1401	2794	1299	1774	3840	257	2355	926	781	768	468	1511
Grp Volume(v), veh/h	222	1294	401	64	517	276	317	0	153	288	0	5
Grp Sat Flow(s),veh/h/ln	1401	1397	1299	1774	1338	1421	1177	0	1707	1236	0	1511
Q Serve(g_s), s	19.0	53.0	30.7	4.3	19.3	19.4	15.6	0.0	9.9	28.0	0.0	0.3
Cycle Q Clear(g_c), s	19.0	53.0	30.7	4.3	19.3	19.4	15.6	0.0	9.9	28.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.46	0.62		1.00
Lane Grp Cap(c), veh/h	219	1217	566	104	904	480	417	0	303	284	0	348
V/C Ratio(X)	1.02	1.06	0.71	0.62	0.57	0.58	0.76	0.00	0.51	1.01	0.00	0.01
Avail Cap(c_a), veh/h	219	1217	566	219	1078	572	522	0	379	284	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	34.3	28.0	56.0	33.1	33.1	47.6	0.0	45.2	46.8	0.0	36.2
Incr Delay (d2), s/veh	64.8	44.4	4.1	5.8	0.6	1.1	5.0	0.0	1.3	56.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	27.8	11.6	2.3	7.2	7.7	5.4	0.0	4.7	14.0	0.0	0.1
LnGrp Delay(d),s/veh	116.3	78.8	32.1	61.8	33.6	34.2	52.6	0.0	46.5	103.5	0.0	36.2
LnGrp LOS	F	F	C	E	C	C	D		D	F		D
Approach Vol, veh/h		1917			857			470			293	
Approach Delay, s/veh		73.3			35.9			50.6			102.4	
Approach LOS		E			D			D			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	10.1	56.0		31.0	22.0	44.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	13.5	51.5		26.5	17.5	47.5				
Max Q Clear Time (g_c+I1), s		17.6	6.3	55.0		30.0	21.0	21.4				
Green Ext Time (p_c), s		1.4	0.1	0.0		0.0	0.0	5.7				
Intersection Summary												
HCM 2010 Ctrl Delay			63.7									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1667	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	677	628	133	691	588	258	325	272	298	384	326
Arrive On Green	0.11	0.41	0.41	0.08	0.37	0.00	0.15	0.18	0.18	0.17	0.21	0.00
Sat Flow, veh/h	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Grp Volume(v), veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Grp Sat Flow(s),veh/h/ln	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Q Serve(g_s), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Cycle Q Clear(g_c), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	677	628	133	691	588	258	325	272	298	384	326
V/C Ratio(X)	0.79	0.97	0.10	0.89	0.54	0.00	0.82	0.43	0.63	0.83	0.46	0.00
Avail Cap(c_a), veh/h	244	677	628	133	691	588	468	467	390	601	631	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	27.8	17.6	44.0	23.7	0.0	39.8	34.7	36.4	38.6	33.4	0.0
Incr Delay (d2), s/veh	13.1	26.5	0.1	45.7	0.8	0.0	6.3	0.9	2.4	6.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	21.9	1.0	4.8	7.9	0.0	5.8	3.3	4.4	6.8	4.1	0.0
LnGrp Delay(d),s/veh	54.7	54.3	17.7	89.7	24.5	0.0	46.0	35.6	38.8	44.7	34.2	0.0
LnGrp LOS	D	D	B	F	C		D	D	D	D	C	
Approach Vol, veh/h		872			489			522			423	
Approach Delay, s/veh		51.8			40.2			40.9			40.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.1	21.6	11.2	43.0	18.0	23.8	14.6	39.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	32.0	24.8	6.7	38.5	24.8	32.0	12.7	32.5				
Max Q Clear Time (g_c+11.5), s	11.5	12.3	8.3	38.9	13.1	9.9	10.2	17.0				
Green Ext Time (p_c), s	0.6	1.5	0.0	0.0	0.4	0.9	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.8									
HCM 2010 LOS			D									

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	7	670	151	196	808	107	66	27	154	95	129	12
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1187	267	298	1021	843	165	68	246	227	247	20
Arrive On Green	0.04	0.42	0.42	0.17	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	2844	640	1774	1863	1537	326	275	995	538	998	82
Grp Volume(v), veh/h	7	417	404	196	808	107	247	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1863	1537	1596	0	0	1618	0	0
Q Serve(g_s), s	0.2	9.7	9.7	5.6	18.6	1.8	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.7	9.7	5.6	18.6	1.8	6.8	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.27		0.62	0.40		0.05
Lane Grp Cap(c), veh/h	66	739	716	298	1021	843	480	0	0	494	0	0
V/C Ratio(X)	0.11	0.56	0.57	0.66	0.79	0.13	0.52	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	214	1252	1213	672	1799	1484	729	0	0	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	11.9	12.0	21.0	9.7	5.9	17.8	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.7	2.5	1.4	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	4.6	2.9	9.8	0.8	3.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	25.8	12.6	12.7	23.4	11.1	6.0	18.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	A	B			B		
Approach Vol, veh/h	828			1111			247			236		
Approach Delay, s/veh	12.8			12.8			18.7			18.3		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	12.0	25.5		16.3	5.0	32.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	18.9	36.6		21.0	5.0	50.5				
Max Q Clear Time (g_c+I1), s		8.8	7.6	11.7		8.4	2.2	20.6				
Green Ext Time (p_c), s		1.2	0.4	5.8		1.1	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay	13.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.98	0.98		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	56	276	39	80	433	100	49	255	13	195	157	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	734	104	457	675	156	517	810	41	479	597	213
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	868	1588	224	1050	1459	337	1100	1751	89	1048	1291	460
Grp Volume(v), veh/h	56	0	315	80	0	533	49	0	268	195	0	213
Grp Sat Flow(s),veh/h/ln	868	0	1812	1050	0	1796	1100	0	1840	1048	0	1751
Q Serve(g_s), s	4.2	0.0	9.0	4.3	0.0	18.1	2.3	0.0	7.3	11.5	0.0	6.0
Cycle Q Clear(g_c), s	22.4	0.0	9.0	13.3	0.0	18.1	8.2	0.0	7.3	18.8	0.0	6.0
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
V/C Ratio(X)	0.19	0.00	0.38	0.18	0.00	0.64	0.09	0.00	0.31	0.41	0.00	0.26
Avail Cap(c_a), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	14.0	18.3	0.0	16.4	15.7	0.0	13.5	19.5	0.0	13.2
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.8	0.0	3.8	0.4	0.0	1.0	2.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.8	1.4	0.0	9.8	0.7	0.0	4.0	3.6	0.0	3.0
LnGrp Delay(d),s/veh	26.4	0.0	15.3	19.2	0.0	20.2	16.0	0.0	14.5	22.0	0.0	13.9
LnGrp LOS	C		B	B		C	B		B	C		B
Approach Vol, veh/h	371				613				317		408	
Approach Delay, s/veh	17.0				20.1				14.7		17.8	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+I1), s	10.2		24.4		20.8		20.1					
Green Ext Time (p_c), s	1.9		1.7		1.9		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↑ ↑ ↱							↰ ↑ ↱		↰ ↑ ↱		
Traffic Volume (veh/h)	28	1514	10	0	0	0	0	71	241	363	215	0
Future Volume (veh/h)	28	1514	10	0	0	0	0	71	241	363	215	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1176	1900				0	980	1863	1863	980	0
Adj Flow Rate, veh/h	29	1577	10				0	109	97	301	332	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	834	1547	10				0	118	183	568	314	0
Arrive On Green	0.47	0.47	0.47				0.00	0.12	0.12	0.32	0.32	0.00
Sat Flow, veh/h	1774	3292	21				0	980	1523	1774	980	0
Grp Volume(v), veh/h	29	1026	561				0	109	97	301	332	0
Grp Sat Flow(s), veh/h/ln	1774	1071	1172				0	980	1523	1774	980	0
Q Serve(g_s), s	0.9	47.0	47.0				0.0	11.0	6.0	13.9	32.0	0.0
Cycle Q Clear(g_c), s	0.9	47.0	47.0				0.0	11.0	6.0	13.9	32.0	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	834	1006	551				0	118	183	568	314	0
V/C Ratio(X)	0.03	1.02	1.02				0.00	0.93	0.53	0.53	1.06	0.00
Avail Cap(c_a), veh/h	834	1006	551				0	118	183	568	314	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	26.5	26.5				0.0	43.6	41.4	27.8	34.0	0.0
Incr Delay (d2), s/veh	0.0	33.3	43.3				0.0	65.0	10.6	0.9	67.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	18.5	21.8				0.0	5.1	3.0	6.9	14.5	0.0
LnGrp Delay(d),s/veh	14.3	59.8	69.8				0.0	108.6	52.0	28.8	101.0	0.0
LnGrp LOS	B	F	F					F	D	C	F	
Approach Vol, veh/h		1616						206			633	
Approach Delay, s/veh		62.4						81.9			66.7	
Approach LOS		E						F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		50.0		35.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		10.5		45.5		30.5						
Max Q Clear Time (g_c+l1), s		13.0		49.0		34.0						
Green Ext Time (p_c), s		0.0		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			65.2									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↻		↰	↻		↰	↻		↰	↻	
Traffic Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	95	116	188	160	272	55	226	254	10	21	129	30
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	478	407	234	909	180	423	444	357	338	275	64
Arrive On Green	0.09	0.27	0.27	0.13	0.31	0.31	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	1774	1770	1505	1774	2906	575	1774	1863	1497	1774	1441	335
Grp Volume(v), veh/h	95	116	188	160	163	164	226	254	10	21	0	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1505	1774	1770	1711	1774	1863	1497	1774	0	1776
Q Serve(g_s), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Cycle Q Clear(g_c), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	159	478	407	234	554	535	423	444	357	338	0	338
V/C Ratio(X)	0.60	0.24	0.46	0.68	0.29	0.31	0.53	0.57	0.03	0.06	0.00	0.47
Avail Cap(c_a), veh/h	297	660	561	312	675	653	612	642	516	612	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.6	29.4	18.5	18.5	23.6	23.9	20.8	23.6	0.0	25.6
Incr Delay (d2), s/veh	3.6	0.3	0.8	3.8	0.3	0.3	1.1	1.2	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.8	3.2	3.2	2.4	2.5	4.0	4.5	0.2	0.3	0.0	2.9
LnGrp Delay(d),s/veh	34.7	20.5	22.4	33.2	18.8	18.9	24.7	25.0	20.8	23.6	0.0	26.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		399			487			490			180	
Approach Delay, s/veh		24.8			23.6			24.8			26.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	12.4	22.2		16.5	9.4	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.0	11.0	25.0		23.0	10.4	25.6				
Max Q Clear Time (g_c+I1), s		10.5	8.1	9.4		7.7	5.7	7.2				
Green Ext Time (p_c), s		1.8	0.1	1.7		0.8	0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	66	0	0	0	0				43	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	683	132	206	412	0				506	0	63
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916	699	255	1164	0				1279	0	497
Arrive On Green	0.00	0.77	0.77	0.14	0.55	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	1863	1529	1774	1863	0				3548	0	1534
Grp Volume(v), veh/h	0	683	132	206	412	0				506	0	63
Grp Sat Flow(s),veh/h/ln	0	1863	1529	1774	1863	0				1774	0	1534
Q Serve(g_s), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Cycle Q Clear(g_c), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916	699	255	1164	0				1279	0	497
V/C Ratio(X)	0.00	0.75	0.19	0.81	0.35	0.00				0.40	0.00	0.13
Avail Cap(c_a), veh/h	0	916	752	340	1319	0				1403	0	607
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	1.0	3.3	49.8	11.0	0.0				31.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	2.2	0.1	10.1	0.2	0.0				0.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	145.0	0.0	0.0	0.0	0.0				13.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	38.0	0.5	7.4	6.6	0.0				12.1	0.0	1.5
LnGrp Delay(d),s/veh	0.0	148.2	3.4	59.9	11.2	0.0				45.6	0.0	29.2
LnGrp LOS		F	A	E	B					D		C
Approach Vol, veh/h		815			618						569	
Approach Delay, s/veh		124.7			27.4						43.8	
Approach LOS		F			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	49.3		50.5		69.5				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			21.5	57.5		27.5		83.5				
Max Q Clear Time (g_c+I1), s			15.5	39.8		14.1		17.2				
Green Ext Time (p_c), s			0.3	5.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			71.7									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	92	22	0	0	0				20	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	1863	0				980	1078	0
Adj Flow Rate, veh/h	0	1076	57	0	1000	0				402	391	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	1275	350	0	2306	0				430	489	0
Arrive On Green	0.00	0.62	0.62	0.00	0.62	0.00				0.33	0.32	0.00
Sat Flow, veh/h	0	2353	566	0	3725	0				1307	1833	0
Grp Volume(v), veh/h	0	1076	57	0	1000	0				402	391	0
Grp Sat Flow(s),veh/h/ln	0	686	566	0	1863	0				654	755	0
Q Serve(g_s), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Cycle Q Clear(g_c), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1275	350	0	2306	0				430	489	0
V/C Ratio(X)	0.00	0.84	0.16	0.00	0.43	0.00				0.94	0.80	0.00
Avail Cap(c_a), veh/h	0	1275	350	0	2306	0				430	489	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	11.9	0.0	10.4	0.0				35.2	32.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	0.6	0.0				28.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	189.8	33.9	0.0	0.0	0.0				138.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.6	6.8	0.0	7.7	0.0				16.2	5.8	0.0
LnGrp Delay(d),s/veh	0.0	210.5	45.9	0.0	11.0	0.0				202.0	41.6	0.0
LnGrp LOS		F	D		B					F	D	
Approach Vol, veh/h		1133			1000						793	
Approach Delay, s/veh		202.2			11.0						122.9	
Approach LOS		F			B						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.0		37.0		68.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		63.5		32.5		63.5						
Max Q Clear Time (g_c+I1), s		45.8		33.3		16.7						
Green Ext Time (p_c), s		7.0		0.0		8.4						
Intersection Summary												
HCM 2010 Ctrl Delay				115.4								
HCM 2010 LOS				F								

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	563	150	94	655	28	149	94	64	48	113	11
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1385	367	454	896	38	424	234	518	216	436	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	752	2737	726	723	1771	76	811	684	1511	293	1272	107
Grp Volume(v), veh/h	16	363	350	94	0	683	243	0	64	172	0	0
Grp Sat Flow(s),veh/h/ln	752	1770	1693	723	0	1846	1494	0	1511	1672	0	0
Q Serve(g_s), s	0.7	5.1	5.1	3.7	0.0	11.5	1.8	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	5.1	5.1	8.8	0.0	11.5	4.5	0.0	1.2	2.7	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.04	0.61		1.00	0.28		0.06
Lane Grp Cap(c), veh/h	344	896	857	454	0	934	659	0	518	689	0	0
V/C Ratio(X)	0.05	0.41	0.41	0.21	0.00	0.73	0.37	0.00	0.12	0.25	0.00	0.00
Avail Cap(c_a), veh/h	550	1381	1321	653	0	1440	992	0	875	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.1	6.1	8.8	0.0	7.7	9.9	0.0	9.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.2	0.0	1.1	0.3	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.4	0.8	0.0	6.0	2.1	0.0	0.5	1.4	0.0	0.0
LnGrp Delay(d),s/veh	12.5	6.4	6.4	9.1	0.0	8.8	10.3	0.0	9.1	9.7	0.0	0.0
LnGrp LOS	B	A	A	A		A	B		A	A		
Approach Vol, veh/h		729			777			307			172	
Approach Delay, s/veh		6.5			8.8			10.0			9.7	
Approach LOS		A			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		23.1		16.6		23.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		21.5		29.5		21.5		29.5				
Max Q Clear Time (g_c+I1), s		6.5		14.2		4.7		13.5				
Green Ext Time (p_c), s		1.5		4.2		0.8		5.1				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	17	12	122	197	178	32	315	61	85	241	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	249	176	207	281	254	114	468	91	171	567	59
Arrive On Green	0.05	0.25	0.25	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1774	1008	712	1774	895	809	1774	1508	292	1774	1656	172
Grp Volume(v), veh/h	18	0	29	122	0	375	32	0	376	85	0	266
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	0	1703	1774	0	1800	1774	0	1828
Q Serve(g_s), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Cycle Q Clear(g_c), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Prop In Lane	1.00		0.41	1.00		0.47	1.00		0.16	1.00		0.09
Lane Grp Cap(c), veh/h	90	0	426	207	0	534	114	0	558	171	0	626
V/C Ratio(X)	0.20	0.00	0.07	0.59	0.00	0.70	0.28	0.00	0.67	0.50	0.00	0.43
Avail Cap(c_a), veh/h	474	0	985	474	0	976	474	0	1031	474	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.1	21.9	0.0	15.8	23.4	0.0	15.8	22.5	0.0	13.3
Incr Delay (d2), s/veh	1.1	0.0	0.1	2.6	0.0	1.7	1.3	0.0	1.4	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.8	0.0	4.9	0.5	0.0	4.9	1.3	0.0	3.0
LnGrp Delay(d),s/veh	24.9	0.0	15.2	24.6	0.0	17.5	24.7	0.0	17.2	24.7	0.0	13.7
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	47			497			408			351		
Approach Delay, s/veh	18.9			19.2			17.8			16.4		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	19.2	9.1	16.0	6.4	20.9	5.7	19.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+14), s	14.4	11.5	5.4	2.7	2.9	7.9	2.5	12.1				
Green Ext Time (p_c), s	0.1	2.2	0.2	0.1	0.0	1.6	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	18.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	0	201	257	422	92	44	314	0	0	499	26
Future Volume (veh/h)	46	0	201	257	422	92	44	314	0	0	499	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		1.00	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	980	980	0	0	1373	1400
Adj Flow Rate, veh/h	46	0	33	257	422	92	44	314	0	0	499	26
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	864	1393	300	70	733	0	0	648	34
Arrive On Green	0.09	0.00	0.09	0.49	0.49	0.43	0.08	0.39	0.00	0.00	0.26	0.20
Sat Flow, veh/h		0		1774	2860	616	934	1912	0	0	2575	130
Grp Volume(v), veh/h		0.0		257	259	255	44	314	0	0	259	266
Grp Sat Flow(s), veh/h/ln				1774	1770	1707	934	931	0	0	1304	1332
Q Serve(g_s), s				4.4	4.4	4.7	2.3	6.2	0.0	0.0	9.2	9.3
Cycle Q Clear(g_c), s				4.4	4.4	4.7	2.3	6.2	0.0	0.0	9.2	9.3
Prop In Lane				1.00		0.36	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h				864	862	832	70	733	0	0	337	344
V/C Ratio(X)				0.30	0.30	0.31	0.62	0.43	0.00	0.00	0.77	0.77
Avail Cap(c_a), veh/h				864	862	832	176	944	0	0	337	344
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.7	7.8	8.1	22.6	11.1	0.0	0.0	17.3	17.4
Incr Delay (d2), s/veh				0.9	0.9	1.0	8.7	0.4	0.0	0.0	10.2	10.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	2.4	2.4	0.8	1.6	0.0	0.0	4.3	4.4
LnGrp Delay(d),s/veh				8.6	8.6	9.1	31.3	11.5	0.0	0.0	27.5	27.8
LnGrp LOS				A	A	A	C	B			C	C
Approach Vol, veh/h					771			358			525	
Approach Delay, s/veh					8.8			13.9			27.7	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		22.8			6.8	16.0		27.5				
Change Period (Y+Rc), s		7.5			4.5	7.5		7.5				
Max Green Setting (Gmax), s		21.0			8.0	8.5		20.0				
Max Q Clear Time (g_c+I1), s		8.2			4.3	11.3		6.7				
Green Ext Time (p_c), s		1.6			0.0	0.0		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay			15.9									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT					NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	34	639	22	0	0	0	30	340	150	343	469	81
Future Volume (veh/h)	34	639	22	0	0	0	30	340	150	343	469	81
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900				1863	1618	1900	1275	980	1900
Adj Flow Rate, veh/h	34	639	22				30	340	150	343	469	81
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	43	848	31				82	418	179	459	847	145
Arrive On Green	0.32	0.32	0.28				0.05	0.21	0.17	0.38	0.54	0.50
Sat Flow, veh/h	136	2678	97				1774	2034	871	1214	1576	270
Grp Volume(v), veh/h	366	0	329				30	254	236	343	276	274
Grp Sat Flow(s),veh/h/ln	1464	0	1447				1774	1537	1368	1214	931	915
Q Serve(g_s), s	20.5	0.0	18.1				1.5	14.2	14.9	22.1	17.5	18.1
Cycle Q Clear(g_c), s	20.5	0.0	18.1				1.5	14.2	14.9	22.1	17.5	18.1
Prop In Lane	0.09		0.07				1.00		0.64	1.00		0.30
Lane Grp Cap(c), veh/h	464	0	458				82	316	281	459	500	491
V/C Ratio(X)	0.79	0.00	0.72				0.37	0.81	0.84	0.75	0.55	0.56
Avail Cap(c_a), veh/h	464	0	458				296	316	281	459	500	491
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.0	0.0	27.3				41.7	34.0	35.3	24.3	13.7	14.1
Incr Delay (d2), s/veh	12.8	0.0	9.4				2.7	14.1	19.4	10.7	1.3	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	8.4				0.8	7.2	7.2	8.7	4.6	4.7
LnGrp Delay(d),s/veh	40.8	0.0	36.7				44.4	48.2	54.7	34.9	15.0	15.5
LnGrp LOS	D		D				D	D	D	C	B	B
Approach Vol, veh/h		695						520			893	
Approach Delay, s/veh		38.8						50.9			22.8	
Approach LOS		D						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	37.0	21.5		31.5	7.1	51.4						
Change Period (Y+Rc), s	4.5	7.5		7.5	4.5	7.5						
Max Green Setting (Gmax), s	32.5	14.0		24.0	13.5	33.0						
Max Q Clear Time (g_c+24), s	24.1	16.9		22.5	3.5	20.1						
Green Ext Time (p_c), s	0.7	0.0		0.7	0.0	2.9						
Intersection Summary												
HCM 2010 Ctrl Delay			35.0									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	81	284	53	7	118	37	52	428	14	15	288	161
Future Volume (veh/h)	81	284	53	7	118	37	52	428	14	15	288	161
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	980	1900	1900	1324	1900	1900	980	1863
Adj Flow Rate, veh/h	81	284	53	7	118	37	52	428	14	15	288	92
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	272	48	54	297	90	85	478	15	57	459	767
Arrive On Green	0.43	0.43	0.39	0.43	0.43	0.39	0.50	0.50	0.46	0.50	0.50	0.50
Sat Flow, veh/h	138	641	113	15	698	211	70	956	30	20	918	1534
Grp Volume(v), veh/h	418	0	0	162	0	0	494	0	0	303	0	92
Grp Sat Flow(s),veh/h/ln	892	0	0	925	0	0	1056	0	0	938	0	1534
Q Serve(g_s), s	24.3	0.0	0.0	0.0	0.0	0.0	18.3	0.0	0.0	0.0	0.0	2.6
Cycle Q Clear(g_c), s	34.0	0.0	0.0	9.7	0.0	0.0	36.2	0.0	0.0	17.9	0.0	2.6
Prop In Lane	0.19		0.13	0.04		0.23	0.11		0.03	0.05		1.00
Lane Grp Cap(c), veh/h	433	0	0	440	0	0	578	0	0	516	0	767
V/C Ratio(X)	0.97	0.00	0.00	0.37	0.00	0.00	0.86	0.00	0.00	0.59	0.00	0.12
Avail Cap(c_a), veh/h	433	0	0	440	0	0	578	0	0	516	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.5	0.0	0.0	16.3	0.0	0.0	19.3	0.0	0.0	14.5	0.0	10.6
Incr Delay (d2), s/veh	34.4	0.0	0.0	0.5	0.0	0.0	15.0	0.0	0.0	4.8	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ft	3.3	0.0	0.0	2.6	0.0	0.0	12.7	0.0	0.0	5.5	0.0	1.1
LnGrp Delay(d),s/veh	58.9	0.0	0.0	16.8	0.0	0.0	34.2	0.0	0.0	19.3	0.0	11.0
LnGrp LOS	E			B			C			B		B
Approach Vol, veh/h	418				162		494				395	
Approach Delay, s/veh	58.9				16.8		34.2				17.4	
Approach LOS	E				B		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	38.2		36.0		19.9		11.7					
Green Ext Time (p_c), s	0.0		0.0		2.0		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			34.8									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	72	301	72	26	157	13	56	372	34	13	309	59
Future Volume (veh/h)	72	301	72	26	157	13	56	372	34	13	309	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.98		0.94	0.99		0.93	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	72	301	72	26	157	13	56	372	34	13	309	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	194	513	114	162	627	48	168	607	52	116	610	114
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	182	1234	273	112	1509	115	129	1466	127	25	1474	275
Grp Volume(v), veh/h	445	0	0	196	0	0	462	0	0	381	0	0
Grp Sat Flow(s),veh/h/ln	1690	0	0	1735	0	0	1722	0	0	1774	0	0
Q Serve(g_s), s	2.5	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	2.5	0.0	0.0	7.2	0.0	0.0	5.6	0.0	0.0
Prop In Lane	0.16		0.16	0.13		0.07	0.12		0.07	0.03		0.15
Lane Grp Cap(c), veh/h	821	0	0	837	0	0	828	0	0	840	0	0
V/C Ratio(X)	0.54	0.00	0.00	0.23	0.00	0.00	0.56	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	1396	0	0	1412	0	0	1410	0	0	1453	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	6.7	0.0	0.0	8.1	0.0	0.0	7.7	0.0	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.1	0.0	0.0	0.6	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	1.3	0.0	0.0	3.6	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	8.6	0.0	0.0	6.9	0.0	0.0	8.7	0.0	0.0	8.1	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	445				196		462				381	
Approach Delay, s/veh	8.6				6.9		8.7				8.1	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.6		17.7		17.6		17.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	9.2		9.1		7.6		4.5					
Green Ext Time (p_c), s	2.9		2.8		2.4		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.93	1.00		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	258	48	206	378	169	209	507	112	163	412	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	950	385	246	650	285	289	804	176	200	782	267
Arrive On Green	0.13	0.27	0.27	0.14	0.28	0.29	0.08	0.28	0.30	0.11	0.31	0.33
Sat Flow, veh/h	1774	3539	1434	1774	2337	1022	3442	2852	626	1774	2520	859
Grp Volume(v), veh/h	189	258	48	206	284	263	209	313	306	163	287	268
Grp Sat Flow(s),veh/h/ln	1774	1770	1434	1774	1770	1590	1721	1770	1708	1774	1770	1610
Q Serve(g_s), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Cycle Q Clear(g_c), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.37	1.00		0.53
Lane Grp Cap(c), veh/h	228	950	385	246	492	442	289	499	481	200	549	500
V/C Ratio(X)	0.83	0.27	0.12	0.84	0.58	0.59	0.72	0.63	0.64	0.82	0.52	0.54
Avail Cap(c_a), veh/h	413	1094	443	421	555	498	471	586	565	343	685	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.2	25.1	38.0	28.1	27.8	40.5	28.4	28.2	39.3	25.7	25.5
Incr Delay (d2), s/veh	7.5	0.2	0.1	7.4	1.2	1.5	3.4	1.6	1.8	7.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.9	5.5	6.2	5.8	2.7	7.0	6.9	4.4	6.0	5.6
LnGrp Delay(d),s/veh	46.0	26.3	25.2	45.4	29.3	29.4	43.9	30.0	30.0	47.2	26.5	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		495			753			828			718	
Approach Delay, s/veh		33.7			33.7			33.5			31.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.7	30.0	17.1	28.8	12.1	32.6	16.2	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	30.0	21.5	28.0	12.4	35.1	21.1	28.4				
Max Q Clear Time (g_c+11Q), s	16.1	16.1	12.3	7.2	7.4	14.4	11.4	14.9				
Green Ext Time (p_c), s	0.2	3.3	0.4	1.7	0.3	3.5	0.3	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				33.0								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	31	128	773	0	0	40	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	56	229	1318	0	542	286	0	530	0	5	0
Arrive On Green	0.00	0.17	0.17	0.37	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	318	1311	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	159	773	0	0	40	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1629	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.81	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	285	1318	0	542	286	0	530	0	5	0
V/C Ratio(X)	0.00	0.00	0.56	0.59	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	953	4154	0	1807	1220	0	1998	0	409	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	12.9	8.6	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.6	9.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			B					
Approach Vol, veh/h	159				773		40				0	
Approach Delay, s/veh	14.6				9.0		12.1				0.0	
Approach LOS	B				A		B					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.5		9.0		0.0		15.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.0		18.5		7.0		38.5					
Max Q Clear Time (g_c+I1), s	2.6		5.1		0.0		8.0					
Green Ext Time (p_c), s	0.1		0.7		0.0		3.2					
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘	↖		↗		↖		↗	↘	↖
Traffic Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	41	179	33	162	0	296	0	86	152	364	130	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	98	429	420	0	0	0	0	457	392	735	1029	0
Arrive On Green	0.29	0.29	0.29	0.04	0.00	0.04	0.00	0.26	0.26	0.21	0.55	0.00
Sat Flow, veh/h	344	1502	1469		0		0	1863	1516	3442	1863	0
Grp Volume(v), veh/h	220	0	33		0.0		0	86	152	364	130	0
Grp Sat Flow(s),veh/h/ln	1846	0	1469				0	1770	1516	1721	1863	0
Q Serve(g_s), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Prop In Lane	0.19		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	528	0	420				0	457	392	735	1029	0
V/C Ratio(X)	0.42	0.00	0.08				0.00	0.19	0.39	0.50	0.13	0.00
Avail Cap(c_a), veh/h	1415	0	1126				0	1285	1101	2037	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	9.7				0.0	10.7	11.4	12.9	4.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1				0.0	0.2	0.6	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3				0.0	0.7	1.3	1.7	0.6	0.0
LnGrp Delay(d),s/veh	11.3	0.0	9.8				0.0	10.9	12.0	13.4	4.1	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		253						238			494	
Approach Delay, s/veh		11.1						11.6			10.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.9	12.6		13.6		23.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	20.5	25.5		27.0		50.5						
Max Q Clear Time (g_c+1.5), s	15.5	5.1		5.6		3.2						
Green Ext Time (p_c), s	1.1	1.4		1.3		0.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	233	344	32				0	661	309	286	624	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	516	425				0	1235	517	451	948	0
Arrive On Green	0.28	0.28	0.28				0.00	0.33	0.34	0.25	0.25	0.00
Sat Flow, veh/h	1774	1863	1533				0	3725	1524	1774	3725	0
Grp Volume(v), veh/h	233	344	32				0	661	309	286	624	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1533				0	1863	1524	1774	1863	0
Q Serve(g_s), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Cycle Q Clear(g_c), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	516	425				0	1235	517	451	948	0
V/C Ratio(X)	0.47	0.67	0.08				0.00	0.54	0.60	0.63	0.66	0.00
Avail Cap(c_a), veh/h	769	807	665				0	1728	718	593	1246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.8	21.1	17.5				0.0	17.9	18.0	21.8	22.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	0.1				0.0	0.4	1.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.8	0.4				0.0	4.9	4.8	4.8	5.1	0.0
LnGrp Delay(d),s/veh	20.5	22.6	17.6				0.0	18.2	19.1	23.3	22.7	0.0
LnGrp LOS	C	C	B					B	B	C	C	
Approach Vol, veh/h		609						970			910	
Approach Delay, s/veh		21.5						18.5			22.9	
Approach LOS		C						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.8		21.2		19.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.0		27.0		20.5						
Max Q Clear Time (g_c+I1), s		13.1		12.8		11.9						
Green Ext Time (p_c), s		5.2		2.5		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.97		0.96	0.98		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	4	133	0	180	1	699	45	213	488	2
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	113	297	535	0	439	70	1243	548	317	2150	9
Arrive On Green	0.29	0.29	0.29	0.29	0.00	0.29	0.36	0.36	0.36	0.18	0.59	0.59
Sat Flow, veh/h	124	390	1028	1370	0	1520	1	3471	1531	1774	3614	15
Grp Volume(v), veh/h	6	0	0	133	0	180	375	325	45	213	239	251
Grp Sat Flow(s),veh/h/ln	1543	0	0	1370	0	1520	1862	1610	1531	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	4.9	0.0	8.4	1.0	5.8	3.3	3.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.9	0.0	4.9	8.4	8.4	1.0	5.8	3.3	3.3
Prop In Lane	0.17		0.67	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	527	0	0	535	0	439	737	577	548	317	1053	1106
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.41	0.51	0.56	0.08	0.67	0.23	0.23
Avail Cap(c_a), veh/h	887	0	0	867	0	809	1059	857	815	549	1592	1673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	14.4	0.0	14.8	13.3	13.3	11.0	19.8	4.9	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.5	0.9	0.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.1	4.4	3.8	0.4	3.1	1.6	1.7
LnGrp Delay(d),s/veh	13.1	0.0	0.0	14.7	0.0	15.4	13.9	14.2	11.0	22.3	5.0	5.0
LnGrp LOS	B			B		B	B	B	B	C	A	A
Approach Vol, veh/h		6			313			745			703	
Approach Delay, s/veh		13.1			15.1			13.8			10.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	2.2	21.5		17.9		33.8		17.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	4.5	26.0		26.0		45.0		26.0				
Max Q Clear Time (g_c+I1), s	10.4			2.1		5.3		6.9				
Green Ext Time (p_c), s	0.3	4.1		0.0		3.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	502	221	143	305	146	483		
Future Volume (veh/h)	502	221	143	305	146	483		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.94		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	502	221	143	305	146	192		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1244	572	493	871	708	996		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	646	2377	1863	2621		
Grp Volume(v), veh/h	502	221	239	209	146	192		
Grp Sat Flow(s),veh/h/ln	1721	1583	1328	1610	1863	1311		
Q Serve(g_s), s	2.5	2.4	1.5	2.1	1.2	1.1		
Cycle Q Clear(g_c), s	2.5	2.4	2.7	2.1	1.2	1.1		
Prop In Lane	1.00	1.00	0.60			1.00		
Lane Grp Cap(c), veh/h	1244	572	753	612	708	996		
V/C Ratio(X)	0.40	0.39	0.32	0.34	0.21	0.19		
Avail Cap(c_a), veh/h	3189	1467	1491	1561	1806	2541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.5	5.2	5.1	4.8	4.8		
Incr Delay (d2), s/veh	0.2	0.4	0.2	0.3	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.0	0.6	0.4		
LnGrp Delay(d),s/veh	5.7	5.9	5.4	5.5	5.0	4.9		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	723			448	338			
Approach Delay, s/veh	5.8			5.5	4.9			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		11.8		11.4		11.8		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+l1), s		4.7		4.5		3.2		
Green Ext Time (p_c), s		2.6		2.4		1.5		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	8	20	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	2157	2157	2157	2157	2157	2200	1863	1863	1900	1078	1078	1100
Adj Flow Rate, veh/h	85	134	26	378	232	65	46	271	45	131	313	31
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	198	325	504	493	133	79	1656	271	172	1251	114
Arrive On Green	0.06	0.09	0.09	0.12	0.15	0.15	0.01	0.18	0.18	0.15	0.66	0.66
Sat Flow, veh/h	2054	2157	3540	4108	3217	871	1774	3029	495	1027	1882	185
Grp Volume(v), veh/h	85	134	26	378	153	144	46	157	159	131	169	175
Grp Sat Flow(s),veh/h/ln	2054	2157	1770	2054	2157	1931	1774	1770	1755	1027	1025	1042
Q Serve(g_s), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Cycle Q Clear(g_c), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.28	1.00		0.18
Lane Grp Cap(c), veh/h	133	198	325	504	331	296	79	968	959	172	675	689
V/C Ratio(X)	0.64	0.68	0.08	0.75	0.46	0.49	0.58	0.16	0.17	0.76	0.25	0.25
Avail Cap(c_a), veh/h	470	478	784	939	485	434	317	981	973	183	675	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	61.6	58.2	59.4	54.0	54.3	67.7	30.3	30.4	57.7	10.9	10.9
Incr Delay (d2), s/veh	5.0	4.0	0.1	2.3	1.0	1.2	5.6	0.3	0.3	16.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	2.1	2.0
%ile BackOfQ(50%),veh/ln	3.4	5.2	0.5	7.2	5.5	5.2	1.9	5.2	5.3	10.2	5.1	5.2
LnGrp Delay(d),s/veh	68.9	65.6	58.3	61.6	55.0	55.6	73.3	30.6	30.7	139.8	13.9	13.8
LnGrp LOS	E	E	E	E	E	E	E	C	C	F	B	B
Approach Vol, veh/h	245		675				362			475		
Approach Delay, s/veh	66.0		58.8				36.1			48.6		
Approach LOS	E		E				D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.9	80.1	20.2	15.9	9.2	94.8	12.1	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.5	38.5	30.5	29.5	23.5	38.5	30.5	29.5				
Max Q Clear Time (g_c+119, s)	119.4	12.7	14.4	10.4	5.6	11.6	7.7	11.6				
Green Ext Time (p_c), s	0.1	1.9	1.2	0.7	0.1	2.1	0.2	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	52.4											
HCM 2010 LOS	D											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.79		0.68	0.80		0.66	0.86		0.75	0.84		0.71
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	27	23	71	49	26	183	48	73	161	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	437	150	116	307	190	104	629	155	246	511	59
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	1.00	1.00	0.94	0.51	0.51	0.47
Sat Flow, veh/h	64	1093	376	142	768	474	92	1224	302	349	994	115
Grp Volume(v), veh/h	110	0	0	143	0	0	257	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1533	0	0	1383	0	0	1618	0	0	1458	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.6	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0
Prop In Lane	0.09		0.25	0.16		0.34	0.10		0.19	0.29		0.08
Lane Grp Cap(c), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.00	0.00	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	14.3	0.0	0.0	0.2	0.0	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	14.3	0.0	0.0	15.2	0.0	0.0	1.0	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	110				143				257		254	
Approach Delay, s/veh	14.3				15.2				1.0		10.7	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	2.2		5.2		8.0		6.6					
Green Ext Time (p_c), s	1.8		0.6		1.8		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29		
Future Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29		
Number	7	4	14	3	8	18	5	2	12	1	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.86		0.68	0.87		0.71	0.89		0.79	0.94		0.76		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900		
Adj Flow Rate, veh/h	32	149	49	22	105	40	42	185	57	33	151	29		
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2		
Cap, veh/h	110	429	130	104	418	146	141	571	164	148	629	113		
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	0.51	0.51	0.47	0.51	0.51	0.47		
Sat Flow, veh/h	129	1071	325	115	1045	366	159	1111	319	173	1223	220		
Grp Volume(v), veh/h	230	0	0	167	0	0	284	0	0	213	0	0		
Grp Sat Flow(s),veh/h/ln	1525	0	0	1526	0	0	1589	0	0	1616	0	0		
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
Cycle Q Clear(g_c), s	7.1	0.0	0.0	4.9	0.0	0.0	6.9	0.0	0.0	4.8	0.0	0.0		
Prop In Lane	0.14		0.21	0.13		0.24	0.15		0.20	0.15		0.14		
Lane Grp Cap(c), veh/h	669	0	0	669	0	0	876	0	0	890	0	0		
V/C Ratio(X)	0.34	0.00	0.00	0.25	0.00	0.00	0.32	0.00	0.00	0.24	0.00	0.00		
Avail Cap(c_a), veh/h	669	0	0	669	0	0	876	0	0	890	0	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh	15.0	0.0	0.0	14.3	0.0	0.0	10.1	0.0	0.0	9.5	0.0	0.0		
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0	2.4	0.0	0.0		
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.2	0.0	0.0	11.1	0.0	0.0	10.2	0.0	0.0		
LnGrp LOS	B			B			B			B				
Approach Vol, veh/h	230				167				284				213	
Approach Delay, s/veh	16.4				15.2				11.1				10.2	
Approach LOS	B				B				B				B	
Timer	1	2	3	4	5	6	7	8						
Assigned Phs	2		4		6		8							
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0							
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5							
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5							
Max Q Clear Time (g_c+I1), s	8.9		9.1		6.8		6.9							
Green Ext Time (p_c), s	1.9		1.3		1.4		0.9							
Intersection Summary														
HCM 2010 Ctrl Delay			13.0											
HCM 2010 LOS			B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	110	61	89	261	118	24	133	28	21	124	56
Future Volume (veh/h)	38	110	61	89	261	118	24	133	28	21	124	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.69	1.00		0.73	0.97		0.72	0.91		0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1863	980	1863	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	38	110	61	89	261	58	24	133	28	21	124	56
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	193	96	536	483	573	89	279	55	79	214	89
Arrive On Green	0.49	0.49	0.45	0.49	0.49	0.49	0.42	0.42	0.37	0.42	0.42	0.37
Sat Flow, veh/h	82	392	195	1206	980	1164	64	672	131	43	514	215
Grp Volume(v), veh/h	209	0	0	89	261	58	185	0	0	201	0	0
Grp Sat Flow(s),veh/h/ln	670	0	0	1206	980	1164	867	0	0	773	0	0
Q Serve(g_s), s	4.9	0.0	0.0	0.0	12.0	1.7	0.0	0.0	0.0	0.9	0.0	0.0
Cycle Q Clear(g_c), s	16.8	0.0	0.0	6.3	12.0	1.7	10.0	0.0	0.0	13.0	0.0	0.0
Prop In Lane	0.18		0.29	1.00		1.00	0.13		0.15	0.10		0.28
Lane Grp Cap(c), veh/h	395	0	0	536	483	573	423	0	0	382	0	0
V/C Ratio(X)	0.53	0.00	0.00	0.17	0.54	0.10	0.44	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	395	0	0	536	483	573	423	0	0	382	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	0.98	0.98	0.98	0.81	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	10.0	11.4	8.8	14.2	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	0.7	4.2	0.3	2.7	0.0	0.0	5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	0.0	1.1	3.8	0.6	2.7	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	13.7	0.0	0.0	10.6	15.6	9.2	16.9	0.0	0.0	20.2	0.0	0.0
LnGrp LOS	B			B	B	A	B			C		
Approach Vol, veh/h	209				408				185		201	
Approach Delay, s/veh	13.7				13.6				16.9		20.2	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		35.0		30.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	22.5		27.5		22.5		27.5					
Max Q Clear Time (g_c+I1), s	12.0		18.8		15.0		14.0					
Green Ext Time (p_c), s	0.8		0.9		0.7		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	15.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	507	47	10	106	22	18	125	55	38	109	97
Future Volume (veh/h)	37	507	47	10	106	22	18	125	55	38	109	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.81	0.97		0.77	1.00		0.85	0.99		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	980	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	37	507	47	10	106	22	18	125	55	38	109	97
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	116	1460	132	63	346	68	68	258	106	90	172	139
Arrive On Green	0.49	0.49	0.43	0.49	0.49	0.43	0.44	0.44	0.38	0.44	0.44	0.38
Sat Flow, veh/h	134	2956	267	30	700	138	42	589	243	86	388	312
Grp Volume(v), veh/h	314	0	277	138	0	0	198	0	0	244	0	0
Grp Sat Flow(s),veh/h/ln	1781	0	1576	869	0	0	874	0	0	786	0	0
Q Serve(g_s), s	0.0	0.0	8.8	0.0	0.0	0.0	0.0	0.0	0.0	6.2	0.0	0.0
Cycle Q Clear(g_c), s	8.2	0.0	8.8	7.4	0.0	0.0	13.2	0.0	0.0	19.4	0.0	0.0
Prop In Lane	0.12		0.17	0.07		0.16	0.09		0.28	0.16		0.40
Lane Grp Cap(c), veh/h	930	0	778	477	0	0	432	0	0	401	0	0
V/C Ratio(X)	0.34	0.00	0.36	0.29	0.00	0.00	0.46	0.00	0.00	0.61	0.00	0.00
Avail Cap(c_a), veh/h	930	0	778	477	0	0	432	0	0	401	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	0.0	12.7	12.4	0.0	0.0	16.8	0.0	0.0	18.5	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.3	1.5	0.0	0.0	3.5	0.0	0.0	6.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	4.1	2.0	0.0	0.0	3.6	0.0	0.0	5.1	0.0	0.0
LnGrp Delay(d),s/veh	13.3	0.0	14.0	13.9	0.0	0.0	20.3	0.0	0.0	25.2	0.0	0.0
LnGrp LOS	B		B	B			C			C		
Approach Vol, veh/h	591			138			198			244		
Approach Delay, s/veh	13.6			13.9			20.3			25.2		
Approach LOS	B			B			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	30.5		34.5		30.5		34.5					
Max Q Clear Time (g_c+I1), s	15.2		10.8		21.4		9.4					
Green Ext Time (p_c), s	1.0		4.1		1.1		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay	17.2											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	357	55	25	267	30	38	135	72	18	114	34
Future Volume (veh/h)	38	357	55	25	267	30	38	135	72	18	114	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	0.94		0.89	0.98		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900	1900	980	1900	1900	1275	1900	1900	1863	1900
Adj Flow Rate, veh/h	38	357	55	25	267	30	38	135	72	18	114	34
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	570	84	75	399	43	105	277	134	97	518	144
Arrive On Green	0.50	0.50	0.46	0.50	0.50	0.46	0.41	0.41	0.37	0.41	0.41	0.37
Sat Flow, veh/h	72	1139	169	38	798	86	109	669	324	96	1249	347
Grp Volume(v), veh/h	450	0	0	322	0	0	245	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1380	0	0	923	0	0	1102	0	0	1692	0	0
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	16.3	0.0	0.0	18.0	0.0	0.0	11.2	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.08		0.12	0.08		0.09	0.16		0.29	0.11		0.20
Lane Grp Cap(c), veh/h	746	0	0	517	0	0	516	0	0	758	0	0
V/C Ratio(X)	0.60	0.00	0.00	0.62	0.00	0.00	0.47	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	746	0	0	517	0	0	516	0	0	758	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.0	0.0	0.0	13.3	0.0	0.0	15.6	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	0.0	5.6	0.0	0.0	3.1	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	0.0	5.5	0.0	0.0	4.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	16.6	0.0	0.0	18.9	0.0	0.0	18.7	0.0	0.0	14.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	450				322				245		166	
Approach Delay, s/veh	16.6				18.9				18.7		14.1	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	13.2		18.3		6.4		20.0					
Green Ext Time (p_c), s	1.1		2.4		0.9		1.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.71	0.92		0.82	0.95		0.81	0.87		0.77
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	182	57	26	101	34	9	76	26	28	239	82
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	432	125	130	469	146	82	575	186	85	565	185
Arrive On Green	0.44	0.44	0.40	0.44	0.44	0.40	0.49	0.49	0.45	0.49	0.49	0.45
Sat Flow, veh/h	243	988	286	178	1072	335	68	1179	382	74	1158	379
Grp Volume(v), veh/h	302	0	0	161	0	0	111	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1517	0	0	1585	0	0	1629	0	0	1611	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	4.7	0.0	0.0	2.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.21		0.19	0.16		0.21	0.08		0.23	0.08		0.23
Lane Grp Cap(c), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	14.2	0.0	0.0	11.5	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	2.4	0.0	0.0	1.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	17.5	0.0	0.0	14.9	0.0	0.0	11.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	302				161				111		349	
Approach Delay, s/veh	17.5				14.9				11.8		15.1	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.0		38.0		42.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	34.5		30.5		34.5		30.5					
Max Q Clear Time (g_c+I1), s	4.9		12.5		13.1		6.7					
Green Ext Time (p_c), s	0.7		2.0		2.4		1.0					
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.80	0.89		0.78	0.92		0.81	0.88		0.81
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	165	38	18	224	65	10	69	12	20	217	36
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	607	131	97	595	166	113	563	91	103	579	92
Arrive On Green	0.48	0.48	0.42	0.48	0.48	0.42	0.41	0.41	0.35	0.41	0.41	0.35
Sat Flow, veh/h	97	1275	275	49	1252	349	86	1381	223	70	1420	226
Grp Volume(v), veh/h	228	0	0	307	0	0	91	0	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1647	0	0	1650	0	0	1690	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	6.1	0.0	0.0	1.7	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.11		0.17	0.06		0.21	0.11		0.13	0.07		0.13
Lane Grp Cap(c), veh/h	861	0	0	859	0	0	767	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.36	0.00	0.00	0.12	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1060	0	0	1062	0	0	986	0	0	1002	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.9	0.0	0.0	9.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.9	0.0	0.0	0.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	A			A			A			B		
Approach Vol, veh/h	228				307				91		273	
Approach Delay, s/veh	8.5				9.1				9.7		11.1	
Approach LOS	A				A				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		27.5		24.0		27.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.7		6.2		7.7		8.1					
Green Ext Time (p_c), s	0.4		1.4		1.5		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	19	274	14	102	296	174	12	450	85	209	439	36
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	920	760	529	920	752	62	1511	676	344	771	66
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	913	1863	1538	1080	1863	1523	33	3405	1522	598	1737	148
Grp Volume(v), veh/h	19	274	14	102	296	174	246	216	85	282	0	402
Grp Sat Flow(s),veh/h/ln	913	1863	1538	1080	1863	1523	1828	1610	1522	825	0	1658
Q Serve(g_s), s	1.0	7.0	0.4	5.0	7.7	5.2	0.0	6.9	2.6	19.2	0.0	14.3
Cycle Q Clear(g_c), s	8.7	7.0	0.4	11.9	7.7	5.2	6.8	6.9	2.6	26.1	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	0.05		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
V/C Ratio(X)	0.04	0.30	0.02	0.19	0.32	0.23	0.29	0.30	0.13	0.63	0.00	0.55
Avail Cap(c_a), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	12.0	10.3	15.6	12.2	11.6	14.3	14.3	13.1	22.2	0.0	16.4
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.8	0.9	0.7	0.8	1.1	0.4	6.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	0.2	1.6	4.1	2.3	3.7	3.3	1.2	6.3	0.0	7.1
LnGrp Delay(d),s/veh	15.0	12.8	10.4	16.4	13.1	12.3	15.1	15.4	13.5	28.9	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		307			572			547			684	
Approach Delay, s/veh		12.9			13.4			15.0			23.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		8.9		10.7		28.1		13.9				
Green Ext Time (p_c), s		3.2		1.8		2.2		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	266	32	90	224	65	25	596	75	108	430	41
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1088	126	234	414	108	135	1309	162	281	994	97
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	233	2782	323	271	1058	275	56	2997	371	314	2275	221
Grp Volume(v), veh/h	180	0	161	379	0	0	368	0	328	273	0	306
Grp Sat Flow(s),veh/h/ln	1709	0	1629	1604	0	0	1804	0	1620	1161	0	1649
Q Serve(g_s), s	0.0	0.0	2.3	2.6	0.0	0.0	0.0	0.0	5.0	1.3	0.0	4.5
Cycle Q Clear(g_c), s	2.3	0.0	2.3	6.2	0.0	0.0	4.8	0.0	5.0	6.2	0.0	4.5
Prop In Lane	0.24		0.20	0.24		0.17	0.07		0.23	0.40		0.13
Lane Grp Cap(c), veh/h	796	0	637	755	0	0	898	0	708	651	0	720
V/C Ratio(X)	0.23	0.00	0.25	0.50	0.00	0.00	0.41	0.00	0.46	0.42	0.00	0.42
Avail Cap(c_a), veh/h	1131	0	981	1079	0	0	3530	0	3160	2440	0	3216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	7.2	8.2	0.0	0.0	6.9	0.0	6.9	6.7	0.0	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	3.0	0.0	0.0	2.5	0.0	2.3	2.0	0.0	2.0
LnGrp Delay(d),s/veh	7.3	0.0	7.4	8.8	0.0	0.0	7.2	0.0	7.4	7.2	0.0	7.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	341				379		696				579	
Approach Delay, s/veh	7.3				8.8		7.3				7.2	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.2		16.6		18.2		16.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		19.5		66.5		19.5					
Max Q Clear Time (g_c+I1), s	7.0		4.3		8.2		8.2					
Green Ext Time (p_c), s	5.2		1.8		4.8		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	7.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.87	0.95		0.93	0.97		0.91	0.95		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	206	63	25	161	49	13	170	51	63	249	121
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	602	184	102	568	161	74	594	171	614	518	252
Arrive On Green	0.46	0.46	0.41	0.46	0.46	0.41	0.91	0.91	0.83	0.46	0.46	0.41
Sat Flow, veh/h	1122	1317	403	98	1242	353	43	1299	374	1093	1134	551
Grp Volume(v), veh/h	177	0	269	235	0	0	234	0	0	63	0	370
Grp Sat Flow(s),veh/h/ln	1122	0	1720	1694	0	0	1716	0	0	1093	0	1685
Q Serve(g_s), s	1.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.9
Cycle Q Clear(g_c), s	7.1	0.0	7.1	5.9	0.0	0.0	1.3	0.0	0.0	1.6	0.0	10.9
Prop In Lane	1.00		0.23	0.11		0.21	0.06		0.22	1.00		0.33
Lane Grp Cap(c), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
V/C Ratio(X)	0.29	0.00	0.34	0.28	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.48
Avail Cap(c_a), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.5	12.1	0.0	0.0	2.1	0.0	0.0	10.7	0.0	13.6
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.9	0.0	0.0	0.8	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	3.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	5.5
LnGrp Delay(d),s/veh	13.4	0.0	13.7	13.0	0.0	0.0	2.9	0.0	0.0	11.1	0.0	15.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	446			235			234			433		
Approach Delay, s/veh	13.6			13.0			2.9			15.1		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	3.3		9.1		12.9		7.9					
Green Ext Time (p_c), s	1.4		2.4		2.3		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.82		0.73	0.93		0.70	0.92		0.71	0.85		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	202	73	30	200	40	22	125	28	42	240	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	500	170	106	591	111	113	565	118	605	617	152
Arrive On Green	0.46	0.46	0.41	0.93	0.93	0.83	0.46	0.46	0.41	0.46	0.46	0.41
Sat Flow, veh/h	99	1076	365	105	1273	240	120	1218	255	1045	1330	327
Grp Volume(v), veh/h	308	0	0	270	0	0	175	0	0	42	0	299
Grp Sat Flow(s),veh/h/ln	1540	0	0	1617	0	0	1592	0	0	1045	0	1657
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	1.2	0.0	8.4
Prop In Lane	0.11		0.24	0.11		0.15	0.13		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
V/C Ratio(X)	0.40	0.00	0.00	0.33	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.39
Avail Cap(c_a), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	1.7	0.0	0.0	11.4	0.0	0.0	10.4	0.0	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	0.5	0.0	4.1
LnGrp Delay(d),s/veh	14.2	0.0	0.0	2.8	0.0	0.0	12.0	0.0	0.0	10.6	0.0	14.0
LnGrp LOS	B			A			B			B		B
Approach Vol, veh/h	308			270			175			341		
Approach Delay, s/veh	14.2			2.8			12.0			13.6		
Approach LOS	B			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	6.4		10.9		10.4		3.4					
Green Ext Time (p_c), s	1.1		2.0		2.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	10.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

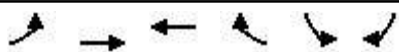
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.74	0.96		0.69	0.97		0.89	0.94		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	320	48	30	160	31	6	110	37	109	164	64
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	887	129	155	755	143	60	734	238	309	450	164
Arrive On Green	0.35	0.35	0.31	0.35	0.35	0.31	0.57	0.57	0.54	0.57	0.57	0.54
Sat Flow, veh/h	223	2536	367	281	2158	409	24	1276	415	435	783	285
Grp Volume(v), veh/h	218	0	193	115	0	106	153	0	0	337	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	1477	1446	0	1403	1715	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	7.9	0.2	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.9	8.1	0.0	4.3	3.4	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.20		0.25	0.26		0.29	0.04		0.24	0.32		0.19
Lane Grp Cap(c), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.20	0.00	0.22	0.15	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	0.0	19.7	18.0	0.0	18.6	8.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	1.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.5	1.9	0.0	1.8	1.7	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	20.6	0.0	21.8	18.9	0.0	19.6	8.4	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	C		C	B		B	A			B		
Approach Vol, veh/h	411				221		153				337	
Approach Delay, s/veh	21.2				19.2		8.4				10.3	
Approach LOS	C				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	49.0		31.0		49.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	41.5		23.5		41.5		23.5					
Max Q Clear Time (g_c+I1), s	5.4		9.9		11.2		10.1					
Green Ext Time (p_c), s	1.0		2.3		2.6		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	15.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	84	363	257	107	138	97		
Future Volume (veh/h)	84	363	257	107	138	97		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.97			0.94	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1471	1863	1900	980	1863		
Adj Flow Rate, veh/h	84	363	257	107	138	25		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	363	666	555	231	194	329		
Arrive On Green	0.45	0.45	0.45	0.45	0.21	0.21		
Sat Flow, veh/h	519	1471	1225	510	934	1583		
Grp Volume(v), veh/h	84	363	0	364	138	25		
Grp Sat Flow(s),veh/h/ln	519	1471	0	1735	934	1583		
Q Serve(g_s), s	4.7	6.3	0.0	5.1	4.9	0.4		
Cycle Q Clear(g_c), s	9.9	6.3	0.0	5.1	4.9	0.4		
Prop In Lane	1.00			0.29	1.00	1.00		
Lane Grp Cap(c), veh/h	363	666	0	786	194	329		
V/C Ratio(X)	0.23	0.55	0.00	0.46	0.71	0.08		
Avail Cap(c_a), veh/h	363	666	0	786	977	1657		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.1	7.0	0.0	6.7	13.0	11.3		
Incr Delay (d2), s/veh	1.5	3.2	0.0	2.0	4.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	3.1	0.0	2.9	1.5	0.2		
LnGrp Delay(d),s/veh	11.6	10.2	0.0	8.7	17.8	11.4		
LnGrp LOS	B	B		A	B	B		
Approach Vol, veh/h		447	364		163			
Approach Delay, s/veh		10.5	8.7		16.8			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				22.0		13.3		22.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				14.5		35.5		14.5
Max Q Clear Time (g_c+I1), s				11.9		6.9		7.1
Green Ext Time (p_c), s				0.8		0.5		1.4
Intersection Summary								
HCM 2010 Ctrl Delay			10.9					
HCM 2010 LOS			B					

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	56	31	200	31	64	34	1244	145	105	1126	9
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	227	109	417	118	244	102	1791	208	175	2167	17
Arrive On Green	0.22	0.22	0.21	0.22	0.22	0.21	0.06	0.56	0.55	0.10	0.60	0.59
Sat Flow, veh/h	171	1027	495	1295	534	1103	1774	3194	371	1774	3598	29
Grp Volume(v), veh/h	106	0	0	200	0	95	34	687	702	105	554	581
Grp Sat Flow(s),veh/h/ln	1693	0	0	1295	0	1638	1774	1770	1795	1774	1770	1857
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.1	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Prop In Lane	0.18		0.29	1.00		0.67	1.00		0.21	1.00		0.02
Lane Grp Cap(c), veh/h	437	0	0	417	0	362	102	992	1007	175	1066	1119
V/C Ratio(X)	0.24	0.00	0.00	0.48	0.00	0.26	0.33	0.69	0.70	0.60	0.52	0.52
Avail Cap(c_a), veh/h	1236	0	0	1048	0	1160	352	1991	2020	502	2142	2247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	21.8	30.4	10.6	10.7	29.0	7.7	7.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.4	1.9	0.9	0.9	3.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.4	0.0	1.5	0.7	9.2	9.4	2.0	6.0	6.3
LnGrp Delay(d),s/veh	22.0	0.0	0.0	24.1	0.0	22.1	32.3	11.5	11.5	32.2	8.1	8.1
LnGrp LOS	C			C		C	C	B	B	C	A	A
Approach Vol, veh/h	106			295			1423			1240		
Approach Delay, s/veh	22.0			23.5			12.0			10.1		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	40.1		17.3	6.8	42.9		17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+1.5), s	15.8	20.9		5.3	3.2	14.2		10.1				
Green Ext Time (p_c), s	0.2	14.7		0.6	0.0	10.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	12.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	110	37	104	72	29	14	1458	126	18	1231	53
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	235	70	273	165	55	76	2102	180	81	2170	93
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	427	955	282	693	669	224	10	3188	273	17	3292	141
Grp Volume(v), veh/h	218	0	0	205	0	0	840	0	758	674	0	628
Grp Sat Flow(s),veh/h/ln	1664	0	0	1586	0	0	1829	0	1643	1781	0	1668
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	10.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	0.0	0.0	14.8	0.0	15.5	10.2	0.0	10.9
Prop In Lane	0.33		0.17	0.51		0.14	0.02		0.17	0.03		0.08
Lane Grp Cap(c), veh/h	500	0	0	493	0	0	1275	0	1083	1244	0	1100
V/C Ratio(X)	0.44	0.00	0.00	0.42	0.00	0.00	0.66	0.00	0.70	0.54	0.00	0.57
Avail Cap(c_a), veh/h	883	0	0	844	0	0	1743	0	1520	1682	0	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	17.0	0.0	0.0	5.6	0.0	5.7	4.8	0.0	4.9
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.6	0.0	0.0	7.7	0.0	7.0	5.2	0.0	5.0
LnGrp Delay(d),s/veh	17.8	0.0	0.0	17.6	0.0	0.0	6.2	0.0	6.6	5.2	0.0	5.4
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	218				205		1598				1302	
Approach Delay, s/veh	17.8				17.6		6.4				5.3	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.4		15.6		37.4		15.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	17.5		7.5		12.9		7.2					
Green Ext Time (p_c), s	15.4		1.1		12.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	257	74	77	1139	1269	201		
Future Volume (veh/h)	257	74	77	1139	1269	201		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	257	74	77	1139	1269	201		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	334	96	138	2342	1655	260		
Arrive On Green	0.25	0.25	0.08	0.66	0.54	0.54		
Sat Flow, veh/h	1329	383	1774	3632	3154	481		
Grp Volume(v), veh/h	332	0	77	1139	730	740		
Grp Sat Flow(s),veh/h/ln	1717	0	1774	1770	1770	1772		
Q Serve(g_s), s	12.4	0.0	2.9	11.1	22.2	22.7		
Cycle Q Clear(g_c), s	12.4	0.0	2.9	11.1	22.2	22.7		
Prop In Lane	0.77	0.22	1.00			0.27		
Lane Grp Cap(c), veh/h	431	0	138	2342	957	958		
V/C Ratio(X)	0.77	0.00	0.56	0.49	0.76	0.77		
Avail Cap(c_a), veh/h	623	0	206	3030	1232	1234		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	0.0	30.6	5.8	12.4	12.5		
Incr Delay (d2), s/veh	3.6	0.0	3.5	0.2	2.1	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	1.5	5.4	11.3	11.5		
LnGrp Delay(d),s/veh	27.6	0.0	34.2	6.0	14.5	14.8		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	332			1216	1470			
Approach Delay, s/veh	27.6			7.8	14.7			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.6		20.3	8.4	40.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		57.5		23.5	6.5	46.5		
Max Q Clear Time (g_c+l1), s		13.1		14.4	4.9	24.7		
Green Ext Time (p_c), s		10.6		0.7	0.0	11.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	276	118	1404	282	74	1208		
Future Volume (veh/h)	276	118	1404	282	74	1208		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	276	31	1404	145	74	1208		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	1865	802	157	2371		
Arrive On Green	0.22	0.22	0.53	0.53	0.09	0.67		
Sat Flow, veh/h	1774	1583	3632	1522	1774	3632		
Grp Volume(v), veh/h	276	31	1404	145	74	1208		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1522	1774	1770		
Q Serve(g_s), s	7.9	0.9	17.2	2.7	2.2	9.4		
Cycle Q Clear(g_c), s	7.9	0.9	17.2	2.7	2.2	9.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	392	350	1865	802	157	2371		
V/C Ratio(X)	0.70	0.09	0.75	0.18	0.47	0.51		
Avail Cap(c_a), veh/h	981	875	2181	938	209	2791		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	17.1	10.2	6.8	23.9	4.6		
Incr Delay (d2), s/veh	2.3	0.1	1.3	0.1	2.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.4	8.5	1.2	1.2	4.6		
LnGrp Delay(d),s/veh	22.1	17.2	11.5	6.9	26.1	4.7		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	307		1549			1282		
Approach Delay, s/veh	21.6		11.1			6.0		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	32.1				40.0		15.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+14), s	14.2	19.2				11.4		9.9
Green Ext Time (p_c), s	0.0	8.4				10.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	118	171	132	102	84	93	1533	171	67	1275	116
Future Volume (veh/h)	112	118	171	132	102	84	93	1533	171	67	1275	116
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.90	0.94		0.87	1.00		0.86	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1569	1863	980	1569	1863	1863	2451	1900	1863	1863	1900
Adj Flow Rate, veh/h	112	118	45	132	102	20	93	1533	171	67	1275	116
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	350	461	418	213	468	412	142	3380	376	111	2568	234
Arrive On Green	0.29	0.29	0.29	0.30	0.30	0.30	0.08	0.56	0.56	0.06	0.55	0.54
Sat Flow, veh/h	1152	1569	1423	601	1569	1383	1774	5998	668	1774	4705	428
Grp Volume(v), veh/h	112	118	45	132	102	20	93	1139	565	67	919	472
Grp Sat Flow(s), veh/h/ln	1152	1569	1423	601	1569	1383	1774	2230	2205	1774	1695	1742
Q Serve(g_s), s	8.6	6.1	2.4	22.5	5.2	1.1	5.4	15.8	15.9	3.9	17.8	17.9
Cycle Q Clear(g_c), s	13.7	6.1	2.4	28.6	5.2	1.1	5.4	15.8	15.9	3.9	17.8	17.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.25
Lane Grp Cap(c), veh/h	350	461	418	213	468	412	142	2514	1242	111	1850	951
V/C Ratio(X)	0.32	0.26	0.11	0.62	0.22	0.05	0.65	0.45	0.45	0.61	0.50	0.50
Avail Cap(c_a), veh/h	350	461	418	213	468	412	235	2514	1242	185	1850	951
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	28.5	27.2	39.0	27.8	26.4	47.1	13.5	13.6	48.2	14.9	15.0
Incr Delay (d2), s/veh	0.5	0.3	0.1	5.4	0.2	0.0	5.0	0.6	1.2	5.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	2.7	1.0	4.1	2.3	0.4	2.8	9.9	10.0	2.1	8.3	8.6
LnGrp Delay(d),s/veh	33.9	28.8	27.3	44.4	28.0	26.4	52.2	14.1	14.8	53.5	15.2	15.4
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h	275			254			1797			1458		
Approach Delay, s/veh	30.6			36.4			16.3			17.0		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	62.0		34.0	11.5	60.1		34.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	57.5		29.5	12.5	54.5		29.5				
Max Q Clear Time (g_c+1/3), s	15.9	17.9		15.7	7.4	19.9		30.6				
Green Ext Time (p_c), s	0.0	18.3		1.0	0.1	12.8		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	74	54	113	41	77	17	1561	154	175	1402	30
Future Volume (veh/h)	54	74	54	113	41	77	17	1561	154	175	1402	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.92	0.95		0.94	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	2451	1900	980	2451	1900	2451	2451	1900
Adj Flow Rate, veh/h	54	74	17	113	41	77	17	1561	154	175	1402	30
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	146	153	571	290	226	425	71	2968	292	260	3473	74
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.48	0.48	0.22	0.52	0.52
Sat Flow, veh/h	292	496	1457	1231	732	1376	934	6165	607	2334	6729	144
Grp Volume(v), veh/h	128	0	17	113	0	118	17	1129	586	175	929	503
Grp Sat Flow(s),veh/h/ln	788	0	1457	1231	0	2108	934	2230	2312	2334	2230	2412
Q Serve(g_s), s	8.8	0.0	0.7	7.6	0.0	3.7	1.6	16.1	16.1	6.3	11.6	11.6
Cycle Q Clear(g_c), s	12.5	0.0	0.7	20.2	0.0	3.7	1.6	16.1	16.1	6.3	11.6	11.6
Prop In Lane	0.42		1.00	1.00		0.65	1.00		0.26	1.00		0.06
Lane Grp Cap(c), veh/h	299	0	571	290	0	651	71	2147	1113	260	2303	1245
V/C Ratio(X)	0.43	0.00	0.03	0.39	0.00	0.18	0.24	0.53	0.53	0.67	0.40	0.40
Avail Cap(c_a), veh/h	306	0	584	301	0	669	71	2147	1113	715	3172	1715
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.2	0.0	17.5	34.5	0.0	23.1	39.7	16.5	16.5	34.0	13.5	13.5
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.9	0.0	0.1	7.7	0.9	1.8	3.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.3	2.7	0.0	2.2	0.6	10.2	10.8	4.2	7.1	7.8
LnGrp Delay(d),s/veh	27.1	0.0	17.5	35.4	0.0	23.3	47.4	17.4	18.3	37.0	13.6	13.7
LnGrp LOS	C		B	D		C	D	B	B	D	B	B
Approach Vol, veh/h	145					231				1732	1607	
Approach Delay, s/veh	26.0					29.2				18.0	16.2	
Approach LOS	C					C				B	B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.2	47.0		31.2	10.0	50.2		31.2				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	42.5		27.5	5.5	63.5		27.5				
Max Q Clear Time (g_c+1.3), s	18.3	18.1		14.5	3.6	13.6		22.2				
Green Ext Time (p_c), s	0.4	13.6		0.6	0.0	13.7		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	18.2											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	154	48	44	1861	1532	67		
Future Volume (veh/h)	154	48	44	1861	1532	67		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.96	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	154	48	44	1861	1532	67		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	310	97	101	3047	3284	144		
Arrive On Green	0.24	0.24	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1294	403	54	4785	5160	218		
Grp Volume(v), veh/h	203	0	658	1247	1040	559		
Grp Sat Flow(s),veh/h/ln	1706	0	1601	1543	1695	1821		
Q Serve(g_s), s	6.0	0.0	0.0	13.6	8.8	8.8		
Cycle Q Clear(g_c), s	6.0	0.0	10.9	13.6	8.8	8.8		
Prop In Lane	0.76	0.24	0.07			0.12		
Lane Grp Cap(c), veh/h	408	0	1119	2030	2230	1198		
V/C Ratio(X)	0.50	0.00	0.59	0.61	0.47	0.47		
Avail Cap(c_a), veh/h	818	0	1541	2958	3251	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	0.0	5.3	5.7	4.9	4.9		
Incr Delay (d2), s/veh	0.9	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.6	5.6	4.1	4.4		
LnGrp Delay(d),s/veh	20.1	0.0	5.8	6.0	5.1	5.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	203			1905	1599			
Approach Delay, s/veh	20.1			6.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		41.4		17.0		41.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		54.5		26.5		54.5		
Max Q Clear Time (g_c+l1), s		15.6		8.0		10.8		
Green Ext Time (p_c), s		21.4		0.6		15.9		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.97	0.98		0.95	1.00		0.95	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	95	72	195	68	50	256	1772	274	86	1470	57
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	552	457	384	290	213	320	2343	359	137	2145	83
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.18	0.53	0.53	0.08	0.43	0.43
Sat Flow, veh/h	1223	1863	1540	1189	977	718	1774	4420	676	1774	5020	195
Grp Volume(v), veh/h	104	95	72	195	0	118	256	1355	691	86	993	534
Grp Sat Flow(s),veh/h/ln	1223	1863	1540	1189	0	1695	1774	1695	1706	1774	1695	1824
Q Serve(g_s), s	6.6	3.6	3.2	13.7	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Cycle Q Clear(g_c), s	11.5	3.6	3.2	17.2	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.40	1.00		0.11
Lane Grp Cap(c), veh/h	375	552	457	384	0	502	320	1798	904	137	1448	779
V/C Ratio(X)	0.28	0.17	0.16	0.51	0.00	0.23	0.80	0.75	0.76	0.63	0.69	0.69
Avail Cap(c_a), veh/h	436	645	533	443	0	587	482	2061	1037	215	1552	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	24.5	24.4	30.9	0.0	25.0	36.9	17.3	17.4	42.0	21.8	21.8
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.2	5.6	1.4	3.0	4.6	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.8	1.4	4.6	0.0	2.3	6.8	13.9	14.8	2.3	10.6	11.6
LnGrp Delay(d),s/veh	29.7	24.6	24.5	31.9	0.0	25.2	42.5	18.7	20.4	46.6	22.9	23.9
LnGrp LOS	C	C	C	C		C	D	B	C	D	C	C
Approach Vol, veh/h		271			313			2302			1613	
Approach Delay, s/veh		26.6			29.4			21.8			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.3	52.8		30.8	19.9	43.1		30.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.9	55.6		31.0	24.0	41.5		31.0				
Max Q Clear Time (g_c+16.4), s	16.4	32.0		13.5	15.0	24.3		19.2				
Green Ext Time (p_c), s	0.0	16.2		1.0	0.5	9.6		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				23.6								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	332	241	135	88	71	50	85	1393	29	101	1333	149
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	282	158	177	143	261	130	1909	40	166	1809	202
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	1774	1110	622	1003	809	1482	1774	5125	107	1774	4610	515
Grp Volume(v), veh/h	332	0	376	159	0	50	85	922	500	101	980	502
Grp Sat Flow(s),veh/h/ln	1774	0	1732	1813	0	1482	1774	1695	1841	1774	1695	1735
Q Serve(g_s), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Cycle Q Clear(g_c), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Prop In Lane	1.00		0.36	0.55		1.00	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	451	0	441	319	0	261	130	1263	686	166	1331	681
V/C Ratio(X)	0.74	0.00	0.85	0.50	0.00	0.19	0.65	0.73	0.73	0.61	0.74	0.74
Avail Cap(c_a), veh/h	489	0	478	500	0	409	260	1958	1063	260	1958	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	43.1	0.0	40.7	52.3	31.4	31.4	50.5	30.1	30.1
Incr Delay (d2), s/veh	5.3	0.0	13.2	1.2	0.0	0.4	5.4	0.8	1.5	3.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.1	4.7	0.0	1.4	2.8	12.8	14.1	3.3	13.5	14.0
LnGrp Delay(d),s/veh	44.9	0.0	54.4	44.3	0.0	41.1	57.7	32.2	32.9	54.1	30.9	31.7
LnGrp LOS	D		D	D		D	E	C	C	D	C	C
Approach Vol, veh/h	708			209			1507			1583		
Approach Delay, s/veh	49.9			43.6			33.9			32.7		
Approach LOS	D			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.8	46.2		32.5	11.5	48.5		23.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	65.5		30.5	15.5	65.5		30.5				
Max Q Clear Time (g_c+1/3), s	19.3	29.2		26.0	7.4	30.7		11.2				
Green Ext Time (p_c), s	0.1	12.5		1.6	0.1	13.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.7											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.90	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	178	4	222	260	28	78	1206	336	204	1102	102
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	187	425	446	339	385	1545	430	251	1500	139
Arrive On Green	0.13	0.13	0.13	0.24	0.24	0.24	0.22	0.40	0.40	0.14	0.32	0.32
Sat Flow, veh/h	1774	1863	1491	1774	1863	1418	1774	3909	1089	1774	4698	434
Grp Volume(v), veh/h	152	178	4	222	260	28	78	1046	496	204	795	409
Grp Sat Flow(s),veh/h/ln	1774	1863	1491	1774	1863	1418	1774	1695	1608	1774	1695	1742
Q Serve(g_s), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Cycle Q Clear(g_c), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.25
Lane Grp Cap(c), veh/h	222	233	187	425	446	339	385	1340	635	251	1082	556
V/C Ratio(X)	0.68	0.76	0.02	0.52	0.58	0.08	0.20	0.78	0.78	0.81	0.73	0.74
Avail Cap(c_a), veh/h	264	277	222	476	500	380	385	1637	776	278	1746	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	51.2	46.5	40.1	40.7	35.8	38.8	32.0	32.1	50.5	36.7	36.7
Incr Delay (d2), s/veh	5.7	10.0	0.0	1.0	1.4	0.1	0.3	2.0	4.2	15.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	6.4	0.1	6.6	7.8	0.7	2.2	15.6	15.2	7.7	12.0	12.5
LnGrp Delay(d),s/veh	56.4	61.2	46.5	41.1	42.1	35.9	39.1	34.1	36.3	65.9	37.7	38.6
LnGrp LOS	E	E	D	D	D	D	D	C	D	E	D	D
Approach Vol, veh/h	334				510				1620		1408	
Approach Delay, s/veh	58.8				41.3				35.0		42.0	
Approach LOS	E				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	30.1	50.9			32.0	29.3	41.7	18.2				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	57.0			31.0	13.6	60.9	16.5				
Max Q Clear Time (g_c+1/5), s	11.5	34.7			16.9	6.4	27.3	13.2				
Green Ext Time (p_c), s	0.1	11.7			2.0	0.1	9.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			40.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT		NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	160	0	26	2	0	6	133	1528	0	32	1338	81
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	388	140	34	317	208	2694	0	100	2298	139
Arrive On Green	0.28	0.00	0.28	0.28	0.00	0.28	0.12	0.53	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1373	0	1396	259	122	1143	1774	5253	0	1774	4899	297
Grp Volume(v), veh/h	160	0	26	8	0	0	133	1528	0	32	926	493
Grp Sat Flow(s), veh/h/ln	1373	0	1396	1524	0	0	1774	1695	0	1774	1695	1805
Q Serve(g_s), s	6.0	0.0	0.9	0.0	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Cycle Q Clear(g_c), s	6.3	0.0	0.9	0.2	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	490	0	388	491	0	0	208	2694	0	100	1590	847
V/C Ratio(X)	0.33	0.00	0.07	0.02	0.00	0.00	0.64	0.57	0.00	0.32	0.58	0.58
Avail Cap(c_a), veh/h	773	0	676	798	0	0	322	7463	0	322	4975	2649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.6	17.3	0.0	0.0	27.9	10.4	0.0	30.0	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	3.3	0.2	0.0	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.4	0.1	0.0	0.0	2.5	6.3	0.0	0.6	6.1	6.6
LnGrp Delay(d),s/veh	19.9	0.0	17.6	17.3	0.0	0.0	31.1	10.6	0.0	31.8	13.2	13.5
LnGrp LOS	B		B	B			C	B		C	B	B
Approach Vol, veh/h	186			8			1661			1451		
Approach Delay, s/veh	19.5			17.3			12.3			13.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.0		21.4	10.7	34.0		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	95.5		30.5	10.5	95.5		30.5				
Max Q Clear Time (g_c+I), s	13.1	15.3		8.3	6.7	15.2		2.2				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.1	14.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	54	30	1361	1427	107		
Future Volume (veh/h)	103	54	30	1361	1427	107		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	78	80	30	1361	1427	107		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	238	216	124	2569	2823	212		
Arrive On Green	0.13	0.13	0.07	0.73	0.59	0.59		
Sat Flow, veh/h	1774	1615	1774	3632	4988	361		
Grp Volume(v), veh/h	78	80	30	1361	1004	530		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1792		
Q Serve(g_s), s	1.7	1.9	0.7	7.3	7.5	7.5		
Cycle Q Clear(g_c), s	1.7	1.9	0.7	7.3	7.5	7.5		
Prop In Lane	1.00	1.00	1.00			0.20		
Lane Grp Cap(c), veh/h	238	216	124	2569	1985	1049		
V/C Ratio(X)	0.33	0.37	0.24	0.53	0.51	0.51		
Avail Cap(c_a), veh/h	1285	1170	290	4383	3406	1800		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.8	16.9	18.8	2.6	5.2	5.2		
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.2	0.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.4	3.5	3.4	3.6		
LnGrp Delay(d),s/veh	17.6	17.9	19.8	2.8	5.4	5.6		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	158			1391	1534			
Approach Delay, s/veh	17.8			3.2	5.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.1		8.7	6.0	28.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		9.3		3.9	2.7	9.5		
Green Ext Time (p_c), s		14.6		0.4	0.0	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	86	138	3	123	149	34	42	1147	77	260	1128	82
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	221	180	239	251	212	95	1498	669	330	2686	195
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.05	0.42	0.42	0.19	0.56	0.56
Sat Flow, veh/h	1774	1863	1519	1774	1863	1576	1774	3539	1580	1774	4834	351
Grp Volume(v), veh/h	86	138	3	123	149	34	42	1147	77	260	791	419
Grp Sat Flow(s),veh/h/ln	1774	1863	1519	1774	1863	1576	1774	1770	1580	1774	1695	1795
Q Serve(g_s), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Cycle Q Clear(g_c), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	211	221	180	239	251	212	95	1498	669	330	1883	997
V/C Ratio(X)	0.41	0.62	0.02	0.51	0.59	0.16	0.44	0.77	0.12	0.79	0.42	0.42
Avail Cap(c_a), veh/h	446	469	382	649	682	577	142	2105	940	548	2792	1479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	36.7	34.0	35.2	35.6	33.4	40.1	21.5	15.3	33.9	11.3	11.3
Incr Delay (d2), s/veh	1.3	2.9	0.0	1.7	2.2	0.3	3.2	1.1	0.1	4.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.4	0.1	2.9	3.5	0.7	1.1	12.0	1.1	6.4	5.5	5.9
LnGrp Delay(d),s/veh	37.0	39.5	34.1	36.9	37.8	33.8	43.3	22.6	15.4	38.1	11.4	11.5
LnGrp LOS	D	D	C	D	D	C	D	C	B	D	B	B
Approach Vol, veh/h	227				306				1266		1470	
Approach Delay, s/veh	38.5				37.0				22.9		16.2	
Approach LOS	D				D				C		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	19.3	40.0			13.4	7.7	51.6	14.8				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	25.5	50.5			20.5	5.5	70.5	30.5				
Max Q Clear Time (g_c+14.2), s	14.2	26.2			8.2	4.0	13.8	8.6				
Green Ext Time (p_c), s	0.6	9.3			0.7	0.0	10.7	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	22.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169				
Future Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.87	1.00		0.96	1.00		0.96				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	235	0	56	5	7	4	311	451	3	2	267	169				
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	444	0	197	89	124	71	397	961	6	41	336	212				
Arrive On Green	0.13	0.00	0.13	0.17	0.17	0.17	0.22	0.52	0.52	0.02	0.32	0.32				
Sat Flow, veh/h	3548	0	1571	527	738	422	1774	1848	12	1774	1051	665				
Grp Volume(v), veh/h	235	0	56	16	0	0	311	0	454	2	0	436				
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1687	0	0	1774	0	1860	1774	0	1716				
Q Serve(g_s), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0				
Cycle Q Clear(g_c), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0				
Prop In Lane	1.00		1.00	0.31		0.25	1.00		0.01	1.00		0.39				
Lane Grp Cap(c), veh/h	444	0	197	284	0	0	397	0	968	41	0	548				
V/C Ratio(X)	0.53	0.00	0.28	0.06	0.00	0.00	0.78	0.00	0.47	0.05	0.00	0.80				
Avail Cap(c_a), veh/h	1280	0	567	471	0	0	797	0	1758	159	0	1005				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00				
Uniform Delay (d), s/veh	30.1	0.0	29.1	25.7	0.0	0.0	26.8	0.0	11.2	35.1	0.0	22.8				
Incr Delay (d2), s/veh	1.0	0.0	0.8	0.1	0.0	0.0	3.4	0.0	0.4	0.5	0.0	2.7				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.1	0.3	0.0	0.0	6.3	0.0	5.9	0.0	0.0	8.4				
LnGrp Delay(d),s/veh	31.1	0.0	29.9	25.7	0.0	0.0	30.2	0.0	11.5	35.6	0.0	25.5				
LnGrp LOS	C		C	C			C		B	D		C				
Approach Vol, veh/h	291			16			765			438						
Approach Delay, s/veh	30.9			25.7			19.1			25.5						
Approach LOS	C			C			B			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	4.7	41.2			12.2	19.4	26.5	15.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	67.9				25.0	31.5	41.5	19.0								
Max Q Clear Time (g_c+I1), s	13.4				6.6	14.1	19.0	2.6								
Green Ext Time (p_c), s	0.0	3.3			0.9	0.9	2.9	0.0								
Intersection Summary																
HCM 2010 Ctrl Delay	23.3															
HCM 2010 LOS	C															
Notes																

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	86	30	1	59	1	21	13	544	118	347	714	8
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	63	210	195	3	173	73	873	189	443	1832	21
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.04	0.30	0.30	0.25	0.51	0.51
Sat Flow, veh/h	1332	465	1552	1746	30	1545	1774	2885	623	1774	3585	40
Grp Volume(v), veh/h	116	0	1	60	0	21	13	333	329	347	352	370
Grp Sat Flow(s),veh/h/ln	1796	0	1552	1775	0	1545	1774	1770	1739	1774	1770	1855
Q Serve(g_s), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Prop In Lane	0.74		1.00	0.98		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	243	0	210	198	0	173	73	535	526	443	904	948
V/C Ratio(X)	0.48	0.00	0.00	0.30	0.00	0.12	0.18	0.62	0.63	0.78	0.39	0.39
Avail Cap(c_a), veh/h	765	0	661	756	0	658	193	786	772	604	1197	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	22.4	24.5	0.0	24.0	27.7	17.9	18.0	21.0	8.9	8.9
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.8	0.0	0.3	1.1	1.2	1.2	4.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.0	0.0	0.3	0.2	4.9	4.8	5.9	3.6	3.8
LnGrp Delay(d),s/veh	25.4	0.0	22.4	25.3	0.0	24.3	28.9	19.1	19.2	25.6	9.2	9.2
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h	117				81		675				1069	
Approach Delay, s/veh	25.3				25.0		19.3				14.5	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	8.0	21.1			9.7	5.5	33.6	11.1				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.9	25.1			24.0	5.0	39.0	24.0				
Max Q Clear Time (g_c+112, s)	11.8	11.8			3.9	2.4	9.3	5.6				
Green Ext Time (p_c), s	0.6	3.5			0.3	0.0	4.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020

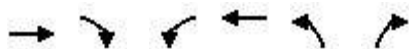


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	195	929	562	51	103	437		
Future Volume (veh/h)	195	929	562	51	103	437		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	195	929	562	51	103	98		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	615	2349	1276	116	312	491		
Arrive On Green	0.18	0.66	0.39	0.37	0.18	0.18		
Sat Flow, veh/h	3442	3632	3375	297	1774	2787		
Grp Volume(v), veh/h	195	929	303	310	103	98		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1809	1774	1393		
Q Serve(g_s), s	1.5	3.7	3.9	4.0	1.6	0.9		
Cycle Q Clear(g_c), s	1.5	3.7	3.9	4.0	1.6	0.9		
Prop In Lane	1.00			0.16	1.00	1.00		
Lane Grp Cap(c), veh/h	615	2349	688	703	312	491		
V/C Ratio(X)	0.32	0.40	0.44	0.44	0.33	0.20		
Avail Cap(c_a), veh/h	1764	6066	1956	1999	1790	2812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	2.4	7.0	7.1	11.2	11.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.4	0.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.9	2.0	0.8	0.8		
LnGrp Delay(d),s/veh	11.5	2.5	7.5	7.5	11.9	11.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		1124	613		201			
Approach Delay, s/veh		4.1	7.5		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.2		8.0	8.6	14.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				51.5		29.5	14.5	32.5
Max Q Clear Time (g_c+I1), s				5.7		3.6	3.5	6.0
Green Ext Time (p_c), s				8.4		0.7	0.5	4.0
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	646	350	215	833	246	72		
Future Volume (veh/h)	646	350	215	833	246	72		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	646	350	215	833	246	19		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	869	471	329	2301	377	336		
Arrive On Green	0.40	0.40	0.19	0.65	0.21	0.21		
Sat Flow, veh/h	2286	1188	1774	3632	1774	1583		
Grp Volume(v), veh/h	521	475	215	833	246	19		
Grp Sat Flow(s),veh/h/ln	1770	1612	1774	1770	1774	1583		
Q Serve(g_s), s	11.0	11.0	4.9	4.7	5.5	0.4		
Cycle Q Clear(g_c), s	11.0	11.0	4.9	4.7	5.5	0.4		
Prop In Lane		0.74	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	701	638	329	2301	377	336		
V/C Ratio(X)	0.74	0.74	0.65	0.36	0.65	0.06		
Avail Cap(c_a), veh/h	791	720	488	2798	793	708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	11.3	16.5	3.5	15.7	13.7		
Incr Delay (d2), s/veh	3.4	3.7	2.2	0.1	1.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.0	5.5	2.6	2.2	2.9	0.2		
LnGrp Delay(d),s/veh	14.7	15.0	18.7	3.6	17.6	13.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	996			1048	265			
Approach Delay, s/veh	14.8			6.7	17.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	11.1	20.3				31.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	10.5	18.0				33.0
Max Q Clear Time (g_c+I1), s		7.5	6.9	13.0				6.7
Green Ext Time (p_c), s		0.6	0.2	2.8				6.5
Intersection Summary								
HCM 2010 Ctrl Delay			11.4					
HCM 2010 LOS			B					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-72647		0	0-74510		0	0-74510		0	0-74510		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	135118356480		0	71114932224		0	71114932224		0	71114932224		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	24996896309248		13156260822464	13156260822464		13156260822464	13156260822464		13156260822464		13156260822464	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 15.3

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	384	61	26	238	10	45	63	25	36	53	47
Future Vol, veh/h	43	384	61	26	238	10	45	63	25	36	53	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	384	61	26	238	10	45	63	25	36	53	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	19.2	12.5	11.1	10.9
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	9%	9%	26%
Vol Thru, %	47%	79%	87%	39%
Vol Right, %	19%	12%	4%	35%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	488	274	136
LT Vol	45	43	26	36
Through Vol	63	384	238	53
RT Vol	25	61	10	47
Lane Flow Rate	133	488	274	136
Geometry Grp	1	1	1	1
Degree of Util (X)	0.228	0.697	0.418	0.229
Departure Headway (Hd)	6.168	5.141	5.489	6.055
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	579	703	652	590
Service Time	4.239	3.188	3.546	4.126
HCM Lane V/C Ratio	0.23	0.694	0.42	0.231
HCM Control Delay	11.1	19.2	12.5	10.9
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	0.9	5.7	2.1	0.9

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1181	11	0	0	0	0	71	97	205	91	0
Future Volume (veh/h)	20	1181	11	0	0	0	0	71	97	205	91	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900				0	980	1900	1900	1863	0
Adj Flow Rate, veh/h	20	1181	11				0	71	97	205	91	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	21	1278	12				0	124	169	246	95	0
Arrive On Green	0.56	0.56	0.55				0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	37	2286	22				0	371	507	494	285	0
Grp Volume(v), veh/h	635	0	577				0	0	168	296	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1171				0	0	877	779	0	0
Q Serve(g_s), s	38.9	0.0	32.0				0.0	0.0	11.8	13.2	0.0	0.0
Cycle Q Clear(g_c), s	38.9	0.0	32.0				0.0	0.0	11.8	25.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.58	0.69		0.00
Lane Grp Cap(c), veh/h	657	0	655				0	0	293	342	0	0
V/C Ratio(X)	0.97	0.00	0.88				0.00	0.00	0.57	0.87	0.00	0.00
Avail Cap(c_a), veh/h	659	0	657				0	0	293	342	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.8	0.0	14.3				0.0	0.0	20.7	30.3	0.0	0.0
Incr Delay (d2), s/veh	27.0	0.0	13.2				0.0	0.0	2.7	20.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	12.6				0.0	0.0	3.1	7.9	0.0	0.0
LnGrp Delay(d),s/veh	42.9	0.0	27.5				0.0	0.0	23.3	50.6	0.0	0.0
LnGrp LOS	D		C						C	D		
Approach Vol, veh/h	1212						168			296		
Approach Delay, s/veh	35.6						23.3			50.6		
Approach LOS	D						C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	29.0		45.8		29.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	24.5		41.5		24.5							
Max Q Clear Time (g_c+I1), s	13.8		40.9		27.0							
Green Ext Time (p_c), s	0.7		0.5		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay			37.0									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	47	268	11	89	191	104	11	127	207	72	74	39
Future Volume (veh/h)	47	268	11	89	191	104	11	127	207	72	74	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.92	0.97		0.91	0.95		0.93	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	47	268	11	89	191	104	11	127	207	72	74	39
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	174	561	21	654	400	218	642	242	394	455	441	232
Arrive On Green	0.37	0.37	0.35	0.37	0.37	0.35	0.40	0.40	0.38	0.40	0.40	0.38
Sat Flow, veh/h	141	1537	59	1063	1095	596	1211	609	992	1018	1110	585
Grp Volume(v), veh/h	326	0	0	89	0	295	11	0	334	72	0	113
Grp Sat Flow(s),veh/h/ln	1736	0	0	1063	0	1691	1211	0	1601	1018	0	1695
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.5	0.2	0.0	5.4	2.0	0.0	1.5
Cycle Q Clear(g_c), s	4.6	0.0	0.0	1.4	0.0	4.5	1.7	0.0	5.4	7.4	0.0	1.5
Prop In Lane	0.14		0.03	1.00		0.35	1.00		0.62	1.00		0.35
Lane Grp Cap(c), veh/h	756	0	0	654	0	618	642	0	636	455	0	674
V/C Ratio(X)	0.43	0.00	0.00	0.14	0.00	0.48	0.02	0.00	0.53	0.16	0.00	0.17
Avail Cap(c_a), veh/h	1430	0	0	1085	0	1305	1275	0	1472	986	0	1559
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	7.2	0.0	8.3	7.1	0.0	7.9	10.6	0.0	6.6
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.7	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	0.6	0.0	2.2	0.1	0.0	2.5	0.6	0.0	0.7
LnGrp Delay(d),s/veh	8.6	0.0	0.0	7.3	0.0	8.9	7.1	0.0	8.5	10.7	0.0	6.7
LnGrp LOS	A			A		A	A		A	B		A
Approach Vol, veh/h	326				384				345		185	
Approach Delay, s/veh	8.6				8.5				8.5		8.3	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.4		16.3		17.4		16.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.5		25.5		30.5		25.5					
Max Q Clear Time (g_c+I1), s	7.4		6.6		9.4		6.5					
Green Ext Time (p_c), s	2.3		2.0		0.9		2.1					
Intersection Summary												
HCM 2010 Ctrl Delay			8.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				392	0	718	0	1601	169	0	1498	515
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1032	0	836	0	3206	990	0	2362	799
Arrive On Green				0.30	0.00	0.30	0.00	0.63	0.63	0.00	0.63	0.63
Sat Flow, veh/h				3442	0	2787	0	5253	1571	0	3915	1267
Grp Volume(v), veh/h				392	0	718	0	1601	169	0	1353	660
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1571	0	1695	1624
Q Serve(g_s), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Cycle Q Clear(g_c), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.78
Lane Grp Cap(c), veh/h				1032	0	836	0	3206	990	0	2137	1024
V/C Ratio(X)				0.38	0.00	0.86	0.00	0.50	0.17	0.00	0.63	0.64
Avail Cap(c_a), veh/h				1317	0	1066	0	3206	990	0	2137	1024
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.81	0.00	0.71	0.71
Uniform Delay (d), s/veh				31.8	0.0	38.0	0.0	11.5	8.8	0.0	13.1	13.4
Incr Delay (d2), s/veh				0.2	0.0	5.9	0.0	0.5	0.3	0.0	1.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	11.4	0.0	9.2	2.3	0.0	13.5	13.7
LnGrp Delay(d),s/veh				32.0	0.0	43.8	0.0	11.9	9.1	0.0	14.1	15.6
LnGrp LOS				C		D		B	A		B	B
Approach Vol, veh/h				1110				1770			2013	
Approach Delay, s/veh				39.6				11.6			14.6	
Approach LOS				D				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.5				76.5		38.5				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		62.5				62.5		43.5				
Max Q Clear Time (g_c+l1), s		21.5				31.3		29.9				
Green Ext Time (p_c), s		17.9				19.5		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱		↰↱					↑↑↑			↑↑↑	↰
Traffic Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	346	0	201				0	1505	547	0	1493	310
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	441	0	357				0	3011	1073	0	4143	1279
Arrive On Green	0.13	0.00	0.13				0.00	0.81	0.81	0.00	0.81	0.81
Sat Flow, veh/h	3442	0	2787				0	3863	1317	0	5253	1570
Grp Volume(v), veh/h	346	0	201				0	1378	674	0	1493	310
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1622	0	1695	1570
Q Serve(g_s), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Cycle Q Clear(g_c), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Prop In Lane	1.00		1.00				0.00		0.81	0.00		1.00
Lane Grp Cap(c), veh/h	441	0	357				0	2762	1321	0	4143	1279
V/C Ratio(X)	0.78	0.00	0.56				0.00	0.50	0.51	0.00	0.36	0.24
Avail Cap(c_a), veh/h	737	0	597				0	2762	1321	0	4143	1279
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.00	0.72	0.72
Uniform Delay (d), s/veh	59.2	0.0	57.4				0.0	4.0	4.2	0.0	3.4	3.0
Incr Delay (d2), s/veh	3.1	0.0	1.4				0.0	0.4	0.9	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	3.7				0.0	8.4	8.6	0.0	5.0	14.3
LnGrp Delay(d),s/veh	62.3	0.0	58.7				0.0	4.4	5.1	0.0	3.6	3.3
LnGrp LOS	E		E					A	A		A	A
Approach Vol, veh/h		547						2052			1803	
Approach Delay, s/veh		61.0						4.7			3.5	
Approach LOS		E						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		101.5		29.5		101.5						
Max Q Clear Time (g_c+I1), s		20.7		15.6		12.8						
Green Ext Time (p_c), s		31.4		1.8		20.5						
Intersection Summary												
HCM 2010 Ctrl Delay			11.2									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	15	487	95	17	369
Future Vol, veh/h	26	15	487	95	17	369
Conflicting Peds, #/hr	1	0	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	15	487	95	17	369
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	954	550	0	0	597	0
Stage 1	550	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	287	535	-	-	980	-
Stage 1	578	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-	-	-
Mov Cap-1 Maneuver	276	527	-	-	966	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	16.7	0	0.4			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 276 527	966	-		
HCM Lane V/C Ratio	-	- 0.094 0.028	0.018	-		
HCM Control Delay (s)	-	- 19.4 12	8.8	0		
HCM Lane LOS	-	- C B	A	A		
HCM 95th %tile Q(veh)	-	- 0.3 0.1	0.1	-		

Intersection	
Intersection Delay, s/veh	38.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Future Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	213	21	23	13	161	551	16	14	364	15
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16	12.8	54.9	25.3
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	37%	100%	0%
Vol Thru, %	0%	97%	0%	12%	40%	0%	96%
Vol Right, %	0%	3%	0%	88%	23%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	567	16	243	57	14	379
LT Vol	161	0	16	0	21	14	0
Through Vol	0	551	0	30	23	0	364
RT Vol	0	16	0	213	13	0	15
Lane Flow Rate	161	567	16	243	57	14	379
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.312	1.014	0.036	0.481	0.132	0.029	0.726
Departure Headway (Hd)	6.97	6.44	8.315	7.13	8.536	7.435	6.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	567	433	505	422	482	523
Service Time	4.705	4.175	6.015	4.87	6.536	5.174	4.634
HCM Lane V/C Ratio	0.311	1	0.037	0.481	0.135	0.029	0.725
HCM Control Delay	12.8	66.8	11.3	16.3	12.8	10.4	25.9
HCM Lane LOS	B	F	B	C	B	B	D
HCM 95th-tile Q	1.3	15	0.1	2.6	0.5	0.1	6

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.95	0.97		0.86	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	0	11	50	0	20	4	654	68	37	629	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	20	134	190	10	55	595	1453	1192	552	1431	18
Arrive On Green	0.14	0.00	0.13	0.14	0.00	0.13	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	383	142	961	917	69	394	787	1863	1528	727	1834	23
Grp Volume(v), veh/h	17	0	0	70	0	0	4	654	68	37	0	637
Grp Sat Flow(s),veh/h/ln	1486	0	0	1381	0	0	787	1863	1528	727	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	0.2	11.9	1.0	1.8	0.0	11.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	4.4	0.0	0.0	11.6	11.9	1.0	13.7	0.0	11.5
Prop In Lane	0.35		0.65	0.71		0.29	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	255	0	0	595	1453	1192	552	0	1449
V/C Ratio(X)	0.07	0.00	0.00	0.27	0.00	0.00	0.01	0.45	0.06	0.07	0.00	0.44
Avail Cap(c_a), veh/h	412	0	0	404	0	0	595	1453	1192	552	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.64	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	38.9	0.0	0.0	5.6	3.7	2.5	6.0	0.0	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	0.0	0.0	0.0	6.3	0.4	0.4	0.0	6.1
LnGrp Delay(d),s/veh	37.6	0.0	0.0	39.5	0.0	0.0	5.6	4.4	2.6	6.3	0.0	4.6
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	17				70				726		674	
Approach Delay, s/veh	37.6				39.5				4.2		4.7	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	82.0		18.0		82.0		18.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		24.5		66.5		24.5					
Max Q Clear Time (g_c+I1), s	13.9		2.9		15.7		6.4					
Green Ext Time (p_c), s	5.7		0.0		5.6		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			6.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.95	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	2	3	238	4	56	1	863	238	37	479	11
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	22	33	240	4	207	45	1597	440	133	1698	40
Arrive On Green	0.11	0.11	0.10	0.14	0.14	0.14	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1200	200	300	1746	29	1503	0	2653	730	135	2820	67
Grp Volume(v), veh/h	17	0	0	242	0	56	606	0	496	249	0	278
Grp Sat Flow(s),veh/h/ln	1701	0	0	1775	0	1503	1862	0	1521	1341	0	1681
Q Serve(g_s), s	0.7	0.0	0.0	10.9	0.0	2.7	0.0	0.0	15.5	1.0	0.0	6.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	10.9	0.0	2.7	15.4	0.0	15.5	16.5	0.0	6.3
Prop In Lane	0.71		0.18	0.98		1.00	0.00		0.48	0.15		0.04
Lane Grp Cap(c), veh/h	188	0	0	244	0	207	1167	0	916	859	0	1012
V/C Ratio(X)	0.09	0.00	0.00	0.99	0.00	0.27	0.52	0.00	0.54	0.29	0.00	0.27
Avail Cap(c_a), veh/h	544	0	0	244	0	207	1167	0	916	859	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.73	0.00	0.73	0.76	0.00	0.76
Uniform Delay (d), s/veh	32.0	0.0	0.0	34.5	0.0	30.9	9.4	0.0	9.5	7.4	0.0	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	55.0	0.0	0.7	1.2	0.0	1.7	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.0	0.0	1.1	8.1	0.0	6.8	2.6	0.0	3.1
LnGrp Delay(d),s/veh	32.2	0.0	0.0	89.5	0.0	31.6	10.6	0.0	11.2	8.1	0.0	8.1
LnGrp LOS	C			F		C	B		B	A		A
Approach Vol, veh/h	17			298			1102			527		
Approach Delay, s/veh	32.2			78.6			10.9			8.1		
Approach LOS	C			E			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	52.2		12.8		52.2		15.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.9		25.1		30.9		10.5					
Max Q Clear Time (g_c+I1), s	17.5		2.7		18.5		12.9					
Green Ext Time (p_c), s	6.3		0.0		2.8		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Future Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	58	4	0	33	58	6	17	0	84	20	256
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	12.4	8.5	9.3	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	75%	0%	0%	81%	0%
Vol Thru, %	74%	23%	100%	0%	19%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	248	33	58	104	256
LT Vol	6	186	0	0	84	0
Through Vol	17	58	33	0	20	0
RT Vol	0	4	0	58	0	256
Lane Flow Rate	23	248	33	58	104	256
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.038	0.392	0.053	0.082	0.17	0.34
Departure Headway (Hd)	5.982	5.691	5.773	5.066	5.898	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	627	614	699	605	748
Service Time	4.082	3.764	3.566	2.857	3.661	2.549
HCM Lane V/C Ratio	0.039	0.396	0.054	0.083	0.172	0.342
HCM Control Delay	9.3	12.4	8.9	8.3	9.9	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.9	0.2	0.3	0.6	1.5

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	4	756	24	17	395	40	36	0	30	130	8	14
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	836	27	113	772	78	722	0	712	598	38	59
Arrive On Green	0.47	0.47	0.46	0.93	0.93	0.92	0.47	0.00	0.47	0.47	0.47	0.46
Sat Flow, veh/h	944	1793	57	690	1656	168	1418	0	1525	1162	82	126
Grp Volume(v), veh/h	4	0	780	17	0	435	36	0	30	152	0	0
Grp Sat Flow(s),veh/h/ln	944	0	1850	690	0	1824	1418	0	1525	1369	0	0
Q Serve(g_s), s	0.3	0.0	46.7	2.6	0.0	3.7	0.0	0.0	1.3	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	46.7	49.3	0.0	3.7	1.5	0.0	1.3	9.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.09	1.00		1.00	0.86		0.09
Lane Grp Cap(c), veh/h	471	0	863	113	0	851	722	0	712	695	0	0
V/C Ratio(X)	0.01	0.00	0.90	0.15	0.00	0.51	0.05	0.00	0.04	0.22	0.00	0.00
Avail Cap(c_a), veh/h	676	0	1264	263	0	1246	722	0	712	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	29.6	24.6	0.0	2.3	17.4	0.0	17.4	19.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.6	0.0	0.5	0.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	25.5	0.5	0.0	1.6	0.7	0.0	0.6	3.2	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	36.3	25.2	0.0	2.8	17.6	0.0	17.5	20.5	0.0	0.0
LnGrp LOS	B		D	C		A	B		B	C		
Approach Vol, veh/h	784				452				66		152	
Approach Delay, s/veh	36.3				3.6				17.5		20.5	
Approach LOS	D				A				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	60.0		60.0		60.0		60.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	29.5		81.5		29.5		81.5					
Max Q Clear Time (g_c+I1), s	3.5		48.7		11.0		51.3					
Green Ext Time (p_c), s	0.2		6.8		0.7		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Intersection

Intersection Delay, s/veh 8.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Future Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	64	5	0	21	6	4	20	0	12	29	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	7.5	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	69%	0%	9%
Vol Thru, %	83%	29%	78%	23%
Vol Right, %	0%	2%	22%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	220	27	127
LT Vol	4	151	0	12
Through Vol	20	64	21	29
RT Vol	0	5	6	86
Lane Flow Rate	24	220	27	127
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.265	0.033	0.146
Departure Headway (Hd)	4.681	4.34	4.374	4.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	768	816	821	869
Service Time	2.688	2.432	2.386	2.153
HCM Lane V/C Ratio	0.031	0.27	0.033	0.146
HCM Control Delay	7.8	9	7.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.5

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	57	818	235	10	74	0	0	241	30
Future Volume (veh/h)	0	0	0	57	818	235	10	74	0	0	241	30
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	980	1863	1900	980	0	0	2451	1900
Adj Flow Rate, veh/h				57	818	147	10	74	0	0	241	30
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				68	1022	856	95	237	0	0	555	69
Arrive On Green				0.57	0.57	0.57	0.26	0.26	0.00	0.00	0.26	0.25
Sat Flow, veh/h				119	1787	1497	43	905	0	0	2116	263
Grp Volume(v), veh/h				468	407	147	84	0	0	0	0	271
Grp Sat Flow(s),veh/h/ln				974	931	1497	948	0	0	0	0	2380
Q Serve(g_s), s				19.1	16.0	2.2	0.0	0.0	0.0	0.0	0.0	4.6
Cycle Q Clear(g_c), s				19.1	16.0	2.2	3.3	0.0	0.0	0.0	0.0	4.6
Prop In Lane				0.12		1.00	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				557	533	856	332	0	0	0	0	624
V/C Ratio(X)				0.84	0.76	0.17	0.25	0.00	0.00	0.00	0.00	0.43
Avail Cap(c_a), veh/h				808	772	1241	600	0	0	0	0	1331
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				8.5	7.9	4.9	14.4	0.0	0.0	0.0	0.0	14.8
Incr Delay (d2), s/veh				5.4	2.8	0.1	0.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	4.4	0.9	0.9	0.0	0.0	0.0	0.0	3.1
LnGrp Delay(d),s/veh				13.9	10.6	5.0	14.8	0.0	0.0	0.0	0.0	15.3
LnGrp LOS				B	B	A	B					B
Approach Vol, veh/h					1022			84			271	
Approach Delay, s/veh					11.3			14.8			15.3	
Approach LOS					B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		16.7				16.7		31.6				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		26.5				26.5		39.5				
Max Q Clear Time (g_c+l1), s		5.3				6.6		21.1				
Green Ext Time (p_c), s		0.4				1.6		6.0				
Intersection Summary												
HCM 2010 Ctrl Delay					12.3							
HCM 2010 LOS					B							

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	10	0	0	0	0	0	0	0	0	10	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1245	1900	1900	1863	1900	1900	1078	1078	1900	1275	1900
Adj Flow Rate, veh/h	2	1003	45	5	835	27	36	22	16	15	5	1
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1058	11	72	1451	49	193	74	341	214	427	3
Arrive On Green	0.65	0.65	0.64	0.65	0.65	0.64	0.19	0.19	0.19	0.19	0.19	0.18
Sat Flow, veh/h	1	2254	101	4	3411	110	489	431	871	528	273	40
Grp Volume(v), veh/h	555	0	495	456	0	411	58	0	16	21	0	0
Grp Sat Flow(s),veh/h/ln	1244	0	1111	1853	0	1672	920	0	871	842	0	0
Q Serve(g_s), s	0.0	0.0	14.4	0.0	0.0	5.8	0.0	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.3	0.0	14.4	5.8	0.0	5.8	2.4	0.0	0.8	2.4	0.0	0.0
Prop In Lane	0.00		0.09	0.01		0.07	0.62		1.00	0.71		0.05
Lane Grp Cap(c), veh/h	534	0	420	805	0	768	266	0	341	308	0	0
V/C Ratio(X)	1.04	0.00	1.18	0.57	0.00	0.54	0.22	0.00	0.05	0.07	0.00	0.00
Avail Cap(c_a), veh/h	879	0	722	1276	0	1086	535	0	410	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.0	10.5	0.0	10.6	10.7	0.0	10.3	16.8	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	103.3	2.9	0.0	2.7	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	31.8	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.0	22.9	5.0	0.0	4.8	0.6	0.0	0.1	1.5	0.0	0.0
LnGrp Delay(d),s/veh	98.2	0.0	154.8	13.3	0.0	13.3	11.1	0.0	10.3	25.0	0.0	0.0
LnGrp LOS	F		F	B		B	B		B	C		
Approach Vol, veh/h	1050			867			74			21		
Approach Delay, s/veh	124.9			13.3			11.0			25.0		
Approach LOS	F			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.1		13.9		37.1		13.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		23.5		18.5		23.5				
Max Q Clear Time (g_c+I1), s		16.4		4.4		7.8		4.4				
Green Ext Time (p_c), s		1.3		0.0		4.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			71.6									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	111	38	40	464	35	16	119	31	16	124	30
Future Volume (veh/h)	9	111	38	40	464	35	16	119	31	16	124	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.97		0.92	0.99		0.86	0.93		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	9	111	38	40	464	35	16	119	31	16	124	30
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	346	113	174	2070	153	90	643	157	65	266	60
Arrive On Green	0.52	0.52	0.48	0.52	0.52	0.48	0.38	0.38	0.33	0.38	0.38	0.33
Sat Flow, veh/h	22	658	215	234	3944	292	108	1715	419	42	710	161
Grp Volume(v), veh/h	158	0	0	281	0	258	166	0	0	170	0	0
Grp Sat Flow(s),veh/h/ln	896	0	0	2322	0	2148	2242	0	0	913	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.2	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.0	0.0	0.0	4.9	0.0	5.2	3.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.06		0.24	0.14		0.14	0.10		0.19	0.09		0.18
Lane Grp Cap(c), veh/h	518	0	0	1270	0	1128	890	0	0	392	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.22	0.00	0.23	0.19	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	518	0	0	1270	0	1128	890	0	0	392	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.00	0.00	0.87	0.00	0.87	0.87	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.2	0.0	0.0	10.2	0.0	10.4	17.1	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	1.2	0.0	0.0	0.4	0.0	0.4	0.1	0.0	0.0	3.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.0	0.0	3.4	0.0	3.2	2.5	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	12.3	0.0	0.0	10.5	0.0	10.8	17.2	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	B			B		B	B			C		
Approach Vol, veh/h	158				539		166				170	
Approach Delay, s/veh	12.3				10.7		17.2				22.8	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	34.0		46.0		34.0		46.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	26.5		38.5		26.5		38.5					
Max Q Clear Time (g_c+I1), s	5.9		10.0		13.1		7.2					
Green Ext Time (p_c), s	0.9		1.0		0.8		3.8					
Intersection Summary												
HCM 2010 Ctrl Delay	14.0											
HCM 2010 LOS	B											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	146	66	140	118	108	95	1627	240	108	1342	90
Future Volume (veh/h)	53	146	66	140	118	108	95	1627	240	108	1342	90
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.82	0.92		0.86	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1961	2451	1900	2451	2451	1900	1863	1324	1900	2451	2451	1900
Adj Flow Rate, veh/h	53	146	66	140	118	108	95	1627	240	108	1342	90
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	175	256	116	210	186	170	136	1877	275	170	3778	253
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.60	0.59	0.07	0.59	0.59
Sat Flow, veh/h	1141	1490	674	1408	1086	994	1774	3143	461	2334	6364	427
Grp Volume(v), veh/h	53	0	212	140	0	226	95	1245	622	108	941	491
Grp Sat Flow(s),veh/h/ln	1141	0	2164	1408	0	2080	1774	1204	1195	2334	2230	2329
Q Serve(g_s), s	3.4	0.0	6.8	6.2	0.0	7.7	4.0	32.6	33.2	3.4	8.2	8.2
Cycle Q Clear(g_c), s	11.1	0.0	6.8	13.0	0.0	7.7	4.0	32.6	33.2	3.4	8.2	8.2
Prop In Lane	1.00		0.31	1.00		0.48	1.00		0.39	1.00		0.18
Lane Grp Cap(c), veh/h	175	0	371	210	0	357	136	1439	714	170	2648	1383
V/C Ratio(X)	0.30	0.00	0.57	0.67	0.00	0.63	0.70	0.87	0.87	0.63	0.36	0.36
Avail Cap(c_a), veh/h	175	0	371	210	0	357	468	1439	714	616	2648	1383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	0.0	28.9	35.4	0.0	29.3	34.2	12.7	12.9	34.1	7.9	8.0
Incr Delay (d2), s/veh	1.0	0.0	2.1	7.9	0.0	3.6	6.4	7.2	13.8	3.9	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.3	3.3	0.0	4.8	2.2	12.2	13.5	2.4	5.1	5.5
LnGrp Delay(d),s/veh	35.3	0.0	31.0	43.2	0.0	32.9	40.6	19.9	26.8	38.0	8.3	8.7
LnGrp LOS	D		C	D		C	D	B	C	D	A	A
Approach Vol, veh/h	265		366				1962			1540		
Approach Delay, s/veh	31.9		36.9				23.1			10.5		
Approach LOS	C		D				C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	49.3		17.0	9.8	49.0		17.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	19.5	44.5		12.5	19.5	44.5		12.5				
Max Q Clear Time (g_c+I), s	15.4	35.2		13.1	6.0	10.2		15.0				
Green Ext Time (p_c), s	0.2	7.2		0.0	0.2	12.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			20.2									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	545	28	6	94	19	6	123	71	56	123	20
Future Volume (veh/h)	21	545	28	6	94	19	6	123	71	56	123	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	24	0	0	35	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	0.99		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	2500	1900	980	1900	1000	980	1000	1900	980	1900
Adj Flow Rate, veh/h	21	545	28	6	94	19	6	123	71	56	123	20
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	652	33	55	238	46	52	348	106	113	326	28
Arrive On Green	0.37	0.35	0.33	0.37	0.35	0.33	0.52	0.49	0.47	0.52	0.49	0.47
Sat Flow, veh/h	37	1875	95	12	684	132	9	573	320	203	558	85
Grp Volume(v), veh/h	312	0	282	119	0	0	200	0	0	199	0	0
Grp Sat Flow(s),veh/h/ln1050	0	957	828	0	0	0	901	0	0	846	0	0
Q Serve(g_s), s	0.0	0.0	20.5	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	20.0	0.0	20.5	20.9	0.0	0.0	10.8	0.0	0.0	10.6	0.0	0.0
Prop In Lane	0.07		0.10	0.05		0.16	0.03		0.35	0.28		0.10
Lane Grp Cap(c), veh/h	444	0	333	360	0	0	527	0	0	500	0	0
V/C Ratio(X)	0.70	0.00	0.85	0.33	0.00	0.00	0.38	0.00	0.00	0.40	0.00	0.00
Avail Cap(c_a), veh/h	512	0	395	418	0	0	517	0	0	500	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.3	0.0	22.7	18.4	0.0	0.0	14.9	0.0	0.0	16.2	0.0	0.0
Incr Delay (d2), s/veh	3.6	0.0	13.8	0.5	0.0	0.0	2.1	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	24.1	0.0	0.0	58.5	0.0	0.0
%ile BackOfQ(50%),veh/ln6.0	0.0	0.0	6.7	1.8	0.0	0.0	8.7	0.0	0.0	14.4	0.0	0.0
LnGrp Delay(d),s/veh	25.9	0.0	36.5	18.9	0.0	0.0	41.1	0.0	0.0	77.1	0.0	0.0
LnGrp LOS	C		D	B			D			E		
Approach Vol, veh/h	594				119		200				199	
Approach Delay, s/veh	30.9				18.9		41.1				77.1	
Approach LOS	C				B		D				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		32.1		43.0		32.1					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	12.8		22.5		12.6		22.9					
Green Ext Time (p_c), s	1.2		2.2		1.2		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay	39.7											
HCM 2010 LOS	D											
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 54.8

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	363	23	30	282	19	13	126	27	23	103	38
Future Vol, veh/h	74	363	23	30	282	19	13	126	27	23	103	38
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	95	465	29	38	353	24	19	180	39	29	129	48
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	97.3	33.1	19.1	17.6
HCM LOS	F	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	16%	9%	14%
Vol Thru, %	76%	79%	85%	63%
Vol Right, %	16%	5%	6%	23%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	460	331	164
LT Vol	13	74	30	23
Through Vol	126	363	282	103
RT Vol	27	23	19	38
Lane Flow Rate	237	590	414	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.507	1.108	0.798	0.445
Departure Headway (Hd)	8.093	6.763	7.251	8.218
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	448	537	501	441
Service Time	6.093	4.816	5.251	6.218
HCM Lane V/C Ratio	0.529	1.099	0.826	0.465
HCM Control Delay	19.1	97.3	33.1	17.6
HCM Lane LOS	C	F	D	C
HCM 95th-tile Q	2.8	18.8	7.4	2.2

HCM 2010 Signalized Intersection Summary

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	62	9	1	15	41	6	181	7	20	146	59
Future Volume (veh/h)	94	62	9	1	15	41	6	181	7	20	146	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900	1900	1765	1900	1900	1422	1900	1900	2451	1900
Adj Flow Rate, veh/h	94	62	9	1	15	41	6	181	7	20	146	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	49	7	1	14	39	5	141	5	22	160	65
Arrive On Green	0.11	0.11	0.11	0.04	0.04	0.04	0.11	0.11	0.11	0.11	0.21	0.11
Sat Flow, veh/h	698	461	67	26	392	1070	44	1313	51	205	1494	604
Grp Volume(v), veh/h	165	0	0	57	0	0	194	0	0	225	0	0
Grp Sat Flow(s),veh/h/ln	1226	0	0	1488	0	0	1408	0	0	2303	0	0
Q Serve(g_s), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	0.57		0.05	0.02		0.72	0.03		0.04	0.09		0.26
Lane Grp Cap(c), veh/h	131	0	0	55	0	0	151	0	0	246	0	0
V/C Ratio(X)	1.26	0.00	0.00	1.04	0.00	0.00	1.29	0.00	0.00	0.91	0.00	0.00
Avail Cap(c_a), veh/h	131	0	0	159	0	0	151	0	0	246	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	9.0	0.0	0.0	8.3	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	163.6	0.0	0.0	67.2	0.0	0.0	170.1	0.0	0.0	34.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	0.0	1.3	0.0	0.0	7.8	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	172.0	0.0	0.0	77.1	0.0	0.0	178.5	0.0	0.0	42.6	0.0	0.0
LnGrp LOS	F			F			F			D		
Approach Vol, veh/h	165				57		194				225	
Approach Delay, s/veh	172.0				77.1		178.5				42.6	
Approach LOS	F				E		F				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	5.0		5.0		5.0		3.7					
Change Period (Y+Rc), s	3.0		3.0		3.0		3.0					
Max Green Setting (Gmax), s	2.0		2.0		2.0		2.0					
Max Q Clear Time (g_c+I1), s	4.0		4.0		3.8		2.7					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	120.1											
HCM 2010 LOS	F											

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Future Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Conflicting Peds, #/hr	8	0	5	5	0	8	8	0	28	28	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	4	5	1	2	24	5	260	3	38	232	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	634	262	635	650	168	274	0	0	291	0	0
Stage 1	333	333	-	300	300	-	-	-	-	-	-	-
Stage 2	149	301	-	335	350	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	481	396	776	377	387	847	1288	-	-	1269	-	-
Stage 1	680	643	-	685	665	-	-	-	-	-	-	-
Stage 2	839	664	-	678	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	443	367	766	349	358	818	1278	-	-	1235	-	-
Mov Cap-2 Maneuver	443	367	-	349	358	-	-	-	-	-	-	-
Stage 1	671	615	-	663	644	-	-	-	-	-	-	-
Stage 2	802	643	-	642	604	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.2		10.2		0.1		1	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1278	-	-	448	714	1235	-
HCM Lane V/C Ratio	0.004	-	-	0.283	0.038	0.031	-
HCM Control Delay (s)	7.8	0	-	16.2	10.2	8	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	116	107	1793	154	134	1506		
Future Volume (veh/h)	116	107	1793	154	134	1506		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	116	16	1793	154	134	1506		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	181	161	2624	225	193	3757		
Arrive On Green	0.10	0.10	0.55	0.54	0.11	0.74		
Sat Flow, veh/h	1774	1583	4934	408	1774	5253		
Grp Volume(v), veh/h	116	16	1274	673	134	1506		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1784	1774	1695		
Q Serve(g_s), s	3.2	0.5	13.6	13.7	3.7	5.5		
Cycle Q Clear(g_c), s	3.2	0.5	13.6	13.7	3.7	5.5		
Prop In Lane	1.00	1.00		0.23	1.00			
Lane Grp Cap(c), veh/h	181	161	1866	982	193	3757		
V/C Ratio(X)	0.64	0.10	0.68	0.69	0.69	0.40		
Avail Cap(c_a), veh/h	1059	945	2158	1136	565	5261		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	21.7	20.5	8.1	8.2	21.6	2.4		
Incr Delay (d2), s/veh	3.8	0.3	0.7	1.4	4.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.2	6.4	6.9	2.0	2.5		
LnGrp Delay(d),s/veh	25.4	20.7	8.9	9.6	26.0	2.5		
LnGrp LOS	C	C	A	A	C	A		
Approach Vol, veh/h	132		1947			1640		
Approach Delay, s/veh	24.9		9.1			4.4		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.5	31.7				41.1		9.1
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	31.5				51.5		29.5
Max Q Clear Time (g_c+I1), s	5.7	15.7				7.5		5.2
Green Ext Time (p_c), s	0.2	11.4				15.6		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			7.6					
HCM 2010 LOS			A					

Intersection

Int Delay, s/veh 3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	354	270	27	32	120
Future Vol, veh/h	45	354	270	27	32	120
Conflicting Peds, #/hr	36	0	0	22	22	36
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	354	270	27	32	120

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	333	0	786
Stage 1	-	-	320
Stage 2	-	-	466
Critical Hdwy	4.12	-	6.42
Critical Hdwy Stg 1	-	-	5.42
Critical Hdwy Stg 2	-	-	5.42
Follow-up Hdwy	2.218	-	3.518
Pot Cap-1 Maneuver	1226	-	361
Stage 1	-	-	736
Stage 2	-	-	632
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1184	-	321
Mov Cap-2 Maneuver	-	-	321
Stage 1	-	-	678
Stage 2	-	-	611

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1184	-	-	-	530
HCM Lane V/C Ratio	0.038	-	-	-	0.287
HCM Control Delay (s)	8.2	0	-	-	14.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	164	5	0	109	21	13	67	3	11	56	34
Future Vol, veh/h	80	164	5	0	109	21	13	67	3	11	56	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	164	5	0	109	21	13	67	3	11	56	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.5	8.6	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	32%	0%	11%
Vol Thru, %	81%	66%	84%	55%
Vol Right, %	4%	2%	16%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	249	130	101
LT Vol	13	80	0	11
Through Vol	67	164	109	56
RT Vol	3	5	21	34
Lane Flow Rate	83	249	130	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.114	0.317	0.165	0.133
Departure Headway (Hd)	4.952	4.583	4.573	4.742
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	721	784	783	753
Service Time	2.998	2.618	2.613	2.786
HCM Lane V/C Ratio	0.115	0.318	0.166	0.134
HCM Control Delay	8.6	9.7	8.5	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.4	0.6	0.5

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection														
Int Delay, s/veh	0													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations		↑↑			↑↑	↔								↔
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	0	0	0	-	0	
Stage 1	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	
Critical Hdwy	-	-	-	4.13	-	-	-	6.23	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	
Follow-up Hdwy	-	-	-	2.219	-	-	-	3.319	
Pot Cap-1 Maneuver	0	-	0	-	-	-	0	-	
Stage 1	0	-	0	-	-	-	0	-	
Stage 2	0	-	0	-	-	-	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	

Approach	EB	WB	SW
HCM Control Delay, s	0		0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0 0
HCM Lane LOS	-	-	-	A A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 analysis supports yellow change in the range of 3 and 6 seconds

Intersection

Intersection Delay, s/veh 10.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Future Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	163	41	39	2	78	164	117	2	137	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.3	11.5	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	1%	50%	1%
Vol Thru, %	46%	1%	48%	86%
Vol Right, %	33%	98%	2%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	167	82	160
LT Vol	78	2	41	2
Through Vol	164	2	39	137
RT Vol	117	163	2	21
Lane Flow Rate	359	167	82	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.217	0.124	0.217
Departure Headway (Hd)	4.583	4.669	5.446	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	762	651	726
Service Time	2.649	2.748	3.539	2.967
HCM Lane V/C Ratio	0.461	0.219	0.126	0.22
HCM Control Delay	11.5	9.1	9.3	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.8	0.4	0.8

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	741	147	8	726	7	354	0	7	1	5	0
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1435	642	83	1461	14	755	0	335	14	68	0
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.21	0.00	0.21	0.04	0.04	0.00
Sat Flow, veh/h	1774	3539	1582	1774	3592	35	3548	0	1574	308	1539	0
Grp Volume(v), veh/h	7	741	147	8	358	375	354	0	7	6	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1857	1774	0	1574	1847	0	0
Q Serve(g_s), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		0.00
Lane Grp Cap(c), veh/h	81	1435	642	83	720	755	755	0	335	82	0	0
V/C Ratio(X)	0.09	0.52	0.23	0.10	0.50	0.50	0.47	0.00	0.02	0.07	0.00	0.00
Avail Cap(c_a), veh/h	279	3597	1608	279	1799	1887	2833	0	1257	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	9.2	8.0	18.9	9.1	9.1	14.2	0.0	12.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	1.1	0.1	3.1	3.2	1.8	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.5	8.2	19.3	9.6	9.6	14.7	0.0	12.9	19.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B		B	B		
Approach Vol, veh/h	895				741				361			
Approach Delay, s/veh	9.4				9.7				14.6			
Approach LOS	A				A				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	11.8		4.9	19.8	4.8		4.9	19.8				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	31.5		5.0	40.5	5.0		5.0	40.5				
Max Q Clear Time (g_c+I1), s	5.6		2.2	8.5	2.1		2.2	8.2				
Green Ext Time (p_c), s	1.3		0.0	6.5	0.0		0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay	10.5											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	395	127	172	212	6	310	42	43	2	28	16
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	927	391	417	1034	29	521	247	253	170	215	112
Arrive On Green	0.08	0.25	0.25	0.12	0.29	0.29	0.29	0.29	0.29	0.10	0.10	0.10
Sat Flow, veh/h	1774	3725	1570	3442	3515	99	1774	841	861	1774	2239	1167
Grp Volume(v), veh/h	44	395	127	172	106	112	310	0	85	2	22	22
Grp Sat Flow(s),veh/h/ln	1774	1863	1570	1721	1770	1845	1774	0	1702	1774	1770	1636
Q Serve(g_s), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Cycle Q Clear(g_c), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	135	927	391	417	520	542	521	0	500	170	170	157
V/C Ratio(X)	0.33	0.43	0.33	0.41	0.20	0.21	0.59	0.00	0.17	0.01	0.13	0.14
Avail Cap(c_a), veh/h	818	2763	1164	1587	1313	1368	1316	0	1263	1102	1100	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.3	20.3	13.2	13.2	15.1	0.0	13.1	20.4	20.6	20.7
Incr Delay (d2), s/veh	1.4	0.3	0.5	0.7	0.2	0.2	1.1	0.0	0.2	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.5	1.1	1.1	1.2	3.8	0.0	0.9	0.0	0.3	0.3
LnGrp Delay(d),s/veh	23.2	16.1	15.8	20.9	13.4	13.4	16.2	0.0	13.3	20.4	21.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		B	C	C	C
Approach Vol, veh/h		566			390			395			46	
Approach Delay, s/veh		16.6			16.7			15.5			21.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.7	9.0	15.4		7.8	6.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		9.5	4.3	6.4		2.6	3.2	4.3				
Green Ext Time (p_c), s		2.5	0.5	3.2		0.2	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			16.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	228	56	60	461	21	272	526	252	41	105	28
Adj No. of Lanes	1	2	1	2	2	0	1	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1065	468	278	961	44	381	1252	528	122	527	136
Arrive On Green	0.10	0.30	0.30	0.08	0.28	0.28	0.22	0.34	0.34	0.07	0.19	0.19
Sat Flow, veh/h	1774	3539	1557	3442	3447	157	1774	3725	1569	1774	2777	714
Grp Volume(v), veh/h	104	228	56	60	236	246	272	526	252	41	65	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1557	1721	1770	1834	1774	1863	1569	1774	1770	1721
Q Serve(g_s), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Cycle Q Clear(g_c), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	182	1065	468	278	494	511	381	1252	528	122	336	327
V/C Ratio(X)	0.57	0.21	0.12	0.22	0.48	0.48	0.71	0.42	0.48	0.34	0.19	0.21
Avail Cap(c_a), veh/h	662	2920	1284	404	1007	1044	978	3868	1629	208	1070	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.3	24.2	16.9	16.9	20.5	14.4	14.8	25.0	19.2	19.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.4	0.7	0.7	2.5	0.2	0.7	1.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	0.6	0.4	3.1	3.2	4.2	3.2	3.2	0.7	0.9	0.9
LnGrp Delay(d),s/veh	26.8	14.8	14.4	24.6	17.6	17.6	23.0	14.7	15.4	26.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		388			542			1050			174	
Approach Delay, s/veh		18.0			18.4			17.0			21.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	21.9	7.5	19.9	15.1	13.7	8.8	18.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	56.9	5.1	44.9	29.5	32.5	19.5	30.5					
Max Q Clear Time (g_c+I), s	9.1	2.9	4.7	10.0	3.9	5.1	8.3					
Green Ext Time (p_c), s	0.0	5.1	0.0	1.8	0.8	0.7	2.9					
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	740	438	73	1154	74	651	155	86	131	190	126
Future Volume (veh/h)	182	740	438	73	1154	74	651	155	86	131	190	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1275	1471	1863	980	1520	1900	1716	1569	1600	1900	1569	1569
Adj Flow Rate, veh/h	182	740	338	73	1154	74	651	155	86	131	190	30
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	981	898	86	1163	75	732	217	121	142	205	279
Arrive On Green	0.15	0.35	0.35	0.09	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1214	2794	1516	934	3974	255	3170	941	522	627	910	1238
Grp Volume(v), veh/h	182	740	338	73	803	425	651	0	241	321	0	30
Grp Sat Flow(s),veh/h/ln	1214	1397	1516	934	1383	1464	1585	0	1463	1537	0	1238
Q Serve(g_s), s	17.9	28.0	14.4	9.2	34.6	34.7	23.8	0.0	18.1	24.4	0.0	2.3
Cycle Q Clear(g_c), s	17.9	28.0	14.4	9.2	34.6	34.7	23.8	0.0	18.1	24.4	0.0	2.3
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.36	0.41		1.00
Lane Grp Cap(c), veh/h	183	981	898	86	809	428	732	0	338	347	0	279
V/C Ratio(X)	1.00	0.75	0.38	0.85	0.99	0.99	0.89	0.00	0.71	0.93	0.00	0.11
Avail Cap(c_a), veh/h	183	981	898	86	809	428	742	0	342	347	0	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.8	34.3	13.4	53.5	42.2	42.2	44.5	0.0	42.4	45.3	0.0	36.8
Incr Delay (d2), s/veh	65.5	3.4	0.3	51.6	29.6	41.6	12.7	0.0	6.8	30.0	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.2	9.4	3.6	16.5	18.9	11.7	0.0	7.9	13.2	0.0	0.8
LnGrp Delay(d),s/veh	116.3	37.6	13.7	105.1	71.8	83.8	57.2	0.0	49.1	75.3	0.0	36.9
LnGrp LOS	F	D	B	F	E	F	E		D	E		D
Approach Vol, veh/h	1260			1301			892			351		
Approach Delay, s/veh	42.6			77.6			55.0			72.0		
Approach LOS	D			E			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	14.0	45.0		30.0	21.0	38.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	9.5	40.5		25.5	16.5	33.5				
Max Q Clear Time (g_c+I1), s		25.8	11.2	30.0		26.4	19.9	36.7				
Green Ext Time (p_c), s		0.4	0.0	4.7		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	60.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	158	241	62	94	511	0	213	224	132	202	261	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	688	558	153	616	524	278	539	302	271	461	392
Arrive On Green	0.12	0.11	0.11	0.02	0.10	0.00	0.16	0.25	0.25	0.15	0.25	0.00
Sat Flow, veh/h	1774	1863	1511	1774	1863	1583	1774	2150	1204	1774	1863	1583
Grp Volume(v), veh/h	158	241	62	94	511	0	213	182	174	202	261	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1511	1774	1863	1583	1774	1770	1585	1774	1863	1583
Q Serve(g_s), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Cycle Q Clear(g_c), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	221	688	558	153	616	524	278	444	398	271	461	392
V/C Ratio(X)	0.71	0.35	0.11	0.61	0.83	0.00	0.77	0.41	0.44	0.74	0.57	0.00
Avail Cap(c_a), veh/h	250	712	578	258	721	612	312	656	587	445	830	705
HCM Platoon Ratio	1.00	0.30	0.30	0.20	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	28.5	25.3	40.5	36.0	0.0	34.5	26.7	26.9	34.5	28.1	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.1	4.0	7.0	0.0	9.8	0.6	0.8	4.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.3	1.3	2.4	13.1	0.0	5.6	3.7	3.5	4.8	5.5	0.0
LnGrp Delay(d),s/veh	44.0	28.8	25.4	44.5	43.1	0.0	44.3	27.3	27.6	38.6	29.2	0.0
LnGrp LOS	D	C	C	D	D		D	C	C	D	C	
Approach Vol, veh/h		461			605			569			463	
Approach Delay, s/veh		33.5			43.3			33.8			33.3	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.0	24.4	10.4	34.5	16.3	24.1	13.6	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.9	30.1	10.9	31.1	13.5	36.5	10.5	31.5				
Max Q Clear Time (g_c+1), s	11.3	9.9	6.5	12.2	11.8	12.5	9.3	25.0				
Green Ext Time (p_c), s	0.4	2.1	0.1	1.5	0.1	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				36.4								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary

6: Norfolk St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	  		 	  		 				 	
Traffic Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	10	30	0	0	0	0	30	27	13
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	2157	2157	1765	2157	2200	1863	2141	2100	1863	1863	2157
Adj Flow Rate, veh/h	308	1041	178	50	1960	84	406	132	59	51	262	210
Adj No. of Lanes	2	3	1	1	3	0	2	1	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	3494	975	104	2611	100	545	220	98	295	314	297
Arrive On Green	0.15	0.56	0.56	0.05	0.45	0.45	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3361	6471	1805	1681	5784	247	3442	1390	621	1774	1863	1783
Grp Volume(v), veh/h	308	1041	178	50	1329	715	406	0	191	51	262	210
Grp Sat Flow(s),veh/h/ln	1681	2157	1805	1681	1963	2106	1721	0	2012	1774	1863	1783
Q Serve(g_s), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Cycle Q Clear(g_c), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	510	3494	975	104	1762	947	545	0	318	295	314	297
V/C Ratio(X)	0.60	0.30	0.18	0.48	0.75	0.76	0.75	0.00	0.60	0.17	0.83	0.71
Avail Cap(c_a), veh/h	519	3600	1004	126	1762	945	663	0	387	299	314	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	20.2	18.8	74.4	38.1	38.0	64.3	0.0	62.6	61.9	66.5	65.2
Incr Delay (d2), s/veh	1.9	0.2	0.4	3.5	3.1	5.6	3.7	0.0	1.8	0.3	17.2	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	130.0	3.8	3.3	0.0	0.0	0.0	90.3	234.3	47.0
%ile BackOfQ(50%),veh/ln	6.5	8.4	4.1	7.8	28.7	31.4	8.8	0.0	8.0	14.8	35.8	15.9
LnGrp Delay(d),s/veh	65.3	20.4	19.2	207.9	44.9	46.9	67.9	0.0	64.4	152.5	318.0	119.5
LnGrp LOS	E	C	B	F	D	D	E		E	F	F	F
Approach Vol, veh/h	1527			2094			597			523		
Approach Delay, s/veh	29.3			49.5			66.8			222.2		
Approach LOS	C			D			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6			7	8			
Phs Duration (G+Y+Rc), s	28.3		10.5	92.0	29.2			27.7	74.8			
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5			4.5	4.5			
Max Green Setting (Gmax), s	29.3		10.5	76.7	25.5			16.8	70.3			
Max Q Clear Time (g_c+I1), s	20.0		6.7	15.6	23.9			15.6	47.4			
Green Ext Time (p_c), s	1.9		0.0	9.8	0.4			0.1	15.3			
Intersection Summary												
HCM 2010 Ctrl Delay	64.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	818	129	183	656	118	69	56	140	83	153	7
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1247	197	285	998	818	170	111	216	209	297	12
Arrive On Green	0.03	0.41	0.41	0.16	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3041	480	1774	1863	1526	320	437	849	451	1167	48
Grp Volume(v), veh/h	4	476	471	183	656	118	265	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1863	1526	1607	0	0	1666	0	0
Q Serve(g_s), s	0.1	11.1	11.1	5.0	12.9	2.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.1	11.1	5.0	12.9	2.0	7.0	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.26		0.53	0.34		0.03
Lane Grp Cap(c), veh/h	61	725	718	285	998	818	497	0	0	517	0	0
V/C Ratio(X)	0.07	0.66	0.66	0.64	0.66	0.14	0.53	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	228	1210	1198	615	1681	1377	931	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	12.2	12.2	20.2	8.5	6.0	16.9	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	2.4	0.7	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.6	5.6	2.6	6.8	0.8	3.4	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	24.4	13.2	13.2	22.6	9.3	6.1	17.8	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h		951			957			265			243	
Approach Delay, s/veh		13.3			11.4			17.8			17.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.2	24.0		16.0	4.8	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.6	16.3	33.6		26.6	5.1	44.8				
Max Q Clear Time (g_c+I1), s		9.0	7.0	13.1		8.1	2.1	14.9				
Green Ext Time (p_c), s		1.6	0.3	6.4		1.4	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

10/18/2019

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Future Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.95	0.99		0.94	0.99		0.94	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900	
Adj Flow Rate, veh/h	48	291	81	85	277	53	87	254	19	205	230	110	
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	443	645	180	412	696	133	416	788	59	475	539	258	
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	
Sat Flow, veh/h	1035	1395	388	1003	1505	288	988	1704	127	1045	1166	558	
Grp Volume(v), veh/h	48	0	372	85	0	330	87	0	273	205	0	340	
Grp Sat Flow(s),veh/h/ln	1035	0	1784	1003	0	1793	988	0	1831	1045	0	1724	
Q Serve(g_s), s	2.6	0.0	11.3	5.0	0.0	9.7	5.2	0.0	7.5	12.3	0.0	10.6	
Cycle Q Clear(g_c), s	12.3	0.0	11.3	16.4	0.0	9.7	15.7	0.0	7.5	19.9	0.0	10.6	
Prop In Lane	1.00		0.22	1.00		0.16	1.00		0.07	1.00		0.32	
Lane Grp Cap(c), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
V/C Ratio(X)	0.11	0.00	0.45	0.21	0.00	0.40	0.21	0.00	0.32	0.43	0.00	0.43	
Avail Cap(c_a), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	18.2	0.0	14.6	20.2	0.0	14.2	19.7	0.0	13.6	19.9	0.0	14.4	
Incr Delay (d2), s/veh	0.5	0.0	1.8	1.1	0.0	1.4	1.1	0.0	1.0	2.9	0.0	1.7	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.0	1.5	0.0	5.1	1.5	0.0	4.0	3.9	0.0	5.4	
LnGrp Delay(d),s/veh	18.7	0.0	16.4	21.3	0.0	15.6	20.8	0.0	14.6	22.7	0.0	16.1	
LnGrp LOS	B		B	C		B	C		B	C		B	
Approach Vol, veh/h	420				415				360				545
Approach Delay, s/veh	16.6				16.8				16.1				18.6
Approach LOS	B				B				B				B
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	2		4		6		8						
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0						
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5						
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	17.7		14.3		21.9		18.4						
Green Ext Time (p_c), s	2.0		2.5		2.7		2.2						
Intersection Summary													
HCM 2010 Ctrl Delay			17.2										
HCM 2010 LOS			B										

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1292	11	0	0	0	0	57	259	308	253	0
Future Volume (veh/h)	20	1292	11	0	0	0	0	57	259	308	253	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1569	1700				0	1667	1078	1569	1471	0
Adj Flow Rate, veh/h	20	1292	11				0	62	60	280	291	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	616	1698	14				0	235	126	425	419	0
Arrive On Green	0.39	0.39	0.39				0.00	0.14	0.14	0.28	0.28	0.00
Sat Flow, veh/h	1587	4379	37				0	1667	891	1494	1471	0
Grp Volume(v), veh/h	20	842	461				0	62	60	280	291	0
Grp Sat Flow(s),veh/h/ln	1587	1427	1561				0	1667	891	1494	1471	0
Q Serve(g_s), s	0.4	12.4	12.4				0.0	1.6	3.0	8.0	8.5	0.0
Cycle Q Clear(g_c), s	0.4	12.4	12.4				0.0	1.6	3.0	8.0	8.5	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	616	1107	606				0	235	126	425	419	0
V/C Ratio(X)	0.03	0.76	0.76				0.00	0.26	0.48	0.66	0.69	0.00
Avail Cap(c_a), veh/h	657	1181	646				0	724	387	618	608	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.2	12.8	12.8				0.0	18.5	19.1	15.2	15.4	0.0
Incr Delay (d2), s/veh	0.0	2.8	5.0				0.0	0.6	2.8	1.7	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.2	6.1				0.0	0.8	0.8	3.5	3.6	0.0
LnGrp Delay(d),s/veh	9.2	15.6	17.8				0.0	19.1	21.9	17.0	17.5	0.0
LnGrp LOS	A	B	B					B	C	B	B	
Approach Vol, veh/h	1323						122			571		
Approach Delay, s/veh	16.3						20.5			17.2		
Approach LOS	B						C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	9.8		21.8		16.8							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	19.5		18.5		18.5							
Max Q Clear Time (g_c+I1), s	5.0		14.4		10.5							
Green Ext Time (p_c), s	0.4		2.9		1.7							
Intersection Summary												
HCM 2010 Ctrl Delay	16.8											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.94	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	331	197	66	78	11	182	206	41	53	224	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	612	355	134	914	126	389	408	328	420	335	87
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.29	0.22	0.22	0.22	0.24	0.24	0.24
Sat Flow, veh/h	1774	2123	1231	1774	3102	426	1774	1863	1497	1774	1416	367
Grp Volume(v), veh/h	52	274	254	66	44	45	182	206	41	53	0	282
Grp Sat Flow(s),veh/h/ln	1774	1770	1584	1774	1770	1758	1774	1863	1497	1774	0	1783
Q Serve(g_s), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Cycle Q Clear(g_c), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Prop In Lane	1.00		0.78	1.00		0.24	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	510	457	134	522	518	389	408	328	420	0	422
V/C Ratio(X)	0.42	0.54	0.56	0.49	0.08	0.09	0.47	0.50	0.12	0.13	0.00	0.67
Avail Cap(c_a), veh/h	189	706	632	187	703	698	667	701	563	654	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	19.9	20.0	29.5	16.9	17.0	22.6	22.8	20.8	20.0	0.0	23.0
Incr Delay (d2), s/veh	2.3	0.9	1.1	2.8	0.1	0.1	0.9	1.0	0.2	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.1	1.3	0.6	0.6	3.0	3.4	0.6	0.8	0.0	4.9
LnGrp Delay(d),s/veh	32.0	20.8	21.1	32.3	17.0	17.0	23.5	23.7	21.0	20.1	0.0	24.8
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h	580			155			429			335		
Approach Delay, s/veh	21.9			23.5			23.4			24.1		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	17.6		8.0	22.2	18.7		7.6	22.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	23.5		5.5	25.0	23.0		5.6	24.9				
Max Q Clear Time (g_c+I1), s	8.5		4.4	11.0	11.5		3.9	3.2				
Green Ext Time (p_c), s	1.6		0.0	3.0	1.4		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	23.0											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	528	219	486	556	0				134	162	228
Adj No. of Lanes	0	1	1	1	1	0				1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	581	469	535	1202	0				517	543	447
Arrive On Green	0.00	0.31	0.31	0.30	0.65	0.00				0.29	0.29	0.29
Sat Flow, veh/h	0	1863	1503	1774	1863	0				1774	1863	1532
Grp Volume(v), veh/h	0	528	219	486	556	0				134	162	228
Grp Sat Flow(s),veh/h/ln	0	1863	1503	1774	1863	0				1774	1863	1532
Q Serve(g_s), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Cycle Q Clear(g_c), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	581	469	535	1202	0				517	543	447
V/C Ratio(X)	0.00	0.91	0.47	0.91	0.46	0.00				0.26	0.30	0.51
Avail Cap(c_a), veh/h	0	588	475	542	1216	0				517	543	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(l)	0.00	0.61	0.61	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	26.3	31.9	8.5	0.0				25.8	26.1	28.0
Incr Delay (d2), s/veh	0.0	12.1	0.4	19.2	0.3	0.0				1.2	1.4	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	4.7	15.1	7.4	0.0				2.9	3.5	5.5
LnGrp Delay(d),s/veh	0.0	43.4	26.7	51.1	8.8	0.0				27.0	27.5	32.1
LnGrp LOS		D	C	D	A					C	C	C
Approach Vol, veh/h		747			1042						524	
Approach Delay, s/veh		38.5			28.5						29.4	
Approach LOS		D			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			31.6	32.7		30.7		64.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			27.5	28.5		25.5		60.5				
Max Q Clear Time (g_c+l1), s			27.0	27.8		13.8		16.3				
Green Ext Time (p_c), s			0.1	0.3		1.7		4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 					  	 	
Traffic Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	980	0				1863	1863	0
Adj Flow Rate, veh/h	0	1270	314	0	1459	0				53	229	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	2358	686	0	1489	0				279	287	0
Arrive On Green	0.00	0.84	0.84	0.00	1.00	0.00				0.08	0.08	0.00
Sat Flow, veh/h	0	2843	812	0	1961	0				3442	3632	0
Grp Volume(v), veh/h	0	1270	314	0	1459	0				53	229	0
Grp Sat Flow(s),veh/h/ln	0	931	812	0	882	0				1721	1770	0
Q Serve(g_s), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Cycle Q Clear(g_c), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	2358	686	0	1489	0				279	287	0
V/C Ratio(X)	0.00	0.54	0.46	0.00	0.98	0.00				0.19	0.80	0.00
Avail Cap(c_a), veh/h	0	2358	686	0	1489	0				1506	1548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	1.8	1.6	0.0	0.0	0.0				34.3	36.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	19.0	0.0				0.3	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.9	0.0	3.9	0.0				0.6	2.7	0.0
LnGrp Delay(d),s/veh	0.0	2.3	2.8	0.0	19.0	0.0				34.6	41.2	0.0
LnGrp LOS		A	A		B					C	D	
Approach Vol, veh/h	1584			1459						282		
Approach Delay, s/veh	2.4			19.0						39.9		
Approach LOS	A			B						D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4	6			8				
Phs Duration (G+Y+Rc), s				70.5	9.5			70.5				
Change Period (Y+Rc), s				4.5	4.5			4.5				
Max Green Setting (Gmax), s				37.5	33.5			37.5				
Max Q Clear Time (g_c+I1), s				12.4	3.1			2.0				
Green Ext Time (p_c), s				11.2	0.0			14.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.97		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	612	107	118	541	28	144	79	133	51	105	15
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1463	255	458	856	44	457	217	528	235	410	49
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	832	2995	522	722	1753	91	847	630	1534	304	1190	144
Grp Volume(v), veh/h	7	361	358	118	0	569	223	0	133	171	0	0
Grp Sat Flow(s),veh/h/ln	832	1770	1748	722	0	1843	1476	0	1534	1638	0	0
Q Serve(g_s), s	0.2	4.7	4.7	4.5	0.0	8.2	1.2	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	4.7	4.7	9.2	0.0	8.2	3.6	0.0	2.2	2.4	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.05	0.65		1.00	0.30		0.09
Lane Grp Cap(c), veh/h	417	864	854	458	0	900	673	0	528	694	0	0
V/C Ratio(X)	0.02	0.42	0.42	0.26	0.00	0.63	0.33	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	707	1482	1463	710	0	1543	1128	0	1027	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.9	5.9	8.9	0.0	6.8	8.8	0.0	8.4	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.0	0.7	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.3	0.9	0.0	4.3	1.7	0.0	1.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	9.9	6.2	6.2	9.2	0.0	7.5	9.1	0.0	8.7	8.7	0.0	0.0
LnGrp LOS	A	A	A	A		A	A		A	A		
Approach Vol, veh/h		726			687			356			171	
Approach Delay, s/veh		6.3			7.8			8.9			8.7	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		20.5		15.3		20.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.6		10.4		4.4		11.2				
Green Ext Time (p_c), s		1.7		4.4		0.9		4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.89	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	57	19	138	168	117	61	277	73	113	196	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	319	106	223	309	215	144	432	114	192	500	107
Arrive On Green	0.05	0.24	0.24	0.13	0.31	0.31	0.08	0.31	0.31	0.11	0.34	0.34
Sat Flow, veh/h	1774	1325	442	1774	991	690	1774	1383	365	1774	1473	316
Grp Volume(v), veh/h	24	0	76	138	0	285	61	0	350	113	0	238
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	0	1681	1774	0	1748	1774	0	1789
Q Serve(g_s), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Cycle Q Clear(g_c), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Prop In Lane	1.00		0.25	1.00		0.41	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	97	0	425	223	0	525	144	0	545	192	0	607
V/C Ratio(X)	0.25	0.00	0.18	0.62	0.00	0.54	0.42	0.00	0.64	0.59	0.00	0.39
Avail Cap(c_a), veh/h	441	0	941	441	0	896	441	0	931	441	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	17.0	23.3	0.0	16.0	24.6	0.0	16.7	23.9	0.0	14.2
Incr Delay (d2), s/veh	1.3	0.0	0.2	2.8	0.0	0.9	2.0	0.0	1.3	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	2.2	0.0	3.8	1.0	0.0	4.9	1.8	0.0	2.8
LnGrp Delay(d),s/veh	26.8	0.0	17.2	26.1	0.0	16.9	26.6	0.0	17.9	26.7	0.0	14.6
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	100			423			411			351		
Approach Delay, s/veh	19.5			19.9			19.2			18.5		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	20.6	10.1	16.5	7.6	22.1	6.1	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+I), s	11.7	11.7	6.2	3.9	3.8	7.7	2.7	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.2	0.3	0.1	1.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	19.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	0	116	299	589	89	43	268	0	0	529	23
Future Volume (veh/h)	32	0	116	299	589	89	43	268	0	0	529	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	1471	980	0	0	1078	1900
Adj Flow Rate, veh/h	32	0	16	299	589	89	43	268	0	0	529	23
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	598	1029	155	79	920	0	0	644	28
Arrive On Green	0.02	0.00	0.02	0.34	0.34	0.34	0.06	0.49	0.00	0.00	0.32	0.32
Sat Flow, veh/h		0		1774	3051	459	1401	1912	0	0	2050	87
Grp Volume(v), veh/h		0.0		299	341	337	43	268	0	0	271	281
Grp Sat Flow(s),veh/h/ln				1774	1770	1741	1401	931	0	0	1025	1058
Q Serve(g_s), s				8.8	10.3	10.4	1.9	5.5	0.0	0.0	15.9	16.0
Cycle Q Clear(g_c), s				8.8	10.3	10.4	1.9	5.5	0.0	0.0	15.9	16.0
Prop In Lane				1.00		0.26	1.00		0.00	0.00		0.08
Lane Grp Cap(c), veh/h				598	597	587	79	920	0	0	331	342
V/C Ratio(X)				0.50	0.57	0.57	0.55	0.29	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h				598	597	587	118	920	0	0	377	389
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.2	17.7	17.8	30.0	9.8	0.0	0.0	20.3	20.4
Incr Delay (d2), s/veh				3.0	3.9	4.1	5.8	0.2	0.0	0.0	12.0	12.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.7	5.7	5.6	0.9	1.4	0.0	0.0	5.5	5.7
LnGrp Delay(d),s/veh				20.2	21.7	21.8	35.8	9.9	0.0	0.0	32.4	32.3
LnGrp LOS				C	C	C	D	A			C	C
Approach Vol, veh/h					977			311			552	
Approach Delay, s/veh					21.3			13.5			32.3	
Approach LOS					C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		40.2			11.2	29.1		25.0				
Change Period (Y+Rc), s		9.5			9.0	* 9.5		4.5				
Max Green Setting (Gmax), s		30.5			4.0	* 23		20.5				
Max Q Clear Time (g_c+I1), s		7.5			3.9	18.0		12.4				
Green Ext Time (p_c), s		1.8			0.0	1.4		3.3				
Intersection Summary												
HCM 2010 Ctrl Delay				23.3								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

10/18/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT					NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	20	497	17	0	0	0	17	288	134	264	594	46
Future Volume (veh/h)	20	497	17	0	0	0	17	288	134	264	594	46
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900				1863	2451	1900	1078	2451	1900
Adj Flow Rate, veh/h	20	497	17				17	288	134	264	594	46
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	74	1922	69				53	419	188	334	1888	146
Arrive On Green	0.43	0.43	0.43				0.03	0.14	0.14	0.32	0.43	0.43
Sat Flow, veh/h	174	4523	162				1774	3046	1365	1027	4362	337
Grp Volume(v), veh/h	281	0	253				17	218	204	264	317	323
Grp Sat Flow(s),veh/h/ln	2442	0	2417				1774	2328	2083	1027	2328	2370
Q Serve(g_s), s	6.0	0.0	5.4				0.8	7.1	7.5	18.7	7.1	7.2
Cycle Q Clear(g_c), s	6.0	0.0	5.4				0.8	7.1	7.5	18.7	7.1	7.2
Prop In Lane	0.07		0.07				1.00		0.66	1.00		0.14
Lane Grp Cap(c), veh/h	1038	0	1027				53	320	286	334	1008	1026
V/C Ratio(X)	0.27	0.00	0.25				0.32	0.68	0.71	0.79	0.31	0.32
Avail Cap(c_a), veh/h	1038	0	1027				399	320	286	334	1008	1026
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	14.9	0.0	14.8				38.0	32.8	33.0	24.5	14.9	14.9
Incr Delay (d2), s/veh	0.6	0.0	0.6				3.5	5.7	8.1	17.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	3.8				0.4	5.1	5.0	6.9	4.6	4.7
LnGrp Delay(d),s/veh	15.6	0.0	15.3				41.5	38.5	41.1	41.8	15.1	15.1
LnGrp LOS	B		B				D	D	D	D	B	B
Approach Vol, veh/h		534						439			904	
Approach Delay, s/veh		15.5						39.9			22.9	
Approach LOS		B						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	29.0	14.0		37.0	5.4	37.6						
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5						
Max Green Setting (Gmax), s	24.5	9.5		32.5	16.5	17.5						
Max Q Clear Time (g_c+20), s	20.7	9.5		8.0	2.8	9.2						
Green Ext Time (p_c), s	0.3	0.0		3.3	0.0	2.6						
Intersection Summary												
HCM 2010 Ctrl Delay			24.7									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	152	43	13	168	37	36	355	11	4	318	153
Future Volume (veh/h)	56	152	43	13	168	37	36	355	11	4	318	153
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	1900	1900	980	1900	1900	980	1900	1900	980	980
Adj Flow Rate, veh/h	56	152	43	13	168	37	36	355	11	4	318	85
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	180	46	55	225	48	76	472	14	47	537	452
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	136	599	152	25	751	159	48	858	25	3	976	821
Grp Volume(v), veh/h	251	0	0	218	0	0	402	0	0	322	0	85
Grp Sat Flow(s),veh/h/ln	887	0	0	935	0	0	931	0	0	978	0	821
Q Serve(g_s), s	5.3	0.0	0.0	0.0	0.0	0.0	8.6	0.0	0.0	0.0	0.0	4.2
Cycle Q Clear(g_c), s	22.2	0.0	0.0	16.9	0.0	0.0	26.4	0.0	0.0	17.6	0.0	4.2
Prop In Lane	0.22		0.17	0.06		0.17	0.09		0.03	0.01		1.00
Lane Grp Cap(c), veh/h	321	0	0	328	0	0	561	0	0	584	0	452
V/C Ratio(X)	0.78	0.00	0.00	0.66	0.00	0.00	0.72	0.00	0.00	0.55	0.00	0.19
Avail Cap(c_a), veh/h	321	0	0	328	0	0	561	0	0	584	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	27.0	0.0	0.0	25.5	0.0	0.0	13.9	0.0	0.0	12.1	0.0	9.0
Incr Delay (d2), s/veh	11.8	0.0	0.0	5.0	0.0	0.0	7.6	0.0	0.0	3.7	0.0	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.0	4.8	0.0	0.0	8.0	0.0	0.0	5.3	0.0	1.1
LnGrp Delay(d),s/veh	38.8	0.0	0.0	30.5	0.0	0.0	21.5	0.0	0.0	15.8	0.0	10.0
LnGrp LOS	D			C			C			B		A
Approach Vol, veh/h	251				218		402				407	
Approach Delay, s/veh	38.8				30.5		21.5				14.6	
Approach LOS	D				C		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		30.0		50.0		30.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	42.5		22.5		42.5		22.5					
Max Q Clear Time (g_c+I1), s	28.4		24.2		19.6		18.9					
Green Ext Time (p_c), s	2.3		0.0		2.3		0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			24.2									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	194	54	51	235	16	71	284	31	9	356	107
Future Volume (veh/h)	64	194	54	51	235	16	71	284	31	9	356	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	64	194	54	51	235	16	71	284	31	9	356	107
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	410	103	204	521	33	226	597	60	125	598	177
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	229	1137	286	186	1446	91	197	1344	135	13	1345	398
Grp Volume(v), veh/h	312	0	0	302	0	0	386	0	0	472	0	0
Grp Sat Flow(s),veh/h/ln	1652	0	0	1723	0	0	1676	0	0	1757	0	0
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	3.9	0.0	0.0	4.6	0.0	0.0	6.2	0.0	0.0
Prop In Lane	0.21		0.17	0.17		0.05	0.18		0.08	0.02		0.23
Lane Grp Cap(c), veh/h	736	0	0	758	0	0	884	0	0	900	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.40	0.00	0.00	0.44	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1552	0	0	1614	0	0	1553	0	0	1656	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.6	0.0	0.0	7.5	0.0	0.0	6.0	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	2.0	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	7.9	0.0	0.0	6.4	0.0	0.0	6.9	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	312				302		386				472	
Approach Delay, s/veh	8.0				7.9		6.4				6.9	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	16.7		14.1		16.7		14.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	6.6		6.2		8.2		5.9					
Green Ext Time (p_c), s	2.6		2.0		3.1		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	219	260	128	86	288	81	181	391	136	110	439	185
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1287	543	143	758	208	328	783	268	173	734	305
Arrive On Green	0.17	0.36	0.36	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	1774	3539	1493	1774	2721	749	3442	2558	876	1774	2380	989
Grp Volume(v), veh/h	219	260	128	86	185	184	181	269	258	110	325	299
Grp Sat Flow(s),veh/h/ln	1774	1770	1493	1774	1770	1700	1721	1770	1664	1774	1770	1600
Q Serve(g_s), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Cycle Q Clear(g_c), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.53	1.00		0.62
Lane Grp Cap(c), veh/h	295	1287	543	143	493	473	328	542	510	173	546	494
V/C Ratio(X)	0.74	0.20	0.24	0.60	0.38	0.39	0.55	0.50	0.51	0.64	0.59	0.61
Avail Cap(c_a), veh/h	538	1833	773	269	648	623	478	693	652	314	760	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.3	17.5	35.2	23.0	23.1	34.2	22.5	22.6	34.4	23.2	23.3
Incr Delay (d2), s/veh	3.7	0.1	0.2	4.0	0.5	0.5	1.5	0.7	0.8	3.8	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.0	2.0	2.0	3.3	3.3	2.0	4.9	4.7	2.5	6.1	5.7
LnGrp Delay(d),s/veh	35.1	17.4	17.7	39.1	23.5	23.6	35.7	23.2	23.3	38.2	24.2	24.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h	607			455			708			734		
Approach Delay, s/veh	23.8			26.5			26.4			26.4		
Approach LOS	C			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.7	27.3	9.4	31.8	10.5	27.4	16.2	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	29.5	10.5	39.5	9.5	32.5	22.5	27.5				
Max Q Clear Time (g_c+I), s	12.1	12.1	5.7	6.7	6.0	14.6	11.3	8.9				
Green Ext Time (p_c), s	0.1	3.1	0.1	2.2	0.2	3.8	0.5	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay	25.8											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↔	↔		↔	
Traffic Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	23	67	665	0	0	63	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	58	169	1219	0	544	386	0	606	0	6	0
Arrive On Green	0.00	0.14	0.14	0.34	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	421	1226	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	90	665	0	0	63	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1646	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.74	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	228	1219	0	544	386	0	606	0	6	0
V/C Ratio(X)	0.00	0.00	0.40	0.55	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1074	2610	0	1165	1157	0	1817	0	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.7	7.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	2.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.9	8.3	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			A					
Approach Vol, veh/h		90			665			63			0	
Approach Delay, s/veh		12.9			8.3			9.7			0.0	
Approach LOS		B			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		7.1		0.0		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		15.5		20.5				
Max Q Clear Time (g_c+I1), s		2.9		3.5		0.0		6.5				
Green Ext Time (p_c), s		0.2		0.3		0.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱	↰		↱		↰		↱	↰	↱
Traffic Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	117	234	35	270	0	392	0	197	248	261	158	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	210	421	507	0	0	0	0	517	448	541	965	0
Arrive On Green	0.34	0.34	0.34	0.03	0.00	0.03	0.00	0.29	0.29	0.16	0.52	0.00
Sat Flow, veh/h	611	1221	1472		0		0	1863	1533	3442	1863	0
Grp Volume(v), veh/h	351	0	35		0.0		0	197	248	261	158	0
Grp Sat Flow(s),veh/h/ln	1832	0	1472				0	1770	1533	1721	1863	0
Q Serve(g_s), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Prop In Lane	0.33		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	507				0	517	448	541	965	0
V/C Ratio(X)	0.56	0.00	0.07				0.00	0.38	0.55	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1468	0	1180				0	1086	940	1198	1919	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	9.6				0.0	12.3	13.0	16.8	5.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.1				0.0	0.5	1.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.3				0.0	1.9	2.6	1.5	1.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	9.7				0.0	12.8	14.1	17.5	5.6	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		386						445			419	
Approach Delay, s/veh		12.1						13.5			13.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	15.8		18.1		25.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	10.7	25.3		33.5		43.5						
Max Q Clear Time (g_c+I_1), s	15.0	8.0		8.8		4.0						
Green Ext Time (p_c), s	0.6	2.6		2.3		0.9						
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	238	352	84				0	436	212	276	579	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	536	563	464				0	1028	424	462	970	0
Arrive On Green	0.30	0.30	0.30				0.00	0.28	0.28	0.26	0.26	0.00
Sat Flow, veh/h	1774	1863	1535				0	3725	1535	1774	3725	0
Grp Volume(v), veh/h	238	352	84				0	436	212	276	579	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1535				0	1863	1535	1774	1863	0
Q Serve(g_s), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Cycle Q Clear(g_c), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	536	563	464				0	1028	424	462	970	0
V/C Ratio(X)	0.44	0.63	0.18				0.00	0.42	0.50	0.60	0.60	0.00
Avail Cap(c_a), veh/h	923	969	798				0	2072	854	668	1404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	16.7	14.4				0.0	16.5	17.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.6	1.1	0.2				0.0	0.3	0.9	1.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	4.8	1.0				0.0	2.8	2.8	3.8	3.9	0.0
LnGrp Delay(d),s/veh	16.3	17.9	14.5				0.0	16.8	17.9	19.3	18.6	0.0
LnGrp LOS	B	B	B					B	B	B	B	
Approach Vol, veh/h		674						648			855	
Approach Delay, s/veh		16.9						17.2			18.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		19.8		17.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.5		27.5		19.5						
Max Q Clear Time (g_c+I1), s		8.5		11.1		9.6						
Green Ext Time (p_c), s		3.6		2.9		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.97		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	1	82	0	59	0	518	37	451	608	3
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	159	59	402	0	281	0	1060	458	586	2499	12
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.00	0.30	0.30	0.33	0.69	0.69
Sat Flow, veh/h	431	863	323	1376	0	1528	0	3632	1530	1774	3611	18
Grp Volume(v), veh/h	5	0	0	82	0	59	0	518	37	451	298	313
Grp Sat Flow(s),veh/h/ln	1617	0	0	1376	0	1528	0	1770	1530	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Prop In Lane	0.40		0.20	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	401	0	0	402	0	281	0	1060	458	586	1225	1287
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.21	0.00	0.49	0.08	0.77	0.24	0.24
Avail Cap(c_a), veh/h	1045	0	0	973	0	918	0	2052	887	1616	2748	2887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	17.1	0.0	16.7	0.0	13.9	12.1	14.5	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.1	2.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.0	0.0	0.7	0.0	2.9	0.4	5.7	1.4	1.5
LnGrp Delay(d),s/veh	16.2	0.0	0.0	17.3	0.0	17.1	0.0	14.2	12.2	16.7	2.9	2.9
LnGrp LOS	B			B		B		B	B	B	A	A
Approach Vol, veh/h		5			141			555			1062	
Approach Delay, s/veh		16.2			17.2			14.1			8.7	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.0	17.5		11.9		36.4		11.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	40.5	26.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+1.0), s	13.0	7.8		2.1		5.0		4.5				
Green Ext Time (p_c), s	1.5	3.5		0.0		4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				11.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	448	240	100	197	286	428		
Future Volume (veh/h)	448	240	100	197	286	428		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	448	240	100	197	286	180		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1235	568	450	813	716	1027		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	511	2202	1863	2674		
Grp Volume(v), veh/h	448	240	155	142	286	180		
Grp Sat Flow(s),veh/h/ln	1721	1583	1018	1610	1863	1337		
Q Serve(g_s), s	2.2	2.7	0.6	1.4	2.6	1.0		
Cycle Q Clear(g_c), s	2.2	2.7	3.2	1.4	2.6	1.0		
Prop In Lane	1.00	1.00	0.65			1.00		
Lane Grp Cap(c), veh/h	1235	568	645	619	716	1027		
V/C Ratio(X)	0.36	0.42	0.24	0.23	0.40	0.18		
Avail Cap(c_a), veh/h	3170	1458	1293	1552	1796	2578		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.7	5.1	4.9	5.2	4.7		
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.2	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.8	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	5.7	6.2	5.3	5.0	5.6	4.8		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	688			297	466			
Approach Delay, s/veh	5.9			5.2	5.3			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	12.0		11.4		12.0			
Change Period (Y+Rc), s	4.5		4.5		4.5			
Max Green Setting (Gmax), s	21.0		20.0		21.0			
Max Q Clear Time (g_c+I1), s	5.2		4.7		4.6			
Green Ext Time (p_c), s	1.7		2.3		2.2			
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.92	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	34	84	7	189	41	8	184	441	99	122	194	25
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	174	254	316	402	75	245	1661	370	181	1714	218
Arrive On Green	0.05	0.09	0.09	0.09	0.14	0.14	0.14	0.58	0.58	0.10	0.54	0.54
Sat Flow, veh/h	1774	1863	2716	3442	2933	547	1774	2867	638	1774	3156	401
Grp Volume(v), veh/h	34	84	7	189	24	25	184	271	269	122	108	111
Grp Sat Flow(s),veh/h/ln	1774	1863	1358	1721	1770	1710	1774	1770	1735	1774	1770	1788
Q Serve(g_s), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Cycle Q Clear(g_c), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	86	174	254	316	242	234	245	1025	1005	181	961	971
V/C Ratio(X)	0.40	0.48	0.03	0.60	0.10	0.11	0.75	0.26	0.27	0.68	0.11	0.11
Avail Cap(c_a), veh/h	138	503	733	371	531	513	276	1025	1005	250	961	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	37.1	39.3	34.0	34.0	37.3	9.4	9.4	39.0	10.0	10.0
Incr Delay (d2), s/veh	2.9	2.1	0.0	1.9	0.2	0.2	7.6	0.5	0.5	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.1	2.3	0.5	0.6	4.9	3.4	3.4	3.1	1.3	1.4
LnGrp Delay(d),s/veh	44.5	40.8	37.1	41.2	34.1	34.2	44.9	9.9	9.9	43.3	10.2	10.3
LnGrp LOS	D	D	D	D	C	C	D	A	A	D	B	B
Approach Vol, veh/h		125			238			724			341	
Approach Delay, s/veh		41.6			39.7			18.8			22.1	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.2	55.1	11.3	11.4	15.4	51.9	7.4	15.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.2	29.8	8.2	22.8	12.5	28.5	5.5	25.5				
Max Q Clear Time (g_c+I), s	10.0	9.0	6.7	5.9	11.0	4.7	3.7	3.2				
Green Ext Time (p_c), s	0.1	3.3	0.1	0.3	0.1	1.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.85	0.87		0.72	0.85		0.72	0.80		0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	29	15	17	57	54	38	139	33	36	120	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	450	222	105	294	249	140	465	102	166	514	40
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.83	0.83	0.83	0.41	0.41	0.41
Sat Flow, veh/h	19	1086	535	112	710	600	192	1123	245	249	1240	95
Grp Volume(v), veh/h	46	0	0	128	0	0	210	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1641	0	0	1422	0	0	1561	0	0	1584	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.33	0.13		0.42	0.18		0.16	0.22		0.06
Lane Grp Cap(c), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
V/C Ratio(X)	0.06	0.00	0.00	0.20	0.00	0.00	0.30	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.1	0.0	0.0	3.7	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	13.8	0.0	0.0	4.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	46				128				210		166	
Approach Delay, s/veh	12.5				13.8				4.8		14.0	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	4.0		3.2		6.1		5.9					
Green Ext Time (p_c), s	1.4		0.2		1.0		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.90	0.93		0.90	0.91		0.93	0.97		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	59	16	14	174	29	33	153	17	6	121	9
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	384	94	74	593	94	138	593	61	64	714	51
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.86	0.86	0.86
Sat Flow, veh/h	368	960	236	47	1483	236	183	1384	143	24	1666	120
Grp Volume(v), veh/h	106	0	0	217	0	0	203	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1766	0	0	1710	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	0.29		0.15	0.06		0.13	0.16		0.08	0.04		0.07
Lane Grp Cap(c), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.29	0.00	0.00	0.26	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.3	0.0	0.0	12.9	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.0	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.3	0.0	0.0	13.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	106			217			203			136		
Approach Delay, s/veh	13.9			15.3			13.6			3.3		
Approach LOS	B			B			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.0		34.0		36.0		34.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		28.5		26.5		28.5		26.5				
Max Q Clear Time (g_c+I1), s		7.0		4.7		2.9		7.8				
Green Ext Time (p_c), s		1.2		0.6		0.8		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay				12.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	89	41	95	335	62	15	117	14	10	109	16
Future Volume (veh/h)	19	89	41	95	335	62	15	117	14	10	109	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.86	0.98		0.88	0.82		0.75	0.86		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	980	980	1961	1900	980	1900	1900	2451	1900
Adj Flow Rate, veh/h	19	89	41	95	335	33	15	117	14	10	109	16
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	260	109	366	499	750	84	209	23	90	520	73
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.55	0.55	0.55	0.27	0.27	0.27
Sat Flow, veh/h	52	510	213	649	980	1473	44	767	86	72	1908	266
Grp Volume(v), veh/h	149	0	0	95	335	33	146	0	0	135	0	0
Grp Sat Flow(s),veh/h/ln	775	0	0	649	980	1473	897	0	0	2246	0	0
Q Serve(g_s), s	0.5	0.0	0.0	0.0	14.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.5	0.0	0.0	13.2	14.0	0.6	5.7	0.0	0.0	2.5	0.0	0.0
Prop In Lane	0.13		0.28	1.00		1.00	0.10		0.10	0.07		0.12
Lane Grp Cap(c), veh/h	469	0	0	366	499	750	317	0	0	683	0	0
V/C Ratio(X)	0.32	0.00	0.00	0.26	0.67	0.04	0.46	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	469	0	0	366	499	750	317	0	0	683	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	0.98	0.00	0.00	0.95	0.95	0.95	0.83	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	9.9	10.1	6.8	10.4	0.0	0.0	15.5	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	1.6	6.7	0.1	4.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	0.0	1.2	4.7	0.3	1.8	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	9.8	0.0	0.0	11.5	16.8	6.9	14.4	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A			B	B	A	B			B		
Approach Vol, veh/h	149				463				146		135	
Approach Delay, s/veh	9.8				15.0				14.4		16.1	
Approach LOS	A				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	21.0		34.0		21.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	13.5		26.5		13.5		26.5					
Max Q Clear Time (g_c+I1), s	7.7		16.5		4.5		16.0					
Green Ext Time (p_c), s	0.3		0.5		0.4		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay			14.2									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	387	20	7	88	7	13	103	44	63	106	59
Future Volume (veh/h)	21	387	20	7	88	7	13	103	44	63	106	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.98		0.95	0.95		0.96	0.98		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900	1900	980	1900	1900	980	1900	1900	1176	1900
Adj Flow Rate, veh/h	21	387	20	7	88	7	13	103	44	63	106	59
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	978	49	81	409	31	81	189	76	146	172	82
Arrive On Green	0.48	0.48	0.45	0.48	0.48	0.45	0.30	0.30	0.28	0.51	0.51	0.46
Sat Flow, veh/h	49	2047	103	23	855	65	32	623	249	204	566	269
Grp Volume(v), veh/h	226	0	202	102	0	0	160	0	0	228	0	0
Grp Sat Flow(s),veh/h/ln	153	0	1047	943	0	0	904	0	0	1039	0	0
Q Serve(g_s), s	0.0	0.0	6.9	0.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	6.9	3.4	0.0	0.0	8.1	0.0	0.0	8.5	0.0	0.0
Prop In Lane	0.09		0.10	0.07		0.07	0.08		0.27	0.28		0.26
Lane Grp Cap(c), veh/h	622	0	500	521	0	0	346	0	0	399	0	0
V/C Ratio(X)	0.36	0.00	0.40	0.20	0.00	0.00	0.46	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	622	0	500	521	0	0	446	0	0	509	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	0.97	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	9.4	8.4	0.0	0.0	16.3	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	2.4	0.8	0.0	0.0	0.9	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	2.3	1.0	0.0	0.0	2.1	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	10.9	0.0	11.8	9.3	0.0	0.0	17.2	0.0	0.0	13.1	0.0	0.0
LnGrp LOS	B		B	A			B			B		
Approach Vol, veh/h	428				102		160				228	
Approach Delay, s/veh	11.3				9.3		17.2				13.1	
Approach LOS	B				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.7		32.3		22.7		32.3					
Change Period (Y+Rc), s	7.5		* 7.5		7.5		7.5					
Max Green Setting (Gmax), s	21.5		* 22		21.5		18.5					
Max Q Clear Time (g_c+I1), s	10.1		8.9		10.5		5.4					
Green Ext Time (p_c), s	0.6		2.0		1.0		0.4					
Intersection Summary												
HCM 2010 Ctrl Delay			12.6									
HCM 2010 LOS			B									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	262	54	21	241	11	32	128	56	13	97	23
Future Volume (veh/h)	20	262	54	21	241	11	32	128	56	13	97	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.98		0.96	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900	1900	1176	1900	1900	2451	1900	1900	1569	1900
Adj Flow Rate, veh/h	20	262	54	21	241	11	32	128	56	13	97	23
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	84	865	171	74	480	21	132	539	214	81	428	95
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	64	1892	374	41	1049	46	197	1452	577	67	1153	255
Grp Volume(v), veh/h	336	0	0	273	0	0	216	0	0	133	0	0
Grp Sat Flow(s),veh/h/ln	2330	0	0	1135	0	0	2226	0	0	1475	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	11.6	0.0	0.0	4.5	0.0	0.0	4.2	0.0	0.0
Prop In Lane	0.06		0.16	0.08		0.04	0.15		0.26	0.10		0.17
Lane Grp Cap(c), veh/h	1120	0	0	574	0	0	886	0	0	604	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.48	0.00	0.00	0.24	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1120	0	0	574	0	0	886	0	0	604	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	0.0	0.0	13.5	0.0	0.0	15.2	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	2.8	0.0	0.0	0.7	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	4.2	0.0	0.0	3.0	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	12.7	0.0	0.0	16.3	0.0	0.0	15.9	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	336				273				216		133	
Approach Delay, s/veh	12.7				16.3				15.9		16.0	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+l1), s	6.5		8.3		6.2		13.6					
Green Ext Time (p_c), s	1.2		2.2		0.6		1.5					
Intersection Summary												
HCM 2010 Ctrl Delay	14.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.91	0.93		0.87	0.95		0.91	0.94		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	85	26	7	155	51	13	99	15	12	173	66
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	268	73	60	513	164	96	617	88	67	523	191
Arrive On Green	0.67	0.67	0.67	0.80	0.80	0.80	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	549	670	183	18	1282	409	91	1439	205	31	1220	446
Grp Volume(v), veh/h	199	0	0	213	0	0	127	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1402	0	0	1710	0	0	1736	0	0	1698	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.44		0.13	0.03		0.24	0.10		0.12	0.05		0.26
Lane Grp Cap(c), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	0.0	4.4	0.0	0.0	12.3	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	0.0	0.0	1.6	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.4	0.0	0.0	12.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	199				213				127		251	
Approach Delay, s/veh	8.8				5.4				12.7		14.5	
Approach LOS	A				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	5.0		5.4		8.9		4.3					
Green Ext Time (p_c), s	0.7		1.3		1.5		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	10.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

35: Ellsowrth Ave/Ellsworth Ave & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	0.94		0.91	0.95		0.91	0.94		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	104	19	12	255	43	3	48	8	8	151	35
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	514	83	104	604	99	104	448	72	103	423	95
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	177	1276	206	28	1500	246	33	1498	240	32	1414	318
Grp Volume(v), veh/h	153	0	0	310	0	0	59	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1660	0	0	1774	0	0	1772	0	0	1764	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.0	0.0	0.0	1.0	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.20		0.12	0.04		0.14	0.05		0.14	0.04		0.18
Lane Grp Cap(c), veh/h	775	0	0	807	0	0	624	0	0	621	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.00	0.00	0.09	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1233	0	0	1321	0	0	1184	0	0	1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.7	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	10.3	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	153				310		59				194	
Approach Delay, s/veh	8.0				9.0		10.3				11.4	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.0		22.2		18.0		22.2					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.0		4.2		5.5		7.0					
Green Ext Time (p_c), s	0.2		0.8		1.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	9.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	270	10	78	267	115	8	381	101	149	462	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	908	753	527	908	744	56	1500	664	294	906	77
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	989	1863	1546	1090	1863	1526	22	3428	1517	516	2071	176
Grp Volume(v), veh/h	29	270	10	78	267	115	208	181	101	292	0	357
Grp Sat Flow(s),veh/h/ln	989	1863	1546	1090	1863	1526	1839	1610	1517	1112	0	1651
Q Serve(g_s), s	1.4	7.0	0.3	3.7	6.9	3.3	0.0	5.7	3.2	12.3	0.0	12.4
Cycle Q Clear(g_c), s	8.3	7.0	0.3	10.6	6.9	3.3	5.7	5.7	3.2	18.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.11
Lane Grp Cap(c), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
V/C Ratio(X)	0.06	0.30	0.01	0.15	0.29	0.15	0.24	0.26	0.15	0.53	0.00	0.49
Avail Cap(c_a), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	12.3	10.6	15.5	12.3	11.4	14.2	14.3	13.6	18.3	0.0	16.2
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.6	0.8	0.4	0.7	0.9	0.5	3.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	0.1	1.2	3.7	1.5	3.0	2.7	1.4	5.6	0.0	6.1
LnGrp Delay(d),s/veh	15.0	13.1	10.6	16.1	13.1	11.8	14.9	15.1	14.0	21.8	0.0	18.6
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h	309			460			490			649		
Approach Delay, s/veh	13.2			13.3			14.8			20.0		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	33.5		37.5		33.5		37.5					
Max Q Clear Time (g_c+I1), s	7.7		10.3		20.0		12.6					
Green Ext Time (p_c), s	2.7		1.8		3.8		2.3					
Intersection Summary												
HCM 2010 Ctrl Delay	16.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

10/18/2019

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29	
Future Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.98		0.98	0.99		0.94	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900	
Adj Flow Rate, veh/h	54	342	56	93	260	52	31	526	58	86	463	29	
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	219	1123	177	231	476	86	145	1228	133	245	1085	67	
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41	
Sat Flow, veh/h	226	2665	420	254	1129	204	84	2992	323	279	2644	164	
Grp Volume(v), veh/h	238	0	214	405	0	0	322	0	293	286	0	292	
Grp Sat Flow(s),veh/h/ln	1703	0	1608	1587	0	0	1768	0	1631	1432	0	1655	
Q Serve(g_s), s	0.0	0.0	3.2	2.5	0.0	0.0	0.0	0.0	4.6	0.2	0.0	4.5	
Cycle Q Clear(g_c), s	3.0	0.0	3.2	6.5	0.0	0.0	4.4	0.0	4.6	4.8	0.0	4.5	
Prop In Lane	0.23		0.26	0.23		0.13	0.10		0.20	0.30		0.10	
Lane Grp Cap(c), veh/h	842	0	678	793	0	0	836	0	670	719	0	679	
V/C Ratio(X)	0.28	0.00	0.32	0.51	0.00	0.00	0.39	0.00	0.44	0.40	0.00	0.43	
Avail Cap(c_a), veh/h	1548	0	1395	1464	0	0	3347	0	3104	2732	0	3149	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	6.9	0.0	6.9	7.7	0.0	0.0	7.5	0.0	7.6	7.3	0.0	7.5	
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.4	3.0	0.0	0.0	2.3	0.0	2.1	2.0	0.0	2.1	
LnGrp Delay(d),s/veh	7.0	0.0	7.2	8.3	0.0	0.0	7.8	0.0	8.0	7.7	0.0	8.0	
LnGrp LOS	A		A	A			A		A	A		A	
Approach Vol, veh/h	452				405				615				578
Approach Delay, s/veh	7.1				8.3				7.9				7.8
Approach LOS	A				A				A				A
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	2		4		6		8						
Phs Duration (G+Y+Rc), s	17.7		18.1		17.7		18.1						
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5						
Max Green Setting (Gmax), s	66.5		29.5		66.5		29.5						
Max Q Clear Time (g_c+I1), s	6.6		5.2		6.8		8.5						
Green Ext Time (p_c), s	4.5		2.9		4.5		2.8						
Intersection Summary													
HCM 2010 Ctrl Delay			7.8										
HCM 2010 LOS			A										

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.98		0.93	0.99		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	207	34	9	145	75	13	177	22	29	251	132
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	631	104	63	456	227	73	654	78	596	474	249
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.84	0.84	0.84	0.42	0.42	0.42
Sat Flow, veh/h	1106	1549	255	24	1120	557	43	1552	185	1137	1125	592
Grp Volume(v), veh/h	265	0	241	229	0	0	212	0	0	29	0	383
Grp Sat Flow(s),veh/h/ln	1106	0	1804	1701	0	0	1780	0	0	1137	0	1716
Q Serve(g_s), s	7.3	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Cycle Q Clear(g_c), s	13.7	0.0	6.4	6.4	0.0	0.0	1.7	0.0	0.0	0.7	0.0	11.6
Prop In Lane	1.00		0.14	0.04		0.33	0.06		0.10	1.00		0.34
Lane Grp Cap(c), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
V/C Ratio(X)	0.49	0.00	0.33	0.31	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.53
Avail Cap(c_a), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	14.2	14.2	0.0	0.0	3.3	0.0	0.0	11.9	0.0	15.1
Incr Delay (d2), s/veh	3.1	0.0	1.2	1.1	0.0	0.0	0.8	0.0	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.4	3.2	0.0	0.0	0.9	0.0	0.0	0.4	0.0	6.0
LnGrp Delay(d),s/veh	19.6	0.0	15.4	15.3	0.0	0.0	4.1	0.0	0.0	12.1	0.0	17.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	506			229			212			412		
Approach Delay, s/veh	17.6			15.3			4.1			17.4		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.5		34.5		35.5		34.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.0		27.0		28.0		27.0					
Max Q Clear Time (g_c+I1), s	3.7		15.7		13.6		8.4					
Green Ext Time (p_c), s	1.2		2.1		2.2		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	15.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	0.97		0.96	0.97		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	137	37	27	228	47	6	116	17	16	223	41
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	488	121	93	638	124	63	576	81	581	559	103
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	273	1068	265	80	1397	272	24	1550	219	1215	1505	277
Grp Volume(v), veh/h	224	0	0	302	0	0	139	0	0	16	0	264
Grp Sat Flow(s),veh/h/ln	1607	0	0	1749	0	0	1794	0	0	1215	0	1782
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	7.7	0.0	0.0	3.7	0.0	0.0	0.4	0.0	7.7
Prop In Lane	0.22		0.17	0.09		0.16	0.04		0.12	1.00		0.16
Lane Grp Cap(c), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.40
Avail Cap(c_a), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.4	0.0	0.0	15.0	0.0	0.0	14.0	0.0	16.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	4.1
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.5	0.0	0.0	15.6	0.0	0.0	14.0	0.0	18.0
LnGrp LOS	B			B			B			B		B
Approach Vol, veh/h	224			302			139			280		
Approach Delay, s/veh	12.7			13.5			15.6			17.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	5.7		7.4		9.7		9.7					
Green Ext Time (p_c), s	0.7		1.4		1.4		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	14.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

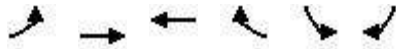
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.97		0.95	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	258	38	14	138	17	8	99	13	75	132	52
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	950	137	115	1025	124	75	751	95	252	429	157
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	289	2621	378	174	2828	341	55	1541	194	398	880	321
Grp Volume(v), veh/h	176	0	160	89	0	80	120	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1696	0	1591	1729	0	1614	1790	0	0	1600	0	0
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	5.7	2.5	0.0	2.7	2.9	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.23		0.24	0.16		0.21	0.07		0.11	0.29		0.20
Lane Grp Cap(c), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.13	0.00	0.14	0.13	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	18.1	17.1	0.0	17.1	11.2	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.4	0.0	0.5	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.7	1.4	0.0	1.3	1.5	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	18.9	0.0	19.3	17.5	0.0	17.6	11.5	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B		B	B		B	B			B		
Approach Vol, veh/h	336			169			120			259		
Approach Delay, s/veh	19.1			17.5			11.5			13.3		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	37.5		27.5		37.5		27.5					
Max Q Clear Time (g_c+l1), s	4.9		7.7		9.3		4.7					
Green Ext Time (p_c), s	0.7		2.0		1.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	16.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	98	290	238	80	107	92		
Future Volume (veh/h)	98	290	238	80	107	92		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.99			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1863	2451	1900	1863	2451		
Adj Flow Rate, veh/h	98	290	238	80	107	28		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	352	946	888	298	535	628		
Arrive On Green	0.51	0.51	0.51	0.51	0.30	0.30		
Sat Flow, veh/h	552	1863	1747	587	1774	2083		
Grp Volume(v), veh/h	98	290	0	318	107	28		
Grp Sat Flow(s),veh/h/ln	552	1863	0	2335	1774	2083		
Q Serve(g_s), s	7.7	5.7	0.0	4.9	2.8	0.6		
Cycle Q Clear(g_c), s	12.6	5.7	0.0	4.9	2.8	0.6		
Prop In Lane	1.00			0.25	1.00	1.00		
Lane Grp Cap(c), veh/h	352	946	0	1186	535	628		
V/C Ratio(X)	0.28	0.31	0.00	0.27	0.20	0.04		
Avail Cap(c_a), veh/h	352	946	0	1186	535	628		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.4	9.0	0.0	8.8	16.4	15.6		
Incr Delay (d2), s/veh	2.0	0.8	0.0	0.6	0.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	3.1	0.0	3.3	1.5	0.4		
LnGrp Delay(d),s/veh	14.4	9.9	0.0	9.4	17.2	15.7		
LnGrp LOS	B	A		A	B	B		
Approach Vol, veh/h		388	318		135			
Approach Delay, s/veh		11.0	9.4		16.9			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				38.0		25.0		38.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				30.5		17.5		30.5
Max Q Clear Time (g_c+l1), s				14.6		4.8		6.9
Green Ext Time (p_c), s				2.6		0.3		2.1
Intersection Summary								
HCM 2010 Ctrl Delay			11.3					
HCM 2010 LOS			B					

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

10/18/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.98		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	116	70	171	77	79	79	1085	178	121	1098	7
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	269	149	389	219	225	138	1520	249	192	1922	12
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.53	0.53
Sat Flow, veh/h	96	1021	567	1174	832	854	1774	3024	494	1774	3604	23
Grp Volume(v), veh/h	208	0	0	171	0	156	79	634	629	121	539	566
Grp Sat Flow(s),veh/h/ln	1684	0	0	1174	0	1686	1774	1770	1749	1774	1770	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	10.5	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Prop In Lane	0.11		0.34	1.00		0.51	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	499	0	0	389	0	444	138	890	879	192	943	990
V/C Ratio(X)	0.42	0.00	0.00	0.44	0.00	0.35	0.57	0.71	0.72	0.63	0.57	0.57
Avail Cap(c_a), veh/h	1147	0	0	851	0	1108	330	1855	1833	471	1996	2096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.5	0.0	21.4	31.8	13.8	13.8	30.5	11.2	11.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	0.5	3.7	1.1	1.1	3.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	3.1	0.0	2.6	1.7	9.8	9.9	2.5	7.2	7.5
LnGrp Delay(d),s/veh	22.6	0.0	0.0	24.3	0.0	21.9	35.5	14.8	14.9	33.9	11.8	11.7
LnGrp LOS	C			C		C	D	B	B	C	B	B
Approach Vol, veh/h	208			327			1342			1226		
Approach Delay, s/veh	22.6			23.1			16.1			13.9		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	39.0		21.8	8.6	41.1		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+I), s	11.5	22.0		9.2	5.1	16.6		12.5				
Green Ext Time (p_c), s	0.2	12.5		1.4	0.1	9.8		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	77	81	54	112	86	50	26	1263	108	34	1197	37
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	213	115	272	185	89	91	1879	159	101	1947	60
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	449	762	414	598	664	319	27	3132	265	41	3246	99
Grp Volume(v), veh/h	212	0	0	248	0	0	728	0	669	643	0	625
Grp Sat Flow(s),veh/h/ln	1624	0	0	1581	0	0	1779	0	1645	1710	0	1676
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	13.6	0.0	0.0	11.8
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.9	0.0	0.0	12.7	0.0	13.6	10.5	0.0	11.8
Prop In Lane	0.36		0.25	0.45		0.20	0.04		0.16	0.05		0.06
Lane Grp Cap(c), veh/h	552	0	0	546	0	0	1142	0	987	1102	0	1005
V/C Ratio(X)	0.38	0.00	0.00	0.45	0.00	0.00	0.64	0.00	0.68	0.58	0.00	0.62
Avail Cap(c_a), veh/h	907	0	0	892	0	0	1779	0	1612	1695	0	1643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.9	0.0	0.0	6.5	0.0	6.7	6.1	0.0	6.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.9	0.0	0.0	6.7	0.0	6.2	5.3	0.0	5.6
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.5	0.0	0.0	7.1	0.0	7.5	6.5	0.0	6.9
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	212			248			1397			1268		
Approach Delay, s/veh	15.1			15.5			7.3			6.7		
Approach LOS	B			B			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.7		16.8		32.7		16.8					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	15.6		6.8		13.8		7.9					
Green Ext Time (p_c), s	12.6		1.2		11.3		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	273	37	73	1105	1334	192		
Future Volume (veh/h)	273	37	73	1105	1334	192		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	273	37	73	1105	1334	192		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	364	49	134	2394	1732	247		
Arrive On Green	0.24	0.24	0.08	0.68	0.56	0.56		
Sat Flow, veh/h	1530	207	1774	3632	3198	443		
Grp Volume(v), veh/h	311	0	73	1105	755	771		
Grp Sat Flow(s),veh/h/ln	1742	0	1774	1770	1770	1778		
Q Serve(g_s), s	11.6	0.0	2.8	10.3	23.1	23.7		
Cycle Q Clear(g_c), s	11.6	0.0	2.8	10.3	23.1	23.7		
Prop In Lane	0.88	0.12	1.00			0.25		
Lane Grp Cap(c), veh/h	414	0	134	2394	987	992		
V/C Ratio(X)	0.75	0.00	0.54	0.46	0.77	0.78		
Avail Cap(c_a), veh/h	572	0	203	3084	1264	1270		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.7	0.0	31.2	5.3	11.9	12.1		
Incr Delay (d2), s/veh	3.6	0.0	3.4	0.1	2.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.5	5.0	11.7	12.0		
LnGrp Delay(d),s/veh	28.3	0.0	34.6	5.5	14.1	14.4		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	311			1178	1526			
Approach Delay, s/veh	28.3			7.3	14.3			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.4		19.7	8.3	42.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	6.5	48.5		
Max Q Clear Time (g_c+I1), s		12.3		13.6	4.8	25.7		
Green Ext Time (p_c), s		10.2		0.6	0.0	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay		13.0						
HCM 2010 LOS		B						
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	184	91	1307	436	81	1225		
Future Volume (veh/h)	184	91	1307	436	81	1225		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	184	20	1307	234	81	1225		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	303	270	1921	829	177	2495		
Arrive On Green	0.17	0.17	0.54	0.54	0.10	0.70		
Sat Flow, veh/h	1774	1583	3632	1528	1774	3632		
Grp Volume(v), veh/h	184	20	1307	234	81	1225		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1528	1774	1770		
Q Serve(g_s), s	4.6	0.5	12.9	4.0	2.1	7.5		
Cycle Q Clear(g_c), s	4.6	0.5	12.9	4.0	2.1	7.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	303	270	1921	829	177	2495		
V/C Ratio(X)	0.61	0.07	0.68	0.28	0.46	0.49		
Avail Cap(c_a), veh/h	1123	1002	2497	1078	239	3195		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.5	16.8	8.0	5.9	20.5	3.2		
Incr Delay (d2), s/veh	2.0	0.1	0.5	0.2	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.3	1.7	1.1	3.6		
LnGrp Delay(d),s/veh	20.5	16.9	8.5	6.1	22.3	3.4		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	204		1541			1306		
Approach Delay, s/veh	20.1		8.1			4.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.8	29.2				37.0		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	32.5	32.5				42.0		29.0
Max Q Clear Time (g_c+I_1), s	14.9	14.9				9.5		6.6
Green Ext Time (p_c), s	0.0	9.8				11.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	139	143	115	140	44	64	1340	70	44	1402	85
Future Volume (veh/h)	173	139	143	115	140	44	64	1340	70	44	1402	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.94	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	2451	1863	980	1863	1863	980	2451	1900	1765	2451	1900
Adj Flow Rate, veh/h	173	139	37	115	140	11	64	1340	70	44	1402	85
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	368	739	453	236	562	451	82	3579	187	87	3314	201
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.09	0.55	0.55	0.05	0.52	0.52
Sat Flow, veh/h	1193	2451	1503	616	1863	1496	934	6488	339	1681	6425	390
Grp Volume(v), veh/h	173	139	37	115	140	11	64	921	489	44	973	514
Grp Sat Flow(s),veh/h/ln	1193	2451	1503	616	1863	1496	934	2230	2366	1681	2230	2354
Q Serve(g_s), s	12.2	4.0	1.7	16.1	5.4	0.5	6.4	11.1	11.1	2.4	12.8	12.8
Cycle Q Clear(g_c), s	17.6	4.0	1.7	20.1	5.4	0.5	6.4	11.1	11.1	2.4	12.8	12.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.17
Lane Grp Cap(c), veh/h	368	739	453	236	562	451	82	2461	1305	87	2301	1214
V/C Ratio(X)	0.47	0.19	0.08	0.49	0.25	0.02	0.78	0.37	0.37	0.50	0.42	0.42
Avail Cap(c_a), veh/h	460	929	570	284	706	567	118	2461	1305	212	2301	1214
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.90	0.90	0.90	0.85	0.85	0.85
Uniform Delay (d), s/veh	31.7	24.6	23.8	32.0	25.0	23.3	42.4	12.0	12.0	43.8	14.2	14.2
Incr Delay (d2), s/veh	0.9	0.1	0.1	1.4	0.2	0.0	17.0	0.4	0.7	3.8	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.7	0.7	2.8	2.8	0.2	2.0	6.9	7.5	1.2	8.0	8.6
LnGrp Delay(d),s/veh	32.6	24.7	23.8	33.5	25.3	23.4	59.4	12.4	12.8	47.6	14.7	15.2
LnGrp LOS	C	C	C	C	C	C	E	B	B	D	B	B
Approach Vol, veh/h	349				266				1474		1531	
Approach Delay, s/veh	28.5				28.7				14.6		15.8	
Approach LOS	C				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.9	55.4			31.7	11.3	52.0	31.7				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	10.5	36.5			34.5	10.5	36.5	34.5				
Max Q Clear Time (g_c+I), s	14.4	13.1			19.6	8.4	14.8	22.1				
Green Ext Time (p_c), s	0.0	10.5			1.4	0.0	10.7	1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.5									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	112	16	88	57	56	45	1564	111	126	1382	34
Future Volume (veh/h)	63	112	16	88	57	56	45	1564	111	126	1382	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	1863	1900	980	2451	1900	2157	2451	1900
Adj Flow Rate, veh/h	63	112	4	88	57	56	45	1564	111	126	1382	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	169	452	204	255	251	76	3454	245	195	3742	92
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.51	0.51	0.10	0.52	0.52
Sat Flow, veh/h	249	556	1487	1231	839	824	934	6763	480	2054	7139	176
Grp Volume(v), veh/h	175	0	4	88	0	113	45	1133	542	126	949	467
Grp Sat Flow(s),veh/h/ln	805	0	1487	1231	0	1663	934	2451	2341	2054	2451	2412
Q Serve(g_s), s	14.7	0.0	0.2	6.9	0.0	5.1	4.6	14.7	14.7	5.9	11.4	11.4
Cycle Q Clear(g_c), s	19.7	0.0	0.2	26.6	0.0	5.1	4.6	14.7	14.7	5.9	11.4	11.4
Prop In Lane	0.36		1.00	1.00		0.50	1.00		0.20	1.00		0.07
Lane Grp Cap(c), veh/h	294	0	452	204	0	506	76	2504	1196	195	2569	1264
V/C Ratio(X)	0.60	0.00	0.01	0.43	0.00	0.22	0.59	0.45	0.45	0.65	0.37	0.37
Avail Cap(c_a), veh/h	295	0	455	206	0	509	116	2504	1196	271	2569	1264
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	0.74	0.74	0.74	0.91	0.91	0.91
Uniform Delay (d), s/veh	31.2	0.0	24.3	43.0	0.0	26.0	44.3	15.6	15.6	43.6	14.0	14.0
Incr Delay (d2), s/veh	3.2	0.0	0.0	1.4	0.0	0.2	5.3	0.4	0.9	3.2	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.1	2.4	0.0	2.4	1.3	10.1	9.8	3.5	7.8	7.8
LnGrp Delay(d),s/veh	34.4	0.0	24.3	44.4	0.0	26.2	49.6	16.0	16.5	46.8	14.4	14.8
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	179		201			1720			1542			
Approach Delay, s/veh	34.2		34.2			17.0			17.2			
Approach LOS	C		C			B			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.5	54.1		33.4	11.2	55.4		33.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	45.7			29.1	10.9	46.5		29.1				
Max Q Clear Time (g_c+I),s	16.7			21.7	6.6	13.4		28.6				
Green Ext Time (p_c), s	0.1	14.5		0.5	0.0	12.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			18.9									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations				  	  			
Traffic Volume (veh/h)	187	74	59	1697	1479	154		
Future Volume (veh/h)	187	74	59	1697	1479	154		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	187	74	59	1697	1479	154		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	301	119	124	2870	3009	313		
Arrive On Green	0.25	0.25	0.64	0.64	0.64	0.64		
Sat Flow, veh/h	1217	482	80	4613	4844	487		
Grp Volume(v), veh/h	262	0	569	1187	1072	561		
Grp Sat Flow(s),veh/h/ln	1705	0	1456	1543	1695	1772		
Q Serve(g_s), s	7.5	0.0	0.0	12.2	9.0	9.0		
Cycle Q Clear(g_c), s	7.5	0.0	8.6	12.2	9.0	9.0		
Prop In Lane	0.71	0.28	0.10			0.27		
Lane Grp Cap(c), veh/h	421	0	1009	1985	2182	1141		
V/C Ratio(X)	0.62	0.00	0.56	0.60	0.49	0.49		
Avail Cap(c_a), veh/h	933	0	1426	3039	3340	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	0.0	5.0	5.7	5.1	5.1		
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.4	5.2	4.2	4.5		
LnGrp Delay(d),s/veh	19.9	0.0	5.5	6.0	5.3	5.4		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	262			1756	1633			
Approach Delay, s/veh	19.9			5.8	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		38.3		16.5		38.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		52.5		28.5		52.5		
Max Q Clear Time (g_c+I1), s		14.2		9.5		11.0		
Green Ext Time (p_c), s		19.6		0.8		16.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

10/18/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Future Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	45	86	79	236	84	23	270	1673	194	49	1471	39				
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	439	613	501	434	459	126	337	2349	271	102	1917	51				
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.51	0.51	0.06	0.38	0.38				
Sat Flow, veh/h	1243	1863	1521	1180	1396	382	1774	4616	534	1774	5092	135				
Grp Volume(v), veh/h	45	86	79	236	0	107	270	1227	640	49	979	531				
Grp Sat Flow(s),veh/h/ln	1243	1863	1521	1180	0	1778	1774	1695	1760	1774	1695	1837				
Q Serve(g_s), s	2.3	2.8	3.2	15.1	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Cycle Q Clear(g_c), s	6.0	2.8	3.2	17.9	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.30	1.00		0.07				
Lane Grp Cap(c), veh/h	439	613	501	434	0	585	337	1725	895	102	1276	691				
V/C Ratio(X)	0.10	0.14	0.16	0.54	0.00	0.18	0.80	0.71	0.71	0.48	0.77	0.77				
Avail Cap(c_a), veh/h	514	725	592	505	0	692	433	1990	1033	144	1438	779				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	22.7	20.3	20.4	26.6	0.0	20.6	33.3	16.3	16.3	39.3	23.5	23.5				
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.0	0.1	8.1	1.0	2.0	3.5	2.3	4.1				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.4	5.0	0.0	1.8	6.9	11.3	12.0	1.2	10.6	11.8				
LnGrp Delay(d),s/veh	22.8	20.4	20.6	27.7	0.0	20.8	41.4	17.3	18.3	42.8	25.8	27.7				
LnGrp LOS	C	C	C	C		C	D	B	B	D	C	C				
Approach Vol, veh/h	210			343			2137			1559						
Approach Delay, s/veh	21.0			25.5			20.6			27.0						
Approach LOS	C			C			C			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	46.8	46.8			31.3	19.3	35.4	31.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	49.0	49.0			32.0	19.5	35.0	32.0								
Max Q Clear Time (g_c+I_1), s	26.1	26.1			8.0	14.5	23.8	19.9								
Green Ext Time (p_c), s	0.0	14.4			0.8	0.4	7.1	1.2								
Intersection Summary																
HCM 2010 Ctrl Delay	23.4															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	245	179	102	82	87	17	102	1180	38	119	1144	206
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	255	145	149	158	257	158	1733	56	228	1653	297
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17	0.09	0.34	0.34	0.13	0.38	0.38
Sat Flow, veh/h	1774	1100	627	882	936	1521	1774	5053	163	1774	4320	778
Grp Volume(v), veh/h	245	0	281	169	0	17	102	792	426	119	898	452
Grp Sat Flow(s),veh/h/ln	1774	0	1727	1819	0	1521	1774	1695	1825	1774	1695	1707
Q Serve(g_s), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Cycle Q Clear(g_c), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Prop In Lane	1.00		0.36	0.49		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	410	0	400	308	0	257	158	1163	626	228	1297	653
V/C Ratio(X)	0.60	0.00	0.70	0.55	0.00	0.07	0.65	0.68	0.68	0.52	0.69	0.69
Avail Cap(c_a), veh/h	719	0	700	679	0	568	341	2025	1090	360	2061	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	35.7	0.0	32.7	41.3	26.4	26.4	38.2	24.3	24.3
Incr Delay (d2), s/veh	1.4	0.0	2.3	1.5	0.0	0.1	4.4	0.7	1.3	1.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.8	0.0	6.9	4.1	0.0	0.4	2.7	8.9	9.7	3.0	9.8	10.0
LnGrp Delay(d),s/veh	33.5	0.0	35.3	37.2	0.0	32.8	45.7	27.1	27.7	40.0	25.0	25.6
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h	526			186			1320			1469		
Approach Delay, s/veh	34.5			36.8			28.7			26.4		
Approach LOS	C			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc),s	15.0	35.2		24.7	11.3	38.9		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax),s	17.5	54.5		36.5	16.5	55.5		33.5				
Max Q Clear Time (g_c+I),s	17.9	20.8		16.0	7.2	22.9		10.0				
Green Ext Time (p_c), s	0.2	9.9		2.5	0.1	11.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	29.0											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	212	6	208	235	20	48	1059	324	160	996	46
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	289	237	391	410	329	386	1493	457	215	1450	67
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.22	0.39	0.39	0.12	0.29	0.29
Sat Flow, veh/h	1774	1863	1529	1774	1863	1495	1774	3842	1175	1774	4962	229
Grp Volume(v), veh/h	156	212	6	208	235	20	48	934	449	160	680	362
Grp Sat Flow(s),veh/h/ln	1774	1863	1529	1774	1863	1495	1774	1695	1627	1774	1695	1800
Q Serve(g_s), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Cycle Q Clear(g_c), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.13
Lane Grp Cap(c), veh/h	275	289	237	391	410	329	386	1317	632	215	991	526
V/C Ratio(X)	0.57	0.73	0.03	0.53	0.57	0.06	0.12	0.71	0.71	0.75	0.69	0.69
Avail Cap(c_a), veh/h	459	481	395	628	660	530	386	2174	1043	289	2174	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	42.1	37.4	36.0	36.3	32.2	32.9	27.0	27.0	44.4	32.7	32.8
Incr Delay (d2), s/veh	1.8	3.6	0.0	1.1	1.3	0.1	0.1	0.7	1.5	7.0	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	0.1	5.4	6.2	0.5	1.1	11.4	11.1	4.9	8.8	9.5
LnGrp Delay(d),s/veh	42.7	45.6	37.5	37.1	37.6	32.3	33.0	27.7	28.5	51.3	33.6	34.4
LnGrp LOS	D	D	D	D	D	C	C	C	C	D	C	C
Approach Vol, veh/h	374				463				1431		1202	
Approach Delay, s/veh	44.3				37.1				28.1		36.2	
Approach LOS	D				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	15.6	43.6		19.2	25.7	33.5		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	45.5	65.5		25.5	15.5	65.5		35.5				
Max Q Clear Time (g_c+1),s	26.3			13.3	4.3	20.6		13.8				
Green Ext Time (p_c), s	0.2	12.8		1.4	0.1	8.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	33.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			WB		NB	NT		SB	ST	
Traffic Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	145	0	24	1	0	3	123	1225	2	19	1306	104
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	0	329	132	36	273	204	2226	4	325	2365	188
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.12	0.42	0.42	0.18	0.49	0.49
Sat Flow, veh/h	1372	0	1386	232	151	1147	1774	5243	9	1774	4800	382
Grp Volume(v), veh/h	145	0	24	4	0	0	123	792	435	19	922	488
Grp Sat Flow(s),veh/h/ln	1372	0	1386	1529	0	0	1774	1695	1861	1774	1695	1792
Q Serve(g_s), s	5.1	0.0	0.8	0.0	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	0.1	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	450	0	329	441	0	0	204	1440	790	325	1671	883
V/C Ratio(X)	0.32	0.00	0.07	0.01	0.00	0.00	0.60	0.55	0.55	0.06	0.55	0.55
Avail Cap(c_a), veh/h	876	0	761	902	0	0	518	5353	2939	518	5353	2829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	17.2	17.0	0.0	0.0	24.5	12.6	12.6	19.6	10.3	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	2.8	0.3	0.6	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.3	0.0	0.0	0.0	2.0	4.8	5.3	0.3	5.2	5.5
LnGrp Delay(d),s/veh	19.3	0.0	17.3	17.0	0.0	0.0	27.4	12.9	13.2	19.7	10.6	10.8
LnGrp LOS	B		B	B			C	B	B	B	B	B
Approach Vol, veh/h	169			4			1350			1429		
Approach Delay, s/veh	19.0			17.0			14.3			10.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	27.7		16.8	9.7	31.7		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	90.5		30.5	15.5	90.5		30.5				
Max Q Clear Time (g_c+I), s	12.2	12.2		7.2	5.8	13.0		2.1				
Green Ext Time (p_c), s	0.0	11.0		1.0	0.2	14.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	152	55	6	1073	1177	56		
Future Volume (veh/h)	152	55	6	1073	1177	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	104	107	6	1073	1177	56		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	289	264	88	2374	2677	127		
Arrive On Green	0.16	0.16	0.05	0.67	0.54	0.54		
Sat Flow, veh/h	1774	1615	1774	3632	5140	236		
Grp Volume(v), veh/h	104	107	6	1073	802	431		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1819		
Q Serve(g_s), s	1.9	2.1	0.1	5.2	5.2	5.2		
Cycle Q Clear(g_c), s	1.9	2.1	0.1	5.2	5.2	5.2		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	289	264	88	2374	1825	979		
V/C Ratio(X)	0.36	0.41	0.07	0.45	0.44	0.44		
Avail Cap(c_a), veh/h	1521	1385	343	5188	4032	2163		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	13.6	16.4	2.8	5.0	5.0		
Incr Delay (d2), s/veh	0.8	1.0	0.3	0.1	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.1	2.4	2.4	2.6		
LnGrp Delay(d),s/veh	14.2	14.6	16.7	2.9	5.2	5.4		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	211			1079	1233			
Approach Delay, s/veh	14.4			3.0	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.3		8.9	4.8	22.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		7.2		4.1	2.1	7.2		
Green Ext Time (p_c), s		10.3		0.6	0.0	10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	167	7	100	115	31	13	846	47	232	982	42
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	271	227	247	260	218	67	1277	568	318	2512	107
Arrive On Green	0.15	0.15	0.15	0.14	0.14	0.14	0.04	0.36	0.36	0.18	0.50	0.50
Sat Flow, veh/h	1774	1863	1557	1774	1863	1563	1774	3539	1575	1774	5000	214
Grp Volume(v), veh/h	54	167	7	100	115	31	13	846	47	232	665	359
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1563	1774	1770	1575	1774	1695	1823
Q Serve(g_s), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Cycle Q Clear(g_c), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	258	271	227	247	260	218	67	1277	568	318	1703	916
V/C Ratio(X)	0.21	0.62	0.03	0.40	0.44	0.14	0.19	0.66	0.08	0.73	0.39	0.39
Avail Cap(c_a), veh/h	569	597	499	827	868	729	310	2372	1056	594	2815	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	27.5	25.2	26.9	27.1	25.9	32.0	18.4	14.5	26.6	10.6	10.6
Incr Delay (d2), s/veh	0.4	2.3	0.1	1.1	1.2	0.3	1.4	0.6	0.1	3.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.1	1.8	2.1	0.5	0.3	6.8	0.6	4.4	3.9	4.3
LnGrp Delay(d),s/veh	26.2	29.8	25.2	28.0	28.3	26.2	33.4	19.0	14.5	29.8	10.7	10.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	228			246			906			1256		
Approach Delay, s/veh	28.8			27.9			19.0			14.3		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	15.3	27.8			13.0	5.6	37.5	12.6				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	20.5	44.5			20.5	10.5	55.5	30.5				
Max Q Clear Time (g_c+10),s	15.8	15.8			7.8	2.5	10.4	5.9				
Green Ext Time (p_c), s	0.5	6.6			0.8	0.0	8.2	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.89	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	0	61	3	3	3	311	313	9	6	193	122
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	0	192	87	87	87	429	830	24	63	269	170
Arrive On Green	0.12	0.00	0.12	0.16	0.16	0.16	0.24	0.46	0.46	0.04	0.26	0.26
Sat Flow, veh/h	3548	0	1558	553	553	553	1774	1800	52	1774	1054	666
Grp Volume(v), veh/h	141	0	61	9	0	0	311	0	322	6	0	315
Grp Sat Flow(s),veh/h/ln	1774	0	1558	1660	0	0	1774	0	1851	1774	0	1720
Q Serve(g_s), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Prop In Lane	1.00		1.00	0.33		0.33	1.00		0.03	1.00		0.39
Lane Grp Cap(c), veh/h	438	0	192	262	0	0	429	0	854	63	0	440
V/C Ratio(X)	0.32	0.00	0.32	0.03	0.00	0.00	0.73	0.00	0.38	0.09	0.00	0.72
Avail Cap(c_a), veh/h	1441	0	633	981	0	0	1539	0	1948	393	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	21.7	19.3	0.0	0.0	18.9	0.0	9.5	25.3	0.0	18.4
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.1	0.0	0.0	2.4	0.0	0.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	0.0	4.5	0.0	3.2	0.1	0.0	4.6
LnGrp Delay(d),s/veh	22.1	0.0	22.6	19.4	0.0	0.0	21.2	0.0	9.8	25.9	0.0	20.6
LnGrp LOS	C		C	B			C		A	C		C
Approach Vol, veh/h	202			9			633			321		
Approach Delay, s/veh	22.2			19.4			15.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	28.0		9.7	16.1	16.8		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	55.5		20.5	45.5	20.5		30.5				
Max Q Clear Time (g_c+I), s	12.2	8.1		4.0	10.7	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.2		0.6	1.0	1.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

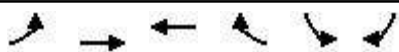
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩	↩		↩	↩	↩	↩		↩	↩	
Traffic Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	9	0	46	20	20	34	688	92	438	564	88
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	51	125	137	60	169	104	1013	135	534	1735	270
Arrive On Green	0.08	0.08	0.00	0.11	0.11	0.11	0.06	0.32	0.32	0.30	0.57	0.57
Sat Flow, veh/h	1155	650	1583	1255	545	1544	1774	3132	418	1774	3069	477
Grp Volume(v), veh/h	25	0	0	66	0	20	34	388	392	438	325	327
Grp Sat Flow(s),veh/h/ln	1805	0	1583	1800	0	1544	1774	1770	1780	1774	1770	1776
Q Serve(g_s), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Prop In Lane	0.64		1.00	0.70		1.00	1.00		0.23	1.00		0.27
Lane Grp Cap(c), veh/h	142	0	125	197	0	169	104	572	576	534	1001	1005
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.12	0.33	0.68	0.68	0.82	0.32	0.33
Avail Cap(c_a), veh/h	720	0	631	718	0	616	183	769	774	810	1395	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	26.3	0.0	25.7	28.9	18.8	18.8	20.7	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.0	0.0	0.3	1.8	1.5	1.5	4.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.1	0.0	0.3	0.6	6.2	6.2	7.8	3.0	3.1
LnGrp Delay(d),s/veh	28.1	0.0	0.0	27.3	0.0	26.0	30.7	20.2	20.3	24.8	7.6	7.6
LnGrp LOS	C			C		C	C	C	C	C	A	A
Approach Vol, veh/h	25			86			814			1090		
Approach Delay, s/veh	28.1			27.0			20.7			14.5		
Approach LOS	C			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	22.3	23.7		10.0	6.8	39.2		8.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	27.5	26.3		24.0	5.1	48.9		24.0				
Max Q Clear Time (g_c+1.0), s	14.2			4.2	3.2	8.3		2.8				
Green Ext Time (p_c), s	1.1	3.9		0.3	0.0	4.6		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	17.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	 	 	 		 	 		
Traffic Volume (veh/h)	332	573	795	49	22	145		
Future Volume (veh/h)	332	573	795	49	22	145		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	332	573	795	49	22	19		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	738	2705	1553	96	148	233		
Arrive On Green	0.21	0.76	0.46	0.46	0.08	0.08		
Sat Flow, veh/h	3442	3632	3480	209	1774	2787		
Grp Volume(v), veh/h	332	573	415	429	22	19		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1826	1774	1393		
Q Serve(g_s), s	2.8	1.5	5.5	5.5	0.4	0.2		
Cycle Q Clear(g_c), s	2.8	1.5	5.5	5.5	0.4	0.2		
Prop In Lane	1.00			0.11	1.00	1.00		
Lane Grp Cap(c), veh/h	738	2705	811	837	148	233		
V/C Ratio(X)	0.45	0.21	0.51	0.51	0.15	0.08		
Avail Cap(c_a), veh/h	2513	7159	2126	2194	998	1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	1.1	6.3	6.3	14.0	13.9		
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.5	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.7	2.7	0.2	0.2		
LnGrp Delay(d),s/veh	11.7	1.1	6.8	6.8	14.4	14.0		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		905	844		41			
Approach Delay, s/veh		5.0	6.8		14.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.6		5.2	10.1	17.6
Change Period (Y+Rc), s				4.0		4.0	4.5	4.0
Max Green Setting (Gmax), s				65.0		17.0	22.5	38.0
Max Q Clear Time (g_c+I1), s				3.5		2.4	4.8	7.5
Green Ext Time (p_c), s				4.5		0.1	1.1	6.1
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

10/18/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	966	180	45	726	232	173		
Future Volume (veh/h)	966	180	45	726	232	173		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	966	180	45	726	232	46		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1530	285	142	2342	368	329		
Arrive On Green	0.52	0.52	0.08	0.66	0.21	0.21		
Sat Flow, veh/h	3058	552	1774	3632	1774	1583		
Grp Volume(v), veh/h	576	570	45	726	232	46		
Grp Sat Flow(s),veh/h/ln	1770	1748	1774	1770	1774	1583		
Q Serve(g_s), s	10.7	10.7	1.1	4.0	5.5	1.1		
Cycle Q Clear(g_c), s	10.7	10.7	1.1	4.0	5.5	1.1		
Prop In Lane		0.32	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	913	902	142	2342	368	329		
V/C Ratio(X)	0.63	0.63	0.32	0.31	0.63	0.14		
Avail Cap(c_a), veh/h	1698	1677	271	4168	1161	1036		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	8.0	19.9	3.3	16.6	14.8		
Incr Delay (d2), s/veh	0.7	0.7	1.3	0.1	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.6	1.9	2.8	0.5		
LnGrp Delay(d),s/veh	8.7	8.7	21.2	3.4	18.3	15.0		
LnGrp LOS	A	A	C	A	B	B		
Approach Vol, veh/h	1146			771	278			
Approach Delay, s/veh	8.7			4.4	17.8			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.5	6.7	26.7				33.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		28.5	5.5	42.5				52.5
Max Q Clear Time (g_c+I1), s		7.5	3.1	12.7				6.0
Green Ext Time (p_c), s		0.8	0.0	9.4				6.0
Intersection Summary								
HCM 2010 Ctrl Delay			8.3					
HCM 2010 LOS			A					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary 65: Ellsworth Ave/Ellsworth Ave & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-54020		0	0-55882		0	0-55882		0	0-55882		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	148300	627968	0	78052	2966400	0	78052	2966400	0	78052	2966400	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	259526125	15840	136592689	72544	136592689	72544	136592689	72544	136592689	72544	136592689	72544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 16

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	285	81	26	345	30	78	79	25	14	56	44
Future Vol, veh/h	55	285	81	26	345	30	78	79	25	14	56	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	285	81	26	345	30	78	79	25	14	56	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.7	17.2	12.6	11.1
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	13%	6%	12%
Vol Thru, %	43%	68%	86%	49%
Vol Right, %	14%	19%	7%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	421	401	114
LT Vol	78	55	26	14
Through Vol	79	285	345	56
RT Vol	25	81	30	44
Lane Flow Rate	182	421	401	114
Geometry Grp	1	1	1	1
Degree of Util (X)	0.328	0.636	0.615	0.205
Departure Headway (Hd)	6.48	5.442	5.522	6.469
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	559	657	646	557
Service Time	4.48	3.537	3.619	4.48
HCM Lane V/C Ratio	0.326	0.641	0.621	0.205
HCM Control Delay	12.6	17.7	17.2	11.1
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	1.4	4.5	4.2	0.8

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	958	10	0	0	0	0	65	101	205	152	0
Future Volume (veh/h)	16	958	10	0	0	0	0	65	101	205	152	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900				0	1569	1900	1900	1422	0
Adj Flow Rate, veh/h	16	958	10				0	65	101	205	152	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	21	1320	14				0	201	312	270	158	0
Arrive On Green	0.53	0.53	0.53				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	39	2474	27				0	548	851	478	431	0
Grp Volume(v), veh/h	516	0	468				0	0	166	357	0	0
Grp Sat Flow(s),veh/h/ln	1273	0	1268				0	0	1398	909	0	0
Q Serve(g_s), s	19.1	0.0	16.4				0.0	0.0	5.1	16.9	0.0	0.0
Cycle Q Clear(g_c), s	19.1	0.0	16.4				0.0	0.0	5.1	22.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.61	0.57		0.00
Lane Grp Cap(c), veh/h	679	0	676				0	0	513	428	0	0
V/C Ratio(X)	0.76	0.00	0.69				0.00	0.00	0.32	0.83	0.00	0.00
Avail Cap(c_a), veh/h	679	0	676				0	0	513	428	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.0	0.0	10.4				0.0	0.0	13.7	21.1	0.0	0.0
Incr Delay (d2), s/veh	7.8	0.0	5.7				0.0	0.0	0.4	13.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	0.0	6.7				0.0	0.0	2.0	7.4	0.0	0.0
LnGrp Delay(d),s/veh	18.8	0.0	16.1				0.0	0.0	14.0	34.4	0.0	0.0
LnGrp LOS	B		B						B	C		
Approach Vol, veh/h	984							166			357	
Approach Delay, s/veh	17.5							14.0			34.4	
Approach LOS	B							B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	25.0		35.0		25.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	20.5		30.5		20.5							
Max Q Clear Time (g_c+I1), s	7.1		21.1		24.0							
Green Ext Time (p_c), s	0.8		4.3		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay	21.1											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

10/18/2019

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	281	8	110	306	68	7	115	180	80	84	29
Future Volume (veh/h)	25	281	8	110	306	68	7	115	180	80	84	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.98		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	281	8	110	306	68	7	115	180	80	84	29
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	686	19	772	601	134	673	243	381	511	502	173
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	73	1670	46	1074	1462	325	1249	638	998	1068	1315	454
Grp Volume(v), veh/h	314	0	0	110	0	374	7	0	295	80	0	113
Grp Sat Flow(s),veh/h/ln	1789	0	0	1074	0	1787	1249	0	1636	1068	0	1769
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.5	0.1	0.0	3.9	1.8	0.0	1.2
Cycle Q Clear(g_c), s	3.5	0.0	0.0	1.1	0.0	4.5	1.3	0.0	3.9	5.7	0.0	1.2
Prop In Lane	0.08		0.03	1.00		0.18	1.00		0.61	1.00		0.26
Lane Grp Cap(c), veh/h	869	0	0	772	0	734	673	0	624	511	0	675
V/C Ratio(X)	0.36	0.00	0.00	0.14	0.00	0.51	0.01	0.00	0.47	0.16	0.00	0.17
Avail Cap(c_a), veh/h	2074	0	0	1519	0	1977	1362	0	1527	1101	0	1651
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.4	0.0	6.3	6.3	0.0	6.7	8.9	0.0	5.9
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.6	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.6	0.0	2.3	0.0	0.0	1.8	0.5	0.0	0.6
LnGrp Delay(d),s/veh	6.3	0.0	0.0	5.4	0.0	6.9	6.4	0.0	7.3	9.0	0.0	6.0
LnGrp LOS	A			A		A	A		A	A		A
Approach Vol, veh/h	314			484			302			193		
Approach Delay, s/veh	6.3			6.6			7.3			7.3		
Approach LOS	A			A			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	14.0		14.9		14.0		14.9					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		30.5		25.5		30.5					
Max Q Clear Time (g_c+l1), s	5.9		5.5		7.7		6.5					
Green Ext Time (p_c), s	1.9		2.1		0.9		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay	6.8											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↰		↰			↰	
Traffic Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				400	0	670	0	1431	120	0	1702	442
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	817	0	3290	1022	0	2611	666
Arrive On Green				0.29	0.00	0.29	0.00	0.65	0.65	0.00	0.65	0.65
Sat Flow, veh/h				3442	0	2787	0	5253	1580	0	4204	1029
Grp Volume(v), veh/h				400	0	670	0	1431	120	0	1424	720
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1580	0	1695	1676
Q Serve(g_s), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Cycle Q Clear(g_c), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h				1009	0	817	0	3290	1022	0	2193	1084
V/C Ratio(X)				0.40	0.00	0.82	0.00	0.44	0.12	0.00	0.65	0.66
Avail Cap(c_a), veh/h				1239	0	1003	0	3290	1022	0	2193	1084
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.87	0.87	0.00	0.66	0.66
Uniform Delay (d), s/veh				28.3	0.0	32.9	0.0	8.7	6.7	0.0	10.8	10.9
Incr Delay (d2), s/veh				0.3	0.0	4.6	0.0	0.4	0.2	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.1	0.0	6.5	1.3	0.0	12.2	12.8
LnGrp Delay(d),s/veh				28.5	0.0	37.5	0.0	9.0	7.0	0.0	11.7	13.1
LnGrp LOS				C		D		A	A		B	B
Approach Vol, veh/h				1070				1551			2144	
Approach Delay, s/veh				34.1				8.9			12.2	
Approach LOS				C				A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.7				67.7		32.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		15.8				28.6		24.4				
Green Ext Time (p_c), s		14.8				19.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	FF		FF					FF			FF	FF
Traffic Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	404	0	210				0	1227	411	0	1327	599
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	545	0	442				0	2966	992	0	4002	1241
Arrive On Green	0.16	0.00	0.16				0.00	0.79	0.79	0.00	0.79	0.79
Sat Flow, veh/h	3442	0	2787				0	3936	1260	0	5253	1577
Grp Volume(v), veh/h	404	0	210				0	1104	534	0	1327	599
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1638	0	1695	1577
Q Serve(g_s), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Cycle Q Clear(g_c), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Prop In Lane	1.00		1.00				0.00		0.77	0.00		1.00
Lane Grp Cap(c), veh/h	545	0	442				0	2668	1289	0	4002	1241
V/C Ratio(X)	0.74	0.00	0.48				0.00	0.41	0.41	0.00	0.33	0.48
Avail Cap(c_a), veh/h	751	0	608				0	2668	1289	0	4002	1241
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.71	0.71	0.00	0.70	0.70
Uniform Delay (d), s/veh	44.1	0.0	42.1				0.0	3.7	3.7	0.0	3.4	4.0
Incr Delay (d2), s/veh	2.5	0.0	0.8				0.0	0.3	0.7	0.0	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.0				0.0	5.3	5.3	0.0	3.9	22.4
LnGrp Delay(d),s/veh	46.7	0.0	42.9				0.0	4.0	4.4	0.0	3.5	5.0
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		614						1638			1926	
Approach Delay, s/veh		45.4						4.2			4.0	
Approach LOS		D						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		89.6		20.4		89.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		78.5		22.5		78.5						
Max Q Clear Time (g_c+I1), s		13.3		14.3		16.3						
Green Ext Time (p_c), s		18.9		1.6		19.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	1.3					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	420	65	13	400
Future Vol, veh/h	50	20	420	65	13	400
Conflicting Peds, #/hr	1	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	20	420	65	13	400
Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	889	462	0	0	494	0
Stage 1	462	-	-	-	-	-
Stage 2	427	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	314	600	-	-	1070	-
Stage 1	634	-	-	-	-	-
Stage 2	658	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	306	595	-	-	1061	-
Mov Cap-2 Maneuver	306	-	-	-	-	-
Stage 1	628	-	-	-	-	-
Stage 2	647	-	-	-	-	-
Approach	WB	NB	SB			
HCM Control Delay, s	16.8	0	0.3			
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 306 595	1061	-		
HCM Lane V/C Ratio	-	- 0.163 0.034	0.012	-		
HCM Control Delay (s)	-	- 19 11.3	8.4	0		
HCM Lane LOS	-	- C B	A	A		
HCM 95th %tile Q(veh)	-	- 0.6 0.1	0	-		

Intersection	
Intersection Delay, s/veh	31.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Future Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	38	208	45	28	14	164	457	18	15	418	20
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16.9	14	35.3	36.9
HCM LOS	C	B	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	52%	100%	0%
Vol Thru, %	0%	96%	0%	15%	32%	0%	95%
Vol Right, %	0%	4%	0%	85%	16%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	475	14	246	87	15	438
LT Vol	164	0	14	0	45	15	0
Through Vol	0	457	0	38	28	0	418
RT Vol	0	18	0	208	14	0	20
Lane Flow Rate	164	475	14	246	87	15	438
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.332	0.891	0.033	0.499	0.209	0.031	0.849
Departure Headway (Hd)	7.292	6.753	8.428	7.304	8.634	7.527	6.982
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	537	424	492	414	475	517
Service Time	5.05	4.511	6.188	5.062	6.72	5.286	4.741
HCM Lane V/C Ratio	0.333	0.885	0.033	0.5	0.21	0.032	0.847
HCM Control Delay	13.7	42.7	11.5	17.2	14	10.5	37.8
HCM Lane LOS	B	E	B	C	B	B	E
HCM 95th-tile Q	1.4	10.2	0.1	2.7	0.8	0.1	8.8

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.90	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	1	12	75	0	34	4	519	37	9	692	1
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	27	131	167	8	58	590	1529	1259	692	1526	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	372	204	987	906	61	439	748	1863	1534	847	1859	3
Grp Volume(v), veh/h	19	0	0	109	0	0	4	519	37	9	0	693
Grp Sat Flow(s),veh/h/ln	1563	0	0	1407	0	0	748	1863	1534	847	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	9.0	0.6	0.3	0.0	13.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	9.3	0.0	0.0	14.0	9.0	0.6	9.3	0.0	13.8
Prop In Lane	0.32		0.63	0.69		0.31	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	0	0	234	0	0	590	1529	1259	692	0	1529
V/C Ratio(X)	0.08	0.00	0.00	0.47	0.00	0.00	0.01	0.34	0.03	0.01	0.00	0.45
Avail Cap(c_a), veh/h	362	0	0	348	0	0	590	1529	1259	692	0	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	52.8	0.0	0.0	5.3	2.9	2.1	4.0	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.8	0.0	0.0	0.0	4.7	0.2	0.1	0.0	7.3
LnGrp Delay(d),s/veh	49.6	0.0	0.0	54.2	0.0	0.0	5.3	3.4	2.2	4.1	0.0	4.3
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	19				109				560		702	
Approach Delay, s/veh	49.6				54.2				3.3		4.3	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	109.7		20.3		109.7		20.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	94.5		26.5		94.5		26.5					
Max Q Clear Time (g_c+I1), s	16.0		3.4		15.8		11.3					
Green Ext Time (p_c), s	4.1		0.1		6.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	7	4	328	3	94	1	542	285	37	753	8
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	56	32	395	4	344	45	1130	592	95	1712	18
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	405	232	1759	16	1533	1	2158	1129	88	3267	34
Grp Volume(v), veh/h	30	0	0	331	0	94	468	0	360	402	0	396
Grp Sat Flow(s),veh/h/ln	1737	0	0	1775	0	1533	1862	0	1426	1702	0	1687
Q Serve(g_s), s	1.2	0.0	0.0	14.2	0.0	4.1	0.0	0.0	12.9	0.0	0.0	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	14.2	0.0	4.1	12.8	0.0	12.9	10.5	0.0	11.7
Prop In Lane	0.63		0.13	0.99		1.00	0.00		0.79	0.09		0.02
Lane Grp Cap(c), veh/h	242	0	0	398	0	344	1021	0	747	941	0	884
V/C Ratio(X)	0.12	0.00	0.00	0.83	0.00	0.27	0.46	0.00	0.48	0.43	0.00	0.45
Avail Cap(c_a), veh/h	532	0	0	413	0	356	1021	0	747	941	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.83	0.00	0.83	0.82	0.00	0.82
Uniform Delay (d), s/veh	30.2	0.0	0.0	29.6	0.0	25.6	12.1	0.0	12.1	11.6	0.0	11.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	13.1	0.0	0.4	1.2	0.0	1.8	1.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	8.4	0.0	1.8	6.9	0.0	5.4	5.7	0.0	5.7
LnGrp Delay(d),s/veh	30.4	0.0	0.0	42.7	0.0	26.1	13.3	0.0	14.0	12.7	0.0	13.2
LnGrp LOS	C			D		C	B		B	B		B
Approach Vol, veh/h	30			425			828			798		
Approach Delay, s/veh	30.4			39.0			13.6			13.0		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	44.9		14.1		44.9		21.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	26.4		23.0		26.4		17.1					
Max Q Clear Time (g_c+I1), s	14.9		3.2		13.7		16.2					
Green Ext Time (p_c), s	4.3		0.1		4.3		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											

Intersection

Intersection Delay, s/veh13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Future Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	128	1	0	114	223	16	48	0	162	23	270
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	17.8	11.8	11.6	13.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	57%	0%	0%	88%	0%
Vol Thru, %	75%	43%	100%	0%	12%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	300	114	223	185	270
LT Vol	16	171	0	0	162	0
Through Vol	48	128	114	0	23	0
RT Vol	0	1	0	223	0	270
Lane Flow Rate	64	300	114	223	185	270
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.555	0.209	0.365	0.359	0.437
Departure Headway (Hd)	7.475	6.661	6.6	5.886	6.988	5.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	540	540	607	512	613
Service Time	5.475	4.735	4.377	3.664	4.763	3.605
HCM Lane V/C Ratio	0.133	0.556	0.211	0.367	0.361	0.44
HCM Control Delay	11.6	17.8	11.1	12.1	13.7	13.1
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.8	1.7	1.6	2.2

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	741	73	88	653	113	57	5	61	34	5	3
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	832	82	186	770	133	644	52	613	533	76	38
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	699	1663	164	668	1540	266	1323	130	1533	1061	189	96
Grp Volume(v), veh/h	18	0	814	88	0	766	62	0	61	42	0	0
Grp Sat Flow(s),veh/h/ln	699	0	1827	668	0	1806	1453	0	1533	1347	0	0
Q Serve(g_s), s	1.4	0.0	24.1	5.9	0.0	22.1	0.0	0.0	1.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	24.1	30.0	0.0	22.1	1.3	0.0	1.5	1.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.15	0.92		1.00	0.81		0.07
Lane Grp Cap(c), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.47	0.00	0.85	0.09	0.00	0.10	0.06	0.00	0.00
Avail Cap(c_a), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	13.5	27.8	0.0	13.0	11.2	0.0	11.2	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	10.9	1.6	0.0	6.7	0.3	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.8	1.5	0.0	12.5	0.7	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	24.5	29.4	0.0	19.8	11.4	0.0	11.6	11.5	0.0	0.0
LnGrp LOS	C		C	C		B	B		B	B		
Approach Vol, veh/h	832				854				123		42	
Approach Delay, s/veh	24.4				20.8				11.5		11.5	
Approach LOS	C				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		33.0		27.0		33.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	22.5		28.5		22.5		28.5					
Max Q Clear Time (g_c+I1), s	3.5		26.1		3.8		32.0					
Green Ext Time (p_c), s	0.4		1.3		0.1		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	21.6											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 8.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Future Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	35	7	0	35	14	8	23	1	6	27	152
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	7.7	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	74%	0%	3%
Vol Thru, %	72%	22%	71%	15%
Vol Right, %	3%	4%	29%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	159	49	185
LT Vol	8	117	0	6
Through Vol	23	35	35	27
RT Vol	1	7	14	152
Lane Flow Rate	32	159	49	185
Geometry Grp	1	1	1	1
Degree of Util (X)	0.041	0.203	0.06	0.204
Departure Headway (Hd)	4.646	4.587	4.407	3.975
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	787	814	905
Service Time	2.668	2.587	2.428	1.992
HCM Lane V/C Ratio	0.041	0.202	0.06	0.204
HCM Control Delay	7.9	8.8	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	0.2	0.8

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	61	1056	327	13	67	0	0	250	37
Future Volume (veh/h)	0	0	0	61	1056	327	13	67	0	0	250	37
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1471	1863	1900	980	0	0	2255	1900
Adj Flow Rate, veh/h				61	1056	200	13	67	0	0	250	37
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				86	1560	870	119	243	0	0	539	80
Arrive On Green				0.58	0.58	0.58	0.28	0.28	0.00	0.00	0.28	0.28
Sat Flow, veh/h				149	2711	1512	70	858	0	0	1907	282
Grp Volume(v), veh/h				598	519	200	80	0	0	0	0	287
Grp Sat Flow(s),veh/h/ln				1463	1397	1512	928	0	0	0	0	2189
Q Serve(g_s), s				12.4	10.6	2.7	0.0	0.0	0.0	0.0	0.0	4.6
Cycle Q Clear(g_c), s				12.4	10.6	2.7	2.7	0.0	0.0	0.0	0.0	4.6
Prop In Lane				0.10		1.00	0.16		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				842	804	870	361	0	0	0	0	619
V/C Ratio(X)				0.71	0.65	0.23	0.22	0.00	0.00	0.00	0.00	0.46
Avail Cap(c_a), veh/h				1243	1186	1284	795	0	0	0	0	1704
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				6.5	6.1	4.4	11.9	0.0	0.0	0.0	0.0	12.5
Incr Delay (d2), s/veh				1.1	0.9	0.1	0.3	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	4.2	1.1	0.8	0.0	0.0	0.0	0.0	2.8
LnGrp Delay(d),s/veh				7.6	7.0	4.5	12.2	0.0	0.0	0.0	0.0	13.1
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h				1317			80			287		
Approach Delay, s/veh				6.9			12.2			13.1		
Approach LOS				A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		15.0				15.0		27.4				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		31.5				31.5		34.5				
Max Q Clear Time (g_c+I1), s		4.7				6.6		14.4				
Green Ext Time (p_c), s		0.4				1.8		8.5				
Intersection Summary												
HCM 2010 Ctrl Delay				8.2								
HCM 2010 LOS				A								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary 137: Curtiss St/Curtiss St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			EBT			EBT	EBT		EBT	
Traffic Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	1058	62	21	912	16	81	9	85	27	7	6
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2249	131	83	2303	40	395	38	329	263	67	41
Arrive On Green	0.68	0.07	0.68	0.68	0.07	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	9	3297	192	30	3376	58	1290	175	1509	747	307	186
Grp Volume(v), veh/h	596	0	534	489	0	460	90	0	85	40	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	1654	1782	0	1682	1465	0	1509	1240	0	0
Q Serve(g_s), s	0.0	0.0	17.9	0.0	0.0	15.5	0.0	0.0	2.8	0.2	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	17.9	14.8	0.0	15.5	2.6	0.0	2.8	2.7	0.0	0.0
Prop In Lane	0.02		0.12	0.04		0.03	0.90		1.00	0.67		0.15
Lane Grp Cap(c), veh/h	1319	0	1128	1278	0	1147	433	0	329	371	0	0
V/C Ratio(X)	0.45	0.00	0.47	0.38	0.00	0.40	0.21	0.00	0.26	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1319	0	1128	1278	0	1147	802	0	730	736	0	0
HCM Platoon Ratio	1.00	0.10	1.00	1.00	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	15.9	15.3	0.0	15.7	19.3	0.0	19.4	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.9	0.0	1.0	0.2	0.0	0.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	8.6	8.0	0.0	7.6	1.3	0.0	1.2	0.6	0.0	0.0
LnGrp Delay(d),s/veh	18.4	0.0	17.3	16.2	0.0	16.8	19.6	0.0	19.9	19.0	0.0	0.0
LnGrp LOS	B		B	B		B	B		B	B		
Approach Vol, veh/h	1130			949			175			40		
Approach Delay, s/veh	17.9			16.5			19.7			19.0		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.9		16.1		43.9		16.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		20.4		4.7		17.5		4.8				
Green Ext Time (p_c), s		2.0		0.1		3.0		0.7				
Intersection Summary												
HCM 2010 Ctrl Delay				17.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	82	25	115	525	33	12	62	16	36	80	21
Future Volume (veh/h)	3	82	25	115	525	33	12	62	16	36	80	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	15	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.97		0.94	0.98		0.93	0.94		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	3	82	25	115	525	33	12	62	16	36	80	21
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	255	76	331	1283	79	151	545	128	151	227	36
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	8	705	210	571	3562	220	145	1725	404	140	605	135
Grp Volume(v), veh/h	110	0	0	347	0	326	90	0	0	137	0	0
Grp Sat Flow(s),veh/h/ln	923	0	0	2178	0	2174	2274	0	0	880	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	4.1	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	3.1	0.0	0.0	4.0	0.0	4.1	1.0	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.03		0.23	0.33		0.10	0.13		0.18	0.26		0.15
Lane Grp Cap(c), veh/h	427	0	0	907	0	786	823	0	0	414	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.38	0.00	0.42	0.11	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	860	0	0	1911	0	1813	2325	0	0	971	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	0.0	10.1	0.0	10.2	9.1	0.0	0.0	11.4	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.3	0.0	0.4	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	3.0	0.0	2.9	0.7	0.0	0.0	4.1	0.0	0.0
LnGrp Delay(d),s/veh	10.1	0.0	0.0	10.4	0.0	10.5	9.2	0.0	0.0	25.9	0.0	0.0
LnGrp LOS	B			B		B	A			C		
Approach Vol, veh/h	110			673			90			137		
Approach Delay, s/veh	10.1			10.4			9.2			25.9		
Approach LOS	B			B			A			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.2		20.0		17.2		20.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		35.5		29.5		35.5		29.5				
Max Q Clear Time (g_c+I1), s		3.0		5.1		6.4		6.1				
Green Ext Time (p_c), s		0.5		0.6		0.8		4.7				
Intersection Summary												
HCM 2010 Ctrl Delay				12.4								
HCM 2010 LOS				B								

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	149	92	155	102	51	57	1520	133	46	1551	39
Future Volume (veh/h)	71	149	92	155	102	51	57	1520	133	46	1551	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.94	0.97		0.94	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1176	1863	1900	1275	1863	1900	1176	1765	1900	1471	1863	1900
Adj Flow Rate, veh/h	71	149	92	155	102	51	57	1520	133	46	1551	39
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	254	316	195	220	343	172	125	2443	214	77	2488	63
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.11	0.54	0.54	0.05	0.49	0.49
Sat Flow, veh/h	749	1052	649	757	1144	572	1120	4482	392	1401	5094	128
Grp Volume(v), veh/h	71	0	241	155	0	153	57	1089	564	46	1032	558
Grp Sat Flow(s),veh/h/ln	749	0	1701	757	0	1715	1120	1606	1662	1401	1695	1832
Q Serve(g_s), s	7.2	0.0	10.4	16.6	0.0	6.2	4.3	21.0	21.0	2.9	20.1	20.1
Cycle Q Clear(g_c), s	13.4	0.0	10.4	27.0	0.0	6.2	4.3	21.0	21.0	2.9	20.1	20.1
Prop In Lane	1.00		0.38	1.00		0.33	1.00		0.24	1.00		0.07
Lane Grp Cap(c), veh/h	254	0	511	220	0	515	125	1750	906	77	1656	895
V/C Ratio(X)	0.28	0.00	0.47	0.70	0.00	0.30	0.46	0.62	0.62	0.60	0.62	0.62
Avail Cap(c_a), veh/h	254	0	511	220	0	515	125	1750	906	156	1848	998
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	0.0	25.6	37.5	0.0	24.2	37.4	14.1	14.1	41.5	16.9	16.9
Incr Delay (d2), s/veh	0.6	0.0	0.7	9.8	0.0	0.3	11.6	1.7	3.2	7.3	0.6	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	5.0	4.4	0.0	3.0	1.7	9.6	10.4	1.3	9.4	10.3
LnGrp Delay(d),s/veh	29.9	0.0	26.3	47.3	0.0	24.5	49.0	15.8	17.3	48.9	17.5	17.9
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	312					308		1710		1636		
Approach Delay, s/veh	27.1					35.9		17.4		18.5		
Approach LOS	C					D		B		B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.9	52.0			30.0	13.0	46.9	30.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	47.5	47.5			25.5	8.5	47.5	25.5				
Max Q Clear Time (g_c+I), s	23.0	23.0			15.4	6.3	22.1	29.0				
Green Ext Time (p_c), s	0.0	13.1			1.4	0.0	12.6	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			20.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	461	15	12	68	14	2	96	70	52	99	4
Future Volume (veh/h)	7	461	15	12	68	14	2	96	70	52	99	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	1.00		0.98	1.00		0.95	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	1863	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	7	461	15	12	68	14	2	96	70	52	99	4
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	51	1053	34	137	743	145	46	136	98	111	143	5
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	7	1793	58	147	1265	247	3	518	372	193	545	20
Grp Volume(v), veh/h	254	0	229	94	0	0	168	0	0	155	0	0
Grp Sat Flow(s),veh/h/ln	977	0	881	1660	0	0	893	0	0	758	0	0
Q Serve(g_s), s	0.0	0.0	11.6	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	11.5	0.0	11.6	1.8	0.0	0.0	13.7	0.0	0.0	15.7	0.0	0.0
Prop In Lane	0.03		0.07	0.13		0.15	0.01		0.42	0.34		0.03
Lane Grp Cap(c), veh/h	620	0	517	1026	0	0	280	0	0	259	0	0
V/C Ratio(X)	0.41	0.00	0.44	0.09	0.00	0.00	0.60	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	620	0	517	1026	0	0	280	0	0	259	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.92	0.00	0.92	1.00	0.00	0.00	1.00	0.00	0.00	0.90	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	9.2	7.2	0.0	0.0	26.8	0.0	0.0	27.1	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	2.5	0.0	0.0	0.0	9.2	0.0	0.0	8.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	3.2	0.9	0.0	0.0	4.1	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	11.0	0.0	11.7	7.2	0.0	0.0	36.0	0.0	0.0	36.0	0.0	0.0
LnGrp LOS	B		B	A			D			D		
Approach Vol, veh/h		483			94			168			155	
Approach Delay, s/veh		11.3			7.2			36.0			36.0	
Approach LOS		B			A			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		53.0		27.0		53.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		19.5		45.5		19.5		45.5				
Max Q Clear Time (g_c+I1), s		15.7		13.6		17.7		3.8				
Green Ext Time (p_c), s		0.3		3.3		0.1		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				19.8								
HCM 2010 LOS				B								
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh12.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	200	39	83	276	12	27	88	32	5	94	14
Future Vol, veh/h	67	200	39	83	276	12	27	88	32	5	94	14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	200	39	83	276	12	27	88	32	5	94	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12.4	14.1	10.7	10.3
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	18%	22%	22%	4%
Vol Thru, %	60%	65%	74%	83%
Vol Right, %	22%	13%	3%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	147	306	371	113
LT Vol	27	67	83	5
Through Vol	88	200	276	94
RT Vol	32	39	12	14
Lane Flow Rate	147	306	371	113
Geometry Grp	1	1	1	1
Degree of Util (X)	0.238	0.444	0.535	0.186
Departure Headway (Hd)	5.819	5.227	5.192	5.922
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	616	688	694	605
Service Time	3.871	3.269	3.231	3.977
HCM Lane V/C Ratio	0.239	0.445	0.535	0.187
HCM Control Delay	10.7	12.4	14.1	10.3
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	0.9	2.3	3.2	0.7

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	24	3	2	16	47	15	167	7	24	169	72
Future Vol, veh/h	103	24	3	2	16	47	15	167	7	24	169	72
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	24	3	2	16	47	15	167	7	24	169	72
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	8.2	9.3	9.8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	79%	3%	9%
Vol Thru, %	88%	18%	25%	64%
Vol Right, %	4%	2%	72%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	130	65	265
LT Vol	15	103	2	24
Through Vol	167	24	16	169
RT Vol	7	3	47	72
Lane Flow Rate	189	130	65	265
Geometry Grp	1	1	1	1
Degree of Util (X)	0.248	0.188	0.085	0.332
Departure Headway (Hd)	4.722	5.198	4.731	4.505
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	758	686	751	795
Service Time	2.773	3.26	2.8	2.552
HCM Lane V/C Ratio	0.249	0.19	0.087	0.333
HCM Control Delay	9.3	9.5	8.2	9.8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.7	0.3	1.5

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Future Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Conflicting Peds, #/hr	12	0	8	8	0	12	9	0	14	14	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	3	0	7	40	11	395	0	15	167	38
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	460	656	203	658	675	224	214	0	0	409	0	0
Stage 1	225	225	-	431	431	-	-	-	-	-	-	-
Stage 2	235	431	-	227	244	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	498	384	837	363	375	780	1355	-	-	1148	-	-
Stage 1	777	717	-	574	582	-	-	-	-	-	-	-
Stage 2	748	582	-	775	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	447	366	824	345	358	761	1343	-	-	1133	-	-
Mov Cap-2 Maneuver	447	366	-	345	358	-	-	-	-	-	-	-
Stage 1	763	700	-	561	569	-	-	-	-	-	-	-
Stage 2	685	569	-	752	686	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.2		11		0.2		0.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1343	-	-	462	652	1133	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.048	0.072	0.013	-	-				
HCM Control Delay (s)	7.7	0	-	13.2	11	8.2	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	167	93	1584	129	138	1582		
Future Volume (veh/h)	167	93	1584	129	138	1582		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	167	19	1584	129	138	1582		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	285	254	2467	201	235	3620		
Arrive On Green	0.16	0.16	0.52	0.52	0.13	0.71		
Sat Flow, veh/h	1774	1583	4952	389	1774	5253		
Grp Volume(v), veh/h	167	19	1122	591	138	1582		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1784	1774	1695		
Q Serve(g_s), s	4.1	0.5	11.3	11.3	3.4	6.1		
Cycle Q Clear(g_c), s	4.1	0.5	11.3	11.3	3.4	6.1		
Prop In Lane	1.00	1.00		0.22	1.00			
Lane Grp Cap(c), veh/h	285	254	1748	920	235	3620		
V/C Ratio(X)	0.59	0.07	0.64	0.64	0.59	0.44		
Avail Cap(c_a), veh/h	1320	1178	2089	1099	641	5295		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.3	16.8	8.3	8.3	19.2	2.8		
Incr Delay (d2), s/veh	1.9	0.1	0.5	1.0	2.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	0.2	5.3	5.7	1.8	2.8		
LnGrp Delay(d),s/veh	20.2	16.9	8.8	9.2	21.5	2.9		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	186		1713			1720		
Approach Delay, s/veh	19.9		8.9			4.4		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	27.3				36.5		10.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	27.5				47.5		33.5
Max Q Clear Time (g_c+I1), s	5.4	13.3				8.1		6.1
Green Ext Time (p_c), s	0.2	9.5				16.2		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			7.3					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	1.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	299	286	10	21	63
Future Vol, veh/h	36	299	286	10	21	63
Conflicting Peds, #/hr	32	0	0	21	21	32
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	299	286	10	21	63
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	328	0	-	0	715	355
Stage 1	-	-	-	-	323	-
Stage 2	-	-	-	-	392	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1232	-	-	-	397	689
Stage 1	-	-	-	-	734	-
Stage 2	-	-	-	-	683	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1194	-	-	-	360	648
Mov Cap-2 Maneuver	-	-	-	-	360	-
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	663	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		12.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1194	-	-	-	540	
HCM Lane V/C Ratio	0.03	-	-	-	0.156	
HCM Control Delay (s)	8.1	0	-	-	12.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	0			0			0			0		
HCM LOS	-			-			-			-		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	86	2	4	140	25	12	75	6	15	84	64
Future Vol, veh/h	65	86	2	4	140	25	12	75	6	15	84	64
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	86	2	4	140	25	12	75	6	15	84	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9	8.7	8.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	42%	2%	9%
Vol Thru, %	81%	56%	83%	52%
Vol Right, %	6%	1%	15%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	153	169	163
LT Vol	12	65	4	15
Through Vol	75	86	140	84
RT Vol	6	2	25	64
Lane Flow Rate	93	153	169	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.126	0.205	0.218	0.208
Departure Headway (Hd)	4.888	4.821	4.646	4.6
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	742	771	778
Service Time	2.94	2.867	2.692	2.647
HCM Lane V/C Ratio	0.127	0.206	0.219	0.21
HCM Control Delay	8.7	9.1	9	8.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.8	0.8	0.8

Intersection						
Int Delay, s/veh	-					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor			Major2		Minor2	
Conflicting Flow All			-	0	-	0
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Critical Hdwy			-	-	-	6.22
Critical Hdwy Stg 1			-	-	-	-
Critical Hdwy Stg 2			-	-	-	-
Follow-up Hdwy			-	-	-	3.318
Pot Cap-1 Maneuver			-	0	0	-
Stage 1			-	0	0	-
Stage 2			-	0	0	-
Platoon blocked, %			-			
Mov Cap-1 Maneuver			-	-	-	-
Mov Cap-2 Maneuver			-	-	-	-
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Approach			WB		SB	
HCM Control Delay, s			0		0	
HCM LOS					A	
Minor Lane/Major Mvmt		WBT SBLn1				
Capacity (veh/h)		- -				
HCM Lane V/C Ratio		- -				
HCM Control Delay (s)		- 0				
HCM Lane LOS		- A				
HCM 95th %tile Q(veh)		- -				

Intersection																
Int Delay, s/veh	0															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR		
Lane Configurations		↑↑			↑↑	↔								↔		
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-		
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80		
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-		
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Major/Minor	Major1		Major2						Minor2							
Conflicting Flow All	-	0	-	0	0	0									-	23
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Critical Hdwy	-	-	-	4.13	-	-									-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-									-	-
Critical Hdwy Stg 2	-	-	-	-	-	-									-	-
Follow-up Hdwy	-	-	-	2.219	-	-									-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-									0	1053
Stage 1	0	-	0	-	-	-									0	-
Stage 2	0	-	0	-	-	-									0	-
Platoon blocked, %			-				-	-								
Mov Cap-1 Maneuver	-	-	-	-	-	-									-	1053
Mov Cap-2 Maneuver	-	-	-	-	-	-									-	-
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Approach	EB		WB						SW							
HCM Control Delay, s	0		0						0							
HCM LOS									A							
Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2	SWLn1	SWLn2										
Capacity (veh/h)	-	-	-	-	-	-										
HCM Lane V/C Ratio	-	-	-	-	-	-										
HCM Control Delay (s)	-	0	-	-	0	0										
HCM Lane LOS	-	A	-	-	A	A										
HCM 95th %tile Q(veh)	-	-	-	-	-	-										

HCM 2010 Research does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Future Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	142	76	49	2	68	158	39	1	206	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	10.7	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	1%	60%	0%
Vol Thru, %	60%	3%	39%	92%
Vol Right, %	15%	96%	2%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	148	127	225
LT Vol	68	2	76	1
Through Vol	158	4	49	206
RT Vol	39	142	2	18
Lane Flow Rate	265	148	127	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.358	0.194	0.191	0.306
Departure Headway (Hd)	4.86	4.719	5.411	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	750	655	725
Service Time	2.943	2.814	3.51	2.987
HCM Lane V/C Ratio	0.363	0.197	0.194	0.31
HCM Control Delay	10.7	9	9.8	10.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.7	1.3

HCM Signalized Intersection Capacity Analysis

1: Mariners Island Blvd & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1563	1770	3528		1681	1696	1556		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.93	
Satd. Flow (perm)	1770	3539	1563	1770	3528		1681	1696	1556		1629	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	784	568	68	592	11	327	24	17	11	47	29
RTOR Reduction (vph)	0	0	318	0	0	0	0	0	13	0	0	0
Lane Group Flow (vph)	32	784	250	68	603	0	173	178	4	0	87	0
Confl. Peds. (#/hr)			1			11			7	6		5
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	1.6	29.5	29.5	4.6	32.5		13.7	13.7	13.7		4.6	
Effective Green, g (s)	3.1	31.0	31.0	6.1	34.0		15.2	15.2	15.2		6.1	
Actuated g/C Ratio	0.04	0.44	0.44	0.09	0.48		0.22	0.22	0.22		0.09	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	1558	688	153	1703		362	366	335		141	
v/s Ratio Prot	0.02	c0.22		c0.04	c0.17		0.10	c0.10				
v/s Ratio Perm			0.16						0.00		c0.05	
v/c Ratio	0.42	0.50	0.36	0.44	0.35		0.48	0.49	0.01		0.62	
Uniform Delay, d1	32.8	14.2	13.1	30.5	11.4		24.1	24.2	21.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.3	0.3	2.1	0.1		1.0	1.0	0.0		7.8	
Delay (s)	36.4	14.4	13.5	32.6	11.5		25.1	25.2	21.7		38.8	
Level of Service	D	B	B	C	B		C	C	C		D	
Approach Delay (s)		14.5			13.6			25.0			38.8	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			54.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Baker Way & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00			1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.96	0.85	1.00	1.00			0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3250	1407	3433	3527			3277		1770	3430	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (perm)	1770	3250	1407	3433	3527			3277		1770	3430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	561	507	464	342	7	129	12	48	12	222	49
RTOR Reduction (vph)	0	18	214	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	63	720	116	464	349	0	0	189	0	12	271	0
Confl. Peds. (#/hr)			10			8			8			10
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	7.3	30.4	30.4	18.3	41.4			11.1		13.1	13.1	
Effective Green, g (s)	8.8	31.9	31.9	19.8	42.9			12.6		14.6	14.6	
Actuated g/C Ratio	0.10	0.35	0.35	0.22	0.47			0.14		0.16	0.16	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	171	1140	493	747	1664			454		284	550	
v/s Ratio Prot	0.04	c0.22		c0.14	0.10			c0.06		0.01	c0.08	
v/s Ratio Perm			0.08									
v/c Ratio	0.37	0.63	0.23	0.62	0.21			0.42		0.04	0.49	
Uniform Delay, d1	38.4	24.6	20.9	32.2	14.1			35.8		32.2	34.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.2	0.2	1.6	0.1			0.6		0.1	0.7	
Delay (s)	39.8	25.8	21.1	33.8	14.1			36.4		32.3	35.5	
Level of Service	D	C	C	C	B			D		C	D	
Approach Delay (s)		25.2			25.3			36.4			35.3	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			27.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			90.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Mariners Island Blvd & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	530	655	239	293	16	160	116	456	70	447	131
RTOR Reduction (vph)	0	0	271	0	0	0	0	154	154	0	22	0
Lane Group Flow (vph)	104	530	384	239	309	0	160	190	74	70	556	0
Confl. Peds. (#/hr)			14			23			21			16
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	11.4	29.7	29.7	12.5	30.8		14.6	30.3	30.3	7.9	23.6	
Effective Green, g (s)	12.9	31.2	31.2	14.0	32.3		16.1	31.8	31.8	9.4	25.1	
Actuated g/C Ratio	0.13	0.32	0.32	0.14	0.33		0.16	0.32	0.32	0.10	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	1122	488	488	1150		289	966	451	169	866	
v/s Ratio Prot	0.06	0.15		c0.07	0.09		c0.09	0.06		0.04	c0.16	
v/s Ratio Perm			c0.25						0.05			
v/c Ratio	0.45	0.47	0.79	0.49	0.27		0.55	0.20	0.16	0.41	0.64	
Uniform Delay, d1	39.5	27.0	30.6	38.9	24.3		37.8	24.1	23.8	41.9	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.3	8.2	0.8	0.1		2.3	0.1	0.2	1.6	1.6	
Delay (s)	40.8	27.3	38.7	39.7	24.5		40.1	24.2	24.0	43.6	34.3	
Level of Service	D	C	D	D	C		D	C	C	D	C	
Approach Delay (s)		34.2			31.1			27.6			35.3	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			98.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Norfolk St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	1297	681	64	740	50	317	83	70	179	109	27
Future Volume (vph)	222	1297	681	64	740	50	317	83	70	179	109	27
Ideal Flow (vphpl)	1500	1500	1600	1900	1500	1900	1300	1900	1900	1900	1300	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00		1.00	0.99			1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (perm)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	222	1297	681	64	740	50	317	83	70	179	109	27
RTOR Reduction (vph)	0	0	278	0	0	0	0	0	0	0	0	21
Lane Group Flow (vph)	222	1297	403	64	790	0	317	153	0	0	288	6
Confl. Peds. (#/hr)			37			9			11			35
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.6	51.9	51.9	8.4	42.7		21.4	21.4			26.7	26.7
Effective Green, g (s)	19.1	53.4	53.4	9.9	44.2		22.9	22.9			28.2	28.2
Actuated g/C Ratio	0.15	0.42	0.42	0.08	0.35		0.18	0.18			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	211	1180	532	138	1385		425	310			275	334
v/s Ratio Prot	c0.16	c0.46		0.04	0.20		c0.13	0.09			c0.23	
v/s Ratio Perm			0.32									0.00
v/c Ratio	1.05	1.10	0.76	0.46	0.57		0.75	0.49			1.05	0.02
Uniform Delay, d1	53.7	36.5	31.0	55.7	33.4		49.0	46.5			49.1	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	76.4	57.7	6.1	2.5	0.6		7.0	1.2			67.2	0.0
Delay (s)	130.0	94.2	37.1	58.2	34.0		56.0	47.8			116.3	38.3
Level of Service	F	F	D	E	C		E	D			F	D
Approach Delay (s)		80.1			35.8			53.3			109.6	
Approach LOS		F			D			D			F	
Intersection Summary												
HCM 2000 Control Delay			69.4			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			126.4			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			104.1%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Norfolk St & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Ideal Flow (vphpl)	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	0.97		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	155	655	142	118	371	213	211	139	172	248	175	286
RTOR Reduction (vph)	0	0	81	0	0	139	0	0	0	0	0	235
Lane Group Flow (vph)	155	655	61	118	371	74	211	311	0	248	175	51
Confl. Peds. (#/hr)			12			17			11			18
Confl. Bikes (#/hr)			6			13			8			8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	12.1	38.8	38.8	6.8	33.5	33.5	16.9	15.0		18.9	17.0	17.0
Effective Green, g (s)	12.6	39.3	39.3	7.3	34.0	34.0	17.4	15.5		19.4	17.5	17.5
Actuated g/C Ratio	0.13	0.40	0.40	0.07	0.35	0.35	0.18	0.16		0.20	0.18	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	228	671	622	132	649	527	315	498		352	334	266
v/s Ratio Prot	0.09	c0.39		c0.07	0.20		0.12	c0.10		c0.14	0.09	
v/s Ratio Perm			0.04			0.05						0.03
v/c Ratio	0.68	0.98	0.10	0.89	0.57	0.14	0.67	0.62		0.70	0.52	0.19
Uniform Delay, d1	40.5	28.6	18.1	44.7	25.8	21.7	37.4	38.3		36.4	36.2	34.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.8	28.6	0.1	47.5	1.2	0.1	5.3	2.4		6.3	1.5	0.4
Delay (s)	48.3	57.2	18.2	92.2	27.0	21.9	42.7	40.7		42.7	37.7	34.4
Level of Service	D	E	B	F	C	C	D	D		D	D	C
Approach Delay (s)		49.9			36.4			41.5			38.1	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.2									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			97.5									Sum of lost time (s) 16.0
Intersection Capacity Utilization			87.2%									ICU Level of Service E
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: Norfolk St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Future Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Ideal Flow (vphpl)	1900	2200	2200	1700	2200	2200	2200	1900	1900	1900	1900	2200
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	*1.00	*1.00	1.00	*1.00		*1.00	1.00		1.00	*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.97		1.00	0.99	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
RTOR Reduction (vph)	0	1	58	0	4	0	0	15	0	0	8	157
Lane Group Flow (vph)	204	2327	274	112	1198	0	255	216	0	68	193	24
Confl. Peds. (#/hr)			8			25			21			13
Confl. Bikes (#/hr)			4			2						1
Turn Type	Prot	NA	custom	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2 7		1	6 7		8	8		4	4	
Permitted Phases			2									4
Actuated Green, G (s)	21.5	117.3	57.4	16.1	111.9		28.0	28.0		26.1	26.1	26.1
Effective Green, g (s)	23.0	120.3	58.9	17.6	114.9		29.5	29.5		27.6	27.6	27.6
Actuated g/C Ratio	0.11	0.57	0.28	0.08	0.55		0.14	0.14		0.13	0.13	0.13
Clearance Time (s)	4.5		4.5	4.5			4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0			3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	375	3704	579	132	3519		575	254		232	241	231
v/s Ratio Prot	0.06	c0.36		c0.07	0.19		0.06	c0.12		0.04	c0.11	
v/s Ratio Perm			0.13									0.01
v/c Ratio	0.54	0.63	0.47	0.85	0.34		0.44	0.85		0.29	0.80	0.10
Uniform Delay, d1	88.5	29.9	62.7	94.9	26.5		82.7	88.1		82.4	88.5	80.3
Progression Factor	1.02	1.00	1.03	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.3	36.9	0.1		0.5	23.0		0.7	17.2	0.2
Delay (s)	90.3	29.9	64.7	131.8	26.5		83.3	111.1		83.1	105.7	80.5
Level of Service	F	C	E	F	C		F	F		F	F	F
Approach Delay (s)		38.2			35.5			96.5			92.2	
Approach LOS		D			D			F			F	
Intersection Summary												
HCM 2000 Control Delay			47.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			210.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			84.2%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: Humboldt St/Humbolt St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96		0.98			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.90			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1770	3403		1770	1863	1519		1630			1805	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.90			0.64	
Satd. Flow (perm)	1770	3403		1770	1863	1519		1476			1178	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	670	151	196	808	139	66	27	260	95	129	15
RTOR Reduction (vph)	0	0	0	0	0	32	0	106	0	0	3	0
Lane Group Flow (vph)	7	821	0	196	808	107	0	247	0	0	236	0
Confl. Peds. (#/hr)			20			8	11		9			19
Confl. Bikes (#/hr)			2			3			3			1
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	0.8	28.9		13.2	41.3	41.3		20.2			20.2	
Effective Green, g (s)	2.3	30.4		14.7	42.8	42.8		21.7			21.7	
Actuated g/C Ratio	0.03	0.40		0.19	0.56	0.56		0.29			0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	53	1364		343	1051	857		422			337	
v/s Ratio Prot	0.00	0.24		c0.11	c0.43							
v/s Ratio Perm						0.07		0.17			c0.20	
v/c Ratio	0.13	0.60		0.57	0.77	0.13		0.58			0.70	
Uniform Delay, d1	35.8	17.9		27.7	12.7	7.7		23.2			24.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.1	0.8		2.3	3.4	0.1		2.1			6.4	
Delay (s)	36.9	18.7		30.0	16.1	7.8		25.3			30.6	
Level of Service	D	B		C	B	A		C			C	
Approach Delay (s)		18.8			17.5			25.3			30.6	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			20.2				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			75.8				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			81.6%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Humboldt St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	10	10	9	10	10	9	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.94	1.00		0.98	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1802		1615	1674		1495	1721		1567	1628	
Flt Permitted	0.28	1.00		0.48	1.00		0.58	1.00		0.52	1.00	
Satd. Flow (perm)	480	1802		808	1674		910	1721		860	1628	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	276	39	80	433	100	49	255	13	195	157	56
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	56	315	0	80	533	0	49	268	0	195	213	0
Confl. Peds. (#/hr)	31		36	16		11	36		16	11		31
Confl. Bikes (#/hr)									1			1
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	35.5		35.5	35.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	222	833		373	774		420	795		397	752	
v/s Ratio Prot		0.17			c0.32			0.16			0.13	
v/s Ratio Perm	0.12			0.10			0.05			c0.23		
v/c Ratio	0.25	0.38		0.21	0.69		0.12	0.34		0.49	0.28	
Uniform Delay, d1	13.1	14.0		12.8	17.0		12.2	13.7		15.0	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.3		1.3	5.0		0.6	1.1		4.3	0.9	
Delay (s)	15.8	15.3		14.1	21.9		12.8	14.8		19.2	14.2	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		15.4			20.9			14.5			16.6	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		17.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		71.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Humboldt St & 3rd Ave

10/18/2019



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2
Lane Configurations		↑↑↑			↑	↑	↑	↑	↑	
Traffic Volume (vph)	63	808	235	3	89	277	47	223	352	7
Future Volume (vph)	63	808	235	3	89	277	47	223	352	7
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1000	1000	1000	1900	1900
Lane Width	12	12	12	12	10	10	12	12	12	12
Grade (%)		-3%			0%	0%		0%		
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		0.91			1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes		0.99			1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	1.00	0.85	0.97	1.00	
Flt Protected		1.00			1.00	1.00	1.00	0.96	1.00	
Satd. Flow (prot)		3884			100	700	120	912	1863	
Flt Permitted		1.00			0.99	1.00	1.00	0.96	1.00	
Satd. Flow (perm)		3884			500	915	120	912	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	808	235	3	89	277	47	223	352	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1106	0	0	92	277	47	286	296	0
Confl. Peds. (#/hr)	36		18				6			
Confl. Bikes (#/hr)			3				3			
Turn Type	Perm	NA		Perm	NA	NA	Perm	Prot	Perm	
Protected Phases		3			2	6		4		
Permitted Phases	3			2			6		4	
Actuated Green, G (s)		37.2			24.6	24.6	24.6	30.6	30.6	
Effective Green, g (s)		38.7			26.1	26.1	26.1	32.1	32.1	
Actuated g/C Ratio		0.37			0.25	0.25	0.25	0.30	0.30	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1419			123	172	29	276	564	
v/s Ratio Prot						c0.40		c0.31		
v/s Ratio Perm		0.28			0.18		0.39		0.16	
v/c Ratio		0.78			0.75	1.61	1.62	1.04	0.52	
Uniform Delay, d1		29.8			36.9	39.9	39.9	36.9	30.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.8			21.7	300.0	394.2	63.9	0.9	
Delay (s)		32.6			58.6	339.9	434.1	100.8	31.5	
Level of Service		C			E	F	F	F	C	
Approach Delay (s)		32.6			58.6	353.6		65.5		
Approach LOS		C			E	F		E		
Intersection Summary										
HCM 2000 Control Delay			92.3		HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.09							
Actuated Cycle Length (s)			105.9		Sum of lost time (s)				9.0	
Intersection Capacity Utilization			103.5%		ICU Level of Service				G	
Analysis Period (min)			15							
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

10: Humboldt St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  									 	
Traffic Volume (vph)	28	1683	10	0	0	0	0	71	241	363	209	0
Future Volume (vph)	28	1683	10	0	0	0	0	71	241	363	209	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.91						0.95	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00						0.98	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00	1.00	1.00	
Frt	1.00	1.00						0.92	0.85	1.00	1.00	
Flt Protected	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3208						838	1455	1681	918	
Flt Permitted	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	3208						838	1455	1681	918	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1753	10	0	0	0	0	74	251	378	218	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	43	81	0	0	0
Lane Group Flow (vph)	29	1763	0	0	0	0	0	124	77	291	305	0
Confl. Peds. (#/hr)	10		7						10			
Confl. Bikes (#/hr)			2						1			
Turn Type	Split	NA						NA	Perm	Split	NA	
Protected Phases	4	4						2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	45.5	45.5						16.0	16.0	30.5	30.5	
Effective Green, g (s)	47.0	47.0						17.5	17.5	32.0	32.0	
Actuated g/C Ratio	0.45	0.45						0.17	0.17	0.30	0.30	
Clearance Time (s)	4.5	4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	788	1429						139	241	509	278	
v/s Ratio Prot	0.02	c0.55						c0.15		0.17	c0.33	
v/s Ratio Perm									0.05			
v/c Ratio	0.04	1.23						0.90	0.32	0.57	1.10	
Uniform Delay, d1	16.5	29.2						43.1	38.8	31.0	36.8	
Progression Factor	1.00	1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	111.5						52.4	3.5	1.6	82.5	
Delay (s)	16.5	140.7						95.5	42.2	32.5	119.2	
Level of Service	B	F						F	D	C	F	
Approach Delay (s)		138.7			0.0			69.6			76.9	
Approach LOS		F			A			E			E	
Intersection Summary												
HCM 2000 Control Delay		116.8			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.13										
Actuated Cycle Length (s)		105.5			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		108.4%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Grant St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	0.97		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	116	188	160	272	55	296	155	43	21	129	30
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	0
Lane Group Flow (vph)	95	304	0	160	327	0	222	229	10	21	159	0
Confl. Peds. (#/hr)			34			30			34			30
Confl. Bikes (#/hr)			1			2			1			6
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.1	13.8		10.4	17.1		15.1	15.1	15.1	11.8	11.8	
Effective Green, g (s)	8.6	15.3		11.9	18.6		16.6	16.6	16.6	13.3	13.3	
Actuated g/C Ratio	0.12	0.22		0.17	0.27		0.24	0.24	0.24	0.19	0.19	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	220	693		304	915		403	418	363	340	345	
v/s Ratio Prot	0.05	c0.10		c0.09	0.10		c0.13	0.13		0.01	c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.43	0.44		0.53	0.36		0.55	0.55	0.03	0.06	0.46	
Uniform Delay, d1	28.0	23.2		26.0	20.4		23.0	23.0	20.1	22.8	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.4		1.6	0.2		1.6	1.5	0.0	0.1	1.0	
Delay (s)	29.4	23.6		27.7	20.7		24.6	24.4	20.1	22.9	25.7	
Level of Service	C	C		C	C		C	C	C	C	C	
Approach Delay (s)		25.0			23.0			24.1			25.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: US 101 SB & 19th Ave/Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑					↑	↑	↑
Traffic Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Util. Factor		1.00	1.00	1.00	1.00					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.95	1.00	1.00					1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		1863	1506	1770	1863					1681	1681	1528
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		1863	1506	1770	1863					1681	1681	1528
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	683	132	206	412	0	0	0	0	506	0	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	683	132	206	412	0	0	0	0	253	253	63
Confl. Peds. (#/hr)			9									2
Confl. Bikes (#/hr)			3									9
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases			4									6
Actuated Green, G (s)		51.0	51.0	18.2	73.7					37.3	37.3	37.3
Effective Green, g (s)		52.5	52.5	19.7	75.2					38.8	38.8	38.8
Actuated g/C Ratio		0.44	0.44	0.16	0.63					0.32	0.32	0.32
Clearance Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		815	658	290	1167					543	543	494
v/s Ratio Prot		c0.37		c0.12	0.22					c0.15	0.15	
v/s Ratio Perm			0.09									0.04
v/c Ratio		0.84	0.20	0.71	0.35					0.47	0.47	0.13
Uniform Delay, d1		30.0	20.8	47.5	10.7					32.3	32.3	28.7
Progression Factor		0.80	0.71	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		6.4	0.1	7.9	0.2					2.9	2.9	0.5
Delay (s)		30.4	14.9	55.4	10.9					35.2	35.2	29.2
Level of Service		C	B	E	B					D	D	C
Approach Delay (s)		27.9			25.7			0.0			34.5	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			29.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

13: US 101 NB Off Ramp & Hillsdale Blvd

10/18/2019

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↘↙	↗↖
Traffic Volume (vph)	1312	0	0	1394	286	1553
Future Volume (vph)	1312	0	0	1394	286	1553
Ideal Flow (vphpl)	1260	1900	1900	1800	1200	1750
Total Lost time (s)	3.0			3.0	3.0	3.0
Lane Util. Factor	0.95			0.95	0.97	0.88
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2347			3353	2168	2567
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2347			3353	2168	2567
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1312	0	0	1394	286	1553
RTOR Reduction (vph)	0	0	0	0	0	17
Lane Group Flow (vph)	1312	0	0	1394	286	1536
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6 2	8	6
Permitted Phases						8 6
Actuated Green, G (s)	44.5			82.5	13.5	47.0
Effective Green, g (s)	46.0			84.0	15.0	50.0
Actuated g/C Ratio	0.44			0.80	0.14	0.48
Clearance Time (s)	4.5				4.5	4.5
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	1028			2682	309	1295
v/s Ratio Prot	c0.56			0.42	0.13	c0.40
v/s Ratio Perm						0.20
v/c Ratio	1.28			0.52	0.93	1.19
Uniform Delay, d1	29.5			3.6	44.4	27.5
Progression Factor	0.95			1.13	1.00	1.00
Incremental Delay, d2	128.0			0.7	32.2	91.9
Delay (s)	156.1			4.8	76.7	119.4
Level of Service	F			A	E	F
Approach Delay (s)	156.1			4.8	112.8	
Approach LOS	F			A	F	
Intersection Summary						
HCM 2000 Control Delay	92.1			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio	1.27					
Actuated Cycle Length (s)	105.0			Sum of lost time (s)		9.0
Intersection Capacity Utilization	120.3%			ICU Level of Service		H
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Ideal Flow (vphpl)	1900	1000	1000	1900	1900	1900	1900	1900	1900	1000	1100	1900
Total Lost time (s)		3.0	3.0		3.0					2.5	3.0	
Lane Util. Factor		*0.70	*0.70		*1.00					*0.70	*0.70	
Frpb, ped/bikes		1.00	0.97		1.00					1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	
Frt		1.00	0.85		1.00					1.00	1.00	
Flt Protected		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (prot)		2059	566		3725					1304	1510	
Flt Permitted		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (perm)		2059	566		3725					1304	1510	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1076	57	0	1000	0	0	0	0	402	391	0
Confl. Peds. (#/hr)			10									
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm		NA					Prot	NA	
Protected Phases		2			6					7	4	
Permitted Phases			2									
Actuated Green, G (s)		63.9	63.9		63.9					32.1	32.1	
Effective Green, g (s)		65.4	65.4		65.4					34.1	33.6	
Actuated g/C Ratio		0.62	0.62		0.62					0.32	0.32	
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	
Lane Grp Cap (vph)		1282	352		2320					423	483	
v/s Ratio Prot		c0.52			0.27					c0.31	0.26	
v/s Ratio Perm			0.10									
v/c Ratio		0.84	0.16		0.43					0.95	0.81	
Uniform Delay, d1		15.6	8.3		10.2					34.6	32.8	
Progression Factor		1.00	1.00		0.96					1.00	1.00	
Incremental Delay, d2		6.7	1.0		0.5					31.2	9.7	
Delay (s)		22.4	9.3		10.3					65.9	42.4	
Level of Service		C	A		B					E	D	
Approach Delay (s)		21.3			10.3			0.0			54.3	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)				6.0		
Intersection Capacity Utilization			120.3%			ICU Level of Service				H		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

15: Delaware St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00			1.00	0.95		1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1762	3374		1745	1847			1796	1511		1812	
Flt Permitted	0.23	1.00		0.34	1.00			0.77	1.00		0.87	
Satd. Flow (perm)	429	3374		621	1847			1430	1511		1604	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	563	150	94	655	28	149	94	186	48	113	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	0
Lane Group Flow (vph)	16	713	0	94	683	0	0	243	64	0	172	0
Confl. Peds. (#/hr)	11		47	34		29	13		52	18		24
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	21.7	21.7		21.7	21.7			13.7	13.7		13.7	
Effective Green, g (s)	23.2	23.2		23.2	23.2			15.2	15.2		15.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.34	0.34		0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	224	1762		324	965			489	517		549	
v/s Ratio Prot		0.21			c0.37							
v/s Ratio Perm	0.04			0.15				c0.17	0.04		0.11	
v/c Ratio	0.07	0.40		0.29	0.71			0.50	0.12		0.31	
Uniform Delay, d1	5.3	6.4		6.0	8.0			11.6	10.0		10.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2		0.5	2.4			0.8	0.1		0.3	
Delay (s)	5.4	6.6		6.5	10.4			12.4	10.1		11.1	
Level of Service	A	A		A	B			B	B		B	
Approach Delay (s)		6.5			9.9			11.4			11.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.2			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.62										
Actuated Cycle Length (s)		44.4			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		76.9%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: Delaware St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1724		1770	1702		1770	1801		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1724		1770	1702		1770	1801		1770	1828	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	17	12	122	197	178	32	315	61	85	241	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	29	0	122	375	0	32	376	0	85	266	0
Confl. Peds. (#/hr)			17			18			19			16
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.1	11.3		11.9	21.1		2.4	22.6		7.1	27.3	
Effective Green, g (s)	3.6	12.8		13.4	22.6		3.9	24.1		8.6	28.8	
Actuated g/C Ratio	0.05	0.18		0.19	0.32		0.06	0.34		0.12	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	89	311		334	542		97	612		214	742	
v/s Ratio Prot	0.01	0.02		c0.07	c0.22		0.02	c0.21		c0.05	0.15	
v/s Ratio Perm												
v/c Ratio	0.20	0.09		0.37	0.69		0.33	0.61		0.40	0.36	
Uniform Delay, d1	32.3	24.2		25.0	21.1		32.2	19.5		28.8	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.1		0.7	3.8		2.0	1.8		1.2	0.3	
Delay (s)	33.4	24.3		25.7	24.9		34.2	21.4		30.0	14.9	
Level of Service	C	C		C	C		C	C		C	B	
Approach Delay (s)		27.8			25.1			22.4			18.6	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.6			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			70.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			57.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Delaware St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	53	0	212	262	452	92	45	311	0	0	495	28
Future Volume (vph)	53	0	212	262	452	92	45	311	0	0	495	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1000	1000	1900	1900	1400	1400
Total Lost time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Util. Factor	1.00		1.00	1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes	1.00		0.84	1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00		0.85	1.00	0.97		1.00	1.00			0.99	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1380		1037	1770	3403		931	1863			2575	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1380		1037	1770	3403		931	1863			2575	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	53	0	212	262	452	92	45	311	0	0	495	28
RTOR Reduction (vph)	0	0	176	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	53	0	36	262	544	0	45	311	0	0	523	0
Confl. Peds. (#/hr)			83			70			95			58
Confl. Bikes (#/hr)			4			1			1			4
Bus Blockages (#/hr)	55	0	55	0	0	0	0	0	0	0	0	0
Turn Type	Prot		Perm	Split	NA		Prot	NA			NA	
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4									
Actuated Green, G (s)	9.2		9.2	20.3	20.3		4.4	29.2			20.3	
Effective Green, g (s)	13.7		13.7	24.8	24.8		5.9	33.7			24.8	
Actuated g/C Ratio	0.17		0.17	0.31	0.31		0.07	0.42			0.31	
Clearance Time (s)	7.5		7.5	7.5	7.5		4.5	7.5			7.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	232		174	540	1039		67	773			786	
v/s Ratio Prot	c0.04			0.15	c0.16		c0.05	0.17			c0.20	
v/s Ratio Perm			0.03									
v/c Ratio	0.23		0.21	0.49	0.52		0.67	0.40			0.67	
Uniform Delay, d1	29.2		29.1	23.0	23.3		36.7	16.7			24.6	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.5		0.6	3.1	1.9		23.3	0.3			2.1	
Delay (s)	29.7		29.7	26.1	25.2		60.1	17.0			26.7	
Level of Service	C		C	C	C		E	B			C	
Approach Delay (s)		29.7			25.5			22.5			26.7	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.8				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.53									
Actuated Cycle Length (s)			81.2				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			63.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

18: Delaware St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	766	28	0	0	0	32	335	190	343	478	83
Future Volume (vph)	37	766	28	0	0	0	32	335	190	343	478	83
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1650	1900	1300	1000	1900
Total Lost time (s)		3.0					3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95					1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00					1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00					1.00	1.00		1.00	1.00	
Frt		0.99					1.00	0.95		1.00	0.98	
Flt Protected		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2765					1770	2823		1211	1792	
Flt Permitted		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2765					1770	2823		1211	1792	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	766	28	0	0	0	32	335	190	343	478	83
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	831	0	0	0	0	32	525	0	343	561	0
Confl. Peds. (#/hr)	16		41						41			33
Confl. Bikes (#/hr)			4						3			3
Turn Type	Perm	NA					Prot	NA		Prot	NA	
Protected Phases		4					5	2		1	6	
Permitted Phases	4											
Actuated Green, G (s)		24.0					4.9	15.8		32.5	43.4	
Effective Green, g (s)		28.5					6.4	20.3		34.0	47.9	
Actuated g/C Ratio		0.31					0.07	0.22		0.37	0.52	
Clearance Time (s)		7.5					4.5	7.5		4.5	7.5	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		858					123	624		448	935	
v/s Ratio Prot							0.02	c0.19		c0.28	0.31	
v/s Ratio Perm		0.30										
v/c Ratio		0.97					0.26	0.84		0.77	0.60	
Uniform Delay, d1		31.2					40.5	34.2		25.4	15.3	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		24.0					1.1	10.0		11.8	1.0	
Delay (s)		55.2					41.6	44.2		37.2	16.3	
Level of Service		E					D	D		D	B	
Approach Delay (s)		55.2			0.0			44.0			24.2	
Approach LOS		E			A			D			C	
Intersection Summary												
HCM 2000 Control Delay		40.3					HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio		0.85										
Actuated Cycle Length (s)		91.8					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		86.1%					ICU Level of Service			E		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

19: Delaware St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	67	269	50	7	112	37	48	479	14	15	325	139
Future Volume (vph)	67	269	50	7	112	37	48	479	14	15	325	139
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1350	1900	1900	1000	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		1.00			1.00			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.99			1.00			1.00	0.89
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.98			0.97			1.00			1.00	0.85
Flt Protected		0.99			1.00			1.00			1.00	1.00
Satd. Flow (prot)		940			936			1307			978	1404
Flt Permitted		0.92			0.98			0.94			0.97	1.00
Satd. Flow (perm)		874			920			1239			952	1404
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	67	269	50	7	112	37	48	479	14	15	325	139
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	70
Lane Group Flow (vph)	0	386	0	0	156	0	0	540	0	0	340	70
Confl. Peds. (#/hr)	16		36	21		31	15		36	15		31
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		29.5			29.5			35.5			35.5	35.5
Effective Green, g (s)		34.0			34.0			40.0			40.0	40.0
Actuated g/C Ratio		0.42			0.42			0.50			0.50	0.50
Clearance Time (s)		7.5			7.5			7.5			7.5	7.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		371			391			619			476	702
v/s Ratio Prot												
v/s Ratio Perm		c0.44			0.17			c0.44			0.36	0.05
v/c Ratio		1.04			0.40			0.87			0.71	0.10
Uniform Delay, d1		23.0			15.9			17.7			15.6	10.5
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		57.6			0.7			15.6			8.8	0.3
Delay (s)		80.6			16.6			33.4			24.4	10.8
Level of Service		F			B			C			C	B
Approach Delay (s)		80.6			16.6			33.4			20.5	
Approach LOS		F			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		39.4			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.95										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		145.3%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Delaware St & 9th Ave

10/18/2019



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (vph)	120	301	88	26	157	13	59	371	34	13	323	79
Future Volume (vph)	120	301	88	26	157	13	59	371	34	13	323	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.99			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1774			1823			1821			1793	
Flt Permitted		0.88			0.92			0.92			0.98	
Satd. Flow (perm)		1582			1687			1691			1766	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	301	88	26	157	13	59	371	34	13	323	79
RTOR Reduction (vph)	0	13	0	0	4	0	0	5	0	0	15	0
Lane Group Flow (vph)	0	496	0	0	192	0	0	459	0	0	400	0
Confl. Peds. (#/hr)	12		28	19		30	9		37	18		21
Confl. Bikes (#/hr)			3			4			5			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.1			19.1			18.2			18.2	
Effective Green, g (s)		20.6			20.6			19.7			19.7	
Actuated g/C Ratio		0.44			0.44			0.43			0.43	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		703			750			719			751	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.11			c0.27			0.23	
v/c Ratio		0.71			0.26			0.64			0.53	
Uniform Delay, d1		10.4			8.0			10.5			9.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.2			0.2			1.9			0.7	
Delay (s)		13.6			8.2			12.4			10.6	
Level of Service		B			A			B			B	
Approach Delay (s)		13.6			8.2			12.4			10.6	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			11.8				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			46.3				Sum of lost time (s)			6.0		
Intersection Capacity Utilization			99.4%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Delaware St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.92	1.00	0.98		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	189	258	210	206	378	169	209	507	112	163	412	143
RTOR Reduction (vph)	0	0	162	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	189	258	48	206	547	0	209	619	0	163	555	0
Confl. Peds. (#/hr)			73			55			43			85
Confl. Bikes (#/hr)			3			7			4			4
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Effective Green, g (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Actuated g/C Ratio	0.17	0.23	0.23	0.18	0.24		0.12	0.25		0.15	0.28	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	803	329	311	777		404	859		262	936	
v/s Ratio Prot	0.11	0.07		c0.12	c0.17		0.06	c0.18		c0.09	c0.17	
v/s Ratio Perm			0.03									
v/c Ratio	0.64	0.32	0.14	0.66	0.70		0.52	0.72		0.62	0.59	
Uniform Delay, d1	35.6	29.5	28.3	35.2	32.1		38.0	31.3		36.6	28.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.2	0.2	5.2	2.9		1.1	3.0		4.5	1.0	
Delay (s)	40.3	29.7	28.5	40.4	35.0		39.1	34.3		41.1	29.3	
Level of Service	D	C	C	D	C		D	C		D	C	
Approach Delay (s)		32.4			36.5			35.5			32.0	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			34.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			91.6			Sum of lost time (s)				18.0		
Intersection Capacity Utilization			78.8%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

22: SR 92 WB Ramps & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			4.0	3.0			
Lane Util. Factor		1.00		0.95	0.95			1.00	0.88			
Frpb, ped/bikes		0.99		1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			
Frt		0.89		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (prot)		1643		1681	1692			1770	2724			
Flt Permitted		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (perm)		1643		1681	1692			1770	2724			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	31	128	749	33	0	40	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	498	0	0	0
Lane Group Flow (vph)	0	159	0	389	393	0	0	40	121	0	0	0
Confl. Peds. (#/hr)			1						1			
Confl. Bikes (#/hr)						3						3
Turn Type		NA		Split	NA	Perm	Split	NA	Perm			
Protected Phases		4		8	8		2	2		6	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)		11.9		21.5	21.5			9.5	9.5			
Effective Green, g (s)		13.4		23.0	23.0			10.0	11.0			
Actuated g/C Ratio		0.24		0.41	0.41			0.18	0.20			
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		390		685	690			313	531			
v/s Ratio Prot		c0.10		0.23	c0.23			0.02				
v/s Ratio Perm									c0.04			
v/c Ratio		0.41		0.57	0.57			0.13	0.23			
Uniform Delay, d1		18.1		12.9	12.9			19.5	19.1			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.7		1.1	1.1			0.2	0.2			
Delay (s)		18.8		14.0	14.0			19.7	19.3			
Level of Service		B		B	B			B	B			
Approach Delay (s)		18.8			14.0			19.4			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			56.4			Sum of lost time (s)				14.0		
Intersection Capacity Utilization			45.4%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ginnever St/Grant St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		0.97	1.00	
Frpb, ped/bikes		1.00	0.92	1.00		0.97		0.97		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Frt		1.00	0.85	1.00		0.85		0.90		1.00	1.00	
Flt Protected		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		900	1459	1770		1528		1050		1900	1863	
Flt Permitted		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)		1846	1459	1770		1528		3098		3433	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	41	179	33	162	0	296	0	86	152	364	130	0
RTOR Reduction (vph)	0	0	0	0	0	250	0	0	0	0	0	0
Lane Group Flow (vph)	0	220	33	162	0	46	0	238	0	364	130	0
Confl. Peds. (#/hr)			27			12			23			
Confl. Bikes (#/hr)			5			7			5			
Turn Type	Split	NA	Perm	Prot		Perm		NA		Prot	NA	
Protected Phases	4	4		8				2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		27.0	27.0	14.9		14.9		25.6		20.5	50.6	
Effective Green, g (s)		28.5	28.5	16.4		16.4		27.1		22.0	52.1	
Actuated g/C Ratio		0.27	0.27	0.15		0.15		0.26		0.21	0.49	
Clearance Time (s)		4.5	4.5	4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		241	392	273		236		268		394	915	
v/s Ratio Prot		c0.24		c0.09				c0.23		c0.19	0.07	
v/s Ratio Perm			0.02			0.03						
v/c Ratio		0.91	0.08	0.59		0.19		0.89		0.92	0.14	
Uniform Delay, d1		37.5	29.0	41.7		39.0		38.0		41.2	14.7	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		35.3	0.1	3.4		0.4		27.8		27.0	0.1	
Delay (s)		72.8	29.1	45.1		39.4		65.7		68.2	14.8	
Level of Service		E	C	D		D		E		E	B	
Approach Delay (s)		67.1			41.5			65.7			54.2	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			54.3				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			106.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			65.6%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

24: Delaware St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0					3.0	2.5	3.0	3.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	0.91	0.91	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					0.99	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					0.97	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1681	1683	1462					3278	1389	1610	3350	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1681	1683	1462					3278	1389	1610	3350	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	233	344	89	0	0	0	0	530	396	418	439	0
RTOR Reduction (vph)	0	1	56	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	210	375	24	0	0	0	0	645	281	280	577	0
Confl. Peds. (#/hr)			14						25			
Confl. Bikes (#/hr)			6						6			
Turn Type	Perm	NA	Perm					NA	Perm	Split	NA	
Protected Phases		4						2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	21.9	21.9	21.9					23.2	23.2	18.4	18.4	
Effective Green, g (s)	23.4	23.4	23.4					24.7	25.2	19.9	19.9	
Actuated g/C Ratio	0.30	0.30	0.30					0.32	0.33	0.26	0.26	
Clearance Time (s)	4.5	4.5	4.5					4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	510	511	444					1051	454	416	865	
v/s Ratio Prot								0.20		c0.17	0.17	
v/s Ratio Perm	0.12	0.22	0.02						c0.20			
v/c Ratio	0.41	0.73	0.05					0.61	0.62	0.67	0.67	
Uniform Delay, d1	21.3	24.0	19.0					22.1	21.8	25.6	25.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	5.4	0.1					1.1	2.5	4.3	2.0	
Delay (s)	21.9	29.4	19.0					23.2	24.4	29.9	27.5	
Level of Service	C	C	B					C	C	C	C	
Approach Delay (s)		25.8			0.0			23.5			28.3	
Approach LOS		C			A			C			C	
Intersection Summary												
HCM 2000 Control Delay		25.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		77.0			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		67.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: Delaware St & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.97			1.00	0.97		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.91			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1629			1763	1530		3539	1535	1770	3536	
Flt Permitted		0.97			0.75	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (perm)		1591			1399	1530		3378	1535	1770	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	1	4	133	0	499	1	699	125	213	488	2
RTOR Reduction (vph)	0	0	0	0	0	319	0	0	80	0	0	0
Lane Group Flow (vph)	0	6	0	0	133	180	0	700	45	213	490	0
Confl. Peds. (#/hr)	5		27	5		21	22		21			27
Confl. Bikes (#/hr)			18			9			5			17
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		13.4			13.4	13.4		19.6	19.6	11.8	35.9	
Effective Green, g (s)		14.9			14.9	14.9		21.1	21.1	13.3	37.4	
Actuated g/C Ratio		0.26			0.26	0.26		0.36	0.36	0.23	0.64	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		406			357	391		1222	555	403	2268	
v/s Ratio Prot										c0.12	0.14	
v/s Ratio Perm		0.00			0.10	c0.12		c0.21	0.03			
v/c Ratio		0.01			0.37	0.46		0.57	0.08	0.53	0.22	
Uniform Delay, d1		16.2			17.9	18.3		15.0	12.2	19.7	4.3	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.7	0.9		0.7	0.1	1.3	0.0	
Delay (s)		16.2			18.5	19.2		15.6	12.3	21.0	4.4	
Level of Service		B			B	B		B	B	C	A	
Approach Delay (s)		16.2			19.0			15.1			9.4	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		14.4			HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		58.3			Sum of lost time (s)					9.0		
Intersection Capacity Utilization		76.3%			ICU Level of Service					D		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

26: Delaware St & 25th Ave

10/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→		↑↑	↑	→→
Traffic Volume (vph)	502	221	143	305	146	483
Future Volume (vph)	502	221	143	305	146	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.88
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.98	1.00	1.00
Satd. Flow (prot)	3433	1519		3483	1863	2650
Flt Permitted	0.95	1.00		0.83	1.00	1.00
Satd. Flow (perm)	3433	1519		2921	1863	2650
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	502	221	143	305	146	483
RTOR Reduction (vph)	0	0	0	0	0	291
Lane Group Flow (vph)	502	221	0	448	146	192
Confl. Peds. (#/hr)		4	2			15
Confl. Bikes (#/hr)		20				21
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	10.8	10.8		10.6	10.6	10.6
Effective Green, g (s)	12.3	12.3		12.1	12.1	12.1
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1389	614		1162	741	1054
v/s Ratio Prot	c0.15				0.08	
v/s Ratio Perm		0.15		c0.15		0.07
v/c Ratio	0.36	0.36		0.39	0.20	0.18
Uniform Delay, d1	6.3	6.3		6.5	6.0	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4		0.2	0.1	0.1
Delay (s)	6.5	6.7		6.7	6.1	6.0
Level of Service	A	A		A	A	A
Approach Delay (s)	6.5			6.7	6.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.37			
Actuated Cycle Length (s)			30.4		Sum of lost time (s)	6.0
Intersection Capacity Utilization			49.9%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

27: Franklin Pkwy & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Ideal Flow (vphpl)	2200	2200	2200	2200	2200	2200	1900	1900	1900	1100	1100	1100
Total Lost time (s)	3.0	3.0	3.0	3.0	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	*1.00	*1.00	*1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	134	234	378	232	163	46	271	54	131	313	34
RTOR Reduction (vph)	0	0	208	0	98	0	0	9	0	0	3	0
Lane Group Flow (vph)	85	134	26	378	297	0	46	316	0	131	344	0
Confl. Peds. (#/hr)			1			33			40			33
Confl. Bikes (#/hr)			8						1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.2	14.2	14.2	18.2	21.2		7.9	66.1		23.5	81.7	
Effective Green, g (s)	12.7	15.7	15.7	19.7	23.2		9.4	68.1		25.0	83.7	
Actuated g/C Ratio	0.09	0.11	0.11	0.14	0.17		0.07	0.49		0.18	0.60	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	185	241	398	576	652		118	1658		183	1199	
v/s Ratio Prot	0.04	c0.06		c0.09	0.08		0.03	0.09		c0.13	c0.17	
v/s Ratio Perm			0.01									
v/c Ratio	0.46	0.56	0.07	0.66	0.45		0.39	0.19		0.72	0.29	
Uniform Delay, d1	60.4	58.8	55.6	56.9	52.7		62.6	20.4		54.2	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.16	1.08		1.00	1.00	
Incremental Delay, d2	1.8	2.8	0.1	2.7	0.5		1.9	0.2		12.5	0.6	
Delay (s)	62.2	61.6	55.7	59.6	53.2		74.4	22.2		66.7	14.3	
Level of Service	E	E	E	E	D		E	C		E	B	
Approach Delay (s)		58.7			56.3			28.7			28.6	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			45.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)				11.5		
Intersection Capacity Utilization			70.7%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

28: Saratoga Dr & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 	 	 	
Traffic Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Future Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Ideal Flow (vphpl)	1000	1000	1000	1000	1900	1900	1000	1000	1100	1000	1000	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	*0.50	*0.80		*0.60	0.91	1.00		*0.95	0.88	*0.65	*0.70	0.91
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.93	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (perm)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	875	0	163	527	235	28	60	236	370	178	314
RTOR Reduction (vph)	0	0	0	0	0	165	0	0	192	0	46	113
Lane Group Flow (vph)	71	875	0	163	527	71	0	88	44	370	289	44
Confl. Peds. (#/hr)						12			22			
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	18.7	36.2		24.0	40.2	40.2		24.5	24.5	37.0	37.0	37.0
Effective Green, g (s)	21.0	38.0		25.0	42.0	42.0		26.2	26.2	38.8	38.8	38.8
Actuated g/C Ratio	0.15	0.27		0.18	0.30	0.30		0.19	0.19	0.28	0.28	0.28
Clearance Time (s)	5.3	4.8		4.0	4.8	4.8		4.7	4.7	4.8	4.8	4.8
Vehicle Extension (s)	3.0	6.0		3.0	6.0	6.0		4.0	4.0	6.0	6.0	6.0
Lane Grp Cap (vph)	69	638		199	1525	460		171	289	335	353	399
v/s Ratio Prot	0.15	c0.37		c0.15	0.10			c0.10		c0.31	0.23	
v/s Ratio Perm						0.05			0.03			0.03
v/c Ratio	1.03	1.37		0.82	0.35	0.15		0.51	0.15	1.10	0.82	0.11
Uniform Delay, d1	59.5	51.0		55.3	38.3	36.0		51.2	47.6	50.6	47.3	37.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.21	0.21	0.78	0.71	0.75
Incremental Delay, d2	116.6	177.0		22.4	0.6	0.7		3.2	0.3	79.4	15.4	0.3
Delay (s)	176.1	228.0		77.7	38.9	36.7		14.0	10.5	119.1	49.2	28.4
Level of Service	F	F		E	D	D		B	B	F	D	C
Approach Delay (s)		224.1			45.2			11.4			75.4	
Approach LOS		F			D			B			E	
Intersection Summary												
HCM 2000 Control Delay		105.5										F
HCM 2000 Volume to Capacity ratio		1.01										
Actuated Cycle Length (s)		140.0										Sum of lost time (s)
Intersection Capacity Utilization		92.1%										ICU Level of Service
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: B St & 1st Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.87			0.85			0.90			0.96	
Flpb, ped/bikes		0.99			0.97			0.98			0.95	
Frt		0.97			0.95			0.97			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1535			1451			1598			1652	
Flt Permitted		0.97			0.95			0.96			0.85	
Satd. Flow (perm)		1503			1391			1536			1430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	73	27	23	71	49	26	183	48	73	161	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	110	0	0	143	0	0	257	0	0	254	0
Confl. Peds. (#/hr)	99		289	112		240	177		253	141		276
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		601			556			789			735	
v/s Ratio Prot												
v/s Ratio Perm		0.07			0.10			0.17			0.18	
v/c Ratio		0.18			0.26			0.33			0.35	
Uniform Delay, d1		13.6			14.0			9.9			10.0	
Progression Factor		1.00			1.00			0.75			1.00	
Incremental Delay, d2		0.7			1.1			1.0			1.3	
Delay (s)		14.3			15.2			8.5			11.3	
Level of Service		B			B			A			B	
Approach Delay (s)		14.3			15.2			8.5			11.3	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		11.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		53.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: B St & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.89			0.87			0.89			0.93	
Flpb, ped/bikes		0.98			0.99			0.96			0.97	
Frt		0.97			0.97			0.97			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1562			1539			1548			1627	
Flt Permitted		0.95			0.95			0.94			0.93	
Satd. Flow (perm)		1488			1465			1458			1520	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	149	49	22	105	40	42	185	57	33	151	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	230	0	0	167	0	0	284	0	0	213	0
Confl. Peds. (#/hr)	96		246	88		248	158		240	152		254
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		595			586			749			781	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.11			c0.19			0.14	
v/c Ratio		0.39			0.28			0.38			0.27	
Uniform Delay, d1		14.9			14.2			10.3			9.6	
Progression Factor		1.00			1.00			1.00			0.65	
Incremental Delay, d2		1.9			1.2			1.5			0.8	
Delay (s)		16.8			15.4			11.7			7.1	
Level of Service		B			B			B			A	
Approach Delay (s)		16.8			15.4			11.7			7.1	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		47.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: B St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	116	61	105	309	119	24	136	30	20	126	56
Future Volume (vph)	38	116	61	105	309	119	24	136	30	20	126	56
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85		1.00	1.00	0.49		0.94			0.85	
Flpb, ped/bikes		0.97		0.90	1.00	1.00		0.97			0.99	
Frt		0.96		1.00	1.00	0.85		0.98			0.96	
Flt Protected		0.99		0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)		776		1600	980	780		866			784	
Flt Permitted		0.91		0.62	1.00	1.00		0.95			0.96	
Satd. Flow (perm)		712		1041	980	780		828			759	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	116	61	105	309	119	24	136	30	20	126	56
RTOR Reduction (vph)	0	0	0	0	0	60	0	0	0	0	0	0
Lane Group Flow (vph)	0	215	0	105	309	59	0	190	0	0	202	0
Confl. Peds. (#/hr)	131		272	76		244	196		189	113		327
Confl. Bikes (#/hr)			8			4			4			6
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		27.5		27.5	27.5	27.5		22.5			22.5	
Effective Green, g (s)		32.0		32.0	32.0	32.0		27.0			27.0	
Actuated g/C Ratio		0.49		0.49	0.49	0.49		0.42			0.42	
Clearance Time (s)		7.5		7.5	7.5	7.5		7.5			7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		350		512	482	384		343			315	
v/s Ratio Prot				c0.32								
v/s Ratio Perm		0.30		0.10		0.08		0.23			c0.27	
v/c Ratio		0.61		0.21	0.64	0.15		0.55			0.64	
Uniform Delay, d1		12.0		9.3	12.2	9.1		14.4			15.1	
Progression Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2		3.2		0.9	6.4	0.8		6.3			9.6	
Delay (s)		15.2		10.2	18.7	9.9		20.7			24.8	
Level of Service		B		B	B	A		C			C	
Approach Delay (s)		15.2			15.0			20.7			24.8	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		17.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		95.1%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

32: B St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	562	47	10	116	22	18	129	55	67	114	97
Future Volume (vph)	37	562	47	10	116	22	18	129	55	67	114	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		2.5			2.5			3.0			2.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.92			0.91			0.86	
Flpb, ped/bikes		0.99			1.00			0.99			0.96	
Frt		0.99			0.98			0.96			0.95	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3357			877			851			767	
Flt Permitted		0.93			0.95			0.96			0.89	
Satd. Flow (perm)		3137			839			822			688	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	562	47	10	116	22	18	129	55	67	114	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	646	0	0	148	0	0	202	0	0	278	0
Confl. Peds. (#/hr)	93		161	74		251	87		232	158		180
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.5			34.5			30.5			30.5	
Effective Green, g (s)		39.5			39.5			35.0			35.5	
Actuated g/C Ratio		0.49			0.49			0.44			0.44	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		1548			414			359			305	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.18			0.25			c0.40	
v/c Ratio		0.42			0.36			0.56			0.91	
Uniform Delay, d1		12.9			12.4			16.8			20.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			2.4			6.3			33.2	
Delay (s)		13.7			14.8			23.0			53.9	
Level of Service		B			B			C			D	
Approach Delay (s)		13.7			14.8			23.0			53.9	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay		24.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			5.5				
Intersection Capacity Utilization		97.0%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: B St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	329	55	25	231	30	38	140	72	18	119	34
Future Volume (vph)	37	329	55	25	231	30	38	140	72	18	119	34
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1900	1900	1300	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.98			0.94			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.98			0.99			0.96			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1396			941			1130			1733	
Flt Permitted		0.95			0.95			0.94			0.96	
Satd. Flow (perm)		1338			895			1068			1667	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	329	55	25	231	30	38	140	72	18	119	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	421	0	0	286	0	0	250	0	0	171	0
Confl. Peds. (#/hr)	28		90	38		74	52		84	46		80
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5			24.5	
Effective Green, g (s)		35.0			35.0			29.0			29.0	
Actuated g/C Ratio		0.50			0.50			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		669			447			442			690	
v/s Ratio Prot												
v/s Ratio Perm		0.31			c0.32			c0.23			0.10	
v/c Ratio		0.63			0.64			0.57			0.25	
Uniform Delay, d1		12.8			12.9			15.7			13.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.4			6.9			5.2			0.9	
Delay (s)		17.2			19.7			20.8			14.2	
Level of Service		B			B			C			B	
Approach Delay (s)		17.2			19.7			20.8			14.2	
Approach LOS		B			B			C			B	
Intersection Summary												
HCM 2000 Control Delay		18.2			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.61										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		77.4%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: Ellsworth Ave & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.90			0.93			0.90			0.89	
Flpb, ped/bikes		0.98			0.98			0.99			0.99	
Frt		0.97			0.97			0.97			0.97	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1584			1644			1601			1577	
Flt Permitted		0.91			0.92			0.97			0.97	
Satd. Flow (perm)		1454			1530			1556			1543	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	182	57	26	101	34	9	76	26	28	239	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	302	0	0	161	0	0	111	0	0	349	0
Confl. Peds. (#/hr)	74		242	105		143	137		174	69		211
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			34.5			34.5	
Effective Green, g (s)		35.0			35.0			39.0			39.0	
Actuated g/C Ratio		0.44			0.44			0.49			0.49	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		636			669			758			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.11			0.07			c0.23	
v/c Ratio		0.47			0.24			0.15			0.46	
Uniform Delay, d1		16.0			14.1			11.3			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			0.9			0.4			2.1	
Delay (s)		18.5			15.0			11.7			15.6	
Level of Service		B			B			B			B	
Approach Delay (s)		18.5			15.0			11.7			15.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		59.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: Ellsworth Ave & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.98			0.98	
Flpb, ped/bikes		0.99			0.99			0.99			0.99	
Frt		0.98			0.97			0.98			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1734			1732			1764			1769	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1641			1692			1686			1732	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	165	38	18	224	65	10	69	12	20	217	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	228	0	0	307	0	0	91	0	0	273	0
Confl. Peds. (#/hr)	142		166	166		142	123		107	107		123
Confl. Bikes (#/hr)						2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.2			13.2			12.1			12.1	
Effective Green, g (s)		17.7			17.7			16.6			16.6	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		720			743			694			713	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.18			0.05			0.16	
v/c Ratio		0.32			0.41			0.13			0.38	
Uniform Delay, d1		7.4			7.7			7.4			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.4			0.1			0.3	
Delay (s)		7.6			8.1			7.5			8.6	
Level of Service		A			A			A			A	
Approach Delay (s)		7.6			8.1			7.5			8.6	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		40.3			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		46.2%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: San Mateo Dr & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.5	2.5	2.5	2.5	2.5	2.5		2.5	2.5		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.93		1.00	0.93		0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.98	
Satd. Flow (prot)	1747	1863	1511	1751	1863	1477		3534	1470		3423	
Flt Permitted	0.50	1.00	1.00	0.52	1.00	1.00		0.94	1.00		0.66	
Satd. Flow (perm)	918	1863	1511	958	1863	1477		3313	1470		2286	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	274	29	102	296	290	12	450	195	209	439	36
RTOR Reduction (vph)	0	0	15	0	0	117	0	0	108	0	0	0
Lane Group Flow (vph)	19	274	14	102	296	173	0	462	87	0	684	0
Confl. Peds. (#/hr)	17		24	13		41	11		37	24		28
Confl. Bikes (#/hr)			5			4			4			6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	37.5	37.5	37.5	37.5	37.5	37.5		33.5	33.5		33.5	
Effective Green, g (s)	39.5	39.5	39.5	39.5	39.5	39.5		35.5	35.5		35.5	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Grp Cap (vph)	453	919	746	473	919	729		1470	652		1014	
v/s Ratio Prot		0.15			c0.16							
v/s Ratio Perm	0.02		0.01	0.11		0.12		0.14	0.06		c0.30	
v/c Ratio	0.04	0.30	0.02	0.22	0.32	0.24		0.31	0.13		0.67	
Uniform Delay, d1	10.5	12.0	10.3	11.5	12.2	11.6		14.4	13.2		17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.8	0.0	1.0	0.9	0.8		0.6	0.4		3.6	
Delay (s)	10.6	12.9	10.4	12.5	13.1	12.4		14.9	13.6		21.3	
Level of Service	B	B	B	B	B	B		B	B		C	
Approach Delay (s)		12.5			12.7			14.5			21.3	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay		15.7										
HCM 2000 Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		66.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

37: San Mateo Dr & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.99	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		3455			1786			3462			3454	
Flt Permitted		0.89			0.85			0.93			0.73	
Satd. Flow (perm)		3088			1540			3212			2545	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	266	32	90	224	65	25	596	75	108	430	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	341	0	0	379	0	0	696	0	0	579	0
Confl. Peds. (#/hr)	9		29	15		25	14		31	16		23
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.6			19.6			16.3			16.3	
Effective Green, g (s)		21.1			21.1			17.8			17.8	
Actuated g/C Ratio		0.47			0.47			0.40			0.40	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1451			723			1273			1008	
v/s Ratio Prot												
v/s Ratio Perm		0.11			0.25			0.22			0.23	
v/c Ratio		0.24			0.52			0.55			0.57	
Uniform Delay, d1		7.1			8.4			10.4			10.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.7			0.5			0.8	
Delay (s)		7.2			9.1			10.9			11.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.2			9.1			10.9			11.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		10.1			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		44.9			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		83.9%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

38: San Mateo Dr & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95			0.98			0.97		1.00	0.94	
Flpb, ped/bikes	0.97	1.00			0.99			1.00		0.97	1.00	
Frt	1.00	0.96			0.97			0.97		1.00	0.95	
Flt Protected	0.95	1.00			0.99			1.00		0.95	1.00	
Satd. Flow (prot)	1719	1706			1756			1736		1725	1658	
Flt Permitted	0.58	1.00			0.95			0.97		0.58	1.00	
Satd. Flow (perm)	1050	1706			1681			1694		1051	1658	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	177	206	63	25	161	49	13	170	51	63	249	121
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	269	0	0	235	0	0	234	0	63	370	0
Confl. Peds. (#/hr)	34		109	51		55	58		72	21		92
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.5	27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)	32.0	32.0			32.0			32.0		32.0	32.0	
Actuated g/C Ratio	0.46	0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)	7.5	7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)	480	779			768			774		480	757	
v/s Ratio Prot		0.16									c0.22	
v/s Ratio Perm	c0.17				0.14			0.14		0.06		
v/c Ratio	0.37	0.35			0.31			0.30		0.13	0.49	
Uniform Delay, d1	12.4	12.2			12.0			12.0		11.0	13.3	
Progression Factor	1.00	1.00			1.00			0.83		1.00	1.00	
Incremental Delay, d2	2.2	1.2			1.0			1.0		0.6	2.3	
Delay (s)	14.6	13.5			13.0			10.9		11.5	15.5	
Level of Service	B	B			B			B		B	B	
Approach Delay (s)		13.9			13.0			10.9			15.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.6		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			70.0		Sum of lost time (s)					6.0		
Intersection Capacity Utilization			77.2%		ICU Level of Service					D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

39: San Mateo Dr & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5		2.5	2.5	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.87			0.93			0.92		1.00	0.90	
Flpb, ped/bikes		0.98			0.98			0.99		0.86	1.00	
Frt		0.97			0.98			0.98		1.00	0.97	
Flt Protected		0.99			0.99			0.99		0.95	1.00	
Satd. Flow (prot)		1539			1647			1635		1514	1624	
Flt Permitted		0.95			0.94			0.94		0.63	1.00	
Satd. Flow (perm)		1467			1563			1552		1009	1624	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	202	73	30	200	40	22	125	28	42	240	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	308	0	0	270	0	0	175	0	42	299	0
Confl. Peds. (#/hr)	149		268	177		245	91		273	96		240
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)		32.5			32.5			32.5		32.5	32.5	
Actuated g/C Ratio		0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)		7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)		681			725			720		468	754	
v/s Ratio Prot												c0.18
v/s Ratio Perm		c0.21			0.17			0.11		0.04		
v/c Ratio		0.45			0.37			0.24		0.09	0.40	
Uniform Delay, d1		12.7			12.1			11.3		10.5	12.3	
Progression Factor		1.00			1.00			1.00		0.71	0.65	
Incremental Delay, d2		2.2			1.5			0.8		0.3	1.4	
Delay (s)		14.9			13.6			12.1		7.8	9.5	
Level of Service		B			B			B		A	A	
Approach Delay (s)		14.9			13.6			12.1			9.3	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		59.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

40: San Mateo Dr & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.94			0.96			0.94			0.94	
Flpb, ped/bikes		0.97			0.97			1.00			0.98	
Frt		0.98			0.98			0.97			0.97	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		3132			3213			1679			1643	
Flt Permitted		0.90			0.87			0.99			0.86	
Satd. Flow (perm)		2831			2804			1661			1429	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	320	48	30	160	31	6	110	37	109	164	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	411	0	0	221	0	0	153	0	0	337	0
Confl. Peds. (#/hr)	128		217	124		196	93		192	68		221
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			41.5			41.5	
Effective Green, g (s)		28.0			28.0			46.0			46.0	
Actuated g/C Ratio		0.35			0.35			0.58			0.58	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		990			981			955			821	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.08			0.09			c0.24	
v/c Ratio		0.42			0.23			0.16			0.41	
Uniform Delay, d1		19.8			18.3			8.0			9.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			0.5			0.4			1.5	
Delay (s)		21.1			18.9			8.3			11.0	
Level of Service		C			B			A			B	
Approach Delay (s)		21.1			18.9			8.3			11.0	
Approach LOS		C			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		15.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		68.3%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

41: 5th Ave & San Mateo Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	103	331	219	109	141	103
Future Volume (vph)	103	331	219	109	141	103
Ideal Flow (vphpl)	1000	1500	1900	1900	1000	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97		1.00	0.90
Flpb, ped/bikes	0.95	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	882	1471	1720		931	1421
Flt Permitted	0.56	1.00	1.00		0.95	1.00
Satd. Flow (perm)	522	1471	1720		931	1421
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	103	331	219	109	141	103
RTOR Reduction (vph)	0	0	0	0	0	76
Lane Group Flow (vph)	103	331	328	0	141	27
Confl. Peds. (#/hr)	55			53	32	55
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	17.9	17.9	17.9		9.9	9.9
Effective Green, g (s)	19.4	19.4	19.4		11.4	11.4
Actuated g/C Ratio	0.45	0.45	0.45		0.27	0.27
Clearance Time (s)	7.5	7.5	7.5		7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	236	666	779		247	378
v/s Ratio Prot		c0.23	0.19		c0.15	
v/s Ratio Perm	0.20					0.02
v/c Ratio	0.44	0.50	0.42		0.57	0.07
Uniform Delay, d1	8.0	8.3	7.9		13.6	11.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.8	2.6	1.7		3.2	0.1
Delay (s)	13.7	10.9	9.6		16.7	11.8
Level of Service	B	B	A		B	B
Approach Delay (s)		11.6	9.6		14.7	
Approach LOS		B	A		B	
Intersection Summary						
HCM 2000 Control Delay			11.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.52			
Actuated Cycle Length (s)			42.8		Sum of lost time (s)	12.0
Intersection Capacity Utilization			60.2%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

42: El Camino Real & Peninsula Ave & Pard Rd

10/18/2019

												
Movement	WBL	WBR	WBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	SWL2	SWL	SWR
Lane Configurations				 					 		 	
Traffic Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Future Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0					3.0		3.0	
Lane Util. Factor	1.00			0.95					0.95		0.97	
Frbp, ped/bikes	0.97			0.99					1.00		1.00	
Flpb, ped/bikes	1.00			1.00					1.00		1.00	
Frt	0.93			0.96					1.00		1.00	
Flt Protected	0.98			1.00					1.00		0.95	
Satd. Flow (prot)	1651			3371					3525		3426	
Flt Permitted	0.98			1.00					0.70		0.95	
Satd. Flow (perm)	1651			3371					2475		3426	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	115	12	914	151	154	1	78	879	3	88	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	260	0	0	1219	0	0	0	0	958	0	94	0
Confl. Peds. (#/hr)		9	9		16	8					7	9
Turn Type	Prot			NA			Perm	Perm	NA	Prot	Prot	
Protected Phases	3			2					6	4	4	
Permitted Phases							6	6				
Actuated Green, G (s)	16.7			39.3					39.3		6.0	
Effective Green, g (s)	18.2			40.8					40.8		7.5	
Actuated g/C Ratio	0.24			0.54					0.54		0.10	
Clearance Time (s)	4.5			4.5					4.5		4.5	
Vehicle Extension (s)	3.0			3.0					3.0		3.0	
Lane Grp Cap (vph)	397			1821					1337		340	
v/s Ratio Prot	c0.16			0.36							c0.03	
v/s Ratio Perm									c0.39			
v/c Ratio	0.65			0.67					0.72		0.28	
Uniform Delay, d1	25.8			12.5					13.0		31.5	
Progression Factor	1.00			1.00					1.00		1.00	
Incremental Delay, d2	3.9			0.9					1.9		0.4	
Delay (s)	29.7			13.4					14.9		31.9	
Level of Service	C			B					B		C	
Approach Delay (s)	29.7			13.4					14.9		31.9	
Approach LOS	C			B					B		C	
Intersection Summary												
HCM 2000 Control Delay			16.3		HCM 2000 Level of Service					B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.5		Sum of lost time (s)					9.0		
Intersection Capacity Utilization			98.0%		ICU Level of Service					F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

43: El Camino Real & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5		2.5	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.96		1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760		1759	1649		1770	3470		1770	3534	
Flt Permitted		0.95		0.62	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1688		1152	1649		1770	3470		1770	3534	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	200	95	0	34	1389	0	105	1135	0
Confl. Peds. (#/hr)	7		7	7		7			6			4
Confl. Bikes (#/hr)						1						1
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		25.7		25.7	25.7		4.7	56.1		12.5	63.9	
Effective Green, g (s)		27.7		27.7	27.7		6.2	58.1		14.0	65.9	
Actuated g/C Ratio		0.26		0.26	0.26		0.06	0.54		0.13	0.61	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		433		296	423		101	1870		229	2160	
v/s Ratio Prot					0.06		0.02	c0.40		c0.06	0.32	
v/s Ratio Perm		0.06		c0.17								
v/c Ratio		0.24		0.68	0.22		0.34	0.74		0.46	0.53	
Uniform Delay, d1		31.8		36.0	31.6		48.8	19.1		43.4	12.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		6.0	0.3		2.0	1.6		1.5	0.2	
Delay (s)		32.1		42.0	31.9		50.8	20.7		44.8	12.2	
Level of Service		C		D	C		D	C		D	B	
Approach Delay (s)		32.1			38.7			21.5			15.0	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		20.9					HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		107.8					Sum of lost time (s)			8.0		
Intersection Capacity Utilization		72.9%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: El Camino Real & El Cerrito Ave/Tilton Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5			2.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1780			1772			3481			3508	
Flt Permitted		0.86			0.73			0.94			0.92	
Satd. Flow (perm)		1554			1329			3275			3231	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	218	0	0	205	0	0	1598	0	0	1302	0
Confl. Peds. (#/hr)	16		5	5		16	15		14	14		15
Confl. Bikes (#/hr)			1			1						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.6			15.6			40.4			40.4	
Effective Green, g (s)		17.6			17.6			42.4			42.4	
Actuated g/C Ratio		0.27			0.27			0.65			0.65	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		420			359			2136			2107	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.15			0.49			0.40	
v/c Ratio		0.52			0.57			0.75			0.62	
Uniform Delay, d1		20.1			20.4			7.7			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			2.2			1.5			0.5	
Delay (s)		21.2			22.6			9.1			7.1	
Level of Service		C			C			A			A	
Approach Delay (s)		21.2			22.6			9.1			7.1	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		10.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		79.5%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

45: El Camino Real & Crystal Springs Rd

10/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	257	74	77	1139	1269	201
Future Volume (vph)	257	74	77	1139	1269	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1724		1770	3539	3442	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1724		1770	3539	3442	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	257	74	77	1139	1269	201
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	331	0	77	1139	1470	0
Confl. Peds. (#/hr)		21				11
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	19.4		4.7	49.6	40.4	
Effective Green, g (s)	20.9		6.2	51.1	41.9	
Actuated g/C Ratio	0.27		0.08	0.66	0.54	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	461		140	2318	1848	
v/s Ratio Prot	c0.19		c0.04	0.32	c0.43	
v/s Ratio Perm						
v/c Ratio	0.72		0.55	0.49	0.80	
Uniform Delay, d1	25.9		34.6	6.8	14.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.3		4.6	0.2	2.5	
Delay (s)	31.2		39.2	7.0	17.0	
Level of Service	C		D	A	B	
Approach Delay (s)	31.2			9.0	17.0	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			78.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			75.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: El Camino Real & 2nd Ave

10/18/2019

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	276	118	1404	282	74	1208
Future Volume (vph)	276	118	1404	282	74	1208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	0.95	1.00	0.91	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1507	3539	1445	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1507	3539	1445	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	276	118	1404	282	74	1208
RTOR Reduction (vph)	0	87	0	137	0	0
Lane Group Flow (vph)	276	31	1404	145	74	1208
Confl. Peds. (#/hr)	11	50		41		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3		2		
Actuated Green, G (s)	15.2	15.2	31.2	31.2	3.7	39.4
Effective Green, g (s)	16.7	16.7	32.7	32.7	5.2	40.9
Actuated g/C Ratio	0.26	0.26	0.51	0.51	0.08	0.64
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	464	395	1819	742	144	2275
v/s Ratio Prot	c0.16		c0.40		0.04	c0.34
v/s Ratio Perm		0.02		0.10		
v/c Ratio	0.59	0.08	0.77	0.20	0.51	0.53
Uniform Delay, d1	20.5	17.7	12.4	8.3	28.0	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1	2.1	0.1	3.1	0.2
Delay (s)	22.5	17.7	14.5	8.5	31.1	6.4
Level of Service	C	B	B	A	C	A
Approach Delay (s)	21.1		13.5			7.8
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.70			
Actuated Cycle Length (s)			63.6		Sum of lost time (s)	9.0
Intersection Capacity Utilization			73.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

47: 3rd Ave & El Camino Real

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	119	170	146	108	100	94	1549	170	72	1295	119
Future Volume (vph)	115	119	170	146	108	100	94	1549	170	72	1295	119
Ideal Flow (vphpl)	1900	1600	1900	1000	1600	1900	1900	2500	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	2.5	2.5	2.5	3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.86	1.00	0.96		1.00	0.99	
Flpb, ped/bikes	0.96	1.00	1.00	0.94	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1697	1569	1412	876	1569	1366	1770	6359		1770	4946	
Flt Permitted	0.63	1.00	1.00	0.62	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1127	1569	1412	575	1569	1366	1770	6359		1770	4946	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	115	119	170	146	108	100	94	1549	170	72	1295	119
RTOR Reduction (vph)	0	0	123	0	0	72	0	0	0	0	0	0
Lane Group Flow (vph)	115	119	47	146	108	28	94	1719	0	72	1414	0
Confl. Peds. (#/hr)	45		88	67		114			136			66
Confl. Bikes (#/hr)			2			4			2			3
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	27.6	27.6	27.6	27.6	27.6	27.6	8.7	58.0		7.1	56.4	
Effective Green, g (s)	29.1	29.1	29.1	29.6	29.6	29.6	10.2	60.0		8.6	58.4	
Actuated g/C Ratio	0.27	0.27	0.27	0.28	0.28	0.28	0.10	0.56		0.08	0.55	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	308	429	386	160	437	380	170	3592		143	2719	
v/s Ratio Prot		0.08			0.07		c0.05	0.27		0.04	c0.29	
v/s Ratio Perm	0.10		0.03	c0.25		0.02						
v/c Ratio	0.37	0.28	0.12	0.91	0.25	0.07	0.55	0.48		0.50	0.52	
Uniform Delay, d1	31.2	30.3	28.9	37.0	29.7	28.2	45.8	13.8		46.8	15.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.4	0.1	46.2	0.3	0.1	3.9	0.5		2.8	0.2	
Delay (s)	31.9	30.6	29.1	83.3	30.0	28.3	49.7	14.2		49.5	15.2	
Level of Service	C	C	C	F	C	C	D	B		D	B	
Approach Delay (s)		30.4			51.5			16.1			16.9	
Approach LOS		C			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.9				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			106.2				Sum of lost time (s)			8.5		
Intersection Capacity Utilization			77.2%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

48: El Camino Real & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	74	54	130	41	84	17	1570	183	187	1424	30
Future Volume (vph)	54	74	54	130	41	84	17	1570	183	187	1424	30
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1000	2500	1900	2500	2500	1900
Total Lost time (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		1.00	0.94	1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		0.99	1.00	0.97	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		950	1488	1714	2110		931	6532		2328	6640	
Flt Permitted		0.84	1.00	0.60	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		816	1488	1084	2110		931	6532		2328	6640	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	74	54	130	41	84	17	1570	183	187	1424	30
RTOR Reduction (vph)	0	0	37	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	128	17	130	125	0	17	1753	0	187	1454	0
Confl. Peds. (#/hr)	37		82	45		60			68			74
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		18.3	23.9	18.3	18.3		5.6	43.1		12.4	49.9	
Effective Green, g (s)		19.8	26.9	19.8	19.8		7.1	44.6		13.9	51.4	
Actuated g/C Ratio		0.23	0.31	0.23	0.23		0.08	0.51		0.16	0.59	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		185	509	245	478		75	3337		370	3909	
v/s Ratio Prot			0.00		0.06		0.02	c0.27		c0.08	0.22	
v/s Ratio Perm		c0.16	0.01	0.12								
v/c Ratio		0.69	0.03	0.53	0.26		0.23	0.53		0.51	0.37	
Uniform Delay, d1		31.0	21.1	29.7	27.7		37.5	14.3		33.6	9.5	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.6	0.0	2.2	0.3		6.9	0.6		1.1	0.1	
Delay (s)		41.6	21.1	31.9	28.0		44.4	14.9		34.6	9.5	
Level of Service		D	C	C	C		D	B		C	A	
Approach Delay (s)		35.5			30.0			15.2			12.4	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		15.9				HCM 2000 Level of Service		B				
HCM 2000 Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		87.3				Sum of lost time (s)		9.0				
Intersection Capacity Utilization		94.9%				ICU Level of Service		F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

49: El Camino Real & Barneson Ave

10/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	154	48	44	1861	1532	67
Future Volume (vph)	154	48	44	1861	1532	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.97			1.00	0.99	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1722			5079	5041	
Flt Permitted	0.96			0.86	1.00	
Satd. Flow (perm)	1722			4351	5041	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	154	48	44	1861	1532	67
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	202	0	0	1905	1599	0
Confl. Peds. (#/hr)		33	18			18
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	13.9			43.4	43.4	
Effective Green, g (s)	15.4			44.9	44.9	
Actuated g/C Ratio	0.23			0.68	0.68	
Clearance Time (s)	4.5			4.5	4.5	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	399			2946	3413	
v/s Ratio Prot	c0.12				0.32	
v/s Ratio Perm				c0.44		
v/c Ratio	0.51			0.65	0.47	
Uniform Delay, d1	22.1			6.1	5.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.0			0.5	0.1	
Delay (s)	23.2			6.6	5.2	
Level of Service	C			A	A	
Approach Delay (s)	23.2			6.6	5.2	
Approach LOS	C			A	A	

Intersection Summary

HCM 2000 Control Delay	6.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	6.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

50: El Camino Real & Bovet Rd/17th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	1863	1526	1735	1704		1770	4878		1770	5049	
Flt Permitted	0.62	1.00	1.00	0.66	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1131	1863	1526	1213	1704		1770	4878		1770	5049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
RTOR Reduction (vph)	0	0	235	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	104	95	72	195	118	0	256	2046	0	86	1527	0
Confl. Peds. (#/hr)	23		27	25		46			48			25
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	20.5	20.5	20.5	20.5	20.5		18.4	52.7		7.0	41.3	
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0		19.9	54.2		8.5	42.8	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.21	0.58		0.09	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	437	358	284	400		375	2821		160	2306	
v/s Ratio Prot		0.05			0.07		c0.14	c0.42		0.05	0.30	
v/s Ratio Perm	0.09		0.05	c0.16								
v/c Ratio	0.39	0.22	0.20	0.69	0.29		0.68	0.73		0.54	0.66	
Uniform Delay, d1	30.2	28.9	28.8	32.7	29.5		34.0	14.3		40.7	19.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3	0.3	6.7	0.4		5.1	0.9		3.4	0.7	
Delay (s)	31.2	29.2	29.1	39.4	29.9		39.1	15.3		44.2	20.5	
Level of Service	C	C	C	D	C		D	B		D	C	
Approach Delay (s)		29.5			35.8			17.9			21.8	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			93.7				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			79.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: El Camino Real & 20th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98			1.00	0.95	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1605			1813	1500	1770	5062		1770	4955	
Flt Permitted	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1605			1813	1500	1770	5062		1770	4955	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
RTOR Reduction (vph)	0	0	0	0	0	154	0	0	0	0	0	0
Lane Group Flow (vph)	336	327	0	0	159	50	85	1422	0	101	1482	0
Confl. Peds. (#/hr)			24			29			17			26
Confl. Bikes (#/hr)						3						5
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	31.2	31.2			17.2	17.2	11.5	47.7		13.5	49.7	
Effective Green, g (s)	32.7	32.7			18.7	18.7	13.0	49.2		15.0	51.2	
Actuated g/C Ratio	0.26	0.26			0.15	0.15	0.10	0.39		0.12	0.40	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	430	411			265	219	180	1951		208	1988	
v/s Ratio Prot	0.20	c0.20			c0.09		0.05	c0.28		0.06	c0.30	
v/s Ratio Perm						0.03						
v/c Ratio	0.78	0.80			0.60	0.23	0.47	0.73		0.49	0.75	
Uniform Delay, d1	44.1	44.3			51.0	48.1	54.1	33.5		52.7	32.6	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	10.2			3.6	0.5	2.0	1.4		1.8	1.6	
Delay (s)	53.1	54.5			54.6	48.6	56.0	34.9		54.5	34.2	
Level of Service	D	D			D	D	E	C		D	C	
Approach Delay (s)		53.8			51.2			36.1			35.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.0		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			127.6		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			88.0%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

52: El Camino Real & 25th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.90	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
RTOR Reduction (vph)	0	0	26	0	0	119	0	0	0	0	0	0
Lane Group Flow (vph)	137	193	4	218	226	28	78	1542	0	204	1204	0
Confl. Peds. (#/hr)			19			72			21			70
Confl. Bikes (#/hr)			1			5			1			5
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)	15.9	15.9	15.9	22.3	22.3	22.3	19.4	50.4		16.8	47.8	
Effective Green, g (s)	17.4	17.4	17.4	23.8	23.8	23.8	20.9	51.9		18.3	49.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.19	0.19	0.19	0.17	0.42		0.15	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	248	211	324	334	274	299	2049		262	1975	
v/s Ratio Prot	0.08	c0.11		0.13	c0.13		0.04	c0.32		c0.12	0.24	
v/s Ratio Perm			0.00			0.02						
v/c Ratio	0.58	0.78	0.02	0.67	0.68	0.10	0.26	0.75		0.78	0.61	
Uniform Delay, d1	49.6	51.1	45.7	46.2	46.2	41.0	44.5	30.3		50.6	29.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	14.2	0.0	5.4	5.4	0.2	0.5	1.6		13.6	0.5	
Delay (s)	53.0	65.4	45.7	51.6	51.6	41.2	45.0	31.9		64.2	30.0	
Level of Service	D	E	D	D	D	D	D	C		E	C	
Approach Delay (s)		59.0			49.0			32.5			34.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			38.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			123.4				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.8%				ICU Level of Service			E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

53: El Camino Real & 28th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔		↔	↔↔↔		↔	↔↔↔	
Traffic Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		0.99			0.96		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.90		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3175			1585		1770	5085		1770	5028	
Flt Permitted		0.81			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2632			1469		1770	5085		1770	5028	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
RTOR Reduction (vph)	0	95	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	8	0	133	1528	0	32	1419	0
Confl. Peds. (#/hr)			29	15		24			39			14
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.3			10.3		10.8	41.7		2.8	33.7	
Effective Green, g (s)		11.8			11.8		12.3	43.2		4.3	35.2	
Actuated g/C Ratio		0.17			0.17		0.18	0.63		0.06	0.52	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		454			253		318	3216		111	2591	
v/s Ratio Prot							c0.08	0.30		0.02	c0.28	
v/s Ratio Perm		c0.07			0.01							
v/c Ratio		0.41			0.03		0.42	0.48		0.29	0.55	
Uniform Delay, d1		25.1			23.5		24.8	6.6		30.5	11.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.1		0.9	0.1		1.4	0.2	
Delay (s)		25.8			23.5		25.7	6.7		32.0	11.4	
Level of Service		C			C		C	A		C	B	
Approach Delay (s)		25.8			23.5			8.2			11.9	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay		11.3			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		68.3			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		66.0%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	NWR
Lane Configurations												
Traffic Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Future Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.91	1.00	0.86		1.00
Frpb, ped/bikes	1.00	1.00	0.88		0.98		1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85		0.96		1.00	1.00	1.00	0.98		1.00
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00	0.95	1.00		1.00
Satd. Flow (prot)	1681	1694	1400		3289		1770	5085	1770	6194		1863
Flt Permitted	0.95	0.96	1.00		0.79		0.95	1.00	0.95	1.00		1.00
Satd. Flow (perm)	1681	1694	1400		2658		1770	5085	1770	6194		1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	145	144	209	0	166	0	135	1075	106	1665	0	410
Confl. Peds. (#/hr)			63			34					51	
Confl. Bikes (#/hr)			1			6					7	
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA	Prot	NA		Prot
Protected Phases	3	3			4		5	2!	1	6		2!
Permitted Phases			3	4								
Actuated Green, G (s)	25.9	25.9	25.9		13.7		15.1	51.0	10.7	46.6		51.0
Effective Green, g (s)	27.4	27.4	27.4		15.2		16.6	52.5	12.2	48.1		52.5
Actuated g/C Ratio	0.23	0.23	0.23		0.13		0.14	0.44	0.10	0.40		0.44
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	386	389	321		338		246	2237	181	2497		819
v/s Ratio Prot	0.09	0.09					0.08	0.21	0.06	c0.27		c0.22
v/s Ratio Perm			c0.15		c0.06							
v/c Ratio	0.38	0.37	0.65		0.49		0.55	0.48	0.59	0.67		0.50
Uniform Delay, d1	38.7	38.7	41.6		48.5		47.9	23.7	51.1	29.1		24.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.6	0.6	4.7		1.1		2.5	0.2	4.8	0.7		0.5
Delay (s)	39.4	39.3	46.3		49.6		50.4	23.9	55.9	29.7		24.5
Level of Service	D	D	D		D		D	C	E	C		C
Approach Delay (s)		42.2			49.6			26.8		31.3		
Approach LOS		D			D			C		C		
Intersection Summary												
HCM 2000 Control Delay			31.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			119.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.4%				ICU Level of Service			E		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

10/18/2019

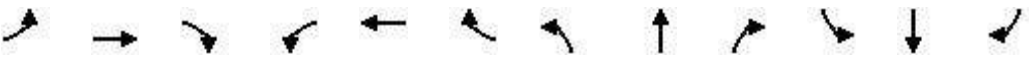


Movement	NWR2
Lane Configurations	
Traffic Volume (vph)	98
Future Volume (vph)	98
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	98
RTOR Reduction (vph)	54
Lane Group Flow (vph)	44
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	51.0
Effective Green, g (s)	52.5
Actuated g/C Ratio	0.44
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	696
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.06
Uniform Delay, d1	19.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	19.3
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

55: El Camino Real NB Ramp & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑	↑	↑	↑	↑			
Traffic Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Future Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	2200	2200	1900	2200	2200	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Util. Factor		0.91			*1.00	1.00	0.95	*1.00	1.00			
Frpb, ped/bikes		1.00			1.00	0.59	1.00	1.00	1.00			
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00			
Frt		1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (prot)		5033			4314	1275	1681	2089	2157			
Flt Permitted		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (perm)		5033			4314	1275	1681	2089	2157			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	180	689	0	0	693	262	133	28	319	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	184	0	0	291	0	0	0
Lane Group Flow (vph)	0	869	0	0	693	78	80	81	28	0	0	0
Confl. Peds. (#/hr)						105						
Confl. Bikes (#/hr)						4						
Turn Type	Split	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	5			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)		63.5			34.1	34.1	8.9	8.9	8.9			
Effective Green, g (s)		65.0			35.6	35.6	10.4	10.4	10.4			
Actuated g/C Ratio		0.54			0.30	0.30	0.09	0.09	0.09			
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		2726			1279	378	145	181	186			
v/s Ratio Prot		c0.17			c0.16		c0.05	0.04				
v/s Ratio Perm						0.06			0.01			
v/c Ratio		0.32			0.54	0.21	0.55	0.45	0.15			
Uniform Delay, d1		15.2			35.4	31.6	52.6	52.1	50.7			
Progression Factor		0.04			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		0.2			1.7	1.2	4.5	1.8	0.4			
Delay (s)		0.9			37.0	32.8	57.0	53.8	51.1			
Level of Service		A			D	C	E	D	D			
Approach Delay (s)		0.9			35.9			52.5			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		26.1			HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)				13.5			
Intersection Capacity Utilization		51.3%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

56: El Camino Real SB Ramp & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Future Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Ideal Flow (vphpl)	1900	1300	1900	1300	1300	1300	1900	1900	1900	1300	1400	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00					1.00	1.00	0.95
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (prot)		3479	1351		3413					1150	1279	1501
Flt Permitted		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (perm)		3479	1351		3413					1150	1279	1501
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	637	145	321	504	0	0	0	0	256	114	144
RTOR Reduction (vph)	0	0	71	0	0	0	0	0	0	0	0	103
Lane Group Flow (vph)	0	637	74	0	825	0	0	0	0	182	188	41
Confl. Peds. (#/hr)			49									26
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm	Split	NA					Split	NA	Perm
Protected Phases		2		1	1					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		28.5	28.5		45.5					32.5	32.5	32.5
Effective Green, g (s)		30.0	30.0		47.0					34.0	34.0	34.0
Actuated g/C Ratio		0.25	0.25		0.39					0.28	0.28	0.28
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		869	337		1336					325	362	425
v/s Ratio Prot		c0.18			c0.24					c0.16	0.15	
v/s Ratio Perm			0.05									0.03
v/c Ratio		0.73	0.22		0.62					0.56	0.52	0.10
Uniform Delay, d1		41.3	35.7		29.3					36.6	36.1	31.7
Progression Factor		1.00	1.00		0.19					1.00	1.00	1.00
Incremental Delay, d2		5.4	1.5		1.8					2.2	1.3	0.1
Delay (s)		46.8	37.2		7.3					38.8	37.4	31.8
Level of Service		D	D		A					D	D	C
Approach Delay (s)		45.0			7.3			0.0			36.3	
Approach LOS		D			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			28.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			70.8%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

57: El Camino Real & 41st Ave

10/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		WT	TT	TTT	WT
Traffic Volume (vph)	103	54	30	1361	1427	107
Future Volume (vph)	103	54	30	1361	1427	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00	0.95	0.91	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.95		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	3286		1770	3539	5016	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	3286		1770	3539	5016	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	103	54	30	1361	1427	107
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	157	0	30	1361	1534	0
Confl. Peds. (#/hr)		27				19
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	8.6		1.9	42.8	36.4	
Effective Green, g (s)	10.1		3.4	44.3	37.9	
Actuated g/C Ratio	0.17		0.06	0.73	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	549		99	2595	3147	
v/s Ratio Prot	c0.05		0.02	c0.38	0.31	
v/s Ratio Perm						
v/c Ratio	0.29		0.30	0.52	0.49	
Uniform Delay, d1	22.0		27.4	3.5	6.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		1.7	0.2	0.1	
Delay (s)	22.3		29.1	3.7	6.2	
Level of Service	C		C	A	A	
Approach Delay (s)	22.3			4.2	6.2	
Approach LOS	C			A	A	

Intersection Summary

HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	60.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

58: El Camino Real & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
RTOR Reduction (vph)	0	0	19	0	0	185	0	0	88	0	0	0
Lane Group Flow (vph)	77	147	3	111	161	34	42	1147	77	260	1210	0
Confl. Peds. (#/hr)			16			2			3			15
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.3	15.3	15.3	17.3	17.3	17.3	4.1	45.7	45.7	23.2	64.8	
Effective Green, g (s)	16.8	16.8	16.8	18.8	18.8	18.8	5.6	47.2	47.2	24.7	66.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.16	0.16	0.16	0.05	0.39	0.39	0.21	0.55	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	247	212	264	277	245	82	1397	615	365	2781	
v/s Ratio Prot	0.05	c0.08		0.07	c0.09		0.02	c0.32		c0.15	0.24	
v/s Ratio Perm			0.00			0.02			0.05			
v/c Ratio	0.33	0.60	0.01	0.42	0.58	0.14	0.51	0.82	0.12	0.71	0.44	
Uniform Delay, d1	46.3	48.2	44.2	45.4	46.7	43.4	55.6	32.4	23.0	44.1	15.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.8	0.0	1.1	3.1	0.3	5.3	4.0	0.1	6.4	0.1	
Delay (s)	47.1	52.0	44.2	46.5	49.8	43.7	60.9	36.4	23.1	50.5	15.7	
Level of Service	D	D	D	D	D	D	E	D	C	D	B	
Approach Delay (s)		49.7			46.3			35.5			21.9	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			32.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			119.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			75.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

59: Pacific Blvd & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		0.97		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	1.00		1.00	0.94	
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1544		1722		1770	1859		1770	1727	
Flt Permitted	0.95	0.95	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1544		1485		1770	1859		1770	1727	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	234	1	329	5	7	4	311	451	3	2	267	169
RTOR Reduction (vph)	0	0	273	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	118	56	0	16	0	311	454	0	2	436	0
Confl. Peds. (#/hr)			2			74			38			38
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	13.4	13.4	13.4		2.3		21.5	53.4		0.7	32.6	
Effective Green, g (s)	14.9	14.9	14.9		3.8		23.0	54.9		2.2	34.1	
Actuated g/C Ratio	0.17	0.17	0.17		0.04		0.26	0.63		0.03	0.39	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	285	286	262		64		463	1162		44	670	
v/s Ratio Prot	0.07	c0.07					c0.18	0.24		0.00	c0.25	
v/s Ratio Perm			0.04		c0.01							
v/c Ratio	0.41	0.41	0.21		0.25		0.67	0.39		0.05	0.65	
Uniform Delay, d1	32.5	32.5	31.4		40.6		29.0	8.2		41.8	22.0	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.0	0.4		2.1		3.8	0.2		0.4	2.3	
Delay (s)	33.5	33.5	31.8		42.7		32.8	8.4		42.2	24.2	
Level of Service	C	C	C		D		C	A		D	C	
Approach Delay (s)		32.5			42.7			18.3			24.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			87.8				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			71.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

60: Alameda De Las Pulgas & 20th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1551		1775	1551	1770	3431		1770	3532	
Flt Permitted		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1796	1551		1775	1551	1770	3431		1770	3532	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	30	11	59	1	172	13	544	118	347	714	8
RTOR Reduction (vph)	0	0	10	0	0	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	116	1	0	60	21	13	662	0	347	722	0
Confl. Peds. (#/hr)			9			9			11			7
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)		8.6	8.6		8.2	8.2	0.8	24.8		19.5	43.5	
Effective Green, g (s)		10.1	10.1		9.7	9.7	2.3	26.3		21.0	45.0	
Actuated g/C Ratio		0.13	0.13		0.12	0.12	0.03	0.33		0.27	0.57	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		229	198		217	190	51	1140		469	2009	
v/s Ratio Prot		c0.06			c0.03		0.01	c0.19		c0.20	0.20	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.51	0.01		0.28	0.11	0.25	0.58		0.74	0.36	
Uniform Delay, d1		32.2	30.1		31.5	30.9	37.6	21.8		26.6	9.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0		0.7	0.3	2.6	0.8		6.0	0.1	
Delay (s)		33.9	30.1		32.2	31.1	40.2	22.6		32.6	9.3	
Level of Service		C	C		C	C	D	C		C	A	
Approach Delay (s)		33.6			31.4			22.9			16.9	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay		21.4										
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		79.1										
Intersection Capacity Utilization		63.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

61: Hillsdale Blvd & Campus Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑	↑↑		↔	↔↔
Traffic Volume (vph)	195	929	562	51	103	437
Future Volume (vph)	195	929	562	51	103	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	2.5	2.5		2.5	2.5
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	3491		1770	2713
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	3491		1770	2713
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	929	562	51	103	437
RTOR Reduction (vph)	0	0	0	0	0	335
Lane Group Flow (vph)	195	929	613	0	103	102
Confl. Peds. (#/hr)				3		3
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	8.4	27.6	14.7		8.6	8.6
Effective Green, g (s)	9.9	29.6	16.7		10.6	10.6
Actuated g/C Ratio	0.22	0.65	0.37		0.23	0.23
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	751	2317	1289		415	636
v/s Ratio Prot	0.06	c0.26	c0.18		c0.06	
v/s Ratio Perm						0.04
v/c Ratio	0.26	0.40	0.48		0.25	0.16
Uniform Delay, d1	14.6	3.7	10.9		14.1	13.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.1	0.3		0.3	0.1
Delay (s)	14.8	3.8	11.2		14.4	13.9
Level of Service	B	A	B		B	B
Approach Delay (s)		5.7	11.2		14.0	
Approach LOS		A	B		B	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.40			
Actuated Cycle Length (s)			45.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			39.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

62: Bayshore Blvd & Peninsula Ave

10/18/2019

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↙	↑↑	↙	↗
Traffic Volume (vph)	646	350	215	833	246	72
Future Volume (vph)	646	350	215	833	246	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3318		1770	3539	1770	1555
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3318		1770	3539	1770	1555
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	646	350	215	833	246	72
RTOR Reduction (vph)	0	0	0	0	0	53
Lane Group Flow (vph)	996	0	215	833	246	19
Confl. Peds. (#/hr)		4				3
Confl. Bikes (#/hr)		4				3
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	18.2		9.7	32.4	12.6	12.6
Effective Green, g (s)	19.7		11.2	33.9	14.1	14.1
Actuated g/C Ratio	0.36		0.21	0.63	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1210		367	2221	462	406
v/s Ratio Prot	c0.30		c0.12	0.24	c0.14	
v/s Ratio Perm						0.01
v/c Ratio	0.82		0.59	0.38	0.53	0.05
Uniform Delay, d1	15.6		19.3	4.9	17.1	14.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7		2.4	0.1	1.2	0.0
Delay (s)	20.2		21.7	5.0	18.3	15.0
Level of Service	C		C	A	B	B
Approach Delay (s)	20.2			8.4	17.5	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			14.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.67			
Actuated Cycle Length (s)			54.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			64.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

63: Peninsula Ave/Coyote Point Dr & Airport Blvd

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	648	64	91	39	35	1136
Future Volume (vph)	648	64	91	39	35	1136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1863	1863	1540	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1863	1863	1540	1770	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	648	64	91	39	35	1136
RTOR Reduction (vph)	0	0	0	34	0	0
Lane Group Flow (vph)	648	64	91	5	35	1136
Confl. Peds. (#/hr)				19		21
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases				8		
Actuated Green, G (s)	16.1	28.0	7.4	7.4	34.8	55.4
Effective Green, g (s)	17.6	29.5	8.9	8.9	36.3	56.9
Actuated g/C Ratio	0.25	0.41	0.12	0.12	0.51	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	841	765	230	190	894	1254
v/s Ratio Prot	0.19	0.03	c0.05		0.02	c0.72
v/s Ratio Perm				0.00		
v/c Ratio	0.77	0.08	0.40	0.03	0.04	0.91
Uniform Delay, d1	25.2	12.9	29.0	27.6	9.0	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.0	1.1	0.1	0.0	9.5
Delay (s)	29.6	13.0	30.1	27.7	9.0	15.0
Level of Service	C	B	C	C	A	B
Approach Delay (s)		28.1	29.4		14.8	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			71.8		Sum of lost time (s)	9.0
Intersection Capacity Utilization			91.7%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

64: Airport Blvd & US 101 NB

10/18/2019



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	514	578	103	486	53
Future Volume (vph)	44	514	578	103	486	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (prot)	1770	1583	1681	1710	3482	
Flt Permitted	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (perm)	1770	1583	1681	1710	3482	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	514	578	103	486	53
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	44	514	335	346	539	0
Confl. Bikes (#/hr)		4				4
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	4 1	1	1	2	
Permitted Phases						
Actuated Green, G (s)	17.4	44.0	22.1	22.1	16.7	
Effective Green, g (s)	18.9	45.5	23.6	23.6	18.2	
Actuated g/C Ratio	0.27	0.65	0.34	0.34	0.26	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	479	1033	569	578	909	
v/s Ratio Prot	0.02	c0.32	0.20	c0.20	c0.15	
v/s Ratio Perm						
v/c Ratio	0.09	0.50	0.59	0.60	0.59	
Uniform Delay, d1	19.0	6.2	19.0	19.1	22.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.4	1.6	1.7	1.0	
Delay (s)	19.1	6.6	20.6	20.8	23.6	
Level of Service	B	A	C	C	C	
Approach Delay (s)	7.6			20.7	23.6	
Approach LOS	A			C	C	
Intersection Summary						
HCM 2000 Control Delay			17.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			69.7		Sum of lost time (s)	9.0
Intersection Capacity Utilization			53.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

65: Ellsworth Ave & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases	4			8			2			6		
Permitted Phases	4	8			2			6				
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)	0.0			0.0			0.0			0.0		
Approach LOS	A			A			A			A		
Intersection Summary												
HCM 2000 Control Delay	0.0			HCM 2000 Level of Service			A					
HCM 2000 Volume to Capacity ratio	0.00											
Actuated Cycle Length (s)	25.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	0.0%			ICU Level of Service			A					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

66: Claremont St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	43	438	61	26	261	10	45	63	25	46	53	47
Future Volume (vph)	43	438	61	26	261	10	45	63	25	46	53	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	43	438	61	26	261	10	45	63	25	46	53	47
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	542	297	133	146								
Volume Left (vph)	43	26	45	46								
Volume Right (vph)	61	10	25	47								
Hadj (s)	-0.02	0.03	-0.01	-0.10								
Departure Headway (s)	5.3	5.7	6.5	6.4								
Degree Utilization, x	0.80	0.47	0.24	0.26								
Capacity (veh/h)	658	580	486	500								
Control Delay (s)	26.1	13.7	11.6	11.7								
Approach Delay (s)	26.1	13.7	11.6	11.7								
Approach LOS	D	B	B	B								
Intersection Summary												
Delay				19.2								
Level of Service				C								
Intersection Capacity Utilization				56.4%	ICU Level of Service		B					
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

67: Fremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1347	11	0	0	0	0	71	97	208	91	0
Future Volume (vph)	20	1347	11	0	0	0	0	71	97	208	91	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.92			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		2228						891			1800	
Flt Permitted		1.00						1.00			0.65	
Satd. Flow (perm)		2228						891			1216	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1347	11	0	0	0	0	71	97	208	91	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	0	1377	0	0	0	0	0	143	0	0	299	0
Confl. Peds. (#/hr)	17		32						11			
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4								6			
Actuated Green, G (s)		41.7						20.7			20.7	
Effective Green, g (s)		42.2						21.2			21.2	
Actuated g/C Ratio		0.59						0.30			0.30	
Clearance Time (s)		4.5						4.5			4.5	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1316						264			361	
v/s Ratio Prot								0.16				
v/s Ratio Perm		0.62									c0.25	
v/c Ratio		1.05						0.54			0.83	
Uniform Delay, d1		14.6						21.0			23.4	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		37.9						2.3			14.4	
Delay (s)		52.5						23.3			37.8	
Level of Service		D						C			D	
Approach Delay (s)		52.5			0.0			23.3			37.8	
Approach LOS		D			A			C			D	
Intersection Summary												
HCM 2000 Control Delay		47.5						HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio		0.97										
Actuated Cycle Length (s)		71.4						Sum of lost time (s)		8.0		
Intersection Capacity Utilization		105.8%						ICU Level of Service		G		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

68: B St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	319	11	89	212	106	11	128	207	75	76	39
Future Volume (vph)	49	319	11	89	212	106	11	128	207	75	76	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.98		1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00		1.00	1.00		0.98	1.00		0.99	1.00	
Frt		1.00		1.00	0.95		1.00	0.91		1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1838		1761	1733		1730	1634		1744	1729	
Flt Permitted		0.92		0.57	1.00		0.68	1.00		0.51	1.00	
Satd. Flow (perm)		1708		1060	1733		1244	1634		943	1729	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	319	11	89	212	106	11	128	207	75	76	39
RTOR Reduction (vph)	0	2	0	0	27	0	0	114	0	0	26	0
Lane Group Flow (vph)	0	377	0	89	291	0	11	221	0	75	89	0
Confl. Peds. (#/hr)	19		40	10		46	30		37	27		49
Confl. Bikes (#/hr)			1			2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.7		12.7	12.7		10.0	10.0		10.0	10.0	
Effective Green, g (s)		13.2		13.2	13.2		10.5	10.5		10.5	10.5	
Actuated g/C Ratio		0.42		0.42	0.42		0.33	0.33		0.33	0.33	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		711		441	721		412	541		312	572	
v/s Ratio Prot					0.17			c0.14			0.05	
v/s Ratio Perm		c0.22		0.08			0.01			0.08		
v/c Ratio		0.53		0.20	0.40		0.03	0.41		0.24	0.16	
Uniform Delay, d1		6.9		5.9	6.5		7.2	8.2		7.7	7.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8		0.2	0.4		0.0	0.5		0.4	0.1	
Delay (s)		7.7		6.1	6.9		7.2	8.7		8.1	7.6	
Level of Service		A		A	A		A	A		A	A	
Approach Delay (s)		7.7			6.7			8.7			7.8	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		7.7										
HCM 2000 Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		31.7										
Intersection Capacity Utilization		78.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

70: El Camino Real & SR 92 WB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑↑	↔		↑↑↑	
Traffic Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0		4.0	
Lane Util. Factor				0.97		0.88		0.91	1.00		0.91	
Frpb, ped/bikes				1.00		0.98		1.00	0.96		0.98	
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	
Frt				1.00		0.85		1.00	0.85		0.96	
Flt Protected				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (prot)				3433		2728		5085	1525		4774	
Flt Permitted				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (perm)				3433		2728		5085	1525		4774	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	108	0	52	0
Lane Group Flow (vph)	0	0	0	392	0	718	0	1601	167	0	2013	0
Confl. Peds. (#/hr)						10			10			13
Turn Type				Prot		Perm		NA	Perm		NA	
Protected Phases				3				2			6	
Permitted Phases						3			2			
Actuated Green, G (s)				36.8		36.8		69.2	69.2		69.2	
Effective Green, g (s)				37.3		37.3		69.7	69.7		69.7	
Actuated g/C Ratio				0.32		0.32		0.61	0.61		0.61	
Clearance Time (s)				4.5		4.5		4.5	4.5		4.5	
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)				1113		884		3081	924		2893	
v/s Ratio Prot				0.11				0.31			c0.42	
v/s Ratio Perm						c0.26			0.11			
v/c Ratio				0.35		0.81		0.52	0.18		0.70	
Uniform Delay, d1				29.6		35.6		13.0	10.0		15.4	
Progression Factor				1.00		1.00		1.00	1.00		1.00	
Incremental Delay, d2				0.2		5.7		0.6	0.4		1.4	
Delay (s)				29.8		41.4		13.7	10.4		16.8	
Level of Service				C		D		B	B		B	
Approach Delay (s)		0.0			37.3			13.2			16.8	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.0				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			115.0				Sum of lost time (s)		8.0			
Intersection Capacity Utilization			63.8%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

71: El Camino Real & SR 92 EB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		0.88					0.91			0.91	1.00
Frpb, ped/bikes	1.00		0.96					0.98			1.00	0.95
Flpb, ped/bikes	1.00		1.00					1.00			1.00	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		2673					4806			5085	1508
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		2673					4806			5085	1508
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	77
Lane Group Flow (vph)	346	0	201	0	0	0	0	2052	0	0	1493	307
Confl. Peds. (#/hr)			14						9			14
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			7									6
Actuated Green, G (s)	19.6		19.6					111.4			111.4	111.4
Effective Green, g (s)	20.1		20.1					111.9			111.9	111.9
Actuated g/C Ratio	0.14		0.14					0.80			0.80	0.80
Clearance Time (s)	4.5		4.5					4.5			4.5	4.5
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	492		383					3841			4064	1205
v/s Ratio Prot	c0.10							c0.43			0.29	
v/s Ratio Perm			0.08									0.20
v/c Ratio	0.70		0.52					0.53			0.37	0.25
Uniform Delay, d1	57.1		55.5					4.9			4.0	3.5
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.5		1.3					0.5			0.3	0.5
Delay (s)	61.6		56.8					5.5			4.2	4.1
Level of Service	E		E					A			A	A
Approach Delay (s)		59.9			0.0			5.5			4.2	
Approach LOS		E			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.6					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			140.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			58.1%					ICU Level of Service			B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

72: Delaware St & Sunnybrae Blvd

10/18/2019

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	15	487	95	17	369
Future Volume (Veh/h)	26	15	487	95	17	369
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	15	487	95	17	369
Pedestrians	15		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	954	550			597	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	954	550			597	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	97			98	
cM capacity (veh/h)	278	527			966	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	26	15	582	386		
Volume Left	26	0	0	17		
Volume Right	0	15	95	0		
cSH	278	527	1700	966		
Volume to Capacity	0.09	0.03	0.34	0.02		
Queue Length 95th (ft)	8	2	0	1		
Control Delay (s)	19.3	12.0	0.0	0.6		
Lane LOS	C	B		A		
Approach Delay (s)	16.6		0.0	0.6		
Approach LOS	C					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			43.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

73: Delaware St & 16th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop				Stop			Stop			Stop	
Traffic Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15
Future Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	30	213	21	23	13	161	551	16	14	364	15
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	16	243	57	161	567	14	379					
Volume Left (vph)	16	0	21	161	0	14	0					
Volume Right (vph)	0	213	13	0	16	0	15					
Hadj (s)	0.53	-0.58	-0.03	0.53	0.01	0.53	0.01					
Departure Headway (s)	8.1	7.0	8.1	6.9	6.4	7.3	6.8					
Degree Utilization, x	0.04	0.47	0.13	0.31	1.00	0.03	0.71					
Capacity (veh/h)	431	503	415	511	567	481	521					
Control Delay (s)	10.2	14.9	12.2	11.7	61.7	9.3	23.8					
Approach Delay (s)	14.6		12.2	50.7		23.3						
Approach LOS	B		B	F		C						
Intersection Summary												
Delay			35.1									
Level of Service			E									
Intersection Capacity Utilization			65.2%	ICU Level of Service				C				
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

74: Delaware St & Charles Ln

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔		↗	↑	↖	↗	↖	
Traffic Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.94			0.97		1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes		0.99			1.00		0.98	1.00	1.00	0.99	1.00	
Frt		0.91			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1563			1672		1741	1863	1492	1749	1857	
Flt Permitted		0.92			0.78		0.39	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1464			1347		722	1863	1492	710	1857	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	0	11	50	0	20	4	654	68	37	629	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	70	0	4	654	68	37	637	0
Confl. Peds. (#/hr)	10		17	1		27	16		18	17		26
Confl. Bikes (#/hr)			3			7			8			3
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		9.1			9.1		81.9	81.9	81.9	81.9	81.9	
Effective Green, g (s)		9.6			9.6		82.4	82.4	82.4	82.4	82.4	
Actuated g/C Ratio		0.10			0.10		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		140			129		594	1535	1229	585	1530	
v/s Ratio Prot								c0.35				0.34
v/s Ratio Perm		0.01			c0.05		0.01		0.05	0.05		
v/c Ratio		0.12			0.54		0.01	0.43	0.06	0.06	0.42	
Uniform Delay, d1		41.3			43.1		1.6	2.4	1.6	1.6	2.4	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			4.6		0.0	0.9	0.1	0.2	0.8	
Delay (s)		41.7			47.7		1.6	3.3	1.7	1.8	3.2	
Level of Service		D			D		A	A	A	A	A	
Approach Delay (s)		41.7			47.7			3.1			3.1	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay			5.7				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.44									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			55.3%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

75: Delaware St & Bermuda Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		0.97			1.00	0.94		0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.98			1.00	0.85		0.97			1.00	
Flt Protected		0.97			0.95	1.00		1.00			1.00	
Satd. Flow (prot)		1709			1775	1486		3366			3507	
Flt Permitted		0.97			0.95	1.00		0.95			0.84	
Satd. Flow (perm)		1709			1775	1486		3214			2940	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	12	2	3	238	4	56	1	863	238	37	479	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	242	56	0	1102	0	0	527	0
Confl. Peds. (#/hr)			30			13	14		29	13		14
Confl. Bikes (#/hr)			14			7			11			6
Turn Type	Split	NA		Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		1.6			18.6	18.6		46.3			46.3	
Effective Green, g (s)		2.1			19.1	19.1		46.8			46.8	
Actuated g/C Ratio		0.03			0.24	0.24		0.58			0.58	
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		44			423	354		1880			1719	
v/s Ratio Prot		c0.01			c0.14							
v/s Ratio Perm						0.04		c0.34			0.18	
v/c Ratio		0.39			0.57	0.16		0.59			0.31	
Uniform Delay, d1		38.3			26.8	24.1		10.5			8.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		5.6			1.9	0.2		1.3			0.5	
Delay (s)		43.9			28.7	24.3		11.8			8.9	
Level of Service		D			C	C		B			A	
Approach Delay (s)		43.9			27.9			11.8			8.9	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM 2000 Control Delay		13.8										
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		65.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

76: Ginnever St & Bermuda Dr

10/18/2019

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Sign Control	Stop			Stop			Stop			Stop								
Traffic Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Future Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Hourly flow rate (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2												
Volume Total (vph)	248	33	58	23	104	256												
Volume Left (vph)	186	0	0	6	84	0												
Volume Right (vph)	4	0	58	0	0	256												
Hadj (s)	0.17	0.03	-0.67	0.09	0.44	-0.67												
Departure Headway (s)	5.7	5.8	5.1	6.0	5.9	4.8												
Degree Utilization, x	0.39	0.05	0.08	0.04	0.17	0.34												
Capacity (veh/h)	600	571	647	548	578	713												
Control Delay (s)	12.4	8.0	7.4	9.3	8.9	9.1												
Approach Delay (s)	12.4	7.6		9.3	9.1													
Approach LOS	B	A		A	A													
Intersection Summary																		
Delay	10.0																	
Level of Service	B																	
Intersection Capacity Utilization	44.0%			ICU Level of Service			A											
Analysis Period (min)	15																	

HCM Signalized Intersection Capacity Analysis

77: 19th Ave & YMCA Dwy

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.87		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.96	
Satd. Flow (prot)	1770	1851		1770	1832			1763	1373		1758	
Flt Permitted	0.42	1.00		0.19	1.00			0.69	1.00		0.74	
Satd. Flow (perm)	784	1851		345	1832			1283	1373		1351	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	756	24	17	395	40	36	0	30	130	8	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	4	780	0	17	435	0	0	36	30	0	152	0
Confl. Peds. (#/hr)			15	13			2		13			2
Confl. Bikes (#/hr)			4			13			4			13
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	68.9	68.9		68.9	68.9			42.1	42.1		42.1	
Effective Green, g (s)	69.4	69.4		69.4	69.4			42.6	42.6		42.6	
Actuated g/C Ratio	0.58	0.58		0.58	0.58			0.36	0.36		0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	453	1070		199	1059			455	487		479	
v/s Ratio Prot		c0.42			0.24							
v/s Ratio Perm	0.01			0.05				0.03	0.02		c0.11	
v/c Ratio	0.01	0.73		0.09	0.41			0.08	0.06		0.32	
Uniform Delay, d1	10.7	18.4		11.2	14.0			25.7	25.5		28.1	
Progression Factor	1.00	1.00		0.88	0.74			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.5		0.2	0.3			0.3	0.2		1.7	
Delay (s)	10.7	21.0		10.0	10.6			26.0	25.8		29.9	
Level of Service	B	C		B	B			C	C		C	
Approach Delay (s)		20.9			10.6			25.9			29.9	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		18.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		77.1%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

88: Humboldt St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	151	64	5	0	21	6	4	20	0	12	29	86
Future Volume (vph)	151	64	5	0	21	6	4	20	0	12	29	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	151	64	5	0	21	6	4	20	0	12	29	86
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	220	27	24	127								
Volume Left (vph)	151	0	4	12								
Volume Right (vph)	5	6	0	86								
Hadj (s)	0.16	-0.10	0.07	-0.35								
Departure Headway (s)	4.4	4.4	4.7	4.2								
Degree Utilization, x	0.27	0.03	0.03	0.15								
Capacity (veh/h)	789	771	716	810								
Control Delay (s)	9.1	7.5	7.8	7.9								
Approach Delay (s)	9.1	7.5	7.8	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.5								
Level of Service				A								
Intersection Capacity Utilization				35.2%	ICU Level of Service	A						
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

111: Fremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	57	853	238	10	74	0	0	244	30
Future Volume (vph)	0	0	0	57	853	238	10	74	0	0	244	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	2500	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frbp, ped/bikes					1.00	0.92		1.00			0.99	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					1.00	1.00		0.99			1.00	
Satd. Flow (prot)					1850	1464		973			2399	
Flt Permitted					1.00	1.00		0.95			1.00	
Satd. Flow (perm)					1850	1464		927			2399	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	57	853	238	10	74	0	0	244	30
RTOR Reduction (vph)	0	0	0	0	0	88	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	910	150	0	84	0	0	267	0
Confl. Peds. (#/hr)				38		36	25					51
Confl. Bikes (#/hr)						3						3
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					34.3	34.3		11.8			11.8	
Effective Green, g (s)					34.8	34.8		12.3			12.3	
Actuated g/C Ratio					0.63	0.63		0.22			0.22	
Clearance Time (s)					4.5	4.5		4.5			4.5	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1168	924		206			535	
v/s Ratio Prot											c0.11	
v/s Ratio Perm					0.49	0.10		0.09				
v/c Ratio					0.78	0.16		0.41			0.50	
Uniform Delay, d1					7.4	4.2		18.3			18.7	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					3.4	0.1		1.3			0.7	
Delay (s)					10.7	4.3		19.6			19.4	
Level of Service					B	A		B			B	
Approach Delay (s)		0.0			9.4			19.6			19.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			11.8		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			55.1		Sum of lost time (s)						8.0	
Intersection Capacity Utilization			78.0%		ICU Level of Service						D	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

113: US 101 SB

10/18/2019

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Volume (vph)	584	0	0	0	0	0
Future Volume (vph)	584	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					
Lane Util. Factor	0.95					
Frt	1.00					
Flt Protected	1.00					
Satd. Flow (prot)	3539					
Flt Permitted	1.00					
Satd. Flow (perm)	3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	584	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	584	0	0	0	0	0
Turn Type	NA					Perm
Protected Phases	4					
Permitted Phases						2
Actuated Green, G (s)	1.0					
Effective Green, g (s)	19.0					
Actuated g/C Ratio	0.67					
Clearance Time (s)	22.0					
Lane Grp Cap (vph)	2359					
v/s Ratio Prot	c0.17					
v/s Ratio Perm						
v/c Ratio	0.25					
Uniform Delay, d1	1.9					
Progression Factor	1.00					
Incremental Delay, d2	0.3					
Delay (s)	2.1					
Level of Service	A					
Approach Delay (s)	2.1			0.0	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		2.1		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.21				
Actuated Cycle Length (s)		28.5		Sum of lost time (s)		6.0
Intersection Capacity Utilization		19.5%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Intersection has too many legs for HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

137: Curtiss St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Ideal Flow (vphpl)	1900	1270	1900	1900	1900	1900	1900	1100	1100	1900	1300	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.95	
Flt Protected		1.00			1.00			0.97	1.00		0.98	
Satd. Flow (prot)		2346			3516			1044	890		1170	
Flt Permitted		0.95			0.95			0.83	1.00		0.88	
Satd. Flow (perm)		2238			3342			897	890		1054	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	25	0	9	0
Lane Group Flow (vph)	0	1049	0	0	866	0	0	58	19	0	22	0
Confl. Peds. (#/hr)	14		12	12		14	4		24	24		4
Confl. Bikes (#/hr)			1			1			1			
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		31.1			31.1			10.9	10.9		10.9	
Effective Green, g (s)		31.6			31.6			11.4	11.4		11.4	
Actuated g/C Ratio		0.62			0.62			0.22	0.22		0.22	
Clearance Time (s)		4.5			4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1386			2070			200	198		235	
v/s Ratio Prot												
v/s Ratio Perm		c0.47			0.26			c0.06	0.02		0.02	
v/c Ratio		0.76			0.42			0.29	0.10		0.10	
Uniform Delay, d1		6.9			5.0			16.4	15.7		15.7	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.9			0.6			0.8	0.2		0.2	
Delay (s)		10.8			5.6			17.2	15.9		15.9	
Level of Service		B			A			B	B		B	
Approach Delay (s)		10.8			5.6			16.7			15.9	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			9.0			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			51.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			73.6%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

188: Hillsdale EB Off-Ramp & Hillsdale Blvd

10/18/2019

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)	902			317		
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1622		1023	1084
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

202: Claremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	127	67	51	486	35	34	119	33	16	124	30
Future Volume (vph)	10	127	67	51	486	35	34	119	33	16	124	30
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1900	2500	1900	1900	1000	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.93			0.99			0.96			0.98	
Flpb, ped/bikes		1.00			0.99			1.00			0.99	
Frt		0.96			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		869			4496			2260			929	
Flt Permitted		0.97			0.91			0.93			0.97	
Satd. Flow (perm)		844			4103			2111			901	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	127	67	51	486	35	34	119	33	16	124	30
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	204	0	0	572	0	0	186	0	0	170	0
Confl. Peds. (#/hr)	44		77	54		80	23		90	36		67
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.5			38.5			26.5			26.5	
Effective Green, g (s)		42.0			42.0			30.0			30.0	
Actuated g/C Ratio		0.52			0.52			0.38			0.38	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		443			2154			791			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			0.09			c0.19	
v/c Ratio		0.46			0.27			0.24			0.50	
Uniform Delay, d1		11.9			10.5			17.1			19.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.4			0.3			0.2			5.3	
Delay (s)		15.3			10.8			17.3			24.6	
Level of Service		B			B			B			C	
Approach Delay (s)		15.3			10.8			17.3			24.6	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay		14.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		66.1%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: Saratoga Dr & Hillsdale EB Off-Ramp

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Future Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes		1.00	0.93	1.00		0.98		1.00			1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00			1.00	
Frt		1.00	0.85	1.00		0.85		1.00			1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00			0.99	
Satd. Flow (prot)		1810	1479	1770		1557		3518			3492	
Flt Permitted		0.97	1.00	0.75		1.00		1.00			0.54	
Satd. Flow (perm)		1810	1479	1390		1557		3518			1919	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	7	7	9	0	75	0	380	10	109	293	0
RTOR Reduction (vph)	0	0	5	0	0	55	0	2	0	0	0	0
Lane Group Flow (vph)	0	17	2	9	0	20	0	388	0	0	402	0
Confl. Peds. (#/hr)			18			3			30			
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		2						8			4 1	
Permitted Phases	2		2	2		2			4 1			
Actuated Green, G (s)		36.2	36.2	36.2		36.2		24.5			61.0	
Effective Green, g (s)		37.0	37.0	37.0		37.0		25.2			62.6	
Actuated g/C Ratio		0.26	0.26	0.26		0.26		0.18			0.45	
Clearance Time (s)		4.8	4.8	4.8		4.8		4.7				
Vehicle Extension (s)		6.0	6.0	6.0		6.0		4.0				
Lane Grp Cap (vph)		478	390	367		411		633			858	
v/s Ratio Prot								c0.11				
v/s Ratio Perm		0.01	0.00	0.01		c0.01					c0.21	
v/c Ratio		0.04	0.00	0.02		0.05		0.61			0.47	
Uniform Delay, d1		38.2	37.9	38.1		38.4		52.9			27.1	
Progression Factor		1.00	1.00	1.00		1.00		1.00			0.38	
Incremental Delay, d2		0.1	0.0	0.1		0.2		2.0			0.8	
Delay (s)		38.4	38.0	38.3		38.6		54.9			11.1	
Level of Service		D	D	D		D		D			B	
Approach Delay (s)		38.3			38.6			54.9			11.1	
Approach LOS		D			D			D			B	
Intersection Summary												
HCM 2000 Control Delay			33.4									
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			140.0								18.1	
Intersection Capacity Utilization			75.3%								D	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

215: El Camino Real & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	148	68	130	118	85	95	1678	237	96	1392	91
Future Volume (vph)	55	148	68	130	118	85	95	1678	237	96	1392	91
Ideal Flow (vphpl)	2000	2500	1900	2500	2500	1900	1900	1350	1900	2500	2500	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.97		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.96	1.00		0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1789	2269		2237	2238		1770	3467		2328	6563	
Flt Permitted	0.42	1.00		0.39	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	790	2269		909	2238		1770	3467		2328	6563	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	55	148	68	130	118	85	95	1678	237	96	1392	91
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	55	216	0	130	203	0	95	1915	0	96	1483	0
Confl. Peds. (#/hr)	72		90	69		51			69			72
Confl. Bikes (#/hr)			3			8			4			7
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	12.6	12.6		12.6	12.6		8.1	45.7		7.2	44.8	
Effective Green, g (s)	13.1	13.1		13.1	13.1		8.6	46.2		7.7	45.3	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.11	0.58		0.10	0.57	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	131	376		150	371		192	2027		226	3763	
v/s Ratio Prot		0.10			0.09		c0.05	c0.55		0.04	0.23	
v/s Ratio Perm	0.07			c0.14								
v/c Ratio	0.42	0.57		0.87	0.55		0.49	0.94		0.42	0.39	
Uniform Delay, d1	29.5	30.4		32.1	30.2		33.2	15.2		33.6	9.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.2	2.1		37.3	1.7		2.0	10.6		1.3	0.3	
Delay (s)	31.7	32.5		69.4	31.9		35.2	25.9		34.9	9.6	
Level of Service	C	C		E	C		D	C		C	A	
Approach Delay (s)		32.3			46.5			26.3			11.1	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay	22.6			HCM 2000 Level of Service			C					
HCM 2000 Volume to Capacity ratio	0.88											
Actuated Cycle Length (s)	79.0			Sum of lost time (s)			12.0					
Intersection Capacity Utilization	99.4%			ICU Level of Service			F					
Analysis Period (min)	15											
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

216: Claremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	636	28	6	96	21	6	124	51	119	121	25
Future Volume (vph)	22	636	28	6	96	21	6	124	51	119	121	25
Ideal Flow (vphpl)	1900	1100	2500	1900	1000	1900	1000	1000	1000	1900	1000	1900
Lane Width	10	10	10	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.98			0.97			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.98	
Frt		0.99			0.98			0.96			0.99	
Flt Protected		1.00			1.00			1.00			0.98	
Satd. Flow (prot)		1888			934			910			925	
Flt Permitted		0.94			0.96			0.99			0.78	
Satd. Flow (perm)		1784			902			902			739	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	636	28	6	96	21	6	124	51	119	121	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	686	0	0	123	0	0	181	0	0	265	0
Confl. Peds. (#/hr)	6		41	36		42	5		72	36		11
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.5			29.5			35.5			35.5	
Effective Green, g (s)		31.0			31.0			37.0			37.0	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		691			349			417			341	
v/s Ratio Prot												
v/s Ratio Perm		c0.38			0.14			0.20			c0.36	
v/c Ratio		0.99			0.35			0.43			0.78	
Uniform Delay, d1		24.4			17.4			14.5			18.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		32.3			0.6			3.3			15.9	
Delay (s)		56.6			18.0			17.7			33.9	
Level of Service		E			B			B			C	
Approach Delay (s)		56.6			18.0			17.7			33.9	
Approach LOS		E			B			B			C	
Intersection Summary												
HCM 2000 Control Delay		42.4			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.87										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		99.4%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

217: Claremont St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	55	325	23	30	250	19	13	126	27	29	113	24
Future Volume (vph)	55	325	23	30	250	19	13	126	27	29	113	24
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Hourly flow rate (vph)	71	417	29	38	313	24	19	180	39	36	141	30
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	517	375	238	207								
Volume Left (vph)	71	38	19	36								
Volume Right (vph)	29	24	39	30								
Hadj (s)	0.03	0.02	-0.05	-0.02								
Departure Headway (s)	6.7	7.0	7.6	7.8								
Degree Utilization, x	0.96	0.73	0.50	0.45								
Capacity (veh/h)	526	499	443	422								
Control Delay (s)	54.5	26.5	18.1	16.9								
Approach Delay (s)	54.5	26.5	18.1	16.9								
Approach LOS	F	D	C	C								
Intersection Summary												
Delay				34.4								
Level of Service				D								
Intersection Capacity Utilization				54.3%	ICU Level of Service		A					
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

219: Humboldt St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	47	9	1	15	41	6	181	7	20	146	53
Future Volume (vph)	94	47	9	1	15	41	6	181	7	20	146	53
Ideal Flow (vphpl)	1900	1300	1900	1900	1800	1900	1900	1450	1900	1900	2500	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.92			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.90			1.00			0.97	
Flt Protected		0.97			1.00			1.00			1.00	
Satd. Flow (prot)		1222			1467			1409			2334	
Flt Permitted		0.97			1.00			1.00			1.00	
Satd. Flow (perm)		1222			1467			1409			2334	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	94	47	9	1	15	41	6	181	7	20	146	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	150	0	0	57	0	0	194	0	0	219	0
Confl. Peds. (#/hr)	6		6	9		9	6		9	9		6
Confl. Bikes (#/hr)						1						
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		2.1			0.4			2.1			2.1	
Effective Green, g (s)		2.1			0.4			2.1			2.1	
Actuated g/C Ratio		0.11			0.02			0.11			0.11	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		137			31			158			262	
v/s Ratio Prot		c0.12			c0.04			c0.14			c0.09	
v/s Ratio Perm												
v/c Ratio		1.09			1.84			1.23			0.84	
Uniform Delay, d1		8.3			9.2			8.3			8.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		104.6			477.9			145.7			20.0	
Delay (s)		112.9			487.1			154.0			28.2	
Level of Service		F			F			F			C	
Approach Delay (s)		112.9			487.1			154.0			28.2	
Approach LOS		F			F			F			C	
Intersection Summary												
HCM 2000 Control Delay		130.2										
HCM 2000 Volume to Capacity ratio		1.10										
Actuated Cycle Length (s)		18.7										
Intersection Capacity Utilization		40.9%										
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

223: Saratoga Dr & Poinsettia Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Future Volume (Veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	118	4	5	1	2	24	5	260	3	38	232	34
Pedestrians		8			28			5			8	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											297	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	506	634	262	636	650	168	274			291		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	418	557	152	560	574	168	165			291		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	99	99	100	99	97	100			97		
cM capacity (veh/h)	431	374	786	342	366	818	1286			1234		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	127	27	135	133	304							
Volume Left	118	1	5	0	38							
Volume Right	5	24	0	3	34							
cSH	436	716	1286	1700	1234							
Volume to Capacity	0.29	0.04	0.00	0.08	0.03							
Queue Length 95th (ft)	30	3	0	0	2							
Control Delay (s)	16.6	10.2	0.3	0.0	1.3							
Lane LOS	C	B	A		A							
Approach Delay (s)	16.6	10.2	0.2		1.3							
Approach LOS	C	B										
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			51.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

226: El Camino Real & 9th Ave

10/18/2019

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	142	1806	166	149	1533
Future Volume (vph)	146	142	1806	166	149	1533
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	0.95	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1507	5001		1770	5085
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1507	5001		1770	5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	142	1806	166	149	1533
RTOR Reduction (vph)	0	118	10	0	0	0
Lane Group Flow (vph)	146	24	1962	0	149	1533
Confl. Peds. (#/hr)	2	21		15		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	10.9	10.9	31.7		10.9	47.1
Effective Green, g (s)	11.4	11.4	32.2		11.4	47.6
Actuated g/C Ratio	0.17	0.17	0.48		0.17	0.71
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	301	256	2403		301	3612
v/s Ratio Prot	c0.08		c0.39		c0.08	0.30
v/s Ratio Perm		0.02				
v/c Ratio	0.49	0.09	0.82		0.50	0.42
Uniform Delay, d1	25.1	23.4	14.9		25.2	4.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.2	2.3		1.3	0.1
Delay (s)	26.4	23.6	17.1		26.5	4.1
Level of Service	C	C	B		C	A
Approach Delay (s)	25.0		17.1			6.1
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			13.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			67.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			65.1%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

228: 5th Ave & Ellsworth Ave

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	325	234	27	32	120
Future Volume (Veh/h)	45	325	234	27	32	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	45	325	234	27	32	120
Pedestrians		36	22		36	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	2		3	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		366	310			
pX, platoon unblocked					1.00	
vC, conflicting volume	297				720	320
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	297				719	320
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				91	82
cM capacity (veh/h)	1221				359	673
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	370	261	152			
Volume Left	45	0	32			
Volume Right	0	27	120			
cSH	1221	1700	568			
Volume to Capacity	0.04	0.15	0.27			
Queue Length 95th (ft)	3	0	27			
Control Delay (s)	1.3	0.0	13.6			
Lane LOS	A		B			
Approach Delay (s)	1.3	0.0	13.6			
Approach LOS			B			
Intersection Summary						
Average Delay			3.3			
Intersection Capacity Utilization			56.6%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

229: 5th Ave & Idaho St

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				0.0%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

231: Fremont St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	80	149	5	0	103	21	13	67	3	11	56	34
Future Volume (vph)	80	149	5	0	103	21	13	67	3	11	56	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	80	149	5	0	103	21	13	67	3	11	56	34
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	234	124	83	101								
Volume Left (vph)	80	0	13	11								
Volume Right (vph)	5	21	3	34								
Hadj (s)	0.09	-0.07	0.04	-0.15								
Departure Headway (s)	4.6	4.6	4.9	4.7								
Degree Utilization, x	0.30	0.16	0.11	0.13								
Capacity (veh/h)	743	739	673	699								
Control Delay (s)	9.6	8.4	8.6	8.4								
Approach Delay (s)	9.6	8.4	8.6	8.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.9								
Level of Service				A								
Intersection Capacity Utilization				41.7%	ICU Level of Service		A					
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

237: US 101 SB Off Diag & Idaho St

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↩			↩
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		382				
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	WB 1	SB 1				
Volume Total	0	0				
Volume Left	0	0				
Volume Right	0	0				
cSH	1700	1700				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS		A				
Approach Delay (s)	0.0	0.0				
Approach LOS		A				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

HCM Signalized Intersection Capacity Analysis

245: US 101 NB On Diag

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations		↰	↰					↰
Traffic Volume (vph)	0	0	657	0	0	0	0	572
Future Volume (vph)	0	0	657	0	0	0	0	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0					4.0
Lane Util. Factor			1.00					1.00
Frt			1.00					0.86
Flt Protected			1.00					1.00
Satd. Flow (prot)			1863					1611
Flt Permitted			1.00					1.00
Satd. Flow (perm)			1863					1611
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	657	0	0	0	0	572
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	657	0	0	0	0	572
Turn Type		Perm	NA					Perm
Protected Phases			2					
Permitted Phases		4						3
Actuated Green, G (s)			1.0					1.0
Effective Green, g (s)			1.0					1.0
Actuated g/C Ratio			0.06					0.06
Clearance Time (s)			4.0					4.0
Lane Grp Cap (vph)			120					103
v/s Ratio Prot			c0.35					
v/s Ratio Perm								c0.35
v/c Ratio			5.47					5.55
Uniform Delay, d1			7.2					7.2
Progression Factor			1.00					1.00
Incremental Delay, d2			2031.9					2070.1
Delay (s)			2039.2					2077.4
Level of Service			F					F
Approach Delay (s)	0.0		2039.2			0.0	2077.4	
Approach LOS	A		F			A	F	
Intersection Summary								
HCM 2000 Control Delay			2057.0			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.99					
Actuated Cycle Length (s)			15.5			Sum of lost time (s)		10.0
Intersection Capacity Utilization			83.3%			ICU Level of Service		E
Analysis Period (min)			15					
c Critical Lane Group								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

251:

10/18/2019

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	298
Future Volume (vph)	0	0	0	0	0	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0
Lane Util. Factor						1.00
Frt						1.00
Flt Protected						1.00
Satd. Flow (prot)						1863
Flt Permitted						1.00
Satd. Flow (perm)						1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	298
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	298
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Actuated Green, G (s)						1.1
Effective Green, g (s)						1.5
Actuated g/C Ratio						0.14
Clearance Time (s)						4.4
Lane Grp Cap (vph)						254
v/s Ratio Prot						c0.16
v/s Ratio Perm						
v/c Ratio						1.17
Uniform Delay, d1						4.8
Progression Factor						1.00
Incremental Delay, d2						111.5
Delay (s)						116.3
Level of Service						F
Approach Delay (s)	0.0		0.0			116.3
Approach LOS	A		A			F
Intersection Summary						
HCM 2000 Control Delay			116.3	HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			11.0	Sum of lost time (s)		8.0
Intersection Capacity Utilization			58.5%	ICU Level of Service		B
Analysis Period (min)			15			
c Critical Lane Group						

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

255: Norfolk St & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Future Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	167	82	359	160								
Volume Left (vph)	2	41	78	2								
Volume Right (vph)	163	2	117	21								
Hadj (s)	-0.55	0.12	-0.12	-0.04								
Departure Headway (s)	4.7	5.5	4.6	5.0								
Degree Utilization, x	0.22	0.13	0.46	0.22								
Capacity (veh/h)	681	576	743	672								
Control Delay (s)	9.1	9.3	11.6	9.4								
Approach Delay (s)	9.1	9.3	11.6	9.4								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay				10.3								
Level of Service				B								
Intersection Capacity Utilization				60.3%	ICU Level of Service		B					
Analysis Period (min)				15								

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	784	250	68	592	11	344	0	4	11	47	29
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1422	636	154	1512	28	687	0	303	21	89	55
Arrive On Green	0.06	0.40	0.40	0.09	0.43	0.43	0.19	0.00	0.19	0.10	0.10	0.10
Sat Flow, veh/h	1774	3539	1582	1774	3554	66	3548	0	1566	220	938	579
Grp Volume(v), veh/h	32	784	250	68	295	308	344	0	4	87	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1850	1774	0	1566	1737	0	0
Q Serve(g_s), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.13		0.33
Lane Grp Cap(c), veh/h	112	1422	636	154	753	787	687	0	303	166	0	0
V/C Ratio(X)	0.29	0.55	0.39	0.44	0.39	0.39	0.50	0.00	0.01	0.53	0.00	0.00
Avail Cap(c_a), veh/h	214	2657	1188	263	1378	1440	2072	0	914	258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	12.4	11.5	23.4	10.7	10.7	19.4	0.0	17.6	23.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.4	2.0	0.3	0.3	0.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	2.7	1.0	3.0	3.2	2.3	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	25.5	12.7	11.9	25.3	11.0	11.0	20.0	0.0	17.6	25.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h	1066				671				348		87	
Approach Delay, s/veh	12.9				12.5				20.0		25.8	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.4		7.7	24.7	8.1		6.4	26.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	30.0		6.5	39.0	6.5		5.0	40.5				
Max Q Clear Time (g_c+I1), s	6.7		4.0	11.2	4.6		2.9	8.2				
Green Ext Time (p_c), s	1.2		0.0	7.2	0.1		0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	14.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	561	275	464	342	7	129	12	48	12	222	49
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1089	458	677	1474	30	284	52	207	307	499	108
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1774	3725	1567	3442	3547	72	1774	322	1290	1774	2886	624
Grp Volume(v), veh/h	63	561	275	464	170	179	129	0	60	12	134	137
Grp Sat Flow(s),veh/h/ln	1774	1863	1567	1721	1770	1849	1774	0	1612	1774	1770	1740
Q Serve(g_s), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Cycle Q Clear(g_c), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	131	1089	458	677	735	769	284	0	258	307	306	301
V/C Ratio(X)	0.48	0.51	0.60	0.69	0.23	0.23	0.45	0.00	0.23	0.04	0.44	0.45
Avail Cap(c_a), veh/h	604	2042	859	1173	970	1014	972	0	884	815	813	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	19.9	20.5	25.2	12.8	12.8	25.7	0.0	24.7	23.2	25.0	25.1
Incr Delay (d2), s/veh	2.7	0.4	1.3	1.2	0.2	0.2	1.1	0.0	0.5	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.4	4.5	4.1	2.1	2.2	2.3	0.0	1.0	0.2	2.3	2.4
LnGrp Delay(d),s/veh	32.8	20.3	21.8	26.4	12.9	12.9	26.8	0.0	25.2	23.3	26.0	26.1
LnGrp LOS	C	C	C	C	B	B	C		C	C	C	C
Approach Vol, veh/h		899			813			189			283	
Approach Delay, s/veh		21.6			20.6			26.3			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.8	16.3	22.7		14.7	8.0	31.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		6.4	10.4	12.2		6.8	4.3	6.2				
Green Ext Time (p_c), s		1.1	1.3	5.0		1.6	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	530	384	239	293	16	160	116	148	70	447	109
Adj No. of Lanes	1	2	1	2	2	0	1	1	2	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1144	505	400	1179	64	232	640	1069	124	796	193
Arrive On Green	0.09	0.32	0.32	0.12	0.35	0.35	0.13	0.34	0.34	0.07	0.28	0.28
Sat Flow, veh/h	1774	3539	1563	3442	3410	185	1774	1863	3109	1774	2817	681
Grp Volume(v), veh/h	104	530	384	239	151	158	160	116	148	70	279	277
Grp Sat Flow(s),veh/h/ln	1774	1770	1563	1721	1770	1826	1774	1863	1554	1774	1770	1729
Q Serve(g_s), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Cycle Q Clear(g_c), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	166	1144	505	400	612	631	232	640	1069	124	500	489
V/C Ratio(X)	0.63	0.46	0.76	0.60	0.25	0.25	0.69	0.18	0.14	0.57	0.56	0.57
Avail Cap(c_a), veh/h	478	1388	613	928	694	716	631	799	1334	631	759	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	22.0	24.8	34.2	19.1	19.1	33.9	18.7	18.4	36.8	24.9	25.0
Incr Delay (d2), s/veh	3.8	0.3	4.5	1.4	0.2	0.2	3.6	0.1	0.1	4.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.8	8.3	2.6	2.5	2.6	3.7	1.9	1.2	1.7	5.5	5.4
LnGrp Delay(d),s/veh	39.4	22.3	29.3	35.7	19.3	19.3	37.5	18.9	18.5	40.8	25.9	26.0
LnGrp LOS	D	C	C	D	B	B	D	B	B	D	C	C
Approach Vol, veh/h	1018				548				424		626	
Approach Delay, s/veh	26.7				26.4				25.8		27.6	
Approach LOS	C				C				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	31.0	31.0	12.5	29.4	13.7	26.1	10.7	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	33.5	33.5	20.5	30.5	27.5	33.5	20.5	30.5				
Max Q Clear Time (g_c+I), s	5.6	5.6	7.4	20.0	9.0	13.1	6.6	7.0				
Green Ext Time (p_c), s	0.1	1.2	0.6	3.7	0.4	3.4	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1297	681	64	740	50	317	83	70	179	109	27
Future Volume (veh/h)	222	1297	681	64	740	50	317	83	70	179	109	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1471	1471	1569	1863	1471	1900	1275	1863	1900	1900	1275	1863
Adj Flow Rate, veh/h	222	1297	403	64	740	50	317	83	70	179	109	6
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1217	566	104	1297	87	417	164	138	177	108	348
Arrive On Green	0.16	0.44	0.44	0.06	0.34	0.34	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	1401	2794	1299	1774	3839	258	2355	926	781	768	468	1511
Grp Volume(v), veh/h	222	1297	403	64	515	275	317	0	153	288	0	6
Grp Sat Flow(s),veh/h/ln	1401	1397	1299	1774	1338	1421	1177	0	1707	1236	0	1511
Q Serve(g_s), s	19.0	53.0	30.9	4.3	19.2	19.4	15.6	0.0	9.9	28.0	0.0	0.4
Cycle Q Clear(g_c), s	19.0	53.0	30.9	4.3	19.2	19.4	15.6	0.0	9.9	28.0	0.0	0.4
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.46	0.62		1.00
Lane Grp Cap(c), veh/h	219	1217	566	104	904	480	417	0	303	284	0	348
V/C Ratio(X)	1.02	1.07	0.71	0.62	0.57	0.57	0.76	0.00	0.51	1.01	0.00	0.02
Avail Cap(c_a), veh/h	219	1217	566	219	1078	572	522	0	379	284	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	34.3	28.1	56.0	33.0	33.1	47.6	0.0	45.2	46.8	0.0	36.2
Incr Delay (d2), s/veh	64.8	45.3	4.2	5.8	0.6	1.1	5.0	0.0	1.3	56.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.2	27.9	11.7	2.3	7.1	7.7	5.4	0.0	4.7	14.0	0.0	0.2
LnGrp Delay(d),s/veh	116.3	79.6	32.3	61.8	33.6	34.2	52.6	0.0	46.5	103.5	0.0	36.2
LnGrp LOS	F	F	C	E	C	C	D		D	F		D
Approach Vol, veh/h	1922			854			470			294		
Approach Delay, s/veh	73.9			35.9			50.6			102.1		
Approach LOS	E			D			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	10.1	56.0		31.0	22.0	44.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	13.5	51.5		26.5	17.5	47.5				
Max Q Clear Time (g_c+I1), s		17.6	6.3	55.0		30.0	21.0	21.4				
Green Ext Time (p_c), s		1.4	0.1	0.0		0.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay	64.0											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1667	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	677	628	133	691	588	258	325	272	298	384	326
Arrive On Green	0.11	0.41	0.41	0.08	0.37	0.00	0.15	0.18	0.18	0.17	0.21	0.00
Sat Flow, veh/h	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Grp Volume(v), veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Grp Sat Flow(s),veh/h/ln	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Q Serve(g_s), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Cycle Q Clear(g_c), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	677	628	133	691	588	258	325	272	298	384	326
V/C Ratio(X)	0.79	0.97	0.10	0.89	0.54	0.00	0.82	0.43	0.63	0.83	0.46	0.00
Avail Cap(c_a), veh/h	244	677	628	133	691	588	468	467	390	601	631	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	27.8	17.6	44.0	23.7	0.0	39.8	34.7	36.4	38.6	33.4	0.0
Incr Delay (d2), s/veh	13.1	26.5	0.1	45.7	0.8	0.0	6.3	0.9	2.4	6.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	21.9	1.0	4.8	7.9	0.0	5.8	3.3	4.4	6.8	4.1	0.0
LnGrp Delay(d),s/veh	54.7	54.3	17.7	89.7	24.5	0.0	46.0	35.6	38.8	44.7	34.2	0.0
LnGrp LOS	D	D	B	F	C		D	D	D	D	C	
Approach Vol, veh/h		872			489			522			423	
Approach Delay, s/veh		51.8			40.2			40.9			40.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.1	21.6	11.2	43.0	18.0	23.8	14.6	39.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	30.0	24.8	6.7	38.5	24.8	32.0	12.7	32.5				
Max Q Clear Time (g_c+1), s	15.0	12.3	8.3	38.9	13.1	9.9	10.2	17.0				
Green Ext Time (p_c), s	0.6	1.5	0.0	0.0	0.4	0.9	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.8									
HCM 2010 LOS			D									

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	7	670	151	196	808	107	66	27	154	95	129	12
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1187	267	298	1021	843	165	68	246	227	247	20
Arrive On Green	0.04	0.42	0.42	0.17	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	2844	640	1774	1863	1537	326	275	995	538	998	82
Grp Volume(v), veh/h	7	417	404	196	808	107	247	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1863	1537	1596	0	0	1618	0	0
Q Serve(g_s), s	0.2	9.7	9.7	5.6	18.6	1.8	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.7	9.7	5.6	18.6	1.8	6.8	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.27		0.62	0.40		0.05
Lane Grp Cap(c), veh/h	66	739	716	298	1021	843	480	0	0	494	0	0
V/C Ratio(X)	0.11	0.56	0.57	0.66	0.79	0.13	0.52	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	214	1252	1213	672	1799	1484	729	0	0	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	11.9	12.0	21.0	9.7	5.9	17.8	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.7	2.5	1.4	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	4.6	2.9	9.8	0.8	3.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	25.8	12.6	12.7	23.4	11.1	6.0	18.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	A	B			B		
Approach Vol, veh/h		828			1111			247			236	
Approach Delay, s/veh		12.8			12.8			18.7			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	12.0	25.5		16.3	5.0	32.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	18.9	36.6		21.0	5.0	50.5				
Max Q Clear Time (g_c+I1), s		8.8	7.6	11.7		8.4	2.2	20.6				
Green Ext Time (p_c), s		1.2	0.4	5.8		1.1	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

10/18/2019

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.98	0.98		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	56	276	39	80	433	100	49	255	13	195	157	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	734	104	457	675	156	517	810	41	479	597	213
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	868	1588	224	1050	1459	337	1100	1751	89	1048	1291	460
Grp Volume(v), veh/h	56	0	315	80	0	533	49	0	268	195	0	213
Grp Sat Flow(s),veh/h/ln	868	0	1812	1050	0	1796	1100	0	1840	1048	0	1751
Q Serve(g_s), s	4.2	0.0	9.0	4.3	0.0	18.1	2.3	0.0	7.3	11.5	0.0	6.0
Cycle Q Clear(g_c), s	22.4	0.0	9.0	13.3	0.0	18.1	8.2	0.0	7.3	18.8	0.0	6.0
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
V/C Ratio(X)	0.19	0.00	0.38	0.18	0.00	0.64	0.09	0.00	0.31	0.41	0.00	0.26
Avail Cap(c_a), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	14.0	18.3	0.0	16.4	15.7	0.0	13.5	19.5	0.0	13.2
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.8	0.0	3.8	0.4	0.0	1.0	2.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.8	1.4	0.0	9.8	0.7	0.0	4.0	3.6	0.0	3.0
LnGrp Delay(d),s/veh	26.4	0.0	15.3	19.2	0.0	20.2	16.0	0.0	14.5	22.0	0.0	13.9
LnGrp LOS	C		B	B		C	B		B	C		B
Approach Vol, veh/h	371				613				317		408	
Approach Delay, s/veh	17.0				20.1				14.7		17.8	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+l1), s	10.2		24.4		20.8		20.1					
Green Ext Time (p_c), s	1.9		1.7		1.9		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	T T T T							T T T			T T	
Traffic Volume (veh/h)	28	1683	10	0	0	0	0	71	241	363	209	0
Future Volume (veh/h)	28	1683	10	0	0	0	0	71	241	363	209	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1176	1900				0	980	1863	1863	980	0
Adj Flow Rate, veh/h	29	1753	10				0	110	98	298	330	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	834	1549	9				0	118	183	568	314	0
Arrive On Green	0.47	0.47	0.47				0.00	0.12	0.12	0.32	0.32	0.00
Sat Flow, veh/h	1774	3295	19				0	980	1523	1774	980	0
Grp Volume(v), veh/h	29	1139	624				0	110	98	298	330	0
Grp Sat Flow(s),veh/h/ln	1774	1071	1172				0	980	1523	1774	980	0
Q Serve(g_s), s	0.9	47.0	47.0				0.0	11.1	6.1	13.7	32.0	0.0
Cycle Q Clear(g_c), s	0.9	47.0	47.0				0.0	11.1	6.1	13.7	32.0	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	834	1006	551				0	118	183	568	314	0
V/C Ratio(X)	0.03	1.13	1.13				0.00	0.93	0.54	0.52	1.05	0.00
Avail Cap(c_a), veh/h	834	1006	551				0	118	183	568	314	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	26.5	26.5				0.0	43.6	41.4	27.8	34.0	0.0
Incr Delay (d2), s/veh	0.0	72.0	80.2				0.0	66.9	10.8	0.9	65.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	23.9	27.4				0.0	5.2	3.1	6.8	14.3	0.0
LnGrp Delay(d),s/veh	14.3	98.5	106.7				0.0	110.5	52.2	28.7	99.1	0.0
LnGrp LOS	B	F	F					F	D	C	F	
Approach Vol, veh/h		1792						208			628	
Approach Delay, s/veh		100.0						83.1			65.7	
Approach LOS		F						F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		50.0		35.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		10.5		45.5		30.5						
Max Q Clear Time (g_c+I1), s		13.1		49.0		34.0						
Green Ext Time (p_c), s		0.0		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			90.5									
HCM 2010 LOS			F									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	95	116	188	160	272	55	226	254	10	21	129	30
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	478	407	234	909	180	423	444	357	338	275	64
Arrive On Green	0.09	0.27	0.27	0.13	0.31	0.31	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	1774	1770	1505	1774	2906	575	1774	1863	1497	1774	1441	335
Grp Volume(v), veh/h	95	116	188	160	163	164	226	254	10	21	0	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1505	1774	1770	1711	1774	1863	1497	1774	0	1776
Q Serve(g_s), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Cycle Q Clear(g_c), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	159	478	407	234	554	535	423	444	357	338	0	338
V/C Ratio(X)	0.60	0.24	0.46	0.68	0.29	0.31	0.53	0.57	0.03	0.06	0.00	0.47
Avail Cap(c_a), veh/h	297	660	561	312	675	653	612	642	516	612	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.6	29.4	18.5	18.5	23.6	23.9	20.8	23.6	0.0	25.6
Incr Delay (d2), s/veh	3.6	0.3	0.8	3.8	0.3	0.3	1.1	1.2	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	1.8	3.2	3.2	2.4	2.5	4.0	4.5	0.2	0.3	0.0	2.9
LnGrp Delay(d),s/veh	34.7	20.5	22.4	33.2	18.8	18.9	24.7	25.0	20.8	23.6	0.0	26.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h	399				487		490				180	
Approach Delay, s/veh	24.8				23.6		24.8				26.2	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	19.9		12.4	22.2	16.5		9.4	25.2				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	23.0		11.0	25.0	23.0		10.4	25.6				
Max Q Clear Time (g_c+I1), s	10.5		8.1	9.4	7.7		5.7	7.2				
Green Ext Time (p_c), s	1.8		0.1	1.7	0.8		0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	24.6											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	66	0	0	0	0				43	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	683	132	206	412	0				506	0	63
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916	699	255	1164	0				1279	0	497
Arrive On Green	0.00	0.77	0.77	0.14	0.55	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	1863	1529	1774	1863	0				3548	0	1534
Grp Volume(v), veh/h	0	683	132	206	412	0				506	0	63
Grp Sat Flow(s),veh/h/ln	0	1863	1529	1774	1863	0				1774	0	1534
Q Serve(g_s), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Cycle Q Clear(g_c), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916	699	255	1164	0				1279	0	497
V/C Ratio(X)	0.00	0.75	0.19	0.81	0.35	0.00				0.40	0.00	0.13
Avail Cap(c_a), veh/h	0	916	752	340	1319	0				1403	0	607
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	1.0	3.3	49.8	11.0	0.0				31.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	2.2	0.1	10.1	0.2	0.0				0.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	145.0	0.0	0.0	0.0	0.0				13.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	38.0	0.5	7.4	6.6	0.0				12.1	0.0	1.5
LnGrp Delay(d),s/veh	0.0	148.2	3.4	59.9	11.2	0.0				45.6	0.0	29.2
LnGrp LOS		F	A	E	B					D		C
Approach Vol, veh/h		815			618						569	
Approach Delay, s/veh		124.7			27.4						43.8	
Approach LOS		F			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	49.3		50.5		69.5				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			21.5	57.5		27.5		83.5				
Max Q Clear Time (g_c+I1), s			15.5	39.8		14.1		17.2				
Green Ext Time (p_c), s			0.3	5.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			71.7									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary 14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 					  	 	
Traffic Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	92	22	0	0	0				20	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	1863	0				980	1078	0
Adj Flow Rate, veh/h	0	1076	57	0	1000	0				402	391	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	1275	350	0	2306	0				430	489	0
Arrive On Green	0.00	0.62	0.62	0.00	0.62	0.00				0.33	0.32	0.00
Sat Flow, veh/h	0	2353	566	0	3725	0				1307	1833	0
Grp Volume(v), veh/h	0	1076	57	0	1000	0				402	391	0
Grp Sat Flow(s),veh/h/ln	0	686	566	0	1863	0				654	755	0
Q Serve(g_s), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Cycle Q Clear(g_c), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1275	350	0	2306	0				430	489	0
V/C Ratio(X)	0.00	0.84	0.16	0.00	0.43	0.00				0.94	0.80	0.00
Avail Cap(c_a), veh/h	0	1275	350	0	2306	0				430	489	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	11.9	0.0	10.4	0.0				35.2	32.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	0.6	0.0				28.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	189.8	33.9	0.0	0.0	0.0				138.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.6	6.8	0.0	7.7	0.0				16.2	5.8	0.0
LnGrp Delay(d),s/veh	0.0	210.5	45.9	0.0	11.0	0.0				202.0	41.6	0.0
LnGrp LOS		F	D		B					F	D	
Approach Vol, veh/h		1133			1000						793	
Approach Delay, s/veh		202.2			11.0						122.9	
Approach LOS		F			B						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.0		37.0		68.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		63.5		32.5		63.5						
Max Q Clear Time (g_c+I1), s		45.8		33.3		16.7						
Green Ext Time (p_c), s		7.0		0.0		8.4						
Intersection Summary												
HCM 2010 Ctrl Delay		115.4										
HCM 2010 LOS		F										

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	563	150	94	655	28	149	94	64	48	113	11
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1385	367	454	896	38	424	234	518	216	436	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	752	2737	726	723	1771	76	811	684	1511	293	1272	107
Grp Volume(v), veh/h	16	363	350	94	0	683	243	0	64	172	0	0
Grp Sat Flow(s),veh/h/ln	752	1770	1693	723	0	1846	1494	0	1511	1672	0	0
Q Serve(g_s), s	0.7	5.1	5.1	3.7	0.0	11.5	1.8	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	5.1	5.1	8.8	0.0	11.5	4.5	0.0	1.2	2.7	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.04	0.61		1.00	0.28		0.06
Lane Grp Cap(c), veh/h	344	896	857	454	0	934	659	0	518	689	0	0
V/C Ratio(X)	0.05	0.41	0.41	0.21	0.00	0.73	0.37	0.00	0.12	0.25	0.00	0.00
Avail Cap(c_a), veh/h	550	1381	1321	653	0	1440	992	0	875	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.1	6.1	8.8	0.0	7.7	9.9	0.0	9.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.2	0.0	1.1	0.3	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.4	0.8	0.0	6.0	2.1	0.0	0.5	1.4	0.0	0.0
LnGrp Delay(d),s/veh	12.5	6.4	6.4	9.1	0.0	8.8	10.3	0.0	9.1	9.7	0.0	0.0
LnGrp LOS	B	A	A	A		A	B		A	A		
Approach Vol, veh/h	729			777			307			172		
Approach Delay, s/veh	6.5			8.8			10.0			9.7		
Approach LOS	A			A			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	16.6		23.1		16.6		23.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	21.5		29.5		21.5		29.5					
Max Q Clear Time (g_c+l1), s	6.5		14.2		4.7		13.5					
Green Ext Time (p_c), s	1.5		4.2		0.8		5.1					
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	17	12	122	197	178	32	315	61	85	241	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	249	176	207	281	254	114	468	91	171	567	59
Arrive On Green	0.05	0.25	0.25	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1774	1008	712	1774	895	809	1774	1508	292	1774	1656	172
Grp Volume(v), veh/h	18	0	29	122	0	375	32	0	376	85	0	266
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	0	1703	1774	0	1800	1774	0	1828
Q Serve(g_s), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Cycle Q Clear(g_c), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Prop In Lane	1.00		0.41	1.00		0.47	1.00		0.16	1.00		0.09
Lane Grp Cap(c), veh/h	90	0	426	207	0	534	114	0	558	171	0	626
V/C Ratio(X)	0.20	0.00	0.07	0.59	0.00	0.70	0.28	0.00	0.67	0.50	0.00	0.43
Avail Cap(c_a), veh/h	474	0	985	474	0	976	474	0	1031	474	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.1	21.9	0.0	15.8	23.4	0.0	15.8	22.5	0.0	13.3
Incr Delay (d2), s/veh	1.1	0.0	0.1	2.6	0.0	1.7	1.3	0.0	1.4	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.8	0.0	4.9	0.5	0.0	4.9	1.3	0.0	3.0
LnGrp Delay(d),s/veh	24.9	0.0	15.2	24.6	0.0	17.5	24.7	0.0	17.2	24.7	0.0	13.7
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	47		497				408			351		
Approach Delay, s/veh	18.9		19.2				17.8			16.4		
Approach LOS	B		B				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	19.2	9.1	16.0	6.4	20.9	5.7	19.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+1.4), s	11.5	11.5	5.4	2.7	2.9	7.9	2.5	12.1				
Green Ext Time (p_c), s	0.1	2.2	0.2	0.1	0.0	1.6	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			18.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	0	212	262	452	92	45	311	0	0	495	28
Future Volume (veh/h)	53	0	212	262	452	92	45	311	0	0	495	28
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		1.00	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	980	980	0	0	1373	1400
Adj Flow Rate, veh/h	53	0	44	262	452	92	45	311	0	0	495	28
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	863	1412	285	71	734	0	0	644	36
Arrive On Green	0.09	0.00	0.09	0.49	0.49	0.43	0.08	0.39	0.00	0.00	0.26	0.20
Sat Flow, veh/h		0		1774	2900	585	934	1912	0	0	2561	140
Grp Volume(v), veh/h		0.0		262	274	270	45	311	0	0	258	265
Grp Sat Flow(s),veh/h/ln				1774	1770	1715	934	931	0	0	1304	1329
Q Serve(g_s), s				4.5	4.7	5.0	2.4	6.1	0.0	0.0	9.2	9.3
Cycle Q Clear(g_c), s				4.5	4.7	5.0	2.4	6.1	0.0	0.0	9.2	9.3
Prop In Lane				1.00		0.34	1.00		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				863	861	835	71	734	0	0	337	343
V/C Ratio(X)				0.30	0.32	0.32	0.63	0.42	0.00	0.00	0.77	0.77
Avail Cap(c_a), veh/h				863	861	835	176	944	0	0	337	343
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.8	7.8	8.2	22.6	11.1	0.0	0.0	17.3	17.4
Incr Delay (d2), s/veh				0.9	1.0	1.0	8.9	0.4	0.0	0.0	10.1	10.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	2.5	2.6	0.8	1.6	0.0	0.0	4.2	4.4
LnGrp Delay(d),s/veh				8.7	8.8	9.2	31.5	11.5	0.0	0.0	27.4	27.8
LnGrp LOS				A	A	A	C	B			C	C
Approach Vol, veh/h					806			356			523	
Approach Delay, s/veh					8.9			14.0			27.6	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		22.8			6.8	16.0		27.5				
Change Period (Y+Rc), s		7.5			4.5	7.5		7.5				
Max Green Setting (Gmax), s		21.0			8.0	8.5		20.0				
Max Q Clear Time (g_c+I1), s		8.1			4.4	11.3		7.0				
Green Ext Time (p_c), s		1.6			0.0	0.0		3.5				
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

10/18/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT					NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	37	766	28	0	0	0	32	335	190	343	478	83
Future Volume (veh/h)	37	766	28	0	0	0	32	335	190	343	478	83
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900				1863	1618	1900	1275	980	1900
Adj Flow Rate, veh/h	37	766	28				32	335	190	343	478	83
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	39	850	33				84	380	209	459	844	145
Arrive On Green	0.32	0.32	0.28				0.05	0.21	0.17	0.38	0.54	0.50
Sat Flow, veh/h	124	2683	103				1774	1849	1015	1214	1574	271
Grp Volume(v), veh/h	438	0	393				32	277	248	343	281	280
Grp Sat Flow(s),veh/h/ln	1464	0	1445				1774	1537	1327	1214	931	914
Q Serve(g_s), s	26.2	0.0	23.0				1.6	15.7	16.5	22.1	18.1	18.6
Cycle Q Clear(g_c), s	26.2	0.0	23.0				1.6	15.7	16.5	22.1	18.1	18.6
Prop In Lane	0.08		0.07				1.00		0.77	1.00		0.30
Lane Grp Cap(c), veh/h	464	0	458				84	316	273	459	499	490
V/C Ratio(X)	0.94	0.00	0.86				0.38	0.88	0.91	0.75	0.56	0.57
Avail Cap(c_a), veh/h	464	0	458				296	316	273	459	499	490
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	29.0				41.6	34.6	36.1	24.3	13.9	14.3
Incr Delay (d2), s/veh	29.9	0.0	18.6				2.8	22.9	32.1	10.7	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	14.4	0.0	11.5				0.8	8.6	8.5	8.7	4.8	4.9
LnGrp Delay(d),s/veh	59.9	0.0	47.5				44.4	57.6	68.2	34.9	15.3	15.9
LnGrp LOS	E		D				D	E	E	C	B	B
Approach Vol, veh/h		831						557			904	
Approach Delay, s/veh		54.1						61.6			22.9	
Approach LOS		D						E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	37.0	21.5		31.5	7.3	51.2						
Change Period (Y+Rc), s	4.5	7.5		7.5	4.5	7.5						
Max Green Setting (Gmax), s	30.5	14.0		24.0	13.5	33.0						
Max Q Clear Time (g_c+24), s	24.1	18.5		28.2	3.6	20.6						
Green Ext Time (p_c), s	0.7	0.0		0.0	0.0	2.9						
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	67	269	50	7	112	37	48	479	14	15	325	139
Future Volume (veh/h)	67	269	50	7	112	37	48	479	14	15	325	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	980	1900	1900	1324	1900	1900	980	1863
Adj Flow Rate, veh/h	67	269	50	7	112	37	48	479	14	15	325	69
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	281	49	54	292	93	74	454	13	56	454	767
Arrive On Green	0.43	0.43	0.39	0.43	0.43	0.39	0.50	0.50	0.46	0.50	0.50	0.50
Sat Flow, veh/h	118	662	116	16	687	219	51	907	25	17	907	1534
Grp Volume(v), veh/h	386	0	0	156	0	0	541	0	0	340	0	69
Grp Sat Flow(s),veh/h/ln	896	0	0	922	0	0	983	0	0	925	0	1534
Q Serve(g_s), s	24.7	0.0	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0	1.9
Cycle Q Clear(g_c), s	34.0	0.0	0.0	9.3	0.0	0.0	40.0	0.0	0.0	21.2	0.0	1.9
Prop In Lane	0.17		0.13	0.04		0.24	0.09		0.03	0.04		1.00
Lane Grp Cap(c), veh/h	434	0	0	439	0	0	541	0	0	509	0	767
V/C Ratio(X)	0.89	0.00	0.00	0.36	0.00	0.00	1.00	0.00	0.00	0.67	0.00	0.09
Avail Cap(c_a), veh/h	434	0	0	439	0	0	541	0	0	509	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.1	0.0	0.0	16.1	0.0	0.0	22.2	0.0	0.0	15.3	0.0	10.5
Incr Delay (d2), s/veh	19.8	0.0	0.0	0.5	0.0	0.0	38.8	0.0	0.0	6.8	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh	10.9	0.0	0.0	2.5	0.0	0.0	17.7	0.0	0.0	6.6	0.0	0.8
LnGrp Delay(d),s/veh	43.0	0.0	0.0	16.6	0.0	0.0	61.1	0.0	0.0	22.1	0.0	10.7
LnGrp LOS	D			B			F			C		B
Approach Vol, veh/h		386			156			541			409	
Approach Delay, s/veh		43.0			16.6			61.1			20.2	
Approach LOS		D			B			E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		43.0		37.0		43.0		37.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		35.5		29.5		35.5		29.5				
Max Q Clear Time (g_c+I1), s		42.0		36.0		23.2		11.3				
Green Ext Time (p_c), s		0.0		0.0		1.9		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			40.5									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

10/18/2019

	            											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	301	88	26	157	13	59	371	34	13	323	79
Future Volume (veh/h)	120	301	88	26	157	13	59	371	34	13	323	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.93	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	120	301	88	26	157	13	59	371	34	13	323	79
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	247	464	124	156	671	51	163	585	51	108	562	134
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	292	1053	281	110	1523	116	139	1461	127	23	1403	335
Grp Volume(v), veh/h	509	0	0	196	0	0	464	0	0	415	0	0
Grp Sat Flow(s),veh/h/ln	1626	0	0	1748	0	0	1727	0	0	1762	0	0
Q Serve(g_s), s	5.7	0.0	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	0.0	2.5	0.0	0.0	7.8	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.24		0.17	0.13		0.07	0.13		0.07	0.03		0.19
Lane Grp Cap(c), veh/h	835	0	0	879	0	0	799	0	0	803	0	0
V/C Ratio(X)	0.61	0.00	0.00	0.22	0.00	0.00	0.58	0.00	0.00	0.52	0.00	0.00
Avail Cap(c_a), veh/h	1268	0	0	1328	0	0	1315	0	0	1349	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	6.6	0.0	0.0	9.1	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.1	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	0.0	1.3	0.0	0.0	4.0	0.0	0.0	3.5	0.0	0.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	6.7	0.0	0.0	9.8	0.0	0.0	9.4	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	509				196		464				415	
Approach Delay, s/veh	9.1				6.7		9.8				9.4	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.1		19.6		18.1		19.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	9.8		11.3		8.9		4.5					
Green Ext Time (p_c), s	2.9		3.1		2.6		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	9.1											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.93	1.00		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	258	48	206	378	169	209	507	112	163	412	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	950	385	246	650	285	289	804	176	200	782	267
Arrive On Green	0.13	0.27	0.27	0.14	0.28	0.29	0.08	0.28	0.30	0.11	0.31	0.33
Sat Flow, veh/h	1774	3539	1434	1774	2337	1022	3442	2852	626	1774	2520	859
Grp Volume(v), veh/h	189	258	48	206	284	263	209	313	306	163	287	268
Grp Sat Flow(s),veh/h/ln	1774	1770	1434	1774	1770	1590	1721	1770	1708	1774	1770	1610
Q Serve(g_s), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Cycle Q Clear(g_c), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.37	1.00		0.53
Lane Grp Cap(c), veh/h	228	950	385	246	492	442	289	499	481	200	549	500
V/C Ratio(X)	0.83	0.27	0.12	0.84	0.58	0.59	0.72	0.63	0.64	0.82	0.52	0.54
Avail Cap(c_a), veh/h	413	1094	443	421	555	498	471	586	565	343	685	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.2	25.1	38.0	28.1	27.8	40.5	28.4	28.2	39.3	25.7	25.5
Incr Delay (d2), s/veh	7.5	0.2	0.1	7.4	1.2	1.5	3.4	1.6	1.8	7.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.9	5.5	6.2	5.8	2.7	7.0	6.9	4.4	6.0	5.6
LnGrp Delay(d),s/veh	46.0	26.3	25.2	45.4	29.3	29.4	43.9	30.0	30.0	47.2	26.5	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		495			753			828			718	
Approach Delay, s/veh		33.7			33.7			33.5			31.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.7	30.0	17.1	28.8	12.1	32.6	16.2	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	17.5	30.0	21.5	28.0	12.4	35.1	21.1	28.4				
Max Q Clear Time (g_c+1),s	10.1	16.1	12.3	7.2	7.4	14.4	11.4	14.9				
Green Ext Time (p_c), s	0.2	3.3	0.4	1.7	0.3	3.5	0.3	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↔	↔		↔	
Traffic Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	31	128	773	0	0	40	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	56	229	1318	0	542	286	0	530	0	5	0
Arrive On Green	0.00	0.17	0.17	0.37	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	318	1311	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	159	773	0	0	40	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1629	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.81	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	285	1318	0	542	286	0	530	0	5	0
V/C Ratio(X)	0.00	0.00	0.56	0.59	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	953	4154	0	1807	1220	0	1998	0	409	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	12.9	8.6	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.6	9.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			B					
Approach Vol, veh/h		159			773			40			0	
Approach Delay, s/veh		14.6			9.0			12.1			0.0	
Approach LOS		B			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		9.0		0.0		15.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.5		7.0		38.5				
Max Q Clear Time (g_c+I1), s		2.6		5.1		0.0		8.0				
Green Ext Time (p_c), s		0.1		0.7		0.0		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	41	179	33	162	0	296	0	86	152	364	130	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	98	429	420	0	0	0	0	457	392	735	1029	0
Arrive On Green	0.29	0.29	0.29	0.04	0.00	0.04	0.00	0.26	0.26	0.21	0.55	0.00
Sat Flow, veh/h	344	1502	1469		0		0	1863	1516	3442	1863	0
Grp Volume(v), veh/h	220	0	33		0.0		0	86	152	364	130	0
Grp Sat Flow(s),veh/h/ln	1846	0	1469				0	1770	1516	1721	1863	0
Q Serve(g_s), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Prop In Lane	0.19		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	528	0	420				0	457	392	735	1029	0
V/C Ratio(X)	0.42	0.00	0.08				0.00	0.19	0.39	0.50	0.13	0.00
Avail Cap(c_a), veh/h	1415	0	1126				0	1285	1101	2037	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	9.7				0.0	10.7	11.4	12.9	4.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1				0.0	0.2	0.6	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3				0.0	0.7	1.3	1.7	0.6	0.0
LnGrp Delay(d),s/veh	11.3	0.0	9.8				0.0	10.9	12.0	13.4	4.1	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h	253							238			494	
Approach Delay, s/veh	11.1							11.6			10.9	
Approach LOS	B							B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4		6							
Phs Duration (G+Y+Rc), s	10.9	12.6	13.6		23.5							
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5							
Max Green Setting (Gmax), s	20.5	25.5	27.0		50.5							
Max Q Clear Time (g_c+I), s	11.5	5.1	5.6		3.2							
Green Ext Time (p_c), s	1.1	1.4	1.3		0.8							
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	233	344	32				0	661	309	286	624	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	516	425				0	1235	517	451	948	0
Arrive On Green	0.28	0.28	0.28				0.00	0.33	0.34	0.25	0.25	0.00
Sat Flow, veh/h	1774	1863	1533				0	3725	1524	1774	3725	0
Grp Volume(v), veh/h	233	344	32				0	661	309	286	624	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1533				0	1863	1524	1774	1863	0
Q Serve(g_s), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Cycle Q Clear(g_c), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	516	425				0	1235	517	451	948	0
V/C Ratio(X)	0.47	0.67	0.08				0.00	0.54	0.60	0.63	0.66	0.00
Avail Cap(c_a), veh/h	769	807	665				0	1728	718	593	1246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.8	21.1	17.5				0.0	17.9	18.0	21.8	22.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	0.1				0.0	0.4	1.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	5.8	0.4				0.0	4.9	4.8	4.8	5.1	0.0
LnGrp Delay(d),s/veh	20.5	22.6	17.6				0.0	18.2	19.1	23.3	22.7	0.0
LnGrp LOS	C	C	B					B	B	C	C	
Approach Vol, veh/h		609						970			910	
Approach Delay, s/veh		21.5						18.5			22.9	
Approach LOS		C						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.8		21.2		19.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.0		27.0		20.5						
Max Q Clear Time (g_c+I1), s		13.1		12.8		11.9						
Green Ext Time (p_c), s		5.2		2.5		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.97		0.96	0.98		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	4	133	0	180	1	699	45	213	488	2
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	113	297	535	0	439	70	1243	548	317	2150	9
Arrive On Green	0.29	0.29	0.29	0.29	0.00	0.29	0.36	0.36	0.36	0.18	0.59	0.59
Sat Flow, veh/h	124	390	1028	1370	0	1520	1	3471	1531	1774	3614	15
Grp Volume(v), veh/h	6	0	0	133	0	180	375	325	45	213	239	251
Grp Sat Flow(s),veh/h/ln	1543	0	0	1370	0	1520	1862	1610	1531	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	4.9	0.0	8.4	1.0	5.8	3.3	3.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.9	0.0	4.9	8.4	8.4	1.0	5.8	3.3	3.3
Prop In Lane	0.17		0.67	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	527	0	0	535	0	439	737	577	548	317	1053	1106
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.41	0.51	0.56	0.08	0.67	0.23	0.23
Avail Cap(c_a), veh/h	887	0	0	867	0	809	1059	857	815	549	1592	1673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	14.4	0.0	14.8	13.3	13.3	11.0	19.8	4.9	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.5	0.9	0.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.1	4.4	3.8	0.4	3.1	1.6	1.7
LnGrp Delay(d),s/veh	13.1	0.0	0.0	14.7	0.0	15.4	13.9	14.2	11.0	22.3	5.0	5.0
LnGrp LOS	B			B		B	B	B	B	C	A	A
Approach Vol, veh/h		6			313			745			703	
Approach Delay, s/veh		13.1			15.1			13.8			10.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	12.2	21.5		17.9		33.8		17.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	14.5	26.0		26.0		45.0		26.0				
Max Q Clear Time (g_c+I), s	17.8	10.4		2.1		5.3		6.9				
Green Ext Time (p_c), s	0.3	4.1		0.0		3.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	502	221	143	305	146	483		
Future Volume (veh/h)	502	221	143	305	146	483		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.94		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	502	221	143	305	146	192		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1244	572	493	871	708	996		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	646	2377	1863	2621		
Grp Volume(v), veh/h	502	221	239	209	146	192		
Grp Sat Flow(s),veh/h/ln	1721	1583	1328	1610	1863	1311		
Q Serve(g_s), s	2.5	2.4	1.5	2.1	1.2	1.1		
Cycle Q Clear(g_c), s	2.5	2.4	2.7	2.1	1.2	1.1		
Prop In Lane	1.00	1.00	0.60			1.00		
Lane Grp Cap(c), veh/h	1244	572	753	612	708	996		
V/C Ratio(X)	0.40	0.39	0.32	0.34	0.21	0.19		
Avail Cap(c_a), veh/h	3189	1467	1491	1561	1806	2541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.5	5.2	5.1	4.8	4.8		
Incr Delay (d2), s/veh	0.2	0.4	0.2	0.3	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.0	0.6	0.4		
LnGrp Delay(d),s/veh	5.7	5.9	5.4	5.5	5.0	4.9		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	723			448	338			
Approach Delay, s/veh	5.8			5.5	4.9			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		11.8		11.4		11.8		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+I1), s		4.7		4.5		3.2		
Green Ext Time (p_c), s		2.6		2.4		1.5		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	8	20	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	2157	2157	2157	2157	2157	2200	1863	1863	1900	1078	1078	1100
Adj Flow Rate, veh/h	85	134	26	378	232	65	46	271	45	131	313	31
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	198	325	504	493	133	79	1656	271	172	1251	114
Arrive On Green	0.06	0.09	0.09	0.12	0.15	0.15	0.01	0.18	0.18	0.15	0.66	0.66
Sat Flow, veh/h	2054	2157	3540	4108	3217	871	1774	3029	495	1027	1882	185
Grp Volume(v), veh/h	85	134	26	378	153	144	46	157	159	131	169	175
Grp Sat Flow(s),veh/h/ln	2054	2157	1770	2054	2157	1931	1774	1770	1755	1027	1025	1042
Q Serve(g_s), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Cycle Q Clear(g_c), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.28	1.00		0.18
Lane Grp Cap(c), veh/h	133	198	325	504	331	296	79	968	959	172	675	689
V/C Ratio(X)	0.64	0.68	0.08	0.75	0.46	0.49	0.58	0.16	0.17	0.76	0.25	0.25
Avail Cap(c_a), veh/h	470	478	784	939	485	434	317	981	973	183	675	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	61.6	58.2	59.4	54.0	54.3	67.7	30.3	30.4	57.7	10.9	10.9
Incr Delay (d2), s/veh	5.0	4.0	0.1	2.3	1.0	1.2	5.6	0.3	0.3	16.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	2.1	2.0
%ile BackOfQ(50%),veh/ln	6.4	5.2	0.5	7.2	5.5	5.2	1.9	5.2	5.3	10.2	5.1	5.2
LnGrp Delay(d),s/veh	68.9	65.6	58.3	61.6	55.0	55.6	73.3	30.6	30.7	139.8	13.9	13.8
LnGrp LOS	E	E	E	E	E	E	E	C	C	F	B	B
Approach Vol, veh/h	245				675			362			475	
Approach Delay, s/veh	66.0				58.8			36.1			48.6	
Approach LOS	E				E			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	23.9	80.1	20.2	15.9	9.2	94.8	12.1	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	29.5	38.5	30.5	29.5	23.5	38.5	30.5	29.5				
Max Q Clear Time (g_c+I), s	19.4	12.7	14.4	10.4	5.6	11.6	7.7	11.6				
Green Ext Time (p_c), s	0.1	1.9	1.2	0.7	0.1	2.1	0.2	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	52.4											
HCM 2010 LOS	D											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.79		0.68	0.80		0.66	0.86		0.75	0.84		0.71
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	27	23	71	49	26	183	48	73	161	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	437	150	116	307	190	104	629	155	246	511	59
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	1.00	1.00	0.94	0.51	0.51	0.47
Sat Flow, veh/h	64	1093	376	142	768	474	92	1224	302	349	994	115
Grp Volume(v), veh/h	110	0	0	143	0	0	257	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1533	0	0	1383	0	0	1618	0	0	1458	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.6	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0
Prop In Lane	0.09		0.25	0.16		0.34	0.10		0.19	0.29		0.08
Lane Grp Cap(c), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.00	0.00	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	14.3	0.0	0.0	0.2	0.0	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	14.3	0.0	0.0	15.2	0.0	0.0	1.0	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	110				143		257				254	
Approach Delay, s/veh	14.3				15.2		1.0				10.7	
Approach LOS	B				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+l1), s	2.2		5.2		8.0		6.6					
Green Ext Time (p_c), s	1.8		0.6		1.8		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay	8.8											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		0.68	0.87		0.71	0.89		0.79	0.94		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	149	49	22	105	40	42	185	57	33	151	29
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	429	130	104	418	146	141	571	164	148	629	113
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	0.51	0.51	0.47	0.51	0.51	0.47
Sat Flow, veh/h	129	1071	325	115	1045	366	159	1111	319	173	1223	220
Grp Volume(v), veh/h	230	0	0	167	0	0	284	0	0	213	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1526	0	0	1589	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	4.9	0.0	0.0	6.9	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.14		0.21	0.13		0.24	0.15		0.20	0.15		0.14
Lane Grp Cap(c), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.25	0.00	0.00	0.32	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	14.3	0.0	0.0	10.1	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.2	0.0	0.0	11.1	0.0	0.0	10.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	230			167			284			213		
Approach Delay, s/veh	16.4			15.2			11.1			10.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+l1), s	8.9		9.1		6.8		6.9					
Green Ext Time (p_c), s	1.9		1.3		1.4		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	13.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	116	61	105	309	119	24	136	30	20	126	56
Future Volume (veh/h)	38	116	61	105	309	119	24	136	30	20	126	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.69	1.00		0.73	0.97		0.72	0.92		0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1863	980	1863	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	38	116	61	105	309	59	24	136	30	20	126	56
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	98	181	85	465	483	573	88	277	57	78	216	89
Arrive On Green	0.49	0.49	0.45	0.49	0.49	0.49	0.42	0.42	0.37	0.42	0.42	0.37
Sat Flow, veh/h	67	368	172	1203	980	1164	61	667	137	41	520	215
Grp Volume(v), veh/h	215	0	0	105	309	59	190	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	607	0	0	1203	980	1164	865	0	0	775	0	0
Q Serve(g_s), s	6.2	0.0	0.0	0.0	15.2	1.8	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	21.4	0.0	0.0	9.2	15.2	1.8	10.4	0.0	0.0	13.1	0.0	0.0
Prop In Lane	0.18		0.28	1.00		1.00	0.13		0.16	0.10		0.28
Lane Grp Cap(c), veh/h	364	0	0	465	483	573	422	0	0	383	0	0
V/C Ratio(X)	0.59	0.00	0.00	0.23	0.64	0.10	0.45	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	364	0	0	465	483	573	422	0	0	383	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	0.95	0.00	0.00	0.97	0.97	0.97	0.81	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	10.7	12.2	8.8	14.3	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	2.4	0.0	0.0	1.1	6.2	0.4	2.8	0.0	0.0	5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	1.3	4.9	0.6	2.9	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	15.8	0.0	0.0	11.8	18.5	9.2	17.1	0.0	0.0	20.2	0.0	0.0
LnGrp LOS	B			B	B	A	B			C		
Approach Vol, veh/h	215			473			190			202		
Approach Delay, s/veh	15.8			15.8			17.1			20.2		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		35.0		30.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	22.5		27.5		22.5		27.5					
Max Q Clear Time (g_c+l1), s	12.4		23.4		15.1		17.2					
Green Ext Time (p_c), s	0.8		0.5		0.7		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	16.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	562	47	10	116	22	18	129	55	67	114	97
Future Volume (veh/h)	37	562	47	10	116	22	18	129	55	67	114	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.93		0.81	0.97		0.77	1.00		0.85	0.99		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	980	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	37	562	47	10	116	22	18	129	55	67	114	97
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	1484	121	61	354	64	67	262	105	122	155	119
Arrive On Green	0.49	0.49	0.43	0.49	0.49	0.43	0.44	0.44	0.38	0.44	0.44	0.38
Sat Flow, veh/h	122	3006	246	27	717	130	41	598	239	150	349	267
Grp Volume(v), veh/h	343	0	303	148	0	0	202	0	0	278	0	0
Grp Sat Flow(s),veh/h/ln	1788	0	1585	874	0	0	878	0	0	766	0	0
Q Serve(g_s), s	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	11.5	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	9.7	8.0	0.0	0.0	13.5	0.0	0.0	25.0	0.0	0.0
Prop In Lane	0.11		0.16	0.07		0.15	0.09		0.27	0.24		0.35
Lane Grp Cap(c), veh/h	933	0	783	480	0	0	433	0	0	396	0	0
V/C Ratio(X)	0.37	0.00	0.39	0.31	0.00	0.00	0.47	0.00	0.00	0.70	0.00	0.00
Avail Cap(c_a), veh/h	933	0	783	480	0	0	433	0	0	396	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.6	0.0	13.0	12.5	0.0	0.0	16.9	0.0	0.0	19.8	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	1.7	0.0	0.0	3.6	0.0	0.0	10.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	4.5	2.2	0.0	0.0	3.7	0.0	0.0	6.4	0.0	0.0
LnGrp Delay(d),s/veh	13.7	0.0	14.4	14.2	0.0	0.0	20.5	0.0	0.0	29.8	0.0	0.0
LnGrp LOS	B		B	B			C			C		
Approach Vol, veh/h	646			148			202			278		
Approach Delay, s/veh	14.0			14.2			20.5			29.8		
Approach LOS	B			B			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	30.5		34.5		30.5		34.5					
Max Q Clear Time (g_c+I1), s	15.5		11.7		27.0		10.0					
Green Ext Time (p_c), s	1.0		4.4		0.6		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	18.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	329	55	25	231	30	38	140	72	18	119	34
Future Volume (veh/h)	37	329	55	25	231	30	38	140	72	18	119	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	0.99		0.92	0.94		0.89	0.98		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900	1900	980	1900	1900	1275	1900	1900	1863	1900
Adj Flow Rate, veh/h	37	329	55	25	231	30	38	140	72	18	119	34
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	560	90	77	388	48	103	282	132	95	525	140
Arrive On Green	0.50	0.50	0.46	0.50	0.50	0.46	0.41	0.41	0.37	0.41	0.41	0.37
Sat Flow, veh/h	74	1120	179	43	777	96	107	680	318	92	1268	337
Grp Volume(v), veh/h	421	0	0	286	0	0	250	0	0	171	0	0
Grp Sat Flow(s),veh/h/ln	1374	0	0	916	0	0	1105	0	0	1697	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.8	0.0	0.0	15.1	0.0	0.0	11.5	0.0	0.0	4.5	0.0	0.0
Prop In Lane	0.09		0.13	0.09		0.10	0.15		0.29	0.11		0.20
Lane Grp Cap(c), veh/h	743	0	0	514	0	0	517	0	0	760	0	0
V/C Ratio(X)	0.57	0.00	0.00	0.56	0.00	0.00	0.48	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	743	0	0	514	0	0	517	0	0	760	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.6	0.0	0.0	12.6	0.0	0.0	15.7	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	4.3	0.0	0.0	3.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	0.0	4.5	0.0	0.0	4.1	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	15.7	0.0	0.0	16.9	0.0	0.0	18.9	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	421			286			250			171		
Approach Delay, s/veh	15.7			16.9			18.9			14.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		38.0		32.0		38.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		24.5		30.5		24.5		30.5				
Max Q Clear Time (g_c+I1), s		13.5		16.8		6.5		17.1				
Green Ext Time (p_c), s		1.2		2.4		0.9		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.71	0.92		0.82	0.95		0.81	0.87		0.77
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	182	57	26	101	34	9	76	26	28	239	82
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	432	125	130	469	146	82	575	186	85	565	185
Arrive On Green	0.44	0.44	0.40	0.44	0.44	0.40	0.49	0.49	0.45	0.49	0.49	0.45
Sat Flow, veh/h	243	988	286	178	1072	335	68	1179	382	74	1158	379
Grp Volume(v), veh/h	302	0	0	161	0	0	111	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1517	0	0	1585	0	0	1629	0	0	1611	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	4.7	0.0	0.0	2.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.21		0.19	0.16		0.21	0.08		0.23	0.08		0.23
Lane Grp Cap(c), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	14.2	0.0	0.0	11.5	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.0	2.4	0.0	0.0	1.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	17.5	0.0	0.0	14.9	0.0	0.0	11.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	302				161				111		349	
Approach Delay, s/veh	17.5				14.9				11.8		15.1	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.0		38.0		42.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	34.5		30.5		34.5		30.5					
Max Q Clear Time (g_c+l1), s	4.9		12.5		13.1		6.7					
Green Ext Time (p_c), s	0.7		2.0		2.4		1.0					
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.80	0.89		0.78	0.92		0.81	0.88		0.81
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	165	38	18	224	65	10	69	12	20	217	36
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	607	131	97	595	166	113	563	91	103	579	92
Arrive On Green	0.48	0.48	0.42	0.48	0.48	0.42	0.41	0.41	0.35	0.41	0.41	0.35
Sat Flow, veh/h	97	1275	275	49	1252	349	86	1381	223	70	1420	226
Grp Volume(v), veh/h	228	0	0	307	0	0	91	0	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1647	0	0	1650	0	0	1690	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	6.1	0.0	0.0	1.7	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.11		0.17	0.06		0.21	0.11		0.13	0.07		0.13
Lane Grp Cap(c), veh/h	861	0	0	859	0	0	767	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.36	0.00	0.00	0.12	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1060	0	0	1062	0	0	986	0	0	1002	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.9	0.0	0.0	9.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.9	0.0	0.0	0.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	A			A			A			B		
Approach Vol, veh/h	228				307				91		273	
Approach Delay, s/veh	8.5				9.1				9.7		11.1	
Approach LOS	A				A				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		27.5		24.0		27.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.7		6.2		7.7		8.1					
Green Ext Time (p_c), s	0.4		1.4		1.5		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	19	274	14	102	296	174	12	450	85	209	439	36
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	920	760	529	920	752	62	1511	676	344	771	66
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	913	1863	1538	1080	1863	1523	33	3405	1522	598	1737	148
Grp Volume(v), veh/h	19	274	14	102	296	174	246	216	85	282	0	402
Grp Sat Flow(s),veh/h/ln	913	1863	1538	1080	1863	1523	1828	1610	1522	825	0	1658
Q Serve(g_s), s	1.0	7.0	0.4	5.0	7.7	5.2	0.0	6.9	2.6	19.2	0.0	14.3
Cycle Q Clear(g_c), s	8.7	7.0	0.4	11.9	7.7	5.2	6.8	6.9	2.6	26.1	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	0.05		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
V/C Ratio(X)	0.04	0.30	0.02	0.19	0.32	0.23	0.29	0.30	0.13	0.63	0.00	0.55
Avail Cap(c_a), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	12.0	10.3	15.6	12.2	11.6	14.3	14.3	13.1	22.2	0.0	16.4
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.8	0.9	0.7	0.8	1.1	0.4	6.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	0.2	1.6	4.1	2.3	3.7	3.3	1.2	6.3	0.0	7.1
LnGrp Delay(d),s/veh	15.0	12.8	10.4	16.4	13.1	12.3	15.1	15.4	13.5	28.9	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		307			572			547			684	
Approach Delay, s/veh		12.9			13.4			15.0			23.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		8.9		10.7		28.1		13.9				
Green Ext Time (p_c), s		3.2		1.8		2.2		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT			NBT			SBT	
Traffic Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	266	32	90	224	65	25	596	75	108	430	41
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1088	126	234	414	108	135	1309	162	281	994	97
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	233	2782	323	271	1058	275	56	2997	371	314	2275	221
Grp Volume(v), veh/h	180	0	161	379	0	0	368	0	328	273	0	306
Grp Sat Flow(s),veh/h/ln	1709	0	1629	1604	0	0	1804	0	1620	1161	0	1649
Q Serve(g_s), s	0.0	0.0	2.3	2.6	0.0	0.0	0.0	0.0	5.0	1.3	0.0	4.5
Cycle Q Clear(g_c), s	2.3	0.0	2.3	6.2	0.0	0.0	4.8	0.0	5.0	6.2	0.0	4.5
Prop In Lane	0.24		0.20	0.24		0.17	0.07		0.23	0.40		0.13
Lane Grp Cap(c), veh/h	796	0	637	755	0	0	898	0	708	651	0	720
V/C Ratio(X)	0.23	0.00	0.25	0.50	0.00	0.00	0.41	0.00	0.46	0.42	0.00	0.42
Avail Cap(c_a), veh/h	1131	0	981	1079	0	0	3530	0	3160	2440	0	3216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	7.2	8.2	0.0	0.0	6.9	0.0	6.9	6.7	0.0	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	3.0	0.0	0.0	2.5	0.0	2.3	2.0	0.0	2.0
LnGrp Delay(d),s/veh	7.3	0.0	7.4	8.8	0.0	0.0	7.2	0.0	7.4	7.2	0.0	7.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	341				379		696				579	
Approach Delay, s/veh	7.3				8.8		7.3				7.2	
Approach LOS	A				A		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.2		16.6		18.2		16.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		19.5		66.5		19.5					
Max Q Clear Time (g_c+I1), s	7.0		4.3		8.2		8.2					
Green Ext Time (p_c), s	5.2		1.8		4.8		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	7.5											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.87	0.95		0.93	0.97		0.91	0.95		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	206	63	25	161	49	13	170	51	63	249	121
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	602	184	102	568	161	74	594	171	614	518	252
Arrive On Green	0.46	0.46	0.41	0.46	0.46	0.41	0.91	0.91	0.83	0.46	0.46	0.41
Sat Flow, veh/h	1122	1317	403	98	1242	353	43	1299	374	1093	1134	551
Grp Volume(v), veh/h	177	0	269	235	0	0	234	0	0	63	0	370
Grp Sat Flow(s),veh/h/ln	1122	0	1720	1694	0	0	1716	0	0	1093	0	1685
Q Serve(g_s), s	1.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.9
Cycle Q Clear(g_c), s	7.1	0.0	7.1	5.9	0.0	0.0	1.3	0.0	0.0	1.6	0.0	10.9
Prop In Lane	1.00		0.23	0.11		0.21	0.06		0.22	1.00		0.33
Lane Grp Cap(c), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
V/C Ratio(X)	0.29	0.00	0.34	0.28	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.48
Avail Cap(c_a), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.5	12.1	0.0	0.0	2.1	0.0	0.0	10.7	0.0	13.6
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.9	0.0	0.0	0.8	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	3.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	5.5
LnGrp Delay(d),s/veh	13.4	0.0	13.7	13.0	0.0	0.0	2.9	0.0	0.0	11.1	0.0	15.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	446				235		234				433	
Approach Delay, s/veh	13.6				13.0		2.9				15.1	
Approach LOS	B				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	3.3		9.1		12.9		7.9					
Green Ext Time (p_c), s	1.4		2.4		2.3		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.82		0.73	0.93		0.70	0.92		0.71	0.85		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	202	73	30	200	40	22	125	28	42	240	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	500	170	106	591	111	113	565	118	605	617	152
Arrive On Green	0.46	0.46	0.41	0.93	0.93	0.83	0.46	0.46	0.41	0.46	0.46	0.41
Sat Flow, veh/h	99	1076	365	105	1273	240	120	1218	255	1045	1330	327
Grp Volume(v), veh/h	308	0	0	270	0	0	175	0	0	42	0	299
Grp Sat Flow(s),veh/h/ln	1540	0	0	1617	0	0	1592	0	0	1045	0	1657
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	1.2	0.0	8.4
Prop In Lane	0.11		0.24	0.11		0.15	0.13		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
V/C Ratio(X)	0.40	0.00	0.00	0.33	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.39
Avail Cap(c_a), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	1.7	0.0	0.0	11.4	0.0	0.0	10.4	0.0	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	0.5	0.0	4.1
LnGrp Delay(d),s/veh	14.2	0.0	0.0	2.8	0.0	0.0	12.0	0.0	0.0	10.6	0.0	14.0
LnGrp LOS	B			A			B			B		B
Approach Vol, veh/h		308			270			175			341	
Approach Delay, s/veh		14.2			2.8			12.0			13.6	
Approach LOS		B			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		6.4		10.9		10.4		3.4				
Green Ext Time (p_c), s		1.1		2.0		2.0		1.8				
Intersection Summary												
HCM 2010 Ctrl Delay				10.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

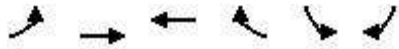
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.74	0.96		0.69	0.97		0.89	0.94		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	320	48	30	160	31	6	110	37	109	164	64
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	887	129	155	755	143	60	734	238	309	450	164
Arrive On Green	0.35	0.35	0.31	0.35	0.35	0.31	0.57	0.57	0.54	0.57	0.57	0.54
Sat Flow, veh/h	223	2536	367	281	2158	409	24	1276	415	435	783	285
Grp Volume(v), veh/h	218	0	193	115	0	106	153	0	0	337	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	1477	1446	0	1403	1715	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	7.9	0.2	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.9	8.1	0.0	4.3	3.4	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.20		0.25	0.26		0.29	0.04		0.24	0.32		0.19
Lane Grp Cap(c), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.20	0.00	0.22	0.15	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	0.0	19.7	18.0	0.0	18.6	8.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	1.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	3.5	1.9	0.0	1.8	1.7	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	20.6	0.0	21.8	18.9	0.0	19.6	8.4	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	C		C	B		B	A			B		
Approach Vol, veh/h	411				221		153				337	
Approach Delay, s/veh	21.2				19.2		8.4				10.3	
Approach LOS	C				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	49.0		31.0		49.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	41.5		23.5		41.5		23.5					
Max Q Clear Time (g_c+I1), s	5.4		9.9		11.2		10.1					
Green Ext Time (p_c), s	1.0		2.3		2.6		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	15.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	331	219	109	141	103		
Future Volume (veh/h)	103	331	219	109	141	103		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.97			0.94	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1471	1863	1900	980	1863		
Adj Flow Rate, veh/h	103	331	219	109	141	27		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	374	662	517	257	198	336		
Arrive On Green	0.45	0.45	0.45	0.45	0.21	0.21		
Sat Flow, veh/h	535	1471	1148	572	934	1583		
Grp Volume(v), veh/h	103	331	0	328	141	27		
Grp Sat Flow(s),veh/h/ln	535	1471	0	1720	934	1583		
Q Serve(g_s), s	5.8	5.7	0.0	4.6	5.0	0.5		
Cycle Q Clear(g_c), s	10.4	5.7	0.0	4.6	5.0	0.5		
Prop In Lane	1.00			0.33	1.00	1.00		
Lane Grp Cap(c), veh/h	374	662	0	774	198	336		
V/C Ratio(X)	0.28	0.50	0.00	0.42	0.71	0.08		
Avail Cap(c_a), veh/h	374	662	0	774	972	1648		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.2	6.9	0.0	6.6	13.0	11.2		
Incr Delay (d2), s/veh	1.8	2.7	0.0	1.7	4.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.8	0.0	2.5	1.5	0.2		
LnGrp Delay(d),s/veh	12.0	9.6	0.0	8.3	17.7	11.3		
LnGrp LOS	B	A		A	B	B		
Approach Vol, veh/h		434	328		168			
Approach Delay, s/veh		10.2	8.3		16.6			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				22.0		13.5		22.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				14.5		35.5		14.5
Max Q Clear Time (g_c+I1), s				12.4		7.0		6.6
Green Ext Time (p_c), s				0.7		0.5		1.3
Intersection Summary								
HCM 2010 Ctrl Delay		10.7						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	56	31	200	31	64	34	1244	145	105	1126	9
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	227	109	417	118	244	102	1791	208	175	2167	17
Arrive On Green	0.22	0.22	0.21	0.22	0.22	0.21	0.06	0.56	0.55	0.10	0.60	0.59
Sat Flow, veh/h	171	1027	495	1295	534	1103	1774	3194	371	1774	3598	29
Grp Volume(v), veh/h	106	0	0	200	0	95	34	687	702	105	554	581
Grp Sat Flow(s),veh/h/ln	1693	0	0	1295	0	1638	1774	1770	1795	1774	1770	1857
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.1	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Prop In Lane	0.18		0.29	1.00		0.67	1.00		0.21	1.00		0.02
Lane Grp Cap(c), veh/h	437	0	0	417	0	362	102	992	1007	175	1066	1119
V/C Ratio(X)	0.24	0.00	0.00	0.48	0.00	0.26	0.33	0.69	0.70	0.60	0.52	0.52
Avail Cap(c_a), veh/h	1236	0	0	1048	0	1160	352	1991	2020	502	2142	2247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	21.8	30.4	10.6	10.7	29.0	7.7	7.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.4	1.9	0.9	0.9	3.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.4	0.0	1.5	0.7	9.2	9.4	2.0	6.0	6.3
LnGrp Delay(d),s/veh	22.0	0.0	0.0	24.1	0.0	22.1	32.3	11.5	11.5	32.2	8.1	8.1
LnGrp LOS	C			C		C	C	B	B	C	A	A
Approach Vol, veh/h	106			295			1423			1240		
Approach Delay, s/veh	22.0			23.5			12.0			10.1		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	40.1		17.3	6.8	42.9		17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	17.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+I), s	1.8	20.9		5.3	3.2	14.2		10.1				
Green Ext Time (p_c), s	0.2	14.7		0.6	0.0	10.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	12.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	110	37	104	72	29	14	1458	126	18	1231	53
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	235	70	273	165	55	76	2102	180	81	2170	93
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	427	955	282	693	669	224	10	3188	273	17	3292	141
Grp Volume(v), veh/h	218	0	0	205	0	0	840	0	758	674	0	628
Grp Sat Flow(s),veh/h/ln	1664	0	0	1586	0	0	1829	0	1643	1781	0	1668
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	10.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	0.0	0.0	14.8	0.0	15.5	10.2	0.0	10.9
Prop In Lane	0.33		0.17	0.51		0.14	0.02		0.17	0.03		0.08
Lane Grp Cap(c), veh/h	500	0	0	493	0	0	1275	0	1083	1244	0	1100
V/C Ratio(X)	0.44	0.00	0.00	0.42	0.00	0.00	0.66	0.00	0.70	0.54	0.00	0.57
Avail Cap(c_a), veh/h	883	0	0	844	0	0	1743	0	1520	1682	0	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	17.0	0.0	0.0	5.6	0.0	5.7	4.8	0.0	4.9
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.6	0.0	0.0	7.7	0.0	7.0	5.2	0.0	5.0
LnGrp Delay(d),s/veh	17.8	0.0	0.0	17.6	0.0	0.0	6.2	0.0	6.6	5.2	0.0	5.4
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	218				205		1598				1302	
Approach Delay, s/veh	17.8				17.6		6.4				5.3	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.4		15.6		37.4		15.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	17.5		7.5		12.9		7.2					
Green Ext Time (p_c), s	15.4		1.1		12.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	257	74	77	1139	1269	201		
Future Volume (veh/h)	257	74	77	1139	1269	201		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	257	74	77	1139	1269	201		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	334	96	138	2342	1655	260		
Arrive On Green	0.25	0.25	0.08	0.66	0.54	0.54		
Sat Flow, veh/h	1329	383	1774	3632	3154	481		
Grp Volume(v), veh/h	332	0	77	1139	730	740		
Grp Sat Flow(s),veh/h/ln	1717	0	1774	1770	1770	1772		
Q Serve(g_s), s	12.4	0.0	2.9	11.1	22.2	22.7		
Cycle Q Clear(g_c), s	12.4	0.0	2.9	11.1	22.2	22.7		
Prop In Lane	0.77	0.22	1.00			0.27		
Lane Grp Cap(c), veh/h	431	0	138	2342	957	958		
V/C Ratio(X)	0.77	0.00	0.56	0.49	0.76	0.77		
Avail Cap(c_a), veh/h	623	0	206	3030	1232	1234		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	0.0	30.6	5.8	12.4	12.5		
Incr Delay (d2), s/veh	3.6	0.0	3.5	0.2	2.1	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	1.5	5.4	11.3	11.5		
LnGrp Delay(d),s/veh	27.6	0.0	34.2	6.0	14.5	14.8		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	332			1216	1470			
Approach Delay, s/veh	27.6			7.8	14.7			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.6		20.3	8.4	40.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		57.5		23.5	6.5	46.5		
Max Q Clear Time (g_c+I1), s		13.1		14.4	4.9	24.7		
Green Ext Time (p_c), s		10.6		0.7	0.0	11.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	276	118	1404	282	74	1208		
Future Volume (veh/h)	276	118	1404	282	74	1208		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	276	31	1404	145	74	1208		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	1865	802	157	2371		
Arrive On Green	0.22	0.22	0.53	0.53	0.09	0.67		
Sat Flow, veh/h	1774	1583	3632	1522	1774	3632		
Grp Volume(v), veh/h	276	31	1404	145	74	1208		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1522	1774	1770		
Q Serve(g_s), s	7.9	0.9	17.2	2.7	2.2	9.4		
Cycle Q Clear(g_c), s	7.9	0.9	17.2	2.7	2.2	9.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	392	350	1865	802	157	2371		
V/C Ratio(X)	0.70	0.09	0.75	0.18	0.47	0.51		
Avail Cap(c_a), veh/h	981	875	2181	938	209	2791		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	17.1	10.2	6.8	23.9	4.6		
Incr Delay (d2), s/veh	2.3	0.1	1.3	0.1	2.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.4	8.5	1.2	1.2	4.6		
LnGrp Delay(d),s/veh	22.1	17.2	11.5	6.9	26.1	4.7		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	307		1549			1282		
Approach Delay, s/veh	21.6		11.1			6.0		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	32.1				40.0		15.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	32.5					42.0		29.0
Max Q Clear Time (g_c+I_1), s	19.2					11.4		9.9
Green Ext Time (p_c), s	0.0	8.4				10.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	119	170	146	108	100	94	1549	170	72	1295	119
Future Volume (veh/h)	115	119	170	146	108	100	94	1549	170	72	1295	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.90	0.94		0.87	1.00		0.86	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1569	1863	980	1569	1863	1863	2451	1900	1863	1863	1900
Adj Flow Rate, veh/h	115	119	47	146	108	28	94	1549	170	72	1295	119
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	342	459	416	211	466	411	143	3375	369	117	2569	236
Arrive On Green	0.29	0.29	0.29	0.30	0.30	0.30	0.08	0.56	0.56	0.07	0.55	0.54
Sat Flow, veh/h	1140	1569	1422	600	1569	1382	1774	6011	658	1774	4700	432
Grp Volume(v), veh/h	115	119	47	146	108	28	94	1149	570	72	934	480
Grp Sat Flow(s),veh/h/ln	1140	1569	1422	600	1569	1382	1774	2230	2208	1774	1695	1741
Q Serve(g_s), s	9.0	6.2	2.6	25.3	5.5	1.5	5.5	16.1	16.2	4.2	18.3	18.3
Cycle Q Clear(g_c), s	14.5	6.2	2.6	31.5	5.5	1.5	5.5	16.1	16.2	4.2	18.3	18.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.25
Lane Grp Cap(c), veh/h	342	459	416	211	466	411	143	2505	1240	117	1853	952
V/C Ratio(X)	0.34	0.26	0.11	0.69	0.23	0.07	0.66	0.46	0.46	0.62	0.50	0.50
Avail Cap(c_a), veh/h	342	459	416	211	466	411	234	2505	1240	184	1853	952
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.0	28.7	27.4	40.5	28.1	26.7	47.3	13.7	13.8	48.2	15.0	15.1
Incr Delay (d2), s/veh	0.6	0.3	0.1	9.2	0.3	0.1	5.0	0.6	1.2	5.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.7	1.0	4.8	2.4	0.6	2.9	10.1	10.3	2.2	8.6	8.9
LnGrp Delay(d),s/veh	34.6	29.0	27.5	49.7	28.4	26.8	52.3	14.3	15.0	53.4	15.3	15.5
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h	281			282			1813			1486		
Approach Delay, s/veh	31.0			39.3			16.5			17.2		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.0	62.0		34.0	11.6	60.4		34.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	57.5			29.5	12.5	54.5		29.5				
Max Q Clear Time (g_c+I), s	18.2			16.5	7.5	20.3		33.5				
Green Ext Time (p_c), s	0.0	18.4		1.0	0.1	13.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	19.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	74	54	130	41	84	17	1570	183	187	1424	30
Future Volume (veh/h)	54	74	54	130	41	84	17	1570	183	187	1424	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.92	0.95		0.94	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	2451	1900	980	2451	1900	2451	2451	1900
Adj Flow Rate, veh/h	54	74	17	130	41	84	17	1570	183	187	1424	30
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	151	571	286	213	436	71	2885	336	271	3482	73
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.48	0.48	0.23	0.52	0.52
Sat Flow, veh/h	288	490	1457	1233	689	1411	934	6047	703	2334	6732	142
Grp Volume(v), veh/h	128	0	17	130	0	125	17	1157	596	187	944	510
Grp Sat Flow(s),veh/h/ln	778	0	1457	1233	0	2099	934	2230	2290	2334	2230	2413
Q Serve(g_s), s	9.0	0.0	0.7	9.0	0.0	4.0	1.6	16.9	17.0	6.8	11.9	11.9
Cycle Q Clear(g_c), s	13.0	0.0	0.7	22.0	0.0	4.0	1.6	16.9	17.0	6.8	11.9	11.9
Prop In Lane	0.42		1.00	1.00		0.67	1.00		0.31	1.00		0.06
Lane Grp Cap(c), veh/h	296	0	571	286	0	649	71	2128	1093	271	2308	1248
V/C Ratio(X)	0.43	0.00	0.03	0.46	0.00	0.19	0.24	0.54	0.55	0.69	0.41	0.41
Avail Cap(c_a), veh/h	300	0	578	292	0	660	71	2128	1093	709	3144	1701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.5	0.0	17.6	35.6	0.0	23.4	40.1	17.0	17.0	33.9	13.6	13.6
Incr Delay (d2), s/veh	1.0	0.0	0.0	1.1	0.0	0.1	7.8	1.0	2.0	3.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.3	3.2	0.0	2.4	0.6	10.6	11.2	4.6	7.4	8.0
LnGrp Delay(d),s/veh	27.5	0.0	17.7	36.8	0.0	23.5	47.9	18.0	19.0	37.0	13.7	13.8
LnGrp LOS	C		B	D		C	D	B	B	D	B	B
Approach Vol, veh/h	145		255			1770			1641			
Approach Delay, s/veh	26.4		30.3			18.6			16.4			
Approach LOS	C		C			B			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.7	47.0		31.5	10.0	50.7		31.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	42.5		27.5	5.5	63.5		27.5				
Max Q Clear Time (g_c+I), s	19.0	19.0		15.0	3.6	13.9		24.0				
Green Ext Time (p_c), s	0.5	13.7		0.6	0.0	14.0		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	154	48	44	1861	1532	67		
Future Volume (veh/h)	154	48	44	1861	1532	67		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.96	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	154	48	44	1861	1532	67		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	310	97	101	3047	3284	144		
Arrive On Green	0.24	0.24	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1294	403	54	4785	5160	218		
Grp Volume(v), veh/h	203	0	658	1247	1040	559		
Grp Sat Flow(s),veh/h/ln	1706	0	1601	1543	1695	1821		
Q Serve(g_s), s	6.0	0.0	0.0	13.6	8.8	8.8		
Cycle Q Clear(g_c), s	6.0	0.0	10.9	13.6	8.8	8.8		
Prop In Lane	0.76	0.24	0.07			0.12		
Lane Grp Cap(c), veh/h	408	0	1119	2030	2230	1198		
V/C Ratio(X)	0.50	0.00	0.59	0.61	0.47	0.47		
Avail Cap(c_a), veh/h	818	0	1541	2958	3251	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	0.0	5.3	5.7	4.9	4.9		
Incr Delay (d2), s/veh	0.9	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.6	5.6	4.1	4.4		
LnGrp Delay(d),s/veh	20.1	0.0	5.8	6.0	5.1	5.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	203			1905	1599			
Approach Delay, s/veh	20.1			6.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		41.4		17.0		41.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		54.5		26.5		54.5		
Max Q Clear Time (g_c+I1), s		15.6		8.0		10.8		
Green Ext Time (p_c), s		21.4		0.6		15.9		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

10/18/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57				
Future Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.96		0.97	0.98		0.95	1.00		0.95	1.00		0.98				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	104	95	72	195	68	50	256	1772	274	86	1470	57				
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	375	552	457	384	290	213	320	2343	359	137	2145	83				
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.18	0.53	0.53	0.08	0.43	0.43				
Sat Flow, veh/h	1223	1863	1540	1189	977	718	1774	4420	676	1774	5020	195				
Grp Volume(v), veh/h	104	95	72	195	0	118	256	1355	691	86	993	534				
Grp Sat Flow(s),veh/h/ln	1223	1863	1540	1189	0	1695	1774	1695	1706	1774	1695	1824				
Q Serve(g_s), s	6.6	3.6	3.2	13.7	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3				
Cycle Q Clear(g_c), s	11.5	3.6	3.2	17.2	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3				
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.40	1.00		0.11				
Lane Grp Cap(c), veh/h	375	552	457	384	0	502	320	1798	904	137	1448	779				
V/C Ratio(X)	0.28	0.17	0.16	0.51	0.00	0.23	0.80	0.75	0.76	0.63	0.69	0.69				
Avail Cap(c_a), veh/h	436	645	533	443	0	587	482	2061	1037	215	1552	835				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	29.3	24.5	24.4	30.9	0.0	25.0	36.9	17.3	17.4	42.0	21.8	21.8				
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.2	5.6	1.4	3.0	4.6	1.2	2.2				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.3	1.8	1.4	4.6	0.0	2.3	6.8	13.9	14.8	2.3	10.6	11.6				
LnGrp Delay(d),s/veh	29.7	24.6	24.5	31.9	0.0	25.2	42.5	18.7	20.4	46.6	22.9	23.9				
LnGrp LOS	C	C	C	C		C	D	B	C	D	C	C				
Approach Vol, veh/h	271		313			2302			1613							
Approach Delay, s/veh	26.6		29.4			21.8			24.5							
Approach LOS	C		C			C			C							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	10.3	52.8			30.8	19.9	43.1	30.8								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	55.6	55.6			31.0	24.0	41.5	31.0								
Max Q Clear Time (g_c+I), s	12.4	32.0			13.5	15.0	24.3	19.2								
Green Ext Time (p_c), s	0.0	16.2			1.0	0.5	9.6	1.1								
Intersection Summary																
HCM 2010 Ctrl Delay	23.6															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	332	241	135	88	71	50	85	1393	29	101	1333	149
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	282	158	177	143	261	130	1909	40	166	1809	202
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	1774	1110	622	1003	809	1482	1774	5125	107	1774	4610	515
Grp Volume(v), veh/h	332	0	376	159	0	50	85	922	500	101	980	502
Grp Sat Flow(s),veh/h/ln	1774	0	1732	1813	0	1482	1774	1695	1841	1774	1695	1735
Q Serve(g_s), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Cycle Q Clear(g_c), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Prop In Lane	1.00		0.36	0.55		1.00	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	451	0	441	319	0	261	130	1263	686	166	1331	681
V/C Ratio(X)	0.74	0.00	0.85	0.50	0.00	0.19	0.65	0.73	0.73	0.61	0.74	0.74
Avail Cap(c_a), veh/h	489	0	478	500	0	409	260	1958	1063	260	1958	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	43.1	0.0	40.7	52.3	31.4	31.4	50.5	30.1	30.1
Incr Delay (d2), s/veh	5.3	0.0	13.2	1.2	0.0	0.4	5.4	0.8	1.5	3.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	0.0	13.1	4.7	0.0	1.4	2.8	12.8	14.1	3.3	13.5	14.0
LnGrp Delay(d),s/veh	44.9	0.0	54.4	44.3	0.0	41.1	57.7	32.2	32.9	54.1	30.9	31.7
LnGrp LOS	D		D	D		D	E	C	C	D	C	C
Approach Vol, veh/h	708			209			1507			1583		
Approach Delay, s/veh	49.9			43.6			33.9			32.7		
Approach LOS	D			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.8	46.2		32.5	11.5	48.5		23.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	65.5		30.5	15.5	65.5		30.5				
Max Q Clear Time (g_c+I), s	10.3	29.2		26.0	7.4	30.7		11.2				
Green Ext Time (p_c), s	0.1	12.5		1.6	0.1	13.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.7											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.90	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	178	4	222	260	28	78	1206	336	204	1102	102
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	187	425	446	339	385	1545	430	251	1500	139
Arrive On Green	0.13	0.13	0.13	0.24	0.24	0.24	0.22	0.40	0.40	0.14	0.32	0.32
Sat Flow, veh/h	1774	1863	1491	1774	1863	1418	1774	3909	1089	1774	4698	434
Grp Volume(v), veh/h	152	178	4	222	260	28	78	1046	496	204	795	409
Grp Sat Flow(s),veh/h/ln	1774	1863	1491	1774	1863	1418	1774	1695	1608	1774	1695	1742
Q Serve(g_s), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Cycle Q Clear(g_c), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.25
Lane Grp Cap(c), veh/h	222	233	187	425	446	339	385	1340	635	251	1082	556
V/C Ratio(X)	0.68	0.76	0.02	0.52	0.58	0.08	0.20	0.78	0.78	0.81	0.73	0.74
Avail Cap(c_a), veh/h	264	277	222	476	500	380	385	1637	776	278	1746	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	51.2	46.5	40.1	40.7	35.8	38.8	32.0	32.1	50.5	36.7	36.7
Incr Delay (d2), s/veh	5.7	10.0	0.0	1.0	1.4	0.1	0.3	2.0	4.2	15.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	6.4	0.1	6.6	7.8	0.7	2.2	15.6	15.2	7.7	12.0	12.5
LnGrp Delay(d),s/veh	56.4	61.2	46.5	41.1	42.1	35.9	39.1	34.1	36.3	65.9	37.7	38.6
LnGrp LOS	E	E	D	D	D	D	D	C	D	E	D	D
Approach Vol, veh/h	334				510				1620		1408	
Approach Delay, s/veh	58.8				41.3				35.0		42.0	
Approach LOS	E				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	20.1	50.9			32.0	29.3	41.7	18.2				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	47.5	57.0			31.0	13.6	60.9	16.5				
Max Q Clear Time (g_c+1.5s), s	15.5	34.7			16.9	6.4	27.3	13.2				
Green Ext Time (p_c), s	0.1	11.7			2.0	0.1	9.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			40.4									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			WB		NB	NT		SB	ST	
Traffic Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	160	0	26	2	0	6	133	1528	0	32	1338	81
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	388	140	34	317	208	2694	0	100	2298	139
Arrive On Green	0.28	0.00	0.28	0.28	0.00	0.28	0.12	0.53	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1373	0	1396	259	122	1143	1774	5253	0	1774	4899	297
Grp Volume(v), veh/h	160	0	26	8	0	0	133	1528	0	32	926	493
Grp Sat Flow(s),veh/h/ln	1373	0	1396	1524	0	0	1774	1695	0	1774	1695	1805
Q Serve(g_s), s	6.0	0.0	0.9	0.0	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Cycle Q Clear(g_c), s	6.3	0.0	0.9	0.2	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	490	0	388	491	0	0	208	2694	0	100	1590	847
V/C Ratio(X)	0.33	0.00	0.07	0.02	0.00	0.00	0.64	0.57	0.00	0.32	0.58	0.58
Avail Cap(c_a), veh/h	773	0	676	798	0	0	322	7463	0	322	4975	2649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.6	17.3	0.0	0.0	27.9	10.4	0.0	30.0	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	3.3	0.2	0.0	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.4	0.1	0.0	0.0	2.5	6.3	0.0	0.6	6.1	6.6
LnGrp Delay(d),s/veh	19.9	0.0	17.6	17.3	0.0	0.0	31.1	10.6	0.0	31.8	13.2	13.5
LnGrp LOS	B		B	B			C	B		C	B	B
Approach Vol, veh/h	186			8			1661			1451		
Approach Delay, s/veh	19.5			17.3			12.3			13.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.0		21.4	10.7	34.0		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	95.5		30.5	10.5	95.5		30.5				
Max Q Clear Time (g_c+I), s	15.3	15.3		8.3	6.7	15.2		2.2				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.1	14.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

10/18/2019

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	54	30	1361	1427	107		
Future Volume (veh/h)	103	54	30	1361	1427	107		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	78	80	30	1361	1427	107		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	238	216	124	2569	2823	212		
Arrive On Green	0.13	0.13	0.07	0.73	0.59	0.59		
Sat Flow, veh/h	1774	1615	1774	3632	4988	361		
Grp Volume(v), veh/h	78	80	30	1361	1004	530		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1792		
Q Serve(g_s), s	1.7	1.9	0.7	7.3	7.5	7.5		
Cycle Q Clear(g_c), s	1.7	1.9	0.7	7.3	7.5	7.5		
Prop In Lane	1.00	1.00	1.00			0.20		
Lane Grp Cap(c), veh/h	238	216	124	2569	1985	1049		
V/C Ratio(X)	0.33	0.37	0.24	0.53	0.51	0.51		
Avail Cap(c_a), veh/h	1285	1170	290	4383	3406	1800		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.8	16.9	18.8	2.6	5.2	5.2		
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.2	0.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.4	3.5	3.4	3.6		
LnGrp Delay(d),s/veh	17.6	17.9	19.8	2.8	5.4	5.6		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	158			1391	1534			
Approach Delay, s/veh	17.8			3.2	5.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.1		8.7	6.0	28.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		9.3		3.9	2.7	9.5		
Green Ext Time (p_c), s		14.6		0.4	0.0	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	86	138	3	123	149	34	42	1147	77	260	1128	82
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	221	180	239	251	212	95	1498	669	330	2686	195
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.05	0.42	0.42	0.19	0.56	0.56
Sat Flow, veh/h	1774	1863	1519	1774	1863	1576	1774	3539	1580	1774	4834	351
Grp Volume(v), veh/h	86	138	3	123	149	34	42	1147	77	260	791	419
Grp Sat Flow(s),veh/h/ln	1774	1863	1519	1774	1863	1576	1774	1770	1580	1774	1695	1795
Q Serve(g_s), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Cycle Q Clear(g_c), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	211	221	180	239	251	212	95	1498	669	330	1883	997
V/C Ratio(X)	0.41	0.62	0.02	0.51	0.59	0.16	0.44	0.77	0.12	0.79	0.42	0.42
Avail Cap(c_a), veh/h	446	469	382	649	682	577	142	2105	940	548	2792	1479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	36.7	34.0	35.2	35.6	33.4	40.1	21.5	15.3	33.9	11.3	11.3
Incr Delay (d2), s/veh	1.3	2.9	0.0	1.7	2.2	0.3	3.2	1.1	0.1	4.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.4	0.1	2.9	3.5	0.7	1.1	12.0	1.1	6.4	5.5	5.9
LnGrp Delay(d),s/veh	37.0	39.5	34.1	36.9	37.8	33.8	43.3	22.6	15.4	38.1	11.4	11.5
LnGrp LOS	D	D	C	D	D	C	D	C	B	D	B	B
Approach Vol, veh/h	227			306			1266			1470		
Approach Delay, s/veh	38.5			37.0			22.9			16.2		
Approach LOS	D			D			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	19.3	40.0		13.4	7.7	51.6		14.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	20.5	50.5		20.5	5.5	70.5		30.5				
Max Q Clear Time (g_c+14), s	14.2	26.2		8.2	4.0	13.8		8.6				
Green Ext Time (p_c), s	0.6	9.3		0.7	0.0	10.7		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	22.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

10/18/2019

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169				
Future Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.87	1.00		0.96	1.00		0.96				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	235	0	56	5	7	4	311	451	3	2	267	169				
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	444	0	197	89	124	71	397	961	6	41	336	212				
Arrive On Green	0.13	0.00	0.13	0.17	0.17	0.17	0.22	0.52	0.52	0.02	0.32	0.32				
Sat Flow, veh/h	3548	0	1571	527	738	422	1774	1848	12	1774	1051	665				
Grp Volume(v), veh/h	235	0	56	16	0	0	311	0	454	2	0	436				
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1687	0	0	1774	0	1860	1774	0	1716				
Q Serve(g_s), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0				
Cycle Q Clear(g_c), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0				
Prop In Lane	1.00		1.00	0.31		0.25	1.00		0.01	1.00		0.39				
Lane Grp Cap(c), veh/h	444	0	197	284	0	0	397	0	968	41	0	548				
V/C Ratio(X)	0.53	0.00	0.28	0.06	0.00	0.00	0.78	0.00	0.47	0.05	0.00	0.80				
Avail Cap(c_a), veh/h	1280	0	567	471	0	0	797	0	1758	159	0	1005				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00				
Uniform Delay (d), s/veh	30.1	0.0	29.1	25.7	0.0	0.0	26.8	0.0	11.2	35.1	0.0	22.8				
Incr Delay (d2), s/veh	1.0	0.0	0.8	0.1	0.0	0.0	3.4	0.0	0.4	0.5	0.0	2.7				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.1	0.3	0.0	0.0	6.3	0.0	5.9	0.0	0.0	8.4				
LnGrp Delay(d),s/veh	31.1	0.0	29.9	25.7	0.0	0.0	30.2	0.0	11.5	35.6	0.0	25.5				
LnGrp LOS	C		C	C			C		B	D		C				
Approach Vol, veh/h	291			16			765			438						
Approach Delay, s/veh	30.9			25.7			19.1			25.5						
Approach LOS	C			C			B			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	4.7	41.2			12.2	19.4	26.5	15.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	67.9				25.0	31.5	41.5	19.0								
Max Q Clear Time (g_c+I_2), s	13.4				6.6	14.1	19.0	2.6								
Green Ext Time (p_c), s	0.0	3.3			0.9	0.9	2.9	0.0								
Intersection Summary																
HCM 2010 Ctrl Delay	23.3															
HCM 2010 LOS	C															
Notes																

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

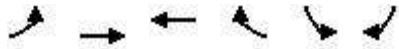
10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	86	30	1	59	1	21	13	544	118	347	714	8
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	63	210	195	3	173	73	873	189	443	1832	21
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.04	0.30	0.30	0.25	0.51	0.51
Sat Flow, veh/h	1332	465	1552	1746	30	1545	1774	2885	623	1774	3585	40
Grp Volume(v), veh/h	116	0	1	60	0	21	13	333	329	347	352	370
Grp Sat Flow(s),veh/h/ln	1796	0	1552	1775	0	1545	1774	1770	1739	1774	1770	1855
Q Serve(g_s), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Prop In Lane	0.74		1.00	0.98		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	243	0	210	198	0	173	73	535	526	443	904	948
V/C Ratio(X)	0.48	0.00	0.00	0.30	0.00	0.12	0.18	0.62	0.63	0.78	0.39	0.39
Avail Cap(c_a), veh/h	765	0	661	756	0	658	193	786	772	604	1197	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	22.4	24.5	0.0	24.0	27.7	17.9	18.0	21.0	8.9	8.9
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.8	0.0	0.3	1.1	1.2	1.2	4.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.0	0.0	0.3	0.2	4.9	4.8	5.9	3.6	3.8
LnGrp Delay(d),s/veh	25.4	0.0	22.4	25.3	0.0	24.3	28.9	19.1	19.2	25.6	9.2	9.2
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h		117			81			675			1069	
Approach Delay, s/veh		25.3			25.0			19.3			14.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	18.0	21.1		9.7	5.5	33.6		11.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.9	25.1		24.0	5.0	39.0		24.0				
Max Q Clear Time (g_c+1.0), s	12.9	11.8		3.9	2.4	9.3		5.6				
Green Ext Time (p_c), s	0.6	3.5		0.3	0.0	4.9		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

10/18/2019



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	195	929	562	51	103	437		
Future Volume (veh/h)	195	929	562	51	103	437		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	195	929	562	51	103	98		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	615	2349	1276	116	312	491		
Arrive On Green	0.18	0.66	0.39	0.37	0.18	0.18		
Sat Flow, veh/h	3442	3632	3375	297	1774	2787		
Grp Volume(v), veh/h	195	929	303	310	103	98		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1809	1774	1393		
Q Serve(g_s), s	1.5	3.7	3.9	4.0	1.6	0.9		
Cycle Q Clear(g_c), s	1.5	3.7	3.9	4.0	1.6	0.9		
Prop In Lane	1.00			0.16	1.00	1.00		
Lane Grp Cap(c), veh/h	615	2349	688	703	312	491		
V/C Ratio(X)	0.32	0.40	0.44	0.44	0.33	0.20		
Avail Cap(c_a), veh/h	1764	6066	1956	1999	1790	2812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	2.4	7.0	7.1	11.2	11.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.4	0.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.9	2.0	0.8	0.8		
LnGrp Delay(d),s/veh	11.5	2.5	7.5	7.5	11.9	11.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		1124	613		201			
Approach Delay, s/veh		4.1	7.5		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.2		8.0	8.6	14.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				51.5		29.5	14.5	32.5
Max Q Clear Time (g_c+l1), s				5.7		3.6	3.5	6.0
Green Ext Time (p_c), s				8.4		0.7	0.5	4.0
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

10/18/2019



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	646	350	215	833	246	72		
Future Volume (veh/h)	646	350	215	833	246	72		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	646	350	215	833	246	19		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	869	471	329	2301	377	336		
Arrive On Green	0.40	0.40	0.19	0.65	0.21	0.21		
Sat Flow, veh/h	2286	1188	1774	3632	1774	1583		
Grp Volume(v), veh/h	521	475	215	833	246	19		
Grp Sat Flow(s),veh/h/ln	1770	1612	1774	1770	1774	1583		
Q Serve(g_s), s	11.0	11.0	4.9	4.7	5.5	0.4		
Cycle Q Clear(g_c), s	11.0	11.0	4.9	4.7	5.5	0.4		
Prop In Lane		0.74	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	701	638	329	2301	377	336		
V/C Ratio(X)	0.74	0.74	0.65	0.36	0.65	0.06		
Avail Cap(c_a), veh/h	791	720	488	2798	793	708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	11.3	16.5	3.5	15.7	13.7		
Incr Delay (d2), s/veh	3.4	3.7	2.2	0.1	1.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	5.5	2.6	2.2	2.9	0.2		
LnGrp Delay(d),s/veh	14.7	15.0	18.7	3.6	17.6	13.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	996			1048	265			
Approach Delay, s/veh	14.8			6.7	17.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	11.1	20.3				31.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	10.5	18.0				33.0
Max Q Clear Time (g_c+I1), s		7.5	6.9	13.0				6.7
Green Ext Time (p_c), s		0.6	0.2	2.8				6.5
Intersection Summary								
HCM 2010 Ctrl Delay			11.4					
HCM 2010 LOS			B					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-72647		0	0-74510		0	0-74510		0	0-74510		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	18356480	0	71114932224	0	71114932224	0	71114932224	0	71114932224	0	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	18356480	0	71114932224	0	71114932224	0	71114932224	0	71114932224	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh18.9

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	438	61	26	261	10	45	63	25	46	53	47
Future Vol, veh/h	43	438	61	26	261	10	45	63	25	46	53	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	438	61	26	261	10	45	63	25	46	53	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	25.5	13.7	11.6	11.6
HCM LOS	D	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	8%	9%	32%
Vol Thru, %	47%	81%	88%	36%
Vol Right, %	19%	11%	3%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	542	297	146
LT Vol	45	43	26	46
Through Vol	63	438	261	53
RT Vol	25	61	10	47
Lane Flow Rate	133	542	297	146
Geometry Grp	1	1	1	1
Degree of Util (X)	0.238	0.793	0.467	0.257
Departure Headway (Hd)	6.453	5.266	5.663	6.337
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	552	683	633	562
Service Time	4.549	3.327	3.738	4.429
HCM Lane V/C Ratio	0.241	0.794	0.469	0.26
HCM Control Delay	11.6	25.5	13.7	11.6
HCM Lane LOS	B	D	B	B
HCM 95th-tile Q	0.9	7.9	2.5	1

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1347	11	0	0	0	0	71	97	208	91	0
Future Volume (veh/h)	20	1347	11	0	0	0	0	71	97	208	91	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900				0	980	1900	1900	1863	0
Adj Flow Rate, veh/h	20	1347	11				0	71	97	208	91	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	18	1285	11				0	124	169	246	92	0
Arrive On Green	0.56	0.56	0.55				0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	33	2294	20				0	371	507	494	277	0
Grp Volume(v), veh/h	722	0	656				0	0	168	299	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1172				0	0	877	771	0	0
Q Serve(g_s), s	42.0	0.0	41.9				0.0	0.0	11.9	13.1	0.0	0.0
Cycle Q Clear(g_c), s	42.0	0.0	41.9				0.0	0.0	11.9	25.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.58	0.70		0.00
Lane Grp Cap(c), veh/h	658	0	656				0	0	292	338	0	0
V/C Ratio(X)	1.10	0.00	1.00				0.00	0.00	0.57	0.88	0.00	0.00
Avail Cap(c_a), veh/h	658	0	656				0	0	292	338	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	16.5				0.0	0.0	20.7	30.6	0.0	0.0
Incr Delay (d2), s/veh	64.8	0.0	35.0				0.0	0.0	2.7	23.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	25.2	0.0	19.7				0.0	0.0	3.1	8.3	0.0	0.0
LnGrp Delay(d),s/veh	81.3	0.0	51.5				0.0	0.0	23.5	53.6	0.0	0.0
LnGrp LOS	F		D						C		D	
Approach Vol, veh/h	1378						168			299		
Approach Delay, s/veh	67.1						23.5			53.6		
Approach LOS	E						C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	29.0		46.0		29.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	24.5		41.5		24.5							
Max Q Clear Time (g_c+I1), s	13.9		44.0		27.0							
Green Ext Time (p_c), s	0.7		0.0		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay	60.9											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	319	11	89	212	106	11	128	207	75	76	39
Future Volume (veh/h)	49	319	11	89	212	106	11	128	207	75	76	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.97		0.92	0.95		0.93	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	49	319	11	89	212	106	11	128	207	75	76	39
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	593	19	620	430	215	627	241	389	440	441	226
Arrive On Green	0.38	0.38	0.36	0.38	0.38	0.36	0.39	0.39	0.38	0.39	0.39	0.38
Sat Flow, veh/h	128	1566	51	1018	1134	567	1208	612	989	1017	1122	576
Grp Volume(v), veh/h	379	0	0	89	0	318	11	0	335	75	0	115
Grp Sat Flow(s),veh/h/ln	1745	0	0	1018	0	1702	1208	0	1601	1017	0	1697
Q Serve(g_s), s	0.2	0.0	0.0	0.0	0.0	5.0	0.2	0.0	5.7	2.1	0.0	1.6
Cycle Q Clear(g_c), s	5.6	0.0	0.0	1.7	0.0	5.0	1.8	0.0	5.7	7.8	0.0	1.6
Prop In Lane	0.13		0.03	1.00		0.33	1.00		0.62	1.00		0.34
Lane Grp Cap(c), veh/h	777	0	0	620	0	645	627	0	629	440	0	667
V/C Ratio(X)	0.49	0.00	0.00	0.14	0.00	0.49	0.02	0.00	0.53	0.17	0.00	0.17
Avail Cap(c_a), veh/h	1382	0	0	989	0	1261	1219	0	1414	938	0	1499
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	7.3	0.0	8.4	7.5	0.0	8.3	11.2	0.0	7.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.7	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.6	0.0	2.4	0.1	0.0	2.6	0.6	0.0	0.7
LnGrp Delay(d),s/veh	9.0	0.0	0.0	7.4	0.0	9.0	7.5	0.0	9.0	11.4	0.0	7.1
LnGrp LOS	A			A		A	A		A	B		A
Approach Vol, veh/h	379				407				346		190	
Approach Delay, s/veh	9.0				8.6				9.0		8.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.8		17.3		17.8		17.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.5		25.5		30.5		25.5					
Max Q Clear Time (g_c+l1), s	7.7		7.6		9.8		7.0					
Green Ext Time (p_c), s	2.3		2.4		1.0		2.3					
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰		↰		↰			↰	
Traffic Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				392	0	718	0	1601	169	0	1498	515
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1032	0	836	0	3206	990	0	2362	799
Arrive On Green				0.30	0.00	0.30	0.00	0.63	0.63	0.00	0.63	0.63
Sat Flow, veh/h				3442	0	2787	0	5253	1571	0	3915	1267
Grp Volume(v), veh/h				392	0	718	0	1601	169	0	1353	660
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1571	0	1695	1624
Q Serve(g_s), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Cycle Q Clear(g_c), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.78
Lane Grp Cap(c), veh/h				1032	0	836	0	3206	990	0	2137	1024
V/C Ratio(X)				0.38	0.00	0.86	0.00	0.50	0.17	0.00	0.63	0.64
Avail Cap(c_a), veh/h				1317	0	1066	0	3206	990	0	2137	1024
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.81	0.00	0.71	0.71
Uniform Delay (d), s/veh				31.8	0.0	38.0	0.0	11.5	8.8	0.0	13.1	13.4
Incr Delay (d2), s/veh				0.2	0.0	5.9	0.0	0.5	0.3	0.0	1.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	11.4	0.0	9.2	2.3	0.0	13.5	13.7
LnGrp Delay(d),s/veh				32.0	0.0	43.8	0.0	11.9	9.1	0.0	14.1	15.6
LnGrp LOS				C		D		B	A		B	B
Approach Vol, veh/h				1110				1770			2013	
Approach Delay, s/veh				39.6				11.6			14.6	
Approach LOS				D				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.5				76.5		38.5				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		62.5				62.5		43.5				
Max Q Clear Time (g_c+I1), s		21.5				31.3		29.9				
Green Ext Time (p_c), s		17.9				19.5		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

10/18/2019

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	FF		FF					FF			FF	F
Traffic Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	346	0	201				0	1505	547	0	1493	310
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	441	0	357				0	3011	1073	0	4143	1279
Arrive On Green	0.13	0.00	0.13				0.00	0.81	0.81	0.00	0.81	0.81
Sat Flow, veh/h	3442	0	2787				0	3863	1317	0	5253	1570
Grp Volume(v), veh/h	346	0	201				0	1378	674	0	1493	310
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1622	0	1695	1570
Q Serve(g_s), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Cycle Q Clear(g_c), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Prop In Lane	1.00		1.00				0.00		0.81	0.00		1.00
Lane Grp Cap(c), veh/h	441	0	357				0	2762	1321	0	4143	1279
V/C Ratio(X)	0.78	0.00	0.56				0.00	0.50	0.51	0.00	0.36	0.24
Avail Cap(c_a), veh/h	737	0	597				0	2762	1321	0	4143	1279
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.00	0.72	0.72
Uniform Delay (d), s/veh	59.2	0.0	57.4				0.0	4.0	4.2	0.0	3.4	3.0
Incr Delay (d2), s/veh	3.1	0.0	1.4				0.0	0.4	0.9	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	3.7				0.0	8.4	8.6	0.0	5.0	14.3
LnGrp Delay(d),s/veh	62.3	0.0	58.7				0.0	4.4	5.1	0.0	3.6	3.3
LnGrp LOS	E		E					A	A		A	A
Approach Vol, veh/h		547						2052			1803	
Approach Delay, s/veh		61.0						4.7			3.5	
Approach LOS		E						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		101.5		29.5		101.5						
Max Q Clear Time (g_c+I1), s		20.7		15.6		12.8						
Green Ext Time (p_c), s		31.4		1.8		20.5						
Intersection Summary												
HCM 2010 Ctrl Delay			11.2									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 0.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	15	487	95	17	369
Future Vol, veh/h	26	15	487	95	17	369
Conflicting Peds, #/hr	1	0	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	15	487	95	17	369

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	954	550	0
Stage 1	550	-	-
Stage 2	404	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	287	535	-
Stage 1	578	-	-
Stage 2	674	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	276	527	-
Mov Cap-2 Maneuver	276	-	-
Stage 1	570	-	-
Stage 2	658	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	276	527
HCM Lane V/C Ratio	-	-	0.094	0.028
HCM Control Delay (s)	-	-	19.4	12
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.3	0.1

Intersection												
Intersection Delay, s/veh	38.1											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Future Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	213	21	23	13	161	551	16	14	364	15
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16	12.8	54.9	25.3
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	37%	100%	0%
Vol Thru, %	0%	97%	0%	12%	40%	0%	96%
Vol Right, %	0%	3%	0%	88%	23%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	567	16	243	57	14	379
LT Vol	161	0	16	0	21	14	0
Through Vol	0	551	0	30	23	0	364
RT Vol	0	16	0	213	13	0	15
Lane Flow Rate	161	567	16	243	57	14	379
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.312	1.014	0.036	0.481	0.132	0.029	0.726
Departure Headway (Hd)	6.97	6.44	8.315	7.13	8.536	7.435	6.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	567	433	505	422	482	523
Service Time	4.705	4.175	6.015	4.87	6.536	5.174	4.634
HCM Lane V/C Ratio	0.311	1	0.037	0.481	0.135	0.029	0.725
HCM Control Delay	12.8	66.8	11.3	16.3	12.8	10.4	25.9
HCM Lane LOS	B	F	B	C	B	B	D
HCM 95th-tile Q	1.3	15	0.1	2.6	0.5	0.1	6

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.95	0.97		0.86	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	0	11	50	0	20	4	654	68	37	629	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	20	134	190	10	55	595	1453	1192	552	1431	18
Arrive On Green	0.14	0.00	0.13	0.14	0.00	0.13	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	383	142	961	917	69	394	787	1863	1528	727	1834	23
Grp Volume(v), veh/h	17	0	0	70	0	0	4	654	68	37	0	637
Grp Sat Flow(s),veh/h/ln	1486	0	0	1381	0	0	787	1863	1528	727	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	0.2	11.9	1.0	1.8	0.0	11.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	4.4	0.0	0.0	11.6	11.9	1.0	13.7	0.0	11.5
Prop In Lane	0.35		0.65	0.71		0.29	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	255	0	0	595	1453	1192	552	0	1449
V/C Ratio(X)	0.07	0.00	0.00	0.27	0.00	0.00	0.01	0.45	0.06	0.07	0.00	0.44
Avail Cap(c_a), veh/h	412	0	0	404	0	0	595	1453	1192	552	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.64	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	38.9	0.0	0.0	5.6	3.7	2.5	6.0	0.0	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	0.0	0.0	0.0	6.3	0.4	0.4	0.0	6.1
LnGrp Delay(d),s/veh	37.6	0.0	0.0	39.5	0.0	0.0	5.6	4.4	2.6	6.3	0.0	4.6
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	17				70		726				674	
Approach Delay, s/veh	37.6				39.5		4.2				4.7	
Approach LOS	D				D		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	82.0		18.0		82.0		18.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		24.5		66.5		24.5					
Max Q Clear Time (g_c+I1), s	13.9		2.9		15.7		6.4					
Green Ext Time (p_c), s	5.7		0.0		5.6		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			6.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.95	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	2	3	238	4	56	1	863	238	37	479	11
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	22	33	240	4	207	45	1597	440	133	1698	40
Arrive On Green	0.11	0.11	0.10	0.14	0.14	0.14	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1200	200	300	1746	29	1503	0	2653	730	135	2820	67
Grp Volume(v), veh/h	17	0	0	242	0	56	606	0	496	249	0	278
Grp Sat Flow(s),veh/h/ln	1701	0	0	1775	0	1503	1862	0	1521	1341	0	1681
Q Serve(g_s), s	0.7	0.0	0.0	10.9	0.0	2.7	0.0	0.0	15.5	1.0	0.0	6.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	10.9	0.0	2.7	15.4	0.0	15.5	16.5	0.0	6.3
Prop In Lane	0.71		0.18	0.98		1.00	0.00		0.48	0.15		0.04
Lane Grp Cap(c), veh/h	188	0	0	244	0	207	1167	0	916	859	0	1012
V/C Ratio(X)	0.09	0.00	0.00	0.99	0.00	0.27	0.52	0.00	0.54	0.29	0.00	0.27
Avail Cap(c_a), veh/h	544	0	0	244	0	207	1167	0	916	859	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.73	0.00	0.73	0.76	0.00	0.76
Uniform Delay (d), s/veh	32.0	0.0	0.0	34.5	0.0	30.9	9.4	0.0	9.5	7.4	0.0	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	55.0	0.0	0.7	1.2	0.0	1.7	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.0	0.0	1.1	8.1	0.0	6.8	2.6	0.0	3.1
LnGrp Delay(d),s/veh	32.2	0.0	0.0	89.5	0.0	31.6	10.6	0.0	11.2	8.1	0.0	8.1
LnGrp LOS	C			F		C	B		B	A		A
Approach Vol, veh/h		17			298			1102			527	
Approach Delay, s/veh		32.2			78.6			10.9			8.1	
Approach LOS		C			E			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		52.2		12.8		52.2		15.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		30.9		25.1		30.9		10.5				
Max Q Clear Time (g_c+I1), s		17.5		2.7		18.5		12.9				
Green Ext Time (p_c), s		6.3		0.0		2.8		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Future Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	58	4	0	33	58	6	17	0	84	20	256
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	12.4	8.5	9.3	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	75%	0%	0%	81%	0%
Vol Thru, %	74%	23%	100%	0%	19%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	248	33	58	104	256
LT Vol	6	186	0	0	84	0
Through Vol	17	58	33	0	20	0
RT Vol	0	4	0	58	0	256
Lane Flow Rate	23	248	33	58	104	256
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.038	0.392	0.053	0.082	0.17	0.34
Departure Headway (Hd)	5.982	5.691	5.773	5.066	5.898	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	627	614	699	605	748
Service Time	4.082	3.764	3.566	2.857	3.661	2.549
HCM Lane V/C Ratio	0.039	0.396	0.054	0.083	0.172	0.342
HCM Control Delay	9.3	12.4	8.9	8.3	9.9	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.9	0.2	0.3	0.6	1.5

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	4	756	24	17	395	40	36	0	30	130	8	14
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	836	27	113	772	78	722	0	712	598	38	59
Arrive On Green	0.47	0.47	0.46	0.93	0.93	0.92	0.47	0.00	0.47	0.47	0.47	0.46
Sat Flow, veh/h	944	1793	57	690	1656	168	1418	0	1525	1162	82	126
Grp Volume(v), veh/h	4	0	780	17	0	435	36	0	30	152	0	0
Grp Sat Flow(s),veh/h/ln	944	0	1850	690	0	1824	1418	0	1525	1369	0	0
Q Serve(g_s), s	0.3	0.0	46.7	2.6	0.0	3.7	0.0	0.0	1.3	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	46.7	49.3	0.0	3.7	1.5	0.0	1.3	9.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.09	1.00		1.00	0.86		0.09
Lane Grp Cap(c), veh/h	471	0	863	113	0	851	722	0	712	695	0	0
V/C Ratio(X)	0.01	0.00	0.90	0.15	0.00	0.51	0.05	0.00	0.04	0.22	0.00	0.00
Avail Cap(c_a), veh/h	676	0	1264	263	0	1246	722	0	712	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	29.6	24.6	0.0	2.3	17.4	0.0	17.4	19.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.6	0.0	0.5	0.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	25.5	0.5	0.0	1.6	0.7	0.0	0.6	3.2	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	36.3	25.2	0.0	2.8	17.6	0.0	17.5	20.5	0.0	0.0
LnGrp LOS	B		D	C		A	B		B	C		
Approach Vol, veh/h	784				452		66				152	
Approach Delay, s/veh	36.3				3.6		17.5				20.5	
Approach LOS	D				A		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	60.0		60.0		60.0		60.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	29.5		81.5		29.5		81.5					
Max Q Clear Time (g_c+I1), s	3.5		48.7		11.0		51.3					
Green Ext Time (p_c), s	0.2		6.8		0.7		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay	23.6											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 8.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Future Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	64	5	0	21	6	4	20	0	12	29	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	7.5	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	69%	0%	9%
Vol Thru, %	83%	29%	78%	23%
Vol Right, %	0%	2%	22%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	220	27	127
LT Vol	4	151	0	12
Through Vol	20	64	21	29
RT Vol	0	5	6	86
Lane Flow Rate	24	220	27	127
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.265	0.033	0.146
Departure Headway (Hd)	4.681	4.34	4.374	4.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	768	816	821	869
Service Time	2.688	2.432	2.386	2.153
HCM Lane V/C Ratio	0.031	0.27	0.033	0.146
HCM Control Delay	7.8	9	7.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.5

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↔	↔		↔			↔	
Traffic Volume (veh/h)	0	0	0	57	853	238	10	74	0	0	244	30
Future Volume (veh/h)	0	0	0	57	853	238	10	74	0	0	244	30
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.97		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	980	1863	1900	980	0	0	2451	1900
Adj Flow Rate, veh/h				57	853	150	10	74	0	0	244	30
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				67	1046	875	91	233	0	0	545	67
Arrive On Green				0.58	0.58	0.58	0.26	0.26	0.00	0.00	0.26	0.25
Sat Flow, veh/h				114	1792	1498	43	904	0	0	2120	261
Grp Volume(v), veh/h				487	423	150	84	0	0	0	0	274
Grp Sat Flow(s),veh/h/ln				975	931	1498	948	0	0	0	0	2380
Q Serve(g_s), s				20.9	17.5	2.3	0.0	0.0	0.0	0.0	0.0	4.9
Cycle Q Clear(g_c), s				20.9	17.5	2.3	3.5	0.0	0.0	0.0	0.0	4.9
Prop In Lane				0.12		1.00	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				569	544	875	324	0	0	0	0	612
V/C Ratio(X)				0.86	0.78	0.17	0.26	0.00	0.00	0.00	0.00	0.45
Avail Cap(c_a), veh/h				774	739	1189	574	0	0	0	0	1275
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				8.7	8.0	4.8	15.2	0.0	0.0	0.0	0.0	15.7
Incr Delay (d2), s/veh				7.1	3.7	0.1	0.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.5	4.9	1.0	1.0	0.0	0.0	0.0	0.0	3.3
LnGrp Delay(d),s/veh				15.8	11.7	4.9	15.6	0.0	0.0	0.0	0.0	16.2
LnGrp LOS				B	B	A	B					B
Approach Vol, veh/h				1060			84			274		
Approach Delay, s/veh				12.6			15.6			16.2		
Approach LOS				B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.0				17.0		33.4				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		26.5				26.5		39.5				
Max Q Clear Time (g_c+I1), s		5.5				6.9		22.9				
Green Ext Time (p_c), s		0.4				1.6		6.0				
Intersection Summary												
HCM 2010 Ctrl Delay				13.5								
HCM 2010 LOS				B								

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

137: Curtiss St & Hillsdale Blvd

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	10	0	0	0	0	0	0	0	0	10	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1245	1900	1900	1863	1900	1900	1078	1078	1900	1275	1900
Adj Flow Rate, veh/h	2	1003	45	5	835	27	36	22	16	15	5	1
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1058	11	72	1451	49	193	74	341	214	427	3
Arrive On Green	0.65	0.65	0.64	0.65	0.65	0.64	0.19	0.19	0.19	0.19	0.19	0.18
Sat Flow, veh/h	1	2254	101	4	3411	110	489	431	871	528	273	40
Grp Volume(v), veh/h	555	0	495	456	0	411	58	0	16	21	0	0
Grp Sat Flow(s),veh/h/ln	1244	0	1111	1853	0	1672	920	0	871	842	0	0
Q Serve(g_s), s	0.0	0.0	14.4	0.0	0.0	5.8	0.0	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.3	0.0	14.4	5.8	0.0	5.8	2.4	0.0	0.8	2.4	0.0	0.0
Prop In Lane	0.00		0.09	0.01		0.07	0.62		1.00	0.71		0.05
Lane Grp Cap(c), veh/h	534	0	420	805	0	768	266	0	341	308	0	0
V/C Ratio(X)	1.04	0.00	1.18	0.57	0.00	0.54	0.22	0.00	0.05	0.07	0.00	0.00
Avail Cap(c_a), veh/h	879	0	722	1276	0	1086	535	0	410	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.0	10.5	0.0	10.6	10.7	0.0	10.3	16.8	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	103.3	2.9	0.0	2.7	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	31.8	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.7	0.0	22.9	5.0	0.0	4.8	0.6	0.0	0.1	1.5	0.0	0.0
LnGrp Delay(d),s/veh	98.2	0.0	154.8	13.3	0.0	13.3	11.1	0.0	10.3	25.0	0.0	0.0
LnGrp LOS	F		F	B		B	B		B	C		
Approach Vol, veh/h	1050			867			74			21		
Approach Delay, s/veh	124.9			13.3			11.0			25.0		
Approach LOS	F			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.1		13.9		37.1		13.9					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.5		23.5		18.5		23.5					
Max Q Clear Time (g_c+I1), s	16.4		4.4		7.8		4.4					
Green Ext Time (p_c), s	1.3		0.0		4.0		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				71.6								
HCM 2010 LOS				E								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	127	67	51	486	35	34	119	33	16	124	30
Future Volume (veh/h)	10	127	67	51	486	35	34	119	33	16	124	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.99		0.92	0.99		0.86	0.93		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	10	127	67	51	486	35	34	119	33	16	124	30
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	302	152	209	2029	143	159	571	146	65	266	60
Arrive On Green	0.52	0.52	0.48	0.52	0.52	0.48	0.38	0.38	0.33	0.38	0.38	0.33
Sat Flow, veh/h	17	575	289	298	3865	273	281	1521	389	42	710	161
Grp Volume(v), veh/h	204	0	0	296	0	276	186	0	0	170	0	0
Grp Sat Flow(s),veh/h/ln	880	0	0	2284	0	2153	2191	0	0	913	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.4	0.0	0.0	5.2	0.0	5.6	4.4	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.05		0.33	0.17		0.13	0.18		0.18	0.09		0.18
Lane Grp Cap(c), veh/h	509	0	0	1252	0	1130	875	0	0	392	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.24	0.00	0.24	0.21	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	509	0	0	1252	0	1130	875	0	0	392	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.00	0.00	0.85	0.00	0.85	0.90	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	0.0	0.0	10.3	0.0	10.5	17.2	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.4	0.0	0.4	0.1	0.0	0.0	3.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	3.7	0.0	3.5	2.8	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	10.6	0.0	10.9	17.3	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	B			B		B	B			C		
Approach Vol, veh/h	204			572			186			170		
Approach Delay, s/veh	13.9			10.8			17.3			22.8		
Approach LOS	B			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		34.0		46.0		34.0		46.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		26.5		38.5		26.5		38.5				
Max Q Clear Time (g_c+I1), s		6.4		13.4		13.1		7.6				
Green Ext Time (p_c), s		1.1		1.3		0.8		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				14.2								
HCM 2010 LOS				B								

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	148	68	130	118	85	95	1678	237	96	1392	91
Future Volume (veh/h)	55	148	68	130	118	85	95	1678	237	96	1392	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.82	0.92		0.86	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1961	2451	1900	2451	2451	1900	1863	1324	1900	2451	2451	1900
Adj Flow Rate, veh/h	55	148	68	130	118	85	95	1678	237	96	1392	91
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	192	254	117	207	211	152	136	1912	268	154	3786	247
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.60	0.60	0.07	0.59	0.59
Sat Flow, veh/h	1157	1481	680	1405	1232	887	1774	3165	444	2334	6376	417
Grp Volume(v), veh/h	55	0	216	130	0	203	95	1274	641	96	974	509
Grp Sat Flow(s),veh/h/ln	1157	0	2161	1405	0	2119	1774	1204	1200	2334	2230	2332
Q Serve(g_s), s	3.5	0.0	7.0	6.0	0.0	6.7	4.0	33.7	34.4	3.0	8.6	8.6
Cycle Q Clear(g_c), s	10.1	0.0	7.0	13.0	0.0	6.7	4.0	33.7	34.4	3.0	8.6	8.6
Prop In Lane	1.00		0.31	1.00		0.42	1.00		0.37	1.00		0.18
Lane Grp Cap(c), veh/h	192	0	371	207	0	364	136	1455	725	154	2648	1385
V/C Ratio(X)	0.29	0.00	0.58	0.63	0.00	0.56	0.70	0.88	0.88	0.62	0.37	0.37
Avail Cap(c_a), veh/h	192	0	371	207	0	364	468	1455	725	616	2648	1385
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.4	0.0	29.0	35.3	0.0	28.9	34.2	12.6	12.8	34.5	8.0	8.0
Incr Delay (d2), s/veh	0.8	0.0	2.3	6.0	0.0	1.9	6.4	7.7	14.7	4.0	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.4	3.0	0.0	4.1	2.2	12.5	14.2	2.1	5.4	5.8
LnGrp Delay(d),s/veh	34.2	0.0	31.3	41.3	0.0	30.8	40.6	20.3	27.6	38.5	8.4	8.8
LnGrp LOS	C		C	D		C	D	C	C	D	A	A
Approach Vol, veh/h	271		333			2010			1579			
Approach Delay, s/veh	31.9		34.9			23.6			10.4			
Approach LOS	C		C			C			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	49.8		17.0	9.8	49.0		17.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	49.5	44.5		12.5	19.5	44.5		12.5				
Max Q Clear Time (g_c+I), s	15.0	36.4		12.1	6.0	10.6		15.0				
Green Ext Time (p_c), s	0.2	6.5		0.1	0.2	13.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	20.0											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	636	28	6	96	21	6	124	51	119	121	25
Future Volume (veh/h)	22	636	28	6	96	21	6	124	51	119	121	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	24	0	0	35	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	2500	1900	980	1900	1000	980	1000	1900	980	1900
Adj Flow Rate, veh/h	22	636	28	6	96	21	6	124	51	119	121	25
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	712	31	51	240	50	50	393	52	65	259	15
Arrive On Green	0.40	0.38	0.36	0.40	0.38	0.36	0.49	0.47	0.45	0.49	0.47	0.45
Sat Flow, veh/h	33	1877	82	9	634	132	10	647	258	313	373	71
Grp Volume(v), veh/h	356	0	330	123	0	0	181	0	0	265	0	0
Grp Sat Flow(s),veh/h/ln	0	961	775	0	0	915	0	0	757	0	0	0
Q Serve(g_s), s	0.0	0.0	25.6	0.8	0.0	0.0	0.0	0.0	0.0	12.0	0.0	0.0
Cycle Q Clear(g_c), s	25.1	0.0	25.6	26.4	0.0	0.0	10.2	0.0	0.0	22.2	0.0	0.0
Prop In Lane	0.06		0.08	0.05		0.17	0.03		0.28	0.45		0.09
Lane Grp Cap(c), veh/h	465	0	365	361	0	0	507	0	0	393	0	0
V/C Ratio(X)	0.77	0.00	0.90	0.34	0.00	0.00	0.36	0.00	0.00	0.67	0.00	0.00
Avail Cap(c_a), veh/h	479	0	377	373	0	0	499	0	0	440	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.6	0.0	23.2	17.7	0.0	0.0	16.5	0.0	0.0	22.9	0.0	0.0
Incr Delay (d2), s/veh	7.1	0.0	24.0	0.6	0.0	0.0	2.0	0.0	0.0	9.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	25.1	0.0	0.0	174.3	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	9.2	1.9	0.0	0.0	8.7	0.0	0.0	28.3	0.0	0.0
LnGrp Delay(d),s/veh	29.7	0.0	47.2	18.3	0.0	0.0	43.6	0.0	0.0	206.2	0.0	0.0
LnGrp LOS	C		D	B			D			F		
Approach Vol, veh/h	686			123			181			265		
Approach Delay, s/veh	38.1			18.3			43.6			206.2		
Approach LOS	D			B			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		35.9		43.0		35.9					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	12.2		27.6		24.2		28.4					
Green Ext Time (p_c), s	1.1		0.9		1.3		0.1					
Intersection Summary												
HCM 2010 Ctrl Delay	72.5											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh33.4

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	325	23	30	250	19	13	126	27	29	113	24
Future Vol, veh/h	55	325	23	30	250	19	13	126	27	29	113	24
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	417	29	38	313	24	19	180	39	36	141	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	52.6	25.8	17.9	16.8
HCM LOS	F	D	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	14%	10%	17%
Vol Thru, %	76%	81%	84%	68%
Vol Right, %	16%	6%	6%	14%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	166	403	299	166
LT Vol	13	55	30	29
Through Vol	126	325	250	113
RT Vol	27	23	19	24
Lane Flow Rate	237	517	374	208
Geometry Grp	1	1	1	1
Degree of Util (X)	0.497	0.948	0.718	0.444
Departure Headway (Hd)	7.552	6.605	6.92	7.698
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	477	548	520	467
Service Time	5.628	4.664	4.988	5.776
HCM Lane V/C Ratio	0.497	0.943	0.719	0.445
HCM Control Delay	17.9	52.6	25.8	16.8
HCM Lane LOS	C	F	D	C
HCM 95th-tile Q	2.7	12.2	5.8	2.2

HCM 2010 Signalized Intersection Summary

219: Humboldt St & 5th Ave

10/18/2019

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	47	9	1	15	41	6	181	7	20	146	53
Future Volume (veh/h)	94	47	9	1	15	41	6	181	7	20	146	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900	1900	1765	1900	1900	1422	1900	1900	2451	1900
Adj Flow Rate, veh/h	94	47	9	1	15	41	6	181	7	20	146	53
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	41	8	1	14	39	5	141	5	23	165	60
Arrive On Green	0.11	0.11	0.11	0.04	0.04	0.04	0.11	0.11	0.11	0.11	0.21	0.11
Sat Flow, veh/h	765	383	73	26	392	1070	44	1313	51	211	1542	560
Grp Volume(v), veh/h	150	0	0	57	0	0	194	0	0	219	0	0
Grp Sat Flow(s),veh/h/ln	1221	0	0	1488	0	0	1408	0	0	2313	0	0
Q Serve(g_s), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.7	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.7	0.0	0.0
Prop In Lane	0.63		0.06	0.02		0.72	0.03		0.04	0.09		0.24
Lane Grp Cap(c), veh/h	131	0	0	55	0	0	151	0	0	248	0	0
V/C Ratio(X)	1.15	0.00	0.00	1.04	0.00	0.00	1.29	0.00	0.00	0.88	0.00	0.00
Avail Cap(c_a), veh/h	131	0	0	159	0	0	151	0	0	248	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	9.0	0.0	0.0	8.3	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	124.0	0.0	0.0	67.2	0.0	0.0	170.1	0.0	0.0	29.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.0	1.3	0.0	0.0	7.8	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	132.4	0.0	0.0	77.1	0.0	0.0	178.5	0.0	0.0	36.8	0.0	0.0
LnGrp LOS	F			F			F			D		
Approach Vol, veh/h	150			57			194			219		
Approach Delay, s/veh	132.4			77.1			178.5			36.8		
Approach LOS	F			E			F			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	5.0		5.0		5.0		3.7					
Change Period (Y+Rc), s	3.0		3.0		3.0		3.0					
Max Green Setting (Gmax), s	2.0		2.0		2.0		2.0					
Max Q Clear Time (g_c+l1), s	4.0		4.0		3.7		2.7					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	108.0											
HCM 2010 LOS	F											

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Future Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Conflicting Peds, #/hr	8	0	5	5	0	8	8	0	28	28	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	4	5	1	2	24	5	260	3	38	232	34
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	634	262	635	650	168	274	0	0	291	0	0
Stage 1	333	333	-	300	300	-	-	-	-	-	-	-
Stage 2	149	301	-	335	350	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	481	396	776	377	387	847	1288	-	-	1269	-	-
Stage 1	680	643	-	685	665	-	-	-	-	-	-	-
Stage 2	839	664	-	678	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	443	367	766	349	358	818	1278	-	-	1235	-	-
Mov Cap-2 Maneuver	443	367	-	349	358	-	-	-	-	-	-	-
Stage 1	671	615	-	663	644	-	-	-	-	-	-	-
Stage 2	802	643	-	642	604	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	16.2		10.2		0.1		1					
HCM LOS	C		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR				
Capacity (veh/h)	1278	-	-	448	714	1235	-	-				
HCM Lane V/C Ratio	0.004	-	-	0.283	0.038	0.031	-	-				
HCM Control Delay (s)	7.8	0	-	16.2	10.2	8	0	-				
HCM Lane LOS	A	A	-	C	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-	-				

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

10/18/2019

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	146	142	1806	166	149	1533		
Future Volume (veh/h)	146	142	1806	166	149	1533		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	146	24	1806	166	149	1533		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	220	196	2525	231	210	3695		
Arrive On Green	0.12	0.12	0.53	0.52	0.12	0.73		
Sat Flow, veh/h	1774	1583	4903	434	1774	5253		
Grp Volume(v), veh/h	146	24	1291	681	149	1533		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1779	1774	1695		
Q Serve(g_s), s	4.2	0.7	15.4	15.5	4.3	6.3		
Cycle Q Clear(g_c), s	4.2	0.7	15.4	15.5	4.3	6.3		
Prop In Lane	1.00	1.00		0.24	1.00			
Lane Grp Cap(c), veh/h	220	196	1808	949	210	3695		
V/C Ratio(X)	0.66	0.12	0.71	0.72	0.71	0.41		
Avail Cap(c_a), veh/h	995	888	2028	1064	531	4943		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	22.4	20.9	9.4	9.5	22.7	2.9		
Incr Delay (d2), s/veh	3.4	0.3	1.1	2.1	4.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.3	7.3	7.9	2.4	2.9		
LnGrp Delay(d),s/veh	25.8	21.1	10.5	11.6	27.0	2.9		
LnGrp LOS	C	C	B	B	C	A		
Approach Vol, veh/h	170		1972			1682		
Approach Delay, s/veh	25.1		10.8			5.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.3	32.5				42.9		10.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	31.5				51.5		29.5
Max Q Clear Time (g_c+I1), s	6.3	17.5				8.3		6.2
Green Ext Time (p_c), s	0.2	10.5				15.9		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			8.9					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	3.1					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	325	234	27	32	120
Future Vol, veh/h	45	325	234	27	32	120
Conflicting Peds, #/hr	36	0	0	22	22	36
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	325	234	27	32	120
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	297	0	-	0	721	320
Stage 1	-	-	-	-	284	-
Stage 2	-	-	-	-	437	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1264	-	-	-	394	721
Stage 1	-	-	-	-	764	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1221	-	-	-	351	672
Mov Cap-2 Maneuver	-	-	-	-	351	-
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	629	-
Approach	EB	WB		SB		
HCM Control Delay, s	1	0		13.7		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1221	-	-	-	564	
HCM Lane V/C Ratio	0.037	-	-	-	0.27	
HCM Control Delay (s)	8.1	0	-	-	13.7	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB			WB			NB			SB		
Opposing Approach	WB			EB			SB			NB		
Opposing Lanes	1			1			1			1		
Conflicting Approach Left	SB			NB			EB			WB		
Conflicting Lanes Left	1			1			1			1		
Conflicting Approach Right	NB			SB			WB			EB		
Conflicting Lanes Right	1			1			1			1		
HCM Control Delay	0			0			0			0		
HCM LOS	-			-			-			-		

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 8.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	149	5	0	103	21	13	67	3	11	56	34
Future Vol, veh/h	80	149	5	0	103	21	13	67	3	11	56	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	149	5	0	103	21	13	67	3	11	56	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.5	8.4	8.6	8.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	34%	0%	11%
Vol Thru, %	81%	64%	83%	55%
Vol Right, %	4%	2%	17%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	234	124	101
LT Vol	13	80	0	11
Through Vol	67	149	103	56
RT Vol	3	5	21	34
Lane Flow Rate	83	234	124	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.113	0.297	0.157	0.132
Departure Headway (Hd)	4.899	4.575	4.546	4.689
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	784	787	763
Service Time	2.944	2.61	2.585	2.732
HCM Lane V/C Ratio	0.114	0.298	0.158	0.132
HCM Control Delay	8.6	9.5	8.4	8.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.2	0.6	0.5

Intersection						
Int Delay, s/veh	-					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor			Major2	Minor2		
Conflicting Flow All			-	0	-	0
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Critical Hdwy			-	-	-	6.22
Critical Hdwy Stg 1			-	-	-	-
Critical Hdwy Stg 2			-	-	-	-
Follow-up Hdwy			-	-	-	3.318
Pot Cap-1 Maneuver			-	0	0	-
Stage 1			-	0	0	-
Stage 2			-	0	0	-
Platoon blocked, %			-			
Mov Cap-1 Maneuver			-	-	-	-
Mov Cap-2 Maneuver			-	-	-	-
Stage 1			-	-	-	-
Stage 2			-	-	-	-
Approach			WB	SB		
HCM Control Delay, s			0	0		
HCM LOS				A		
Minor Lane/Major Mvmt		WBT SBLn1				
Capacity (veh/h)		-	-			
HCM Lane V/C Ratio		-	-			
HCM Control Delay (s)		-	0			
HCM Lane LOS		-	A			
HCM 95th %tile Q(veh)		-	-			

Intersection														
Int Delay, s/veh	0													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations		↑↑			↑↑	↑								↑
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Major/Minor	Major1			Major2			Minor2							
Conflicting Flow All	-	0	-	0	0	0								
Stage 1	-	-	-	-	-	-								
Stage 2	-	-	-	-	-	-								
Critical Hdwy	-	-	-	4.13	-	-								
Critical Hdwy Stg 1	-	-	-	-	-	-								
Critical Hdwy Stg 2	-	-	-	-	-	-								
Follow-up Hdwy	-	-	-	2.219	-	-								
Pot Cap-1 Maneuver	0	-	0	-	-	-								
Stage 1	0	-	0	-	-	-								
Stage 2	0	-	0	-	-	-								
Platoon blocked, %	-	-	-	-	-	-								
Mov Cap-1 Maneuver	-	-	-	-	-	-								
Mov Cap-2 Maneuver	-	-	-	-	-	-								
Stage 1	-	-	-	-	-	-								
Stage 2	-	-	-	-	-	-								
Approach	EB			WB			SW							
HCM Control Delay, s	0						0							
HCM LOS							A							
Minor Lane/Major Mvmt	EBT		WBT	WBR	WBR2SWLn1	SWLn2								
Capacity (veh/h)	-		-	-	-	-								
HCM Lane V/C Ratio	-		-	-	-	-								
HCM Control Delay (s)	-		-	-	-	0	0							
HCM Lane LOS	-		-	-	-	A	A							
HCM 95th %tile Q(veh)	-		-	-	-	-	-							

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 analysis supports yellow change in the range of 3 and 6 seconds

Intersection

Intersection Delay, s/veh10.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Future Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	163	41	39	2	78	164	117	2	137	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.3	11.5	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	1%	50%	1%
Vol Thru, %	46%	1%	48%	86%
Vol Right, %	33%	98%	2%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	167	82	160
LT Vol	78	2	41	2
Through Vol	164	2	39	137
RT Vol	117	163	2	21
Lane Flow Rate	359	167	82	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.217	0.124	0.217
Departure Headway (Hd)	4.583	4.669	5.446	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	762	651	726
Service Time	2.649	2.748	3.539	2.967
HCM Lane V/C Ratio	0.461	0.219	0.126	0.22
HCM Control Delay	11.5	9.1	9.3	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.8	0.4	0.8

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	741	147	8	726	7	354	0	7	1	5	0
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1435	642	83	1461	14	755	0	335	14	68	0
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.21	0.00	0.21	0.04	0.04	0.00
Sat Flow, veh/h	1774	3539	1582	1774	3592	35	3548	0	1574	308	1539	0
Grp Volume(v), veh/h	7	741	147	8	358	375	354	0	7	6	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1857	1774	0	1574	1847	0	0
Q Serve(g_s), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		0.00
Lane Grp Cap(c), veh/h	81	1435	642	83	720	755	755	0	335	82	0	0
V/C Ratio(X)	0.09	0.52	0.23	0.10	0.50	0.50	0.47	0.00	0.02	0.07	0.00	0.00
Avail Cap(c_a), veh/h	279	3597	1608	279	1799	1887	2833	0	1257	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	9.2	8.0	18.9	9.1	9.1	14.2	0.0	12.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	1.1	0.1	3.1	3.2	1.8	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.5	8.2	19.3	9.6	9.6	14.7	0.0	12.9	19.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B		B	B		
Approach Vol, veh/h	895				741				361			
Approach Delay, s/veh	9.4				9.7				14.6			
Approach LOS	A				A				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6			7	8			
Phs Duration (G+Y+Rc), s	11.8		4.9	19.8	4.8			4.9	19.8			
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5			4.5	4.5			
Max Green Setting (Gmax), s	31.5		5.0	40.5	5.0			5.0	40.5			
Max Q Clear Time (g_c+I1), s	5.6		2.2	8.5	2.1			2.2	8.2			
Green Ext Time (p_c), s	1.3		0.0	6.5	0.0			0.0	5.1			
Intersection Summary												
HCM 2010 Ctrl Delay	10.5											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	395	127	172	212	6	310	42	43	2	28	16
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	927	391	417	1034	29	521	247	253	170	215	112
Arrive On Green	0.08	0.25	0.25	0.12	0.29	0.29	0.29	0.29	0.29	0.10	0.10	0.10
Sat Flow, veh/h	1774	3725	1570	3442	3515	99	1774	841	861	1774	2239	1167
Grp Volume(v), veh/h	44	395	127	172	106	112	310	0	85	2	22	22
Grp Sat Flow(s),veh/h/ln	1774	1863	1570	1721	1770	1845	1774	0	1702	1774	1770	1636
Q Serve(g_s), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Cycle Q Clear(g_c), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	135	927	391	417	520	542	521	0	500	170	170	157
V/C Ratio(X)	0.33	0.43	0.33	0.41	0.20	0.21	0.59	0.00	0.17	0.01	0.13	0.14
Avail Cap(c_a), veh/h	818	2763	1164	1587	1313	1368	1316	0	1263	1102	1100	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.3	20.3	13.2	13.2	15.1	0.0	13.1	20.4	20.6	20.7
Incr Delay (d2), s/veh	1.4	0.3	0.5	0.7	0.2	0.2	1.1	0.0	0.2	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.5	1.1	1.1	1.2	3.8	0.0	0.9	0.0	0.3	0.3
LnGrp Delay(d),s/veh	23.2	16.1	15.8	20.9	13.4	13.4	16.2	0.0	13.3	20.4	21.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		B	C	C	C
Approach Vol, veh/h		566			390			395			46	
Approach Delay, s/veh		16.6			16.7			15.5			21.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.7	9.0	15.4		7.8	6.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		9.5	4.3	6.4		2.6	3.2	4.3				
Green Ext Time (p_c), s		2.5	0.5	3.2		0.2	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	228	56	60	461	21	272	526	252	41	105	28
Adj No. of Lanes	1	2	1	2	2	0	1	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1065	468	278	961	44	381	1252	528	122	527	136
Arrive On Green	0.10	0.30	0.30	0.08	0.28	0.28	0.22	0.34	0.34	0.07	0.19	0.19
Sat Flow, veh/h	1774	3539	1557	3442	3447	157	1774	3725	1569	1774	2777	714
Grp Volume(v), veh/h	104	228	56	60	236	246	272	526	252	41	65	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1557	1721	1770	1834	1774	1863	1569	1774	1770	1721
Q Serve(g_s), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Cycle Q Clear(g_c), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	182	1065	468	278	494	511	381	1252	528	122	336	327
V/C Ratio(X)	0.57	0.21	0.12	0.22	0.48	0.48	0.71	0.42	0.48	0.34	0.19	0.21
Avail Cap(c_a), veh/h	662	2920	1284	404	1007	1044	978	3868	1629	208	1070	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.3	24.2	16.9	16.9	20.5	14.4	14.8	25.0	19.2	19.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.4	0.7	0.7	2.5	0.2	0.7	1.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	0.6	0.4	3.1	3.2	4.2	3.2	3.1	0.7	0.9	0.9
LnGrp Delay(d),s/veh	26.8	14.8	14.4	24.6	17.6	17.6	23.0	14.7	15.4	26.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		388			542			1050			174	
Approach Delay, s/veh		18.0			18.4			17.0			21.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	21.9	7.5	19.9	15.1	13.7	8.8	18.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	56.9	5.1	44.9	29.5	32.5	19.5	30.5					
Max Q Clear Time (g_c+I13), s	9.1	2.9	4.7	10.0	3.9	5.1	8.3					
Green Ext Time (p_c), s	0.0	5.1	0.0	1.8	0.8	0.7	2.9					
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	182	743	438	73	1155	74	651	155	86	131	190	126
Future Volume (veh/h)	182	743	438	73	1155	74	651	155	86	131	190	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1275	1471	1863	980	1520	1900	1716	1569	1600	1900	1569	1569
Adj Flow Rate, veh/h	182	743	338	73	1155	74	651	155	86	131	190	27
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	981	898	86	1163	74	732	217	121	142	205	279
Arrive On Green	0.15	0.35	0.35	0.09	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1214	2794	1516	934	3975	254	3170	941	522	627	910	1238
Grp Volume(v), veh/h	182	743	338	73	803	426	651	0	241	321	0	27
Grp Sat Flow(s),veh/h/ln	1214	1397	1516	934	1383	1464	1585	0	1463	1537	0	1238
Q Serve(g_s), s	17.9	28.1	14.4	9.2	34.7	34.7	23.8	0.0	18.1	24.4	0.0	2.1
Cycle Q Clear(g_c), s	17.9	28.1	14.4	9.2	34.7	34.7	23.8	0.0	18.1	24.4	0.0	2.1
Prop In Lane	1.00		1.00	1.00		0.17	1.00		0.36	0.41		1.00
Lane Grp Cap(c), veh/h	183	981	898	86	809	428	732	0	338	347	0	279
V/C Ratio(X)	1.00	0.76	0.38	0.85	0.99	0.99	0.89	0.00	0.71	0.93	0.00	0.10
Avail Cap(c_a), veh/h	183	981	898	86	809	428	742	0	342	347	0	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.8	34.3	13.4	53.5	42.2	42.2	44.5	0.0	42.4	45.3	0.0	36.7
Incr Delay (d2), s/veh	65.5	3.4	0.3	51.6	29.8	41.8	12.7	0.0	6.8	30.0	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.3	11.3	9.4	3.6	16.5	18.9	11.7	0.0	7.9	13.2	0.0	0.7
LnGrp Delay(d),s/veh	116.3	37.8	13.7	105.1	72.0	84.0	57.2	0.0	49.1	75.3	0.0	36.8
LnGrp LOS	F	D	B	F	E	F	E		D	E		D
Approach Vol, veh/h	1263			1302			892			348		
Approach Delay, s/veh	42.6			77.8			55.0			72.3		
Approach LOS	D			E			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	14.0	45.0		30.0	21.0	38.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	9.5	40.5		25.5	16.5	33.5				
Max Q Clear Time (g_c+I1), s		25.8	11.2	30.1		26.4	19.9	36.7				
Green Ext Time (p_c), s		0.4	0.0	4.7		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	60.3											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	158	241	62	94	511	0	213	224	132	202	261	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	688	558	153	616	524	278	539	302	271	461	392
Arrive On Green	0.12	0.11	0.11	0.02	0.10	0.00	0.16	0.25	0.25	0.15	0.25	0.00
Sat Flow, veh/h	1774	1863	1511	1774	1863	1583	1774	2150	1204	1774	1863	1583
Grp Volume(v), veh/h	158	241	62	94	511	0	213	182	174	202	261	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1511	1774	1863	1583	1774	1770	1585	1774	1863	1583
Q Serve(g_s), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Cycle Q Clear(g_c), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	221	688	558	153	616	524	278	444	398	271	461	392
V/C Ratio(X)	0.71	0.35	0.11	0.61	0.83	0.00	0.77	0.41	0.44	0.74	0.57	0.00
Avail Cap(c_a), veh/h	250	712	578	258	721	612	312	656	587	445	830	705
HCM Platoon Ratio	1.00	0.30	0.30	0.20	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	28.5	25.3	40.5	36.0	0.0	34.5	26.7	26.9	34.5	28.1	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.1	4.0	7.0	0.0	9.8	0.6	0.8	4.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.3	1.3	2.4	13.1	0.0	5.6	3.7	3.5	4.8	5.5	0.0
LnGrp Delay(d),s/veh	44.0	28.8	25.4	44.5	43.1	0.0	44.3	27.3	27.6	38.6	29.2	0.0
LnGrp LOS	D	C	C	D	D		D	C	C	D	C	
Approach Vol, veh/h		461			605			569			463	
Approach Delay, s/veh		33.5			43.3			33.8			33.3	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	24.4	10.4	34.5	16.3	24.1	13.6	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.9	30.1	10.9	31.1	13.5	36.5	10.5	31.5				
Max Q Clear Time (g_c+I1), s	11.3	9.9	6.5	12.2	11.8	12.5	9.3	25.0				
Green Ext Time (p_c), s	0.4	2.1	0.1	1.5	0.1	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			36.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰↱	↑↑↑	↱	↰↱	↑↑↑		↰↱	↱		↰	↱	↱
Traffic Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	10	30	0	0	0	0	30	27	13
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	2157	2157	1765	2157	2200	1863	2141	2100	1863	1863	2157
Adj Flow Rate, veh/h	308	1041	178	50	1960	84	406	132	59	51	262	210
Adj No. of Lanes	2	3	1	1	3	0	2	1	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	3494	975	104	2611	100	545	220	98	295	314	297
Arrive On Green	0.15	0.56	0.56	0.05	0.45	0.45	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3361	6471	1805	1681	5784	247	3442	1390	621	1774	1863	1783
Grp Volume(v), veh/h	308	1041	178	50	1329	715	406	0	191	51	262	210
Grp Sat Flow(s),veh/h/ln	1681	2157	1805	1681	1963	2106	1721	0	2012	1774	1863	1783
Q Serve(g_s), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Cycle Q Clear(g_c), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	510	3494	975	104	1762	947	545	0	318	295	314	297
V/C Ratio(X)	0.60	0.30	0.18	0.48	0.75	0.76	0.75	0.00	0.60	0.17	0.83	0.71
Avail Cap(c_a), veh/h	519	3600	1004	126	1762	945	663	0	387	299	314	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	20.2	18.8	74.4	38.1	38.0	64.3	0.0	62.6	61.9	66.5	65.2
Incr Delay (d2), s/veh	1.9	0.2	0.4	3.5	3.1	5.6	3.7	0.0	1.8	0.3	17.2	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	130.0	3.8	3.3	0.0	0.0	0.0	90.3	234.3	47.0
%ile BackOfQ(50%),veh/ln	6.5	8.4	4.1	7.8	28.7	31.4	8.8	0.0	8.0	14.8	35.8	15.9
LnGrp Delay(d),s/veh	65.3	20.4	19.2	207.9	44.9	46.9	67.9	0.0	64.4	152.5	318.0	119.5
LnGrp LOS	E	C	B	F	D	D	E		E	F	F	F
Approach Vol, veh/h	1527			2094			597			523		
Approach Delay, s/veh	29.3			49.5			66.8			222.2		
Approach LOS	C			D			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.3	10.5	92.0		29.2	27.7	74.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		29.3	10.5	76.7		25.5	16.8	70.3				
Max Q Clear Time (g_c+I1), s		20.0	6.7	15.6		23.9	15.6	47.4				
Green Ext Time (p_c), s		1.9	0.0	9.8		0.4	0.1	15.3				
Intersection Summary												
HCM 2010 Ctrl Delay	64.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	818	129	183	656	118	69	56	140	83	153	7
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1247	197	285	998	818	170	111	216	209	297	12
Arrive On Green	0.03	0.41	0.41	0.16	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3041	480	1774	1863	1526	320	437	849	451	1167	48
Grp Volume(v), veh/h	4	476	471	183	656	118	265	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1863	1526	1607	0	0	1666	0	0
Q Serve(g_s), s	0.1	11.1	11.1	5.0	12.9	2.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.1	11.1	5.0	12.9	2.0	7.0	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.26		0.53	0.34		0.03
Lane Grp Cap(c), veh/h	61	725	718	285	998	818	497	0	0	517	0	0
V/C Ratio(X)	0.07	0.66	0.66	0.64	0.66	0.14	0.53	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	228	1210	1198	615	1681	1377	931	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	12.2	12.2	20.2	8.5	6.0	16.9	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	2.4	0.7	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.6	5.6	2.6	6.8	0.8	3.4	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	24.4	13.2	13.2	22.6	9.3	6.1	17.8	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h		951			957			265			243	
Approach Delay, s/veh		13.3			11.4			17.8			17.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.2	24.0		16.0	4.8	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.6	16.3	33.6		26.6	5.1	44.8				
Max Q Clear Time (g_c+I1), s		9.0	7.0	13.1		8.1	2.1	14.9				
Green Ext Time (p_c), s		1.6	0.3	6.4		1.4	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Future Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.95	0.99		0.94	0.99		0.94	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900	
Adj Flow Rate, veh/h	48	291	81	85	277	53	87	254	19	205	230	110	
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	443	645	180	412	696	133	416	788	59	475	539	258	
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	
Sat Flow, veh/h	1035	1395	388	1003	1505	288	988	1704	127	1045	1166	558	
Grp Volume(v), veh/h	48	0	372	85	0	330	87	0	273	205	0	340	
Grp Sat Flow(s),veh/h/ln	1035	0	1784	1003	0	1793	988	0	1831	1045	0	1724	
Q Serve(g_s), s	2.6	0.0	11.3	5.0	0.0	9.7	5.2	0.0	7.5	12.3	0.0	10.6	
Cycle Q Clear(g_c), s	12.3	0.0	11.3	16.4	0.0	9.7	15.7	0.0	7.5	19.9	0.0	10.6	
Prop In Lane	1.00		0.22	1.00		0.16	1.00		0.07	1.00		0.32	
Lane Grp Cap(c), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
V/C Ratio(X)	0.11	0.00	0.45	0.21	0.00	0.40	0.21	0.00	0.32	0.43	0.00	0.43	
Avail Cap(c_a), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	18.2	0.0	14.6	20.2	0.0	14.2	19.7	0.0	13.6	19.9	0.0	14.4	
Incr Delay (d2), s/veh	0.5	0.0	1.8	1.1	0.0	1.4	1.1	0.0	1.0	2.9	0.0	1.7	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.0	1.5	0.0	5.1	1.5	0.0	4.0	3.9	0.0	5.4	
LnGrp Delay(d),s/veh	18.7	0.0	16.4	21.3	0.0	15.6	20.8	0.0	14.6	22.7	0.0	16.1	
LnGrp LOS	B		B	C		B	C		B	C		B	
Approach Vol, veh/h	420				415				360				545
Approach Delay, s/veh	16.6				16.8				16.1				18.6
Approach LOS	B				B				B				B
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	2		4		6		8						
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0						
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5						
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5						
Max Q Clear Time (g_c+I1), s	17.7		14.3		21.9		18.4						
Green Ext Time (p_c), s	2.0		2.5		2.7		2.2						
Intersection Summary													
HCM 2010 Ctrl Delay	17.2												
HCM 2010 LOS	B												

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳						↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	↰ ↱ ↲ ↳	
Traffic Volume (veh/h)	20	1302	11	0	0	0	0	57	259	308	262	0
Future Volume (veh/h)	20	1302	11	0	0	0	0	57	259	308	262	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1569	1700				0	1667	1078	1569	1471	0
Adj Flow Rate, veh/h	20	1302	11				0	62	60	285	294	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	1698	14				0	235	126	428	421	0
Arrive On Green	0.39	0.39	0.39				0.00	0.14	0.14	0.29	0.29	0.00
Sat Flow, veh/h	1587	4379	37				0	1667	891	1494	1471	0
Grp Volume(v), veh/h	20	849	464				0	62	60	285	294	0
Grp Sat Flow(s),veh/h/ln	1587	1427	1561				0	1667	891	1494	1471	0
Q Serve(g_s), s	0.4	12.6	12.6				0.0	1.6	3.0	8.2	8.7	0.0
Cycle Q Clear(g_c), s	0.4	12.6	12.6				0.0	1.6	3.0	8.2	8.7	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	615	1107	605				0	235	126	428	421	0
V/C Ratio(X)	0.03	0.77	0.77				0.00	0.26	0.48	0.67	0.70	0.00
Avail Cap(c_a), veh/h	653	1175	642				0	720	385	615	605	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	9.2	13.0	13.0				0.0	18.6	19.2	15.3	15.5	0.0
Incr Delay (d2), s/veh	0.0	2.9	5.3				0.0	0.6	2.8	1.8	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	5.3	6.2				0.0	0.8	0.8	3.5	3.8	0.0
LnGrp Delay(d),s/veh	9.3	15.9	18.2				0.0	19.2	22.0	17.1	17.6	0.0
LnGrp LOS	A	B	B					B	C	B	B	
Approach Vol, veh/h		1333						122			579	
Approach Delay, s/veh		16.6						20.6			17.3	
Approach LOS		B						C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		9.9		21.8		16.9						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		19.5		18.5		18.5						
Max Q Clear Time (g_c+I1), s		5.0		14.6		10.7						
Green Ext Time (p_c), s		0.4		2.7		1.7						
Intersection Summary												
HCM 2010 Ctrl Delay			17.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.94	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	331	197	66	78	11	182	206	41	53	224	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	612	355	134	914	126	389	408	328	420	335	87
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.29	0.22	0.22	0.22	0.24	0.24	0.24
Sat Flow, veh/h	1774	2123	1231	1774	3102	426	1774	1863	1497	1774	1416	367
Grp Volume(v), veh/h	52	274	254	66	44	45	182	206	41	53	0	282
Grp Sat Flow(s),veh/h/ln	1774	1770	1584	1774	1770	1758	1774	1863	1497	1774	0	1783
Q Serve(g_s), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Cycle Q Clear(g_c), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Prop In Lane	1.00		0.78	1.00		0.24	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	510	457	134	522	518	389	408	328	420	0	422
V/C Ratio(X)	0.42	0.54	0.56	0.49	0.08	0.09	0.47	0.50	0.12	0.13	0.00	0.67
Avail Cap(c_a), veh/h	189	706	632	187	703	698	667	701	563	654	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	19.9	20.0	29.5	16.9	17.0	22.6	22.8	20.8	20.0	0.0	23.0
Incr Delay (d2), s/veh	2.3	0.9	1.1	2.8	0.1	0.1	0.9	1.0	0.2	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.1	1.3	0.6	0.6	3.0	3.4	0.6	0.8	0.0	4.9
LnGrp Delay(d),s/veh	32.0	20.8	21.1	32.3	17.0	17.0	23.5	23.7	21.0	20.1	0.0	24.8
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		580			155			429			335	
Approach Delay, s/veh		21.9			23.5			23.4			24.1	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.6	8.0	22.2		18.7	7.6	22.6				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.5	5.5	25.0		23.0	5.6	24.9				
Max Q Clear Time (g_c+I1), s		8.5	4.4	11.0		11.5	3.9	3.2				
Green Ext Time (p_c), s		1.6	0.0	3.0		1.4	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			23.0									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	528	219	486	556	0				134	162	228
Adj No. of Lanes	0	1	1	1	1	0				1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	581	469	535	1202	0				517	543	447
Arrive On Green	0.00	0.31	0.31	0.30	0.65	0.00				0.29	0.29	0.29
Sat Flow, veh/h	0	1863	1503	1774	1863	0				1774	1863	1532
Grp Volume(v), veh/h	0	528	219	486	556	0				134	162	228
Grp Sat Flow(s),veh/h/ln	0	1863	1503	1774	1863	0				1774	1863	1532
Q Serve(g_s), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Cycle Q Clear(g_c), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	581	469	535	1202	0				517	543	447
V/C Ratio(X)	0.00	0.91	0.47	0.91	0.46	0.00				0.26	0.30	0.51
Avail Cap(c_a), veh/h	0	588	475	542	1216	0				517	543	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.61	0.61	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	26.3	31.9	8.5	0.0				25.8	26.1	28.0
Incr Delay (d2), s/veh	0.0	12.1	0.4	19.2	0.3	0.0				1.2	1.4	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	4.7	15.1	7.4	0.0				2.9	3.5	5.5
LnGrp Delay(d),s/veh	0.0	43.4	26.7	51.1	8.8	0.0				27.0	27.5	32.1
LnGrp LOS		D	C	D	A					C	C	C
Approach Vol, veh/h		747			1042						524	
Approach Delay, s/veh		38.5			28.5						29.4	
Approach LOS		D			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			31.6	32.7		30.7		64.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			27.5	28.5		25.5		60.5				
Max Q Clear Time (g_c+I1), s			27.0	27.8		13.8		16.3				
Green Ext Time (p_c), s			0.1	0.3		1.7		4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	980	0				1863	1863	0
Adj Flow Rate, veh/h	0	1270	314	0	1459	0				53	229	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	2358	686	0	1489	0				279	287	0
Arrive On Green	0.00	0.84	0.84	0.00	1.00	0.00				0.08	0.08	0.00
Sat Flow, veh/h	0	2843	812	0	1961	0				3442	3632	0
Grp Volume(v), veh/h	0	1270	314	0	1459	0				53	229	0
Grp Sat Flow(s), veh/h/ln	0	931	812	0	882	0				1721	1770	0
Q Serve(g_s), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Cycle Q Clear(g_c), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	2358	686	0	1489	0				279	287	0
V/C Ratio(X)	0.00	0.54	0.46	0.00	0.98	0.00				0.19	0.80	0.00
Avail Cap(c_a), veh/h	0	2358	686	0	1489	0				1506	1548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	1.8	1.6	0.0	0.0	0.0				34.3	36.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	19.0	0.0				0.3	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.9	0.0	3.9	0.0				0.6	2.7	0.0
LnGrp Delay(d),s/veh	0.0	2.3	2.8	0.0	19.0	0.0				34.6	41.2	0.0
LnGrp LOS		A	A		B					C	D	
Approach Vol, veh/h		1584			1459						282	
Approach Delay, s/veh		2.4			19.0						39.9	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				70.5		9.5		70.5				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s				12.4		3.1		2.0				
Green Ext Time (p_c), s				11.2		0.0		14.0				
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.97		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	612	107	118	541	28	144	79	133	51	105	15
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1463	255	458	856	44	457	217	528	235	410	49
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	832	2995	522	722	1753	91	847	630	1534	304	1190	144
Grp Volume(v), veh/h	7	361	358	118	0	569	223	0	133	171	0	0
Grp Sat Flow(s),veh/h/ln	832	1770	1748	722	0	1843	1476	0	1534	1638	0	0
Q Serve(g_s), s	0.2	4.7	4.7	4.5	0.0	8.2	1.2	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	4.7	4.7	9.2	0.0	8.2	3.6	0.0	2.2	2.4	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.05	0.65		1.00	0.30		0.09
Lane Grp Cap(c), veh/h	417	864	854	458	0	900	673	0	528	694	0	0
V/C Ratio(X)	0.02	0.42	0.42	0.26	0.00	0.63	0.33	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	707	1482	1463	710	0	1543	1128	0	1027	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.9	5.9	8.9	0.0	6.8	8.8	0.0	8.4	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.0	0.7	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.3	0.9	0.0	4.3	1.7	0.0	1.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	9.9	6.2	6.2	9.2	0.0	7.5	9.1	0.0	8.7	8.7	0.0	0.0
LnGrp LOS	A	A	A	A		A	A		A	A		
Approach Vol, veh/h		726			687			356			171	
Approach Delay, s/veh		6.3			7.8			8.9			8.7	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		20.5		15.3		20.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.6		10.4		4.4		11.2				
Green Ext Time (p_c), s		1.7		4.4		0.9		4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.89	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	57	19	138	168	117	61	277	73	113	196	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	319	106	223	309	215	144	432	114	192	500	107
Arrive On Green	0.05	0.24	0.24	0.13	0.31	0.31	0.08	0.31	0.31	0.11	0.34	0.34
Sat Flow, veh/h	1774	1325	442	1774	991	690	1774	1383	365	1774	1473	316
Grp Volume(v), veh/h	24	0	76	138	0	285	61	0	350	113	0	238
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	0	1681	1774	0	1748	1774	0	1789
Q Serve(g_s), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Cycle Q Clear(g_c), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Prop In Lane	1.00		0.25	1.00		0.41	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	97	0	425	223	0	525	144	0	545	192	0	607
V/C Ratio(X)	0.25	0.00	0.18	0.62	0.00	0.54	0.42	0.00	0.64	0.59	0.00	0.39
Avail Cap(c_a), veh/h	441	0	941	441	0	896	441	0	931	441	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	17.0	23.3	0.0	16.0	24.6	0.0	16.7	23.9	0.0	14.2
Incr Delay (d2), s/veh	1.3	0.0	0.2	2.8	0.0	0.9	2.0	0.0	1.3	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	2.2	0.0	3.8	1.0	0.0	4.9	1.8	0.0	2.8
LnGrp Delay(d),s/veh	26.8	0.0	17.2	26.1	0.0	16.9	26.6	0.0	17.9	26.7	0.0	14.6
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	100			423			411			351		
Approach Delay, s/veh	19.5			19.9			19.2			18.5		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	20.6	10.1	16.5	7.6	22.1	6.1	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+1.5), s	11.7	11.7	6.2	3.9	3.8	7.7	2.7	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.2	0.3	0.1	1.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	19.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	0	115	326	561	89	40	271	0	0	536	18
Future Volume (veh/h)	31	0	115	326	561	89	40	271	0	0	536	18
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	1471	980	0	0	1078	1900
Adj Flow Rate, veh/h	31	0	15	326	561	89	40	271	0	0	536	18
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	599	1023	162	77	919	0	0	653	22
Arrive On Green	0.02	0.00	0.02	0.34	0.34	0.34	0.05	0.49	0.00	0.00	0.32	0.32
Sat Flow, veh/h		0		1774	3027	478	1401	1912	0	0	2073	68
Grp Volume(v), veh/h		0.0		326	327	323	40	271	0	0	272	282
Grp Sat Flow(s),veh/h/ln				1774	1770	1736	1401	931	0	0	1025	1063
Q Serve(g_s), s				9.7	9.8	9.9	1.8	5.6	0.0	0.0	15.9	16.0
Cycle Q Clear(g_c), s				9.7	9.8	9.9	1.8	5.6	0.0	0.0	15.9	16.0
Prop In Lane				1.00		0.28	1.00		0.00	0.00		0.06
Lane Grp Cap(c), veh/h				599	598	586	77	919	0	0	331	344
V/C Ratio(X)				0.54	0.55	0.55	0.52	0.29	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h				599	598	586	118	919	0	0	378	392
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.5	17.5	17.5	29.9	9.8	0.0	0.0	20.3	20.3
Incr Delay (d2), s/veh				3.5	3.6	3.7	5.4	0.2	0.0	0.0	12.0	11.9
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.3	5.3	5.3	0.8	1.5	0.0	0.0	5.6	5.8
LnGrp Delay(d),s/veh				21.0	21.1	21.2	35.4	10.0	0.0	0.0	32.3	32.2
LnGrp LOS				C	C	C	D	A			C	C
Approach Vol, veh/h					976			311			554	
Approach Delay, s/veh					21.1			13.2			32.2	
Approach LOS					C			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		40.1			11.1	29.1		25.0				
Change Period (Y+Rc), s		9.5			9.0	* 9.5		4.5				
Max Green Setting (Gmax), s		30.5			4.0	* 23		20.5				
Max Q Clear Time (g_c+I1), s		7.6			3.8	18.0		11.9				
Green Ext Time (p_c), s		1.8			0.0	1.4		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				23.1								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		LT					LT	LT		LT	LT	
Traffic Volume (veh/h)	20	503	17	0	0	0	14	289	138	264	635	38
Future Volume (veh/h)	20	503	17	0	0	0	14	289	138	264	635	38
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900				1863	2451	1900	1078	2451	1900
Adj Flow Rate, veh/h	20	503	17				14	289	138	264	635	38
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	73	1924	68				49	415	191	334	1936	116
Arrive On Green	0.43	0.43	0.43				0.03	0.14	0.14	0.32	0.43	0.43
Sat Flow, veh/h	172	4527	160				1774	3018	1388	1027	4450	266
Grp Volume(v), veh/h	284	0	256				14	220	207	264	332	341
Grp Sat Flow(s), veh/h/ln	2442	0	2418				1774	2328	2077	1027	2328	2387
Q Serve(g_s), s	6.0	0.0	5.5				0.6	7.2	7.6	18.7	7.5	7.5
Cycle Q Clear(g_c), s	6.0	0.0	5.5				0.6	7.2	7.6	18.7	7.5	7.5
Prop In Lane	0.07		0.07				1.00		0.67	1.00		0.11
Lane Grp Cap(c), veh/h	1038	0	1027				49	320	286	334	1013	1038
V/C Ratio(X)	0.27	0.00	0.25				0.29	0.69	0.72	0.79	0.33	0.33
Avail Cap(c_a), veh/h	1038	0	1027				399	320	286	334	1013	1038
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.0	0.0	14.8				38.1	32.9	33.0	24.5	14.9	14.9
Incr Delay (d2), s/veh	0.7	0.0	0.6				3.2	6.1	8.7	17.2	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	3.8				0.3	5.2	5.1	6.9	4.8	5.0
LnGrp Delay(d),s/veh	15.6	0.0	15.4				41.3	39.0	41.8	41.8	15.1	15.1
LnGrp LOS	B		B				D	D	D	D	B	B
Approach Vol, veh/h		540						441			937	
Approach Delay, s/veh		15.5						40.3			22.6	
Approach LOS		B						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	29.0	14.0		37.0	5.2	37.8						
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5						
Max Green Setting (Gmax), s	24.5	9.5		32.5	16.5	17.5						
Max Q Clear Time (g_c+20), s	20.7	9.6		8.0	2.6	9.5						
Green Ext Time (p_c), s	0.3	0.0		3.4	0.0	2.7						
Intersection Summary												
HCM 2010 Ctrl Delay			24.7									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	166	53	13	177	37	54	349	11	4	317	194
Future Volume (veh/h)	64	166	53	13	177	37	54	349	11	4	317	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	1900	1900	980	1900	1900	980	1900	1900	980	980
Adj Flow Rate, veh/h	64	166	53	13	177	37	54	349	11	4	317	127
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	165	47	55	227	46	88	392	12	47	537	452
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	136	551	158	23	755	152	68	713	21	3	976	821
Grp Volume(v), veh/h	283	0	0	227	0	0	414	0	0	321	0	127
Grp Sat Flow(s),veh/h/ln	845	0	0	931	0	0	802	0	0	979	0	821
Q Serve(g_s), s	6.1	0.0	0.0	0.0	0.0	0.0	21.6	0.0	0.0	0.0	0.0	6.6
Cycle Q Clear(g_c), s	24.0	0.0	0.0	17.9	0.0	0.0	39.2	0.0	0.0	17.5	0.0	6.6
Prop In Lane	0.23		0.19	0.06		0.16	0.13		0.03	0.01		1.00
Lane Grp Cap(c), veh/h	309	0	0	327	0	0	492	0	0	584	0	452
V/C Ratio(X)	0.92	0.00	0.00	0.69	0.00	0.00	0.84	0.00	0.00	0.55	0.00	0.28
Avail Cap(c_a), veh/h	309	0	0	327	0	0	492	0	0	584	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.0	0.0	0.0	25.8	0.0	0.0	16.9	0.0	0.0	12.0	0.0	9.6
Incr Delay (d2), s/veh	30.7	0.0	0.0	6.2	0.0	0.0	15.9	0.0	0.0	3.7	0.0	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	0.0	5.2	0.0	0.0	10.7	0.0	0.0	5.3	0.0	1.7
LnGrp Delay(d),s/veh	59.7	0.0	0.0	32.0	0.0	0.0	32.8	0.0	0.0	15.7	0.0	11.1
LnGrp LOS	E			C			C			B		B
Approach Vol, veh/h	283				227		414				448	
Approach Delay, s/veh	59.7				32.0		32.8				14.4	
Approach LOS	E				C		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		30.0		50.0		30.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	42.5		22.5		42.5		22.5					
Max Q Clear Time (g_c+I1), s	41.2		26.0		19.5		19.9					
Green Ext Time (p_c), s	0.4		0.0		2.5		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay	32.2											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	194	53	51	235	16	62	296	31	9	365	107
Future Volume (veh/h)	64	194	53	51	235	16	62	296	31	9	365	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	64	194	53	51	235	16	62	296	31	9	365	107
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	223	409	101	203	518	33	209	623	60	124	606	175
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	230	1141	282	186	1446	91	166	1393	135	13	1355	391
Grp Volume(v), veh/h	311	0	0	302	0	0	389	0	0	481	0	0
Grp Sat Flow(s),veh/h/ln	1653	0	0	1723	0	0	1694	0	0	1759	0	0
Q Serve(g_s), s	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	3.9	0.0	0.0	4.6	0.0	0.0	6.4	0.0	0.0
Prop In Lane	0.21		0.17	0.17		0.05	0.16		0.08	0.02		0.22
Lane Grp Cap(c), veh/h	733	0	0	754	0	0	893	0	0	906	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.40	0.00	0.00	0.44	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	1543	0	0	1603	0	0	1561	0	0	1647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.7	0.0	0.0	7.6	0.0	0.0	6.0	0.0	0.0	6.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.0	0.3	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	2.0	0.0	0.0	2.4	0.0	0.0	3.2	0.0	0.0
LnGrp Delay(d),s/veh	8.1	0.0	0.0	8.0	0.0	0.0	6.3	0.0	0.0	7.0	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	311				302				389		481	
Approach Delay, s/veh	8.1				8.0				6.3		7.0	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	16.9		14.1		16.9		14.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	6.6		6.2		8.4		5.9					
Green Ext Time (p_c), s	2.6		2.0		3.1		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			7.2									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	219	260	128	86	288	81	181	391	136	110	439	185
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1287	543	143	758	208	328	783	268	173	734	305
Arrive On Green	0.17	0.36	0.36	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	1774	3539	1493	1774	2721	749	3442	2558	876	1774	2380	989
Grp Volume(v), veh/h	219	260	128	86	185	184	181	269	258	110	325	299
Grp Sat Flow(s),veh/h/ln	1774	1770	1493	1774	1770	1700	1721	1770	1664	1774	1770	1600
Q Serve(g_s), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Cycle Q Clear(g_c), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.53	1.00		0.62
Lane Grp Cap(c), veh/h	295	1287	543	143	493	473	328	542	510	173	546	494
V/C Ratio(X)	0.74	0.20	0.24	0.60	0.38	0.39	0.55	0.50	0.51	0.64	0.59	0.61
Avail Cap(c_a), veh/h	538	1833	773	269	648	623	478	693	652	314	760	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.3	17.5	35.2	23.0	23.1	34.2	22.5	22.6	34.4	23.2	23.3
Incr Delay (d2), s/veh	3.7	0.1	0.2	4.0	0.5	0.5	1.5	0.7	0.8	3.8	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.0	2.0	2.0	3.3	3.3	2.0	4.9	4.7	2.5	6.1	5.7
LnGrp Delay(d),s/veh	35.1	17.4	17.7	39.1	23.5	23.6	35.7	23.2	23.3	38.2	24.2	24.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		607			455			708			734	
Approach Delay, s/veh		23.8			26.5			26.4			26.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.7	27.3	9.4	31.8	10.5	27.4	16.2	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	29.5	10.5	39.5	9.5	32.5	22.5	27.5				
Max Q Clear Time (g_c+10), s	12.1	12.1	5.7	6.7	6.0	14.6	11.3	8.9				
Green Ext Time (p_c), s	0.1	3.1	0.1	2.2	0.2	3.8	0.5	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				25.8								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↔	↔		↔	
Traffic Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	23	67	665	0	0	63	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	58	169	1219	0	544	386	0	606	0	6	0
Arrive On Green	0.00	0.14	0.14	0.34	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	421	1226	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	90	665	0	0	63	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1646	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.74	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	228	1219	0	544	386	0	606	0	6	0
V/C Ratio(X)	0.00	0.00	0.40	0.55	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1074	2610	0	1165	1157	0	1817	0	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.7	7.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	2.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.9	8.3	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			A					
Approach Vol, veh/h		90			665			63			0	
Approach Delay, s/veh		12.9			8.3			9.7			0.0	
Approach LOS		B			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		7.1		0.0		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		15.5		20.5				
Max Q Clear Time (g_c+I1), s		2.9		3.5		0.0		6.5				
Green Ext Time (p_c), s		0.2		0.3		0.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘	↙		↖		↗		↘	↙	↖
Traffic Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	117	234	35	270	0	392	0	197	248	261	158	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	210	421	507	0	0	0	0	517	448	541	965	0
Arrive On Green	0.34	0.34	0.34	0.03	0.00	0.03	0.00	0.29	0.29	0.16	0.52	0.00
Sat Flow, veh/h	611	1221	1472		0		0	1863	1533	3442	1863	0
Grp Volume(v), veh/h	351	0	35		0.0		0	197	248	261	158	0
Grp Sat Flow(s),veh/h/ln	1832	0	1472				0	1770	1533	1721	1863	0
Q Serve(g_s), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Prop In Lane	0.33		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	507				0	517	448	541	965	0
V/C Ratio(X)	0.56	0.00	0.07				0.00	0.38	0.55	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1468	0	1180				0	1086	940	1198	1919	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	9.6				0.0	12.3	13.0	16.8	5.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.1				0.0	0.5	1.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.3				0.0	1.9	2.6	1.5	1.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	9.7				0.0	12.8	14.1	17.5	5.6	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		386						445			419	
Approach Delay, s/veh		12.1						13.5			13.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	15.8		18.1		25.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	3.7	25.3		33.5		43.5						
Max Q Clear Time (g_c+1.0), s	15.0	8.0		8.8		4.0						
Green Ext Time (p_c), s	0.6	2.6		2.3		0.9						
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	238	352	84				0	436	212	276	579	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	536	563	464				0	1028	424	462	970	0
Arrive On Green	0.30	0.30	0.30				0.00	0.28	0.28	0.26	0.26	0.00
Sat Flow, veh/h	1774	1863	1535				0	3725	1535	1774	3725	0
Grp Volume(v), veh/h	238	352	84				0	436	212	276	579	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1535				0	1863	1535	1774	1863	0
Q Serve(g_s), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Cycle Q Clear(g_c), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	536	563	464				0	1028	424	462	970	0
V/C Ratio(X)	0.44	0.63	0.18				0.00	0.42	0.50	0.60	0.60	0.00
Avail Cap(c_a), veh/h	923	969	798				0	2072	854	668	1404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	16.7	14.4				0.0	16.5	17.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.6	1.1	0.2				0.0	0.3	0.9	1.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.8	1.0				0.0	2.8	2.8	3.8	3.9	0.0
LnGrp Delay(d),s/veh	16.3	17.9	14.5				0.0	16.8	17.9	19.3	18.6	0.0
LnGrp LOS	B	B	B					B	B	B	B	
Approach Vol, veh/h		674						648			855	
Approach Delay, s/veh		16.9						17.2			18.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		19.8		17.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.5		27.5		19.5						
Max Q Clear Time (g_c+I1), s		8.5		11.1		9.6						
Green Ext Time (p_c), s		3.6		2.9		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.97		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	1	82	0	59	0	518	37	451	608	3
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	159	59	402	0	281	0	1060	458	586	2499	12
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.00	0.30	0.30	0.33	0.69	0.69
Sat Flow, veh/h	431	863	323	1376	0	1528	0	3632	1530	1774	3611	18
Grp Volume(v), veh/h	5	0	0	82	0	59	0	518	37	451	298	313
Grp Sat Flow(s),veh/h/ln1617	0	0	0	1376	0	1528	0	1770	1530	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Prop In Lane	0.40		0.20	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	401	0	0	402	0	281	0	1060	458	586	1225	1287
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.21	0.00	0.49	0.08	0.77	0.24	0.24
Avail Cap(c_a), veh/h	1045	0	0	973	0	918	0	2052	887	1616	2748	2887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	17.1	0.0	16.7	0.0	13.9	12.1	14.5	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.1	2.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.1	0.0	0.0	1.0	0.0	0.7	0.0	2.9	0.4	5.7	1.4	1.5	
LnGrp Delay(d),s/veh	16.2	0.0	0.0	17.3	0.0	17.1	0.0	14.2	12.2	16.7	2.9	2.9
LnGrp LOS	B			B		B		B	B	B	A	A
Approach Vol, veh/h		5			141			555			1062	
Approach Delay, s/veh		16.2			17.2			14.1			8.7	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.0	17.5		11.9		36.4		11.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	42.5	26.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+113, s)	113.0	7.8		2.1		5.0		4.5				
Green Ext Time (p_c), s	1.5	3.5		0.0		4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				11.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	448	240	100	197	286	428		
Future Volume (veh/h)	448	240	100	197	286	428		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	448	240	100	197	286	180		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1235	568	450	813	716	1027		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	511	2202	1863	2674		
Grp Volume(v), veh/h	448	240	155	142	286	180		
Grp Sat Flow(s),veh/h/ln	1721	1583	1018	1610	1863	1337		
Q Serve(g_s), s	2.2	2.7	0.6	1.4	2.6	1.0		
Cycle Q Clear(g_c), s	2.2	2.7	3.2	1.4	2.6	1.0		
Prop In Lane	1.00	1.00	0.65			1.00		
Lane Grp Cap(c), veh/h	1235	568	645	619	716	1027		
V/C Ratio(X)	0.36	0.42	0.24	0.23	0.40	0.18		
Avail Cap(c_a), veh/h	3170	1458	1293	1552	1796	2578		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.7	5.1	4.9	5.2	4.7		
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.2	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.8	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	5.7	6.2	5.3	5.0	5.6	4.8		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	688			297	466			
Approach Delay, s/veh	5.9			5.2	5.3			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		12.0		11.4		12.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+l1), s		5.2		4.7		4.6		
Green Ext Time (p_c), s		1.7		2.3		2.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.92	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	34	84	7	189	41	8	184	441	99	122	194	25
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	174	254	316	402	75	245	1661	370	181	1714	218
Arrive On Green	0.05	0.09	0.09	0.09	0.14	0.14	0.14	0.58	0.58	0.10	0.54	0.54
Sat Flow, veh/h	1774	1863	2716	3442	2933	547	1774	2867	638	1774	3156	401
Grp Volume(v), veh/h	34	84	7	189	24	25	184	271	269	122	108	111
Grp Sat Flow(s),veh/h/ln	1774	1863	1358	1721	1770	1710	1774	1770	1735	1774	1770	1788
Q Serve(g_s), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Cycle Q Clear(g_c), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	86	174	254	316	242	234	245	1025	1005	181	961	971
V/C Ratio(X)	0.40	0.48	0.03	0.60	0.10	0.11	0.75	0.26	0.27	0.68	0.11	0.11
Avail Cap(c_a), veh/h	138	503	733	371	531	513	276	1025	1005	250	961	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	37.1	39.3	34.0	34.0	37.3	9.4	9.4	39.0	10.0	10.0
Incr Delay (d2), s/veh	2.9	2.1	0.0	1.9	0.2	0.2	7.6	0.5	0.5	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.1	2.3	0.5	0.6	4.9	3.4	3.4	3.1	1.3	1.4
LnGrp Delay(d),s/veh	44.5	40.8	37.1	41.2	34.1	34.2	44.9	9.9	9.9	43.3	10.2	10.3
LnGrp LOS	D	D	D	D	C	C	D	A	A	D	B	B
Approach Vol, veh/h		125			238			724			341	
Approach Delay, s/veh		41.6			39.7			18.8			22.1	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.2	55.1	11.3	11.4	15.4	51.9	7.4	15.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	1.2	29.8	8.2	22.8	12.5	28.5	5.5	25.5				
Max Q Clear Time (g_c+1/3), s	9.0	9.0	6.7	5.9	11.0	4.7	3.7	3.2				
Green Ext Time (p_c), s	0.1	3.3	0.1	0.3	0.1	1.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.85	0.87		0.72	0.85		0.72	0.80		0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	29	15	17	57	54	38	139	33	36	120	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	450	222	105	294	249	140	465	102	166	514	40
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.83	0.83	0.83	0.41	0.41	0.41
Sat Flow, veh/h	19	1086	535	112	710	600	192	1123	245	249	1240	95
Grp Volume(v), veh/h	46	0	0	128	0	0	210	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1641	0	0	1422	0	0	1561	0	0	1584	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.33	0.13		0.42	0.18		0.16	0.22		0.06
Lane Grp Cap(c), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
V/C Ratio(X)	0.06	0.00	0.00	0.20	0.00	0.00	0.30	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.1	0.0	0.0	3.7	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	13.8	0.0	0.0	4.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	46				128				210		166	
Approach Delay, s/veh	12.5				13.8				4.8		14.0	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	4.0		3.2		6.1		5.9					
Green Ext Time (p_c), s	1.4		0.2		1.0		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay	10.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.90	0.93		0.90	0.91		0.93	0.97		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	59	16	14	174	29	33	153	17	6	121	9
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	384	94	74	593	94	138	593	61	64	714	51
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.86	0.86	0.86
Sat Flow, veh/h	368	960	236	47	1483	236	183	1384	143	24	1666	120
Grp Volume(v), veh/h	106	0	0	217	0	0	203	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1766	0	0	1710	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	0.29		0.15	0.06		0.13	0.16		0.08	0.04		0.07
Lane Grp Cap(c), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.29	0.00	0.00	0.26	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.3	0.0	0.0	12.9	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.0	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.3	0.0	0.0	13.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	106				217				203		136	
Approach Delay, s/veh	13.9				15.3				13.6		3.3	
Approach LOS	B				B				B		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	7.0		4.7		2.9		7.8					
Green Ext Time (p_c), s	1.2		0.6		0.8		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↔			↔	
Traffic Volume (veh/h)	19	82	41	73	334	62	15	117	12	9	109	16
Future Volume (veh/h)	19	82	41	73	334	62	15	117	12	9	109	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.86	0.98		0.88	0.82		0.75	0.86		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	980	980	1961	1900	980	1900	1900	2451	1900
Adj Flow Rate, veh/h	19	82	41	73	334	33	15	117	12	9	109	16
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	247	111	368	499	750	84	213	21	87	523	73
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.55	0.55	0.55	0.27	0.27	0.27
Sat Flow, veh/h	54	485	219	653	980	1473	45	783	75	63	1918	269
Grp Volume(v), veh/h	142	0	0	73	334	33	144	0	0	134	0	0
Grp Sat Flow(s), veh/h/ln	758	0	0	653	980	1473	903	0	0	2250	0	0
Q Serve(g_s), s	0.6	0.0	0.0	0.0	14.0	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.5	0.0	0.0	9.0	14.0	0.6	5.6	0.0	0.0	2.5	0.0	0.0
Prop In Lane	0.13		0.29	1.00		1.00	0.10		0.08	0.07		0.12
Lane Grp Cap(c), veh/h	460	0	0	368	499	750	318	0	0	683	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.20	0.67	0.04	0.45	0.00	0.00	0.20	0.00	0.00
Avail Cap(c_a), veh/h	460	0	0	368	499	750	318	0	0	683	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.00	0.96	0.96	0.96	0.84	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d), s/veh	8.0	0.0	0.0	8.8	10.1	6.8	10.4	0.0	0.0	15.4	0.0	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	1.2	6.7	0.1	3.9	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.8	4.6	0.3	1.7	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	9.7	0.0	0.0	10.0	16.7	6.9	14.2	0.0	0.0	16.1	0.0	0.0
LnGrp LOS	A			A	B	A	B			B		
Approach Vol, veh/h		142			440			144			134	
Approach Delay, s/veh		9.7			14.9			14.2			16.1	
Approach LOS		A			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		21.0		34.0		21.0		34.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		13.5		26.5		13.5		26.5				
Max Q Clear Time (g_c+I1), s		7.6		16.5		4.5		16.0				
Green Ext Time (p_c), s		0.3		0.5		0.4		2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				14.1								
HCM 2010 LOS				B								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	380	20	7	86	7	13	99	44	61	106	59
Future Volume (veh/h)	21	380	20	7	86	7	13	99	44	61	106	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.98		0.95	0.95		0.96	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900	1900	980	1900	1900	980	1900	1900	1176	1900
Adj Flow Rate, veh/h	21	380	20	7	86	7	13	99	44	61	106	59
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	977	50	82	408	32	81	186	77	143	173	82
Arrive On Green	0.48	0.48	0.45	0.48	0.48	0.45	0.30	0.30	0.28	0.51	0.51	0.46
Sat Flow, veh/h	50	2043	105	24	852	66	33	614	254	197	569	271
Grp Volume(v), veh/h	222	0	199	100	0	0	156	0	0	226	0	0
Grp Sat Flow(s),veh/h/ln	152	0	1046	942	0	0	902	0	0	1037	0	0
Q Serve(g_s), s	0.0	0.0	6.8	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0
Cycle Q Clear(g_c), s	6.7	0.0	6.8	3.3	0.0	0.0	7.9	0.0	0.0	8.5	0.0	0.0
Prop In Lane	0.09		0.10	0.07		0.07	0.08		0.28	0.27		0.26
Lane Grp Cap(c), veh/h	623	0	500	521	0	0	345	0	0	398	0	0
V/C Ratio(X)	0.36	0.00	0.40	0.19	0.00	0.00	0.45	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	623	0	500	521	0	0	445	0	0	509	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.97	0.00	0.00	0.98	0.00	0.00
Uniform Delay (d), s/veh	9.2	0.0	9.3	8.4	0.0	0.0	16.3	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	2.4	0.8	0.0	0.0	0.9	0.0	0.0	1.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	2.3	1.0	0.0	0.0	2.1	0.0	0.0	2.7	0.0	0.0
LnGrp Delay(d),s/veh	10.8	0.0	11.7	9.2	0.0	0.0	17.2	0.0	0.0	13.1	0.0	0.0
LnGrp LOS	B		B	A			B			B		
Approach Vol, veh/h	421				100				156		226	
Approach Delay, s/veh	11.2				9.2				17.2		13.1	
Approach LOS	B				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	22.7		32.3		22.7		32.3					
Change Period (Y+Rc), s	7.5		* 7.5		7.5		7.5					
Max Green Setting (Gmax), s	21.5		* 22		21.5		18.5					
Max Q Clear Time (g_c+I1), s	9.9		8.8		10.5		5.3					
Green Ext Time (p_c), s	0.6		2.0		1.0		0.4					
Intersection Summary												
HCM 2010 Ctrl Delay	12.5											
HCM 2010 LOS	B											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	309	54	21	265	11	32	126	56	13	97	23
Future Volume (veh/h)	18	309	54	21	265	11	32	126	56	13	97	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.98		0.96	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900	1900	1176	1900	1900	2451	1900	1900	1569	1900
Adj Flow Rate, veh/h	18	309	54	21	265	11	32	126	56	13	97	23
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	898	152	72	483	19	133	536	216	81	428	95
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	49	1965	333	37	1057	42	199	1442	582	67	1153	255
Grp Volume(v), veh/h	381	0	0	297	0	0	214	0	0	133	0	0
Grp Sat Flow(s),veh/h/ln	2347	0	0	1136	0	0	2223	0	0	1475	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	13.0	0.0	0.0	4.5	0.0	0.0	4.2	0.0	0.0
Prop In Lane	0.05		0.14	0.07		0.04	0.15		0.26	0.10		0.17
Lane Grp Cap(c), veh/h	1127	0	0	574	0	0	885	0	0	604	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.52	0.00	0.00	0.24	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	1127	0	0	574	0	0	885	0	0	604	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.3	0.0	0.0	13.8	0.0	0.0	15.2	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	3.3	0.0	0.0	0.6	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	4.7	0.0	0.0	3.0	0.0	0.0	1.9	0.0	0.0
LnGrp Delay(d),s/veh	13.1	0.0	0.0	17.1	0.0	0.0	15.9	0.0	0.0	16.0	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	381				297				214		133	
Approach Delay, s/veh	13.1				17.1				15.9		16.0	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	6.5		9.2		6.2		15.0					
Green Ext Time (p_c), s	1.2		2.5		0.6		1.6					
Intersection Summary												
HCM 2010 Ctrl Delay			15.2									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.91	0.93		0.87	0.95		0.91	0.94		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	85	26	7	155	51	13	99	15	12	173	66
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	268	73	60	513	164	96	617	88	67	523	191
Arrive On Green	0.67	0.67	0.67	0.80	0.80	0.80	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	549	670	183	18	1282	409	91	1439	205	31	1220	446
Grp Volume(v), veh/h	199	0	0	213	0	0	127	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1402	0	0	1710	0	0	1736	0	0	1698	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.44		0.13	0.03		0.24	0.10		0.12	0.05		0.26
Lane Grp Cap(c), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	0.0	4.4	0.0	0.0	12.3	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	0.0	0.0	1.6	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.4	0.0	0.0	12.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	199			213			127			251		
Approach Delay, s/veh	8.8			5.4			12.7			14.5		
Approach LOS	A			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	5.0		5.4		8.9		4.3					
Green Ext Time (p_c), s	0.7		1.3		1.5		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	10.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

35: Ellsowrth Ave/Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	0.94		0.91	0.95		0.91	0.94		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	104	19	12	255	43	3	48	8	8	151	35
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	514	83	104	604	99	104	448	72	103	423	95
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	177	1276	206	28	1500	246	33	1498	240	32	1414	318
Grp Volume(v), veh/h	153	0	0	310	0	0	59	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1660	0	0	1774	0	0	1772	0	0	1764	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.0	0.0	0.0	1.0	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.20		0.12	0.04		0.14	0.05		0.14	0.04		0.18
Lane Grp Cap(c), veh/h	775	0	0	807	0	0	624	0	0	621	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.00	0.00	0.09	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1233	0	0	1321	0	0	1184	0	0	1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.7	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	10.3	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	153				310				59		194	
Approach Delay, s/veh	8.0				9.0				10.3		11.4	
Approach LOS	A				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.0		22.2		18.0		22.2					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.0		4.2		5.5		7.0					
Green Ext Time (p_c), s	0.2		0.8		1.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	270	10	78	267	115	8	381	101	149	462	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	908	753	527	908	744	56	1500	664	294	906	77
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	989	1863	1546	1090	1863	1526	22	3428	1517	516	2071	176
Grp Volume(v), veh/h	29	270	10	78	267	115	208	181	101	292	0	357
Grp Sat Flow(s),veh/h/ln	989	1863	1546	1090	1863	1526	1839	1610	1517	1112	0	1651
Q Serve(g_s), s	1.4	7.0	0.3	3.7	6.9	3.3	0.0	5.7	3.2	12.3	0.0	12.4
Cycle Q Clear(g_c), s	8.3	7.0	0.3	10.6	6.9	3.3	5.7	5.7	3.2	18.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.11
Lane Grp Cap(c), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
V/C Ratio(X)	0.06	0.30	0.01	0.15	0.29	0.15	0.24	0.26	0.15	0.53	0.00	0.49
Avail Cap(c_a), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	12.3	10.6	15.5	12.3	11.4	14.2	14.3	13.6	18.3	0.0	16.2
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.6	0.8	0.4	0.7	0.9	0.5	3.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	0.1	1.2	3.7	1.5	3.0	2.7	1.4	5.6	0.0	6.1
LnGrp Delay(d),s/veh	15.0	13.1	10.6	16.1	13.1	11.8	14.9	15.1	14.0	21.8	0.0	18.6
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h	309				460		490				649	
Approach Delay, s/veh	13.2				13.3		14.8				20.0	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	33.5		37.5		33.5		37.5					
Max Q Clear Time (g_c+I1), s	7.7		10.3		20.0		12.6					
Green Ext Time (p_c), s	2.7		1.8		3.8		2.3					
Intersection Summary												
HCM 2010 Ctrl Delay			16.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.98		0.98	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	342	56	93	260	52	31	526	58	86	463	29
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1123	177	231	476	86	145	1228	133	245	1085	67
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	226	2665	420	254	1129	204	84	2992	323	279	2644	164
Grp Volume(v), veh/h	238	0	214	405	0	0	322	0	293	286	0	292
Grp Sat Flow(s),veh/h/ln	1703	0	1608	1587	0	0	1768	0	1631	1432	0	1655
Q Serve(g_s), s	0.0	0.0	3.2	2.5	0.0	0.0	0.0	0.0	4.6	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.0	0.0	3.2	6.5	0.0	0.0	4.4	0.0	4.6	4.8	0.0	4.5
Prop In Lane	0.23		0.26	0.23		0.13	0.10		0.20	0.30		0.10
Lane Grp Cap(c), veh/h	842	0	678	793	0	0	836	0	670	719	0	679
V/C Ratio(X)	0.28	0.00	0.32	0.51	0.00	0.00	0.39	0.00	0.44	0.40	0.00	0.43
Avail Cap(c_a), veh/h	1548	0	1395	1464	0	0	3347	0	3104	2732	0	3149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	6.9	7.7	0.0	0.0	7.5	0.0	7.6	7.3	0.0	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.4	3.0	0.0	0.0	2.3	0.0	2.1	2.0	0.0	2.1
LnGrp Delay(d),s/veh	7.0	0.0	7.2	8.3	0.0	0.0	7.8	0.0	8.0	7.7	0.0	8.0
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	452				405				615		578	
Approach Delay, s/veh	7.1				8.3				7.9		7.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.7		18.1		17.7		18.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		29.5		66.5		29.5					
Max Q Clear Time (g_c+I1), s	6.6		5.2		6.8		8.5					
Green Ext Time (p_c), s	4.5		2.9		4.5		2.8					
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.98		0.93	0.99		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	207	34	9	145	75	13	177	22	29	251	132
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	631	104	63	456	227	73	654	78	596	474	249
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.84	0.84	0.84	0.42	0.42	0.42
Sat Flow, veh/h	1106	1549	255	24	1120	557	43	1552	185	1137	1125	592
Grp Volume(v), veh/h	265	0	241	229	0	0	212	0	0	29	0	383
Grp Sat Flow(s),veh/h/ln	1106	0	1804	1701	0	0	1780	0	0	1137	0	1716
Q Serve(g_s), s	7.3	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Cycle Q Clear(g_c), s	13.7	0.0	6.4	6.4	0.0	0.0	1.7	0.0	0.0	0.7	0.0	11.6
Prop In Lane	1.00		0.14	0.04		0.33	0.06		0.10	1.00		0.34
Lane Grp Cap(c), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
V/C Ratio(X)	0.49	0.00	0.33	0.31	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.53
Avail Cap(c_a), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	14.2	14.2	0.0	0.0	3.3	0.0	0.0	11.9	0.0	15.1
Incr Delay (d2), s/veh	3.1	0.0	1.2	1.1	0.0	0.0	0.8	0.0	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.4	3.2	0.0	0.0	0.9	0.0	0.0	0.4	0.0	6.0
LnGrp Delay(d),s/veh	19.6	0.0	15.4	15.3	0.0	0.0	4.1	0.0	0.0	12.1	0.0	17.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	506				229				212		412	
Approach Delay, s/veh	17.6				15.3				4.1		17.4	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.5		34.5		35.5		34.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.0		27.0		28.0		27.0					
Max Q Clear Time (g_c+I1), s	3.7		15.7		13.6		8.4					
Green Ext Time (p_c), s	1.2		2.1		2.2		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	15.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	0.97		0.96	0.97		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	137	37	27	228	47	6	116	17	16	223	41
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	488	121	93	638	124	63	576	81	581	559	103
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	273	1068	265	80	1397	272	24	1550	219	1215	1505	277
Grp Volume(v), veh/h	224	0	0	302	0	0	139	0	0	16	0	264
Grp Sat Flow(s),veh/h/ln	1607	0	0	1749	0	0	1794	0	0	1215	0	1782
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	7.7	0.0	0.0	3.7	0.0	0.0	0.4	0.0	7.7
Prop In Lane	0.22		0.17	0.09		0.16	0.04		0.12	1.00		0.16
Lane Grp Cap(c), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.40
Avail Cap(c_a), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.4	0.0	0.0	15.0	0.0	0.0	14.0	0.0	16.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	4.1
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.5	0.0	0.0	15.6	0.0	0.0	14.0	0.0	18.0
LnGrp LOS	B			B			B			B		B
Approach Vol, veh/h	224				302				139		280	
Approach Delay, s/veh	12.7				13.5				15.6		17.8	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	5.7		7.4		9.7		9.7					
Green Ext Time (p_c), s	0.7		1.4		1.4		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

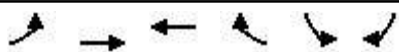
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.97		0.95	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	258	38	14	138	17	8	99	13	75	132	52
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	950	137	115	1025	124	75	751	95	252	429	157
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	289	2621	378	174	2828	341	55	1541	194	398	880	321
Grp Volume(v), veh/h	176	0	160	89	0	80	120	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1696	0	1591	1729	0	1614	1790	0	0	1600	0	0
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	5.7	2.5	0.0	2.7	2.9	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.23		0.24	0.16		0.21	0.07		0.11	0.29		0.20
Lane Grp Cap(c), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.13	0.00	0.14	0.13	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	18.1	17.1	0.0	17.1	11.2	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.4	0.0	0.5	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.7	1.4	0.0	1.3	1.5	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	18.9	0.0	19.3	17.5	0.0	17.6	11.5	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B		B	B		B	B			B		
Approach Vol, veh/h	336				169		120				259	
Approach Delay, s/veh	19.1				17.5		11.5				13.3	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	37.5		27.5		37.5		27.5					
Max Q Clear Time (g_c+I1), s	4.9		7.7		9.3		4.7					
Green Ext Time (p_c), s	0.7		2.0		1.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	97	333	262	80	109	92		
Future Volume (veh/h)	97	333	262	80	109	92		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.99			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1863	2451	1900	1863	2451		
Adj Flow Rate, veh/h	97	333	262	80	109	28		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	343	946	912	278	535	628		
Arrive On Green	0.51	0.51	0.51	0.51	0.30	0.30		
Sat Flow, veh/h	541	1863	1795	548	1774	2083		
Grp Volume(v), veh/h	97	333	0	342	109	28		
Grp Sat Flow(s),veh/h/ln	541	1863	0	2343	1774	2083		
Q Serve(g_s), s	7.9	6.7	0.0	5.3	2.9	0.6		
Cycle Q Clear(g_c), s	13.2	6.7	0.0	5.3	2.9	0.6		
Prop In Lane	1.00			0.23	1.00	1.00		
Lane Grp Cap(c), veh/h	343	946	0	1190	535	628		
V/C Ratio(X)	0.28	0.35	0.00	0.29	0.20	0.04		
Avail Cap(c_a), veh/h	343	946	0	1190	535	628		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.7	9.3	0.0	8.9	16.4	15.6		
Incr Delay (d2), s/veh	2.0	1.0	0.0	0.6	0.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	3.7	0.0	3.6	1.5	0.4		
LnGrp Delay(d),s/veh	14.8	10.3	0.0	9.5	17.2	15.7		
LnGrp LOS	B	B		A	B	B		
Approach Vol, veh/h		430	342		137			
Approach Delay, s/veh		11.3	9.5		16.9			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				38.0		25.0		38.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				30.5		17.5		30.5
Max Q Clear Time (g_c+I1), s				15.2		4.9		7.3
Green Ext Time (p_c), s				2.8		0.3		2.3
Intersection Summary								
HCM 2010 Ctrl Delay		11.5						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.98		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	116	70	171	77	79	79	1085	178	121	1098	7
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	269	149	389	219	225	138	1520	249	192	1922	12
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.53	0.53
Sat Flow, veh/h	96	1021	567	1174	832	854	1774	3024	494	1774	3604	23
Grp Volume(v), veh/h	208	0	0	171	0	156	79	634	629	121	539	566
Grp Sat Flow(s),veh/h/ln	1684	0	0	1174	0	1686	1774	1770	1749	1774	1770	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	10.5	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Prop In Lane	0.11		0.34	1.00		0.51	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	499	0	0	389	0	444	138	890	879	192	943	990
V/C Ratio(X)	0.42	0.00	0.00	0.44	0.00	0.35	0.57	0.71	0.72	0.63	0.57	0.57
Avail Cap(c_a), veh/h	1147	0	0	851	0	1108	330	1855	1833	471	1996	2096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.5	0.0	21.4	31.8	13.8	13.8	30.5	11.2	11.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	0.5	3.7	1.1	1.1	3.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	3.1	0.0	2.6	1.7	9.8	9.9	2.5	7.2	7.5
LnGrp Delay(d),s/veh	22.6	0.0	0.0	24.3	0.0	21.9	35.5	14.8	14.9	33.9	11.8	11.7
LnGrp LOS	C			C		C	D	B	B	C	B	B
Approach Vol, veh/h	208			327			1342			1226		
Approach Delay, s/veh	22.6			23.1			16.1			13.9		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.7	39.0		21.8	8.6	41.1		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+10), s	10.5	22.0		9.2	5.1	16.6		12.5				
Green Ext Time (p_c), s	0.2	12.5		1.4	0.1	9.8		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	77	81	54	112	86	50	26	1263	108	34	1197	37
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	213	115	272	185	89	91	1879	159	101	1947	60
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	449	762	414	598	664	319	27	3132	265	41	3246	99
Grp Volume(v), veh/h	212	0	0	248	0	0	728	0	669	643	0	625
Grp Sat Flow(s),veh/h/ln	1624	0	0	1581	0	0	1779	0	1645	1710	0	1676
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	13.6	0.0	0.0	11.8
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.9	0.0	0.0	12.7	0.0	13.6	10.5	0.0	11.8
Prop In Lane	0.36		0.25	0.45		0.20	0.04		0.16	0.05		0.06
Lane Grp Cap(c), veh/h	552	0	0	546	0	0	1142	0	987	1102	0	1005
V/C Ratio(X)	0.38	0.00	0.00	0.45	0.00	0.00	0.64	0.00	0.68	0.58	0.00	0.62
Avail Cap(c_a), veh/h	907	0	0	892	0	0	1779	0	1612	1695	0	1643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.9	0.0	0.0	6.5	0.0	6.7	6.1	0.0	6.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.9	0.0	0.0	6.7	0.0	6.2	5.3	0.0	5.6
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.5	0.0	0.0	7.1	0.0	7.5	6.5	0.0	6.9
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	212				248		1397				1268	
Approach Delay, s/veh	15.1				15.5		7.3				6.7	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.7		16.8		32.7		16.8					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	15.6		6.8		13.8		7.9					
Green Ext Time (p_c), s	12.6		1.2		11.3		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	273	37	73	1105	1334	192		
Future Volume (veh/h)	273	37	73	1105	1334	192		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	273	37	73	1105	1334	192		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	364	49	134	2394	1732	247		
Arrive On Green	0.24	0.24	0.08	0.68	0.56	0.56		
Sat Flow, veh/h	1530	207	1774	3632	3198	443		
Grp Volume(v), veh/h	311	0	73	1105	755	771		
Grp Sat Flow(s),veh/h/ln	1742	0	1774	1770	1770	1778		
Q Serve(g_s), s	11.6	0.0	2.8	10.3	23.1	23.7		
Cycle Q Clear(g_c), s	11.6	0.0	2.8	10.3	23.1	23.7		
Prop In Lane	0.88	0.12	1.00			0.25		
Lane Grp Cap(c), veh/h	414	0	134	2394	987	992		
V/C Ratio(X)	0.75	0.00	0.54	0.46	0.77	0.78		
Avail Cap(c_a), veh/h	572	0	203	3084	1264	1270		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.7	0.0	31.2	5.3	11.9	12.1		
Incr Delay (d2), s/veh	3.6	0.0	3.4	0.1	2.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.5	5.0	11.7	12.0		
LnGrp Delay(d),s/veh	28.3	0.0	34.6	5.5	14.1	14.4		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	311			1178	1526			
Approach Delay, s/veh	28.3			7.3	14.3			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.4		19.7	8.3	42.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	6.5	48.5		
Max Q Clear Time (g_c+I1), s		12.3		13.6	4.8	25.7		
Green Ext Time (p_c), s		10.2		0.6	0.0	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	184	91	1307	436	81	1225		
Future Volume (veh/h)	184	91	1307	436	81	1225		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	184	20	1307	234	81	1225		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	303	270	1921	829	177	2495		
Arrive On Green	0.17	0.17	0.54	0.54	0.10	0.70		
Sat Flow, veh/h	1774	1583	3632	1528	1774	3632		
Grp Volume(v), veh/h	184	20	1307	234	81	1225		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1528	1774	1770		
Q Serve(g_s), s	4.6	0.5	12.9	4.0	2.1	7.5		
Cycle Q Clear(g_c), s	4.6	0.5	12.9	4.0	2.1	7.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	303	270	1921	829	177	2495		
V/C Ratio(X)	0.61	0.07	0.68	0.28	0.46	0.49		
Avail Cap(c_a), veh/h	1123	1002	2497	1078	239	3195		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.5	16.8	8.0	5.9	20.5	3.2		
Incr Delay (d2), s/veh	2.0	0.1	0.5	0.2	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.3	1.7	1.1	3.6		
LnGrp Delay(d),s/veh	20.5	16.9	8.5	6.1	22.3	3.4		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	204		1541			1306		
Approach Delay, s/veh	20.1		8.1			4.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.8	29.2				37.0		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+I14), s	14.9	14.9				9.5		6.6
Green Ext Time (p_c), s	0.0	9.8				11.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	138	144	114	140	42	64	1350	68	31	1418	85
Future Volume (veh/h)	173	138	144	114	140	42	64	1350	68	31	1418	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.97		0.94	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	2451	1863	980	1863	1863	980	2451	1900	1765	2451	1900
Adj Flow Rate, veh/h	173	138	38	114	140	10	64	1350	68	31	1418	85
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	367	738	452	236	561	450	82	3636	183	76	3321	199
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.09	0.56	0.56	0.05	0.52	0.52
Sat Flow, veh/h	1194	2451	1503	616	1863	1496	934	6503	328	1681	6431	385
Grp Volume(v), veh/h	173	138	38	114	140	10	64	926	492	31	984	519
Grp Sat Flow(s),veh/h/ln	1194	2451	1503	616	1863	1496	934	2230	2369	1681	2230	2355
Q Serve(g_s), s	12.2	4.0	1.7	16.0	5.4	0.4	6.4	11.0	11.0	1.7	13.0	13.0
Cycle Q Clear(g_c), s	17.6	4.0	1.7	19.9	5.4	0.4	6.4	11.0	11.0	1.7	13.0	13.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.14	1.00		0.16
Lane Grp Cap(c), veh/h	367	738	452	236	561	450	82	2494	1325	76	2304	1216
V/C Ratio(X)	0.47	0.19	0.08	0.48	0.25	0.02	0.78	0.37	0.37	0.41	0.43	0.43
Avail Cap(c_a), veh/h	460	929	569	284	706	567	118	2494	1325	212	2304	1216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.91	0.91	0.91	0.85	0.85	0.85
Uniform Delay (d), s/veh	31.7	24.6	23.8	32.0	25.1	23.4	42.4	11.7	11.7	44.1	14.2	14.2
Incr Delay (d2), s/veh	0.9	0.1	0.1	1.4	0.2	0.0	17.0	0.4	0.7	3.0	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	2.7	0.7	2.8	2.8	0.2	2.0	6.8	7.4	0.9	8.1	8.7
LnGrp Delay(d),s/veh	32.7	24.7	23.9	33.4	25.3	23.4	59.5	12.0	12.4	47.1	14.7	15.2
LnGrp LOS	C	C	C	C	C	C	E	B	B	D	B	B
Approach Vol, veh/h		349			264			1482			1534	
Approach Delay, s/veh		28.6			28.7			14.2			15.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.3	56.1		31.6	11.3	52.1		31.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	40.5	36.5		34.5	10.5	36.5		34.5				
Max Q Clear Time (g_c+I13), s	13.0	13.0		19.6	8.4	15.0		21.9				
Green Ext Time (p_c), s	0.0	10.6		1.4	0.0	10.8		1.5				
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	112	16	86	57	55	45	1574	97	120	1405	34
Future Volume (veh/h)	63	112	16	86	57	55	45	1574	97	120	1405	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	1863	1900	980	2451	1900	2157	2451	1900
Adj Flow Rate, veh/h	63	112	4	86	57	55	45	1574	97	120	1405	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	125	169	451	204	257	248	76	3514	216	189	3747	91
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.08	0.51	0.51	0.09	0.52	0.52
Sat Flow, veh/h	249	557	1486	1231	847	817	934	6836	421	2054	7142	173
Grp Volume(v), veh/h	175	0	4	86	0	112	45	1128	543	120	964	475
Grp Sat Flow(s),veh/h/ln	807	0	1486	1231	0	1665	934	2451	2355	2054	2451	2413
Q Serve(g_s), s	14.7	0.0	0.2	6.7	0.0	5.0	4.6	14.5	14.5	5.6	11.6	11.6
Cycle Q Clear(g_c), s	19.7	0.0	0.2	26.4	0.0	5.0	4.6	14.5	14.5	5.6	11.6	11.6
Prop In Lane	0.36		1.00	1.00		0.49	1.00		0.18	1.00		0.07
Lane Grp Cap(c), veh/h	294	0	451	204	0	506	76	2520	1210	189	2572	1266
V/C Ratio(X)	0.60	0.00	0.01	0.42	0.00	0.22	0.59	0.45	0.45	0.63	0.37	0.37
Avail Cap(c_a), veh/h	296	0	455	206	0	509	116	2520	1210	271	2572	1266
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	0.71	0.71	0.71	0.90	0.90	0.90
Uniform Delay (d), s/veh	31.2	0.0	24.3	42.9	0.0	26.0	44.3	15.3	15.3	43.8	14.1	14.1
Incr Delay (d2), s/veh	3.2	0.0	0.0	1.4	0.0	0.2	5.1	0.4	0.9	3.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.1	2.4	0.0	2.3	1.3	9.9	9.6	3.4	8.0	8.1
LnGrp Delay(d),s/veh	34.4	0.0	24.3	44.3	0.0	26.2	49.4	15.7	16.2	46.9	14.4	14.8
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	179		198				1716			1559		
Approach Delay, s/veh	34.2		34.0				16.8			17.1		
Approach LOS	C		C				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.2	54.4		33.4	11.2	55.5		33.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	1.3	45.7		29.1	10.9	46.5		29.1				
Max Q Clear Time (g_c+I1), s	16.5	16.5		21.7	6.6	13.6		28.4				
Green Ext Time (p_c), s	0.1	14.5		0.5	0.0	12.4		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	18.7											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	187	74	59	1697	1479	154		
Future Volume (veh/h)	187	74	59	1697	1479	154		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	187	74	59	1697	1479	154		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	301	119	124	2870	3009	313		
Arrive On Green	0.25	0.25	0.64	0.64	0.64	0.64		
Sat Flow, veh/h	1217	482	80	4613	4844	487		
Grp Volume(v), veh/h	262	0	569	1187	1072	561		
Grp Sat Flow(s),veh/h/ln	1705	0	1456	1543	1695	1772		
Q Serve(g_s), s	7.5	0.0	0.0	12.2	9.0	9.0		
Cycle Q Clear(g_c), s	7.5	0.0	8.6	12.2	9.0	9.0		
Prop In Lane	0.71	0.28	0.10			0.27		
Lane Grp Cap(c), veh/h	421	0	1009	1985	2182	1141		
V/C Ratio(X)	0.62	0.00	0.56	0.60	0.49	0.49		
Avail Cap(c_a), veh/h	933	0	1426	3039	3340	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	0.0	5.0	5.7	5.1	5.1		
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.4	5.2	4.2	4.5		
LnGrp Delay(d),s/veh	19.9	0.0	5.5	6.0	5.3	5.4		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	262			1756	1633			
Approach Delay, s/veh	19.9			5.8	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		38.3		16.5		38.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		52.5		28.5		52.5		
Max Q Clear Time (g_c+I1), s		14.2		9.5		11.0		
Green Ext Time (p_c), s		19.6		0.8		16.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Future Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	45	86	79	236	84	23	270	1673	194	49	1471	39				
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	439	613	501	434	459	126	337	2349	271	102	1917	51				
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.51	0.51	0.06	0.38	0.38				
Sat Flow, veh/h	1243	1863	1521	1180	1396	382	1774	4616	534	1774	5092	135				
Grp Volume(v), veh/h	45	86	79	236	0	107	270	1227	640	49	979	531				
Grp Sat Flow(s),veh/h/ln	1243	1863	1521	1180	0	1778	1774	1695	1760	1774	1695	1837				
Q Serve(g_s), s	2.3	2.8	3.2	15.1	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Cycle Q Clear(g_c), s	6.0	2.8	3.2	17.9	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8				
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.30	1.00		0.07				
Lane Grp Cap(c), veh/h	439	613	501	434	0	585	337	1725	895	102	1276	691				
V/C Ratio(X)	0.10	0.14	0.16	0.54	0.00	0.18	0.80	0.71	0.71	0.48	0.77	0.77				
Avail Cap(c_a), veh/h	514	725	592	505	0	692	433	1990	1033	144	1438	779				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	22.7	20.3	20.4	26.6	0.0	20.6	33.3	16.3	16.3	39.3	23.5	23.5				
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.0	0.1	8.1	1.0	2.0	3.5	2.3	4.1				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.4	5.0	0.0	1.8	6.9	11.3	12.0	1.2	10.6	11.8				
LnGrp Delay(d),s/veh	22.8	20.4	20.6	27.7	0.0	20.8	41.4	17.3	18.3	42.8	25.8	27.7				
LnGrp LOS	C	C	C	C		C	D	B	B	D	C	C				
Approach Vol, veh/h	210			343			2137			1559						
Approach Delay, s/veh	21.0			25.5			20.6			27.0						
Approach LOS	C			C			C			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	8.0	46.8			31.3	19.3	35.4	31.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	5.5	49.0			32.0	19.5	35.0	32.0								
Max Q Clear Time (g_c+I14), s	14.3	26.1			8.0	14.5	23.8	19.9								
Green Ext Time (p_c), s	0.0	14.4			0.8	0.4	7.1	1.2								
Intersection Summary																
HCM 2010 Ctrl Delay	23.4															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	245	179	102	82	87	17	102	1180	38	119	1144	206
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	255	145	149	158	257	158	1733	56	228	1653	297
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17	0.09	0.34	0.34	0.13	0.38	0.38
Sat Flow, veh/h	1774	1100	627	882	936	1521	1774	5053	163	1774	4320	778
Grp Volume(v), veh/h	245	0	281	169	0	17	102	792	426	119	898	452
Grp Sat Flow(s),veh/h/ln	1774	0	1727	1819	0	1521	1774	1695	1825	1774	1695	1707
Q Serve(g_s), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Cycle Q Clear(g_c), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Prop In Lane	1.00		0.36	0.49		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	410	0	400	308	0	257	158	1163	626	228	1297	653
V/C Ratio(X)	0.60	0.00	0.70	0.55	0.00	0.07	0.65	0.68	0.68	0.52	0.69	0.69
Avail Cap(c_a), veh/h	719	0	700	679	0	568	341	2025	1090	360	2061	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	35.7	0.0	32.7	41.3	26.4	26.4	38.2	24.3	24.3
Incr Delay (d2), s/veh	1.4	0.0	2.3	1.5	0.0	0.1	4.4	0.7	1.3	1.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	6.9	4.1	0.0	0.4	2.7	8.9	9.7	3.0	9.8	10.0
LnGrp Delay(d),s/veh	33.5	0.0	35.3	37.2	0.0	32.8	45.7	27.1	27.7	40.0	25.0	25.6
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h	526				186		1320				1469	
Approach Delay, s/veh	34.5				36.8		28.7				26.4	
Approach LOS	C				D		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	35.2		24.7	11.3	38.9		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	54.5		36.5	16.5	55.5		33.5				
Max Q Clear Time (g_c+I1),s	20.8			16.0	7.2	22.9		10.0				
Green Ext Time (p_c), s	0.2	9.9		2.5	0.1	11.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	29.0											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	212	6	208	235	20	48	1059	324	160	996	46
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	289	237	391	410	329	386	1493	457	215	1450	67
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.22	0.39	0.39	0.12	0.29	0.29
Sat Flow, veh/h	1774	1863	1529	1774	1863	1495	1774	3842	1175	1774	4962	229
Grp Volume(v), veh/h	156	212	6	208	235	20	48	934	449	160	680	362
Grp Sat Flow(s),veh/h/ln	1774	1863	1529	1774	1863	1495	1774	1695	1627	1774	1695	1800
Q Serve(g_s), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Cycle Q Clear(g_c), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.13
Lane Grp Cap(c), veh/h	275	289	237	391	410	329	386	1317	632	215	991	526
V/C Ratio(X)	0.57	0.73	0.03	0.53	0.57	0.06	0.12	0.71	0.71	0.75	0.69	0.69
Avail Cap(c_a), veh/h	459	481	395	628	660	530	386	2174	1043	289	2174	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	42.1	37.4	36.0	36.3	32.2	32.9	27.0	27.0	44.4	32.7	32.8
Incr Delay (d2), s/veh	1.8	3.6	0.0	1.1	1.3	0.1	0.1	0.7	1.5	7.0	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	0.1	5.4	6.2	0.5	1.1	11.4	11.1	4.9	8.8	9.5
LnGrp Delay(d),s/veh	42.7	45.6	37.5	37.1	37.6	32.3	33.0	27.7	28.5	51.3	33.6	34.4
LnGrp LOS	D	D	D	D	D	C	C	C	C	D	C	C
Approach Vol, veh/h	374				463				1431		1202	
Approach Delay, s/veh	44.3				37.1				28.1		36.2	
Approach LOS	D				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	43.6		19.2	25.7	33.5		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	65.5		25.5	15.5	65.5		35.5				
Max Q Clear Time (g_c+I1), s	26.3			13.3	4.3	20.6		13.8				
Green Ext Time (p_c), s	0.2	12.8		1.4	0.1	8.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	33.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			WB		NB	NT	NR	SB	ST	SR
Traffic Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	145	0	24	1	0	3	123	1225	2	19	1306	104
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	0	329	132	36	273	204	2226	4	325	2365	188
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.12	0.42	0.42	0.18	0.49	0.49
Sat Flow, veh/h	1372	0	1386	232	151	1147	1774	5243	9	1774	4800	382
Grp Volume(v), veh/h	145	0	24	4	0	0	123	792	435	19	922	488
Grp Sat Flow(s), veh/h/ln	1372	0	1386	1529	0	0	1774	1695	1861	1774	1695	1792
Q Serve(g_s), s	5.1	0.0	0.8	0.0	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	0.1	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	450	0	329	441	0	0	204	1440	790	325	1671	883
V/C Ratio(X)	0.32	0.00	0.07	0.01	0.00	0.00	0.60	0.55	0.55	0.06	0.55	0.55
Avail Cap(c_a), veh/h	876	0	761	902	0	0	518	5353	2939	518	5353	2829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	17.2	17.0	0.0	0.0	24.5	12.6	12.6	19.6	10.3	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	2.8	0.3	0.6	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.3	0.0	0.0	0.0	2.0	4.8	5.3	0.3	5.2	5.5
LnGrp Delay(d),s/veh	19.3	0.0	17.3	17.0	0.0	0.0	27.4	12.9	13.2	19.7	10.6	10.8
LnGrp LOS	B		B	B			C	B	B	B	B	B
Approach Vol, veh/h	169			4			1350			1429		
Approach Delay, s/veh	19.0			17.0			14.3			10.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.7	27.7		16.8	9.7	31.7		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	90.5		30.5	15.5	90.5		30.5				
Max Q Clear Time (g_c+I), s	12.5	12.2		7.2	5.8	13.0		2.1				
Green Ext Time (p_c), s	0.0	11.0		1.0	0.2	14.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	152	55	6	1073	1177	56		
Future Volume (veh/h)	152	55	6	1073	1177	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	104	107	6	1073	1177	56		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	289	264	88	2374	2677	127		
Arrive On Green	0.16	0.16	0.05	0.67	0.54	0.54		
Sat Flow, veh/h	1774	1615	1774	3632	5140	236		
Grp Volume(v), veh/h	104	107	6	1073	802	431		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1819		
Q Serve(g_s), s	1.9	2.1	0.1	5.2	5.2	5.2		
Cycle Q Clear(g_c), s	1.9	2.1	0.1	5.2	5.2	5.2		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	289	264	88	2374	1825	979		
V/C Ratio(X)	0.36	0.41	0.07	0.45	0.44	0.44		
Avail Cap(c_a), veh/h	1521	1385	343	5188	4032	2163		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	13.6	16.4	2.8	5.0	5.0		
Incr Delay (d2), s/veh	0.8	1.0	0.3	0.1	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.1	2.4	2.4	2.6		
LnGrp Delay(d),s/veh	14.2	14.6	16.7	2.9	5.2	5.4		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	211			1079	1233			
Approach Delay, s/veh	14.4			3.0	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.3		8.9	4.8	22.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+l1), s		7.2		4.1	2.1	7.2		
Green Ext Time (p_c), s		10.3		0.6	0.0	10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	167	7	100	115	31	13	846	47	232	982	42
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	271	227	247	260	218	67	1277	568	318	2512	107
Arrive On Green	0.15	0.15	0.15	0.14	0.14	0.14	0.04	0.36	0.36	0.18	0.50	0.50
Sat Flow, veh/h	1774	1863	1557	1774	1863	1563	1774	3539	1575	1774	5000	214
Grp Volume(v), veh/h	54	167	7	100	115	31	13	846	47	232	665	359
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1563	1774	1770	1575	1774	1695	1823
Q Serve(g_s), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Cycle Q Clear(g_c), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	258	271	227	247	260	218	67	1277	568	318	1703	916
V/C Ratio(X)	0.21	0.62	0.03	0.40	0.44	0.14	0.19	0.66	0.08	0.73	0.39	0.39
Avail Cap(c_a), veh/h	569	597	499	827	868	729	310	2372	1056	594	2815	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	27.5	25.2	26.9	27.1	25.9	32.0	18.4	14.5	26.6	10.6	10.6
Incr Delay (d2), s/veh	0.4	2.3	0.1	1.1	1.2	0.3	1.4	0.6	0.1	3.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.1	1.8	2.1	0.5	0.3	6.8	0.6	4.4	3.9	4.3
LnGrp Delay(d),s/veh	26.2	29.8	25.2	28.0	28.3	26.2	33.4	19.0	14.5	29.8	10.7	10.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	228		246				906			1256		
Approach Delay, s/veh	28.8		27.9				19.0			14.3		
Approach LOS	C		C				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	27.8		13.0	5.6	37.5		12.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	21.5	44.5		20.5	10.5	55.5		30.5				
Max Q Clear Time (g_c+10), s	110.5	15.8		7.8	2.5	10.4		5.9				
Green Ext Time (p_c), s	0.5	6.6		0.8	0.0	8.2		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.89	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	0	61	3	3	3	311	313	9	6	193	122
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	0	192	87	87	87	429	830	24	63	269	170
Arrive On Green	0.12	0.00	0.12	0.16	0.16	0.16	0.24	0.46	0.46	0.04	0.26	0.26
Sat Flow, veh/h	3548	0	1558	553	553	553	1774	1800	52	1774	1054	666
Grp Volume(v), veh/h	141	0	61	9	0	0	311	0	322	6	0	315
Grp Sat Flow(s),veh/h/ln	1774	0	1558	1660	0	0	1774	0	1851	1774	0	1720
Q Serve(g_s), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Prop In Lane	1.00		1.00	0.33		0.33	1.00		0.03	1.00		0.39
Lane Grp Cap(c), veh/h	438	0	192	262	0	0	429	0	854	63	0	440
V/C Ratio(X)	0.32	0.00	0.32	0.03	0.00	0.00	0.73	0.00	0.38	0.09	0.00	0.72
Avail Cap(c_a), veh/h	1441	0	633	981	0	0	1539	0	1948	393	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	21.7	19.3	0.0	0.0	18.9	0.0	9.5	25.3	0.0	18.4
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.1	0.0	0.0	2.4	0.0	0.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	0.0	4.5	0.0	3.2	0.1	0.0	4.6
LnGrp Delay(d),s/veh	22.1	0.0	22.6	19.4	0.0	0.0	21.2	0.0	9.8	25.9	0.0	20.6
LnGrp LOS	C		C	B			C		A	C		C
Approach Vol, veh/h	202			9			633			321		
Approach Delay, s/veh	22.2			19.4			15.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	28.0		9.7	16.1	16.8		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	55.5		20.5	45.5	20.5		30.5				
Max Q Clear Time (g_c+I12), s	12.2	8.1		4.0	10.7	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.2		0.6	1.0	1.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

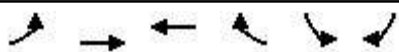
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩	↩		↩	↩	↩	↩		↩	↩	
Traffic Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	9	0	46	20	20	34	688	92	438	564	88
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	51	125	137	60	169	104	1013	135	534	1735	270
Arrive On Green	0.08	0.08	0.00	0.11	0.11	0.11	0.06	0.32	0.32	0.30	0.57	0.57
Sat Flow, veh/h	1155	650	1583	1255	545	1544	1774	3132	418	1774	3069	477
Grp Volume(v), veh/h	25	0	0	66	0	20	34	388	392	438	325	327
Grp Sat Flow(s),veh/h/ln	1805	0	1583	1800	0	1544	1774	1770	1780	1774	1770	1776
Q Serve(g_s), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Prop In Lane	0.64		1.00	0.70		1.00	1.00		0.23	1.00		0.27
Lane Grp Cap(c), veh/h	142	0	125	197	0	169	104	572	576	534	1001	1005
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.12	0.33	0.68	0.68	0.82	0.32	0.33
Avail Cap(c_a), veh/h	720	0	631	718	0	616	183	769	774	810	1395	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	26.3	0.0	25.7	28.9	18.8	18.8	20.7	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.0	0.0	0.3	1.8	1.5	1.5	4.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.1	0.0	0.3	0.6	6.2	6.2	7.8	3.0	3.1
LnGrp Delay(d),s/veh	28.1	0.0	0.0	27.3	0.0	26.0	30.7	20.2	20.3	24.8	7.6	7.6
LnGrp LOS	C			C		C	C	C	C	C	A	A
Approach Vol, veh/h	25			86			814			1090		
Approach Delay, s/veh	28.1			27.0			20.7			14.5		
Approach LOS	C			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.3	23.7		10.0	6.8	39.2		8.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	27.3	26.3		24.0	5.1	48.9		24.0				
Max Q Clear Time (g_c+11g), s	14.2	14.2		4.2	3.2	8.3		2.8				
Green Ext Time (p_c), s	1.1	3.9		0.3	0.0	4.6		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	17.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020

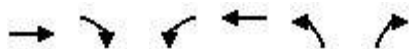


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	332	573	795	49	22	145		
Future Volume (veh/h)	332	573	795	49	22	145		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	332	573	795	49	22	19		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	738	2705	1553	96	148	233		
Arrive On Green	0.21	0.76	0.46	0.46	0.08	0.08		
Sat Flow, veh/h	3442	3632	3480	209	1774	2787		
Grp Volume(v), veh/h	332	573	415	429	22	19		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1826	1774	1393		
Q Serve(g_s), s	2.8	1.5	5.5	5.5	0.4	0.2		
Cycle Q Clear(g_c), s	2.8	1.5	5.5	5.5	0.4	0.2		
Prop In Lane	1.00			0.11	1.00	1.00		
Lane Grp Cap(c), veh/h	738	2705	811	837	148	233		
V/C Ratio(X)	0.45	0.21	0.51	0.51	0.15	0.08		
Avail Cap(c_a), veh/h	2513	7159	2126	2194	998	1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	1.1	6.3	6.3	14.0	13.9		
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.5	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.7	2.7	0.2	0.2		
LnGrp Delay(d),s/veh	11.7	1.1	6.8	6.8	14.4	14.0		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		905	844		41			
Approach Delay, s/veh		5.0	6.8		14.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.6		5.2	10.1	17.6
Change Period (Y+Rc), s				4.0		4.0	4.5	4.0
Max Green Setting (Gmax), s				65.0		17.0	22.5	38.0
Max Q Clear Time (g_c+I1), s				3.5		2.4	4.8	7.5
Green Ext Time (p_c), s				4.5		0.1	1.1	6.1
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↵		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	966	180	45	726	232	173		
Future Volume (veh/h)	966	180	45	726	232	173		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	966	180	45	726	232	46		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1530	285	142	2342	368	329		
Arrive On Green	0.52	0.52	0.08	0.66	0.21	0.21		
Sat Flow, veh/h	3058	552	1774	3632	1774	1583		
Grp Volume(v), veh/h	576	570	45	726	232	46		
Grp Sat Flow(s),veh/h/ln	1770	1748	1774	1770	1774	1583		
Q Serve(g_s), s	10.7	10.7	1.1	4.0	5.5	1.1		
Cycle Q Clear(g_c), s	10.7	10.7	1.1	4.0	5.5	1.1		
Prop In Lane		0.32	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	913	902	142	2342	368	329		
V/C Ratio(X)	0.63	0.63	0.32	0.31	0.63	0.14		
Avail Cap(c_a), veh/h	1698	1677	271	4168	1161	1036		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	8.0	19.9	3.3	16.6	14.8		
Incr Delay (d2), s/veh	0.7	0.7	1.3	0.1	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.6	1.9	2.8	0.5		
LnGrp Delay(d),s/veh	8.7	8.7	21.2	3.4	18.3	15.0		
LnGrp LOS	A	A	C	A	B	B		
Approach Vol, veh/h	1146			771	278			
Approach Delay, s/veh	8.7			4.4	17.8			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.5	6.7	26.7				33.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		28.5	5.5	42.5				52.5
Max Q Clear Time (g_c+I1), s		7.5	3.1	12.7				6.0
Green Ext Time (p_c), s		0.8	0.0	9.4				6.0
Intersection Summary								
HCM 2010 Ctrl Delay			8.3					
HCM 2010 LOS			A					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-54020		0	0-55882		0	0-55882		0	0-55882		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	148300	627968	0	78052	2966400	0	78052	2966400	0	78052	2966400	0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	2595261	2515840	1365926	8972544	1365926	8972544	1365926	8972544	1365926	8972544	1365926	8972544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 15.7

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	285	81	26	343	24	78	79	25	13	56	44
Future Vol, veh/h	55	285	81	26	343	24	78	79	25	13	56	44
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	55	285	81	26	343	24	78	79	25	13	56	44
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	17.5	16.7	12.5	11.1
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	13%	7%	12%
Vol Thru, %	43%	68%	87%	50%
Vol Right, %	14%	19%	6%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	182	421	393	113
LT Vol	78	55	26	13
Through Vol	79	285	343	56
RT Vol	25	81	24	44
Lane Flow Rate	182	421	393	113
Geometry Grp	1	1	1	1
Degree of Util (X)	0.321	0.634	0.603	0.202
Departure Headway (Hd)	6.351	5.422	5.522	6.438
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	561	661	648	560
Service Time	4.45	3.501	3.603	4.438
HCM Lane V/C Ratio	0.324	0.637	0.606	0.202
HCM Control Delay	12.5	17.5	16.7	11.1
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	1.4	4.5	4	0.7

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	968	10	0	0	0	0	65	101	205	152	0
Future Volume (veh/h)	16	968	10	0	0	0	0	65	101	205	152	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900				0	1569	1900	1900	1422	0
Adj Flow Rate, veh/h	16	968	10				0	65	101	205	152	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	21	1320	14				0	201	312	270	158	0
Arrive On Green	0.53	0.53	0.53				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	39	2475	27				0	548	851	478	431	0
Grp Volume(v), veh/h	521	0	473				0	0	166	357	0	0
Grp Sat Flow(s),veh/h/ln	1273	0	1268				0	0	1398	909	0	0
Q Serve(g_s), s	19.4	0.0	16.6				0.0	0.0	5.1	16.9	0.0	0.0
Cycle Q Clear(g_c), s	19.4	0.0	16.6				0.0	0.0	5.1	22.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.61	0.57		0.00
Lane Grp Cap(c), veh/h	679	0	676				0	0	513	428	0	0
V/C Ratio(X)	0.77	0.00	0.70				0.00	0.00	0.32	0.83	0.00	0.00
Avail Cap(c_a), veh/h	679	0	676				0	0	513	428	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.1	0.0	10.4				0.0	0.0	13.7	21.1	0.0	0.0
Incr Delay (d2), s/veh	8.1	0.0	5.9				0.0	0.0	0.4	13.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	6.9				0.0	0.0	2.0	7.4	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	16.3				0.0	0.0	14.0	34.4	0.0	0.0
LnGrp LOS	B		B						B	C		
Approach Vol, veh/h	994							166		357		
Approach Delay, s/veh	17.8							14.0		34.4		
Approach LOS	B							B		C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	25.0		35.0		25.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	20.5		30.5		20.5							
Max Q Clear Time (g_c+l1), s	7.1		21.4		24.0							
Green Ext Time (p_c), s	0.8		4.2		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay			21.3									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	281	8	110	306	66	7	115	180	80	84	29
Future Volume (veh/h)	25	281	8	110	306	66	7	115	180	80	84	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.98		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	25	281	8	110	306	66	7	115	180	80	84	29
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	685	19	772	603	130	674	244	381	512	502	173
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.38	0.38	0.38	0.38	0.38	0.38
Sat Flow, veh/h	73	1670	46	1074	1471	317	1249	638	998	1068	1315	454
Grp Volume(v), veh/h	314	0	0	110	0	372	7	0	295	80	0	113
Grp Sat Flow(s),veh/h/ln	1789	0	0	1074	0	1789	1249	0	1636	1068	0	1769
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.5	0.1	0.0	3.9	1.8	0.0	1.2
Cycle Q Clear(g_c), s	3.5	0.0	0.0	1.1	0.0	4.5	1.3	0.0	3.9	5.7	0.0	1.2
Prop In Lane	0.08		0.03	1.00		0.18	1.00		0.61	1.00		0.26
Lane Grp Cap(c), veh/h	868	0	0	772	0	734	674	0	625	512	0	676
V/C Ratio(X)	0.36	0.00	0.00	0.14	0.00	0.51	0.01	0.00	0.47	0.16	0.00	0.17
Avail Cap(c_a), veh/h	2079	0	0	1523	0	1984	1365	0	1531	1104	0	1655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.0	0.0	0.0	5.4	0.0	6.3	6.3	0.0	6.7	8.9	0.0	5.9
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.5	0.0	0.0	0.6	0.1	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	0.6	0.0	2.3	0.0	0.0	1.8	0.5	0.0	0.6
LnGrp Delay(d),s/veh	6.3	0.0	0.0	5.4	0.0	6.9	6.3	0.0	7.3	9.0	0.0	6.0
LnGrp LOS	A			A		A	A		A	A		A
Approach Vol, veh/h		314			482			302			193	
Approach Delay, s/veh		6.3			6.6			7.3			7.2	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.0		14.8		14.0		14.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		30.5		25.5		30.5				
Max Q Clear Time (g_c+I1), s		5.9		5.5		7.7		6.5				
Green Ext Time (p_c), s		1.9		2.1		0.9		3.0				
Intersection Summary												
HCM 2010 Ctrl Delay				6.8								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				400	0	670	0	1431	120	0	1702	442
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	817	0	3290	1022	0	2611	666
Arrive On Green				0.29	0.00	0.29	0.00	0.65	0.65	0.00	0.65	0.65
Sat Flow, veh/h				3442	0	2787	0	5253	1580	0	4204	1029
Grp Volume(v), veh/h				400	0	670	0	1431	120	0	1424	720
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1580	0	1695	1676
Q Serve(g_s), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Cycle Q Clear(g_c), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h				1009	0	817	0	3290	1022	0	2193	1084
V/C Ratio(X)				0.40	0.00	0.82	0.00	0.44	0.12	0.00	0.65	0.66
Avail Cap(c_a), veh/h				1239	0	1003	0	3290	1022	0	2193	1084
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.87	0.87	0.00	0.66	0.66
Uniform Delay (d), s/veh				28.3	0.0	32.9	0.0	8.7	6.7	0.0	10.8	10.9
Incr Delay (d2), s/veh				0.3	0.0	4.6	0.0	0.4	0.2	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.1	0.0	6.5	1.3	0.0	12.2	12.8
LnGrp Delay(d),s/veh				28.5	0.0	37.5	0.0	9.0	7.0	0.0	11.7	13.1
LnGrp LOS				C		D		A	A		B	B
Approach Vol, veh/h					1070			1551			2144	
Approach Delay, s/veh					34.1			8.9			12.2	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.7				67.7		32.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		15.8				28.6		24.4				
Green Ext Time (p_c), s		14.8				19.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	404	0	210				0	1227	411	0	1327	599
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	545	0	442				0	2966	992	0	4002	1241
Arrive On Green	0.16	0.00	0.16				0.00	0.79	0.79	0.00	0.79	0.79
Sat Flow, veh/h	3442	0	2787				0	3936	1260	0	5253	1577
Grp Volume(v), veh/h	404	0	210				0	1104	534	0	1327	599
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1638	0	1695	1577
Q Serve(g_s), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Cycle Q Clear(g_c), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Prop In Lane	1.00		1.00				0.00		0.77	0.00		1.00
Lane Grp Cap(c), veh/h	545	0	442				0	2668	1289	0	4002	1241
V/C Ratio(X)	0.74	0.00	0.48				0.00	0.41	0.41	0.00	0.33	0.48
Avail Cap(c_a), veh/h	751	0	608				0	2668	1289	0	4002	1241
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.71	0.71	0.00	0.70	0.70
Uniform Delay (d), s/veh	44.1	0.0	42.1				0.0	3.7	3.7	0.0	3.4	4.0
Incr Delay (d2), s/veh	2.5	0.0	0.8				0.0	0.3	0.7	0.0	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	3.0				0.0	5.3	5.3	0.0	3.9	22.4
LnGrp Delay(d),s/veh	46.7	0.0	42.9				0.0	4.0	4.4	0.0	3.5	5.0
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		614						1638			1926	
Approach Delay, s/veh		45.4						4.2			4.0	
Approach LOS		D						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		89.6		20.4		89.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		78.5		22.5		78.5						
Max Q Clear Time (g_c+I1), s		13.3		14.3		16.3						
Green Ext Time (p_c), s		18.9		1.6		19.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	420	65	13	400
Future Vol, veh/h	50	20	420	65	13	400
Conflicting Peds, #/hr	1	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	20	420	65	13	400

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	889	462	0
Stage 1	462	-	-
Stage 2	427	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	314	600	-
Stage 1	634	-	-
Stage 2	658	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	306	595	-
Mov Cap-2 Maneuver	306	-	-
Stage 1	628	-	-
Stage 2	647	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	595
HCM Lane V/C Ratio	-	-	0.163	0.034
HCM Control Delay (s)	-	-	19	11.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection												
Intersection Delay, s/veh	31.2											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Future Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	38	208	45	28	14	164	457	18	15	418	20
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16.9	14	35.3	36.9
HCM LOS	C	B	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	52%	100%	0%
Vol Thru, %	0%	96%	0%	15%	32%	0%	95%
Vol Right, %	0%	4%	0%	85%	16%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	475	14	246	87	15	438
LT Vol	164	0	14	0	45	15	0
Through Vol	0	457	0	38	28	0	418
RT Vol	0	18	0	208	14	0	20
Lane Flow Rate	164	475	14	246	87	15	438
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.332	0.891	0.033	0.499	0.209	0.031	0.849
Departure Headway (Hd)	7.292	6.753	8.428	7.304	8.634	7.527	6.982
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	537	424	492	414	475	517
Service Time	5.05	4.511	6.188	5.062	6.72	5.286	4.741
HCM Lane V/C Ratio	0.333	0.885	0.033	0.5	0.21	0.032	0.847
HCM Control Delay	13.7	42.7	11.5	17.2	14	10.5	37.8
HCM Lane LOS	B	E	B	C	B	B	E
HCM 95th-tile Q	1.4	10.2	0.1	2.7	0.8	0.1	8.8

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.90	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	1	12	75	0	34	4	519	37	9	692	1
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	27	131	167	8	58	590	1529	1259	692	1526	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	372	204	987	906	61	439	748	1863	1534	847	1859	3
Grp Volume(v), veh/h	19	0	0	109	0	0	4	519	37	9	0	693
Grp Sat Flow(s),veh/h/ln	1563	0	0	1407	0	0	748	1863	1534	847	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	9.0	0.6	0.3	0.0	13.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	9.3	0.0	0.0	14.0	9.0	0.6	9.3	0.0	13.8
Prop In Lane	0.32		0.63	0.69		0.31	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	0	0	234	0	0	590	1529	1259	692	0	1529
V/C Ratio(X)	0.08	0.00	0.00	0.47	0.00	0.00	0.01	0.34	0.03	0.01	0.00	0.45
Avail Cap(c_a), veh/h	362	0	0	348	0	0	590	1529	1259	692	0	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	52.8	0.0	0.0	5.3	2.9	2.1	4.0	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.8	0.0	0.0	0.0	4.7	0.2	0.1	0.0	7.3
LnGrp Delay(d),s/veh	49.6	0.0	0.0	54.2	0.0	0.0	5.3	3.4	2.2	4.1	0.0	4.3
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	19				109				560		702	
Approach Delay, s/veh	49.6				54.2				3.3		4.3	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	109.7		20.3		109.7		20.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	94.5		26.5		94.5		26.5					
Max Q Clear Time (g_c+I1), s	16.0		3.4		15.8		11.3					
Green Ext Time (p_c), s	4.1		0.1		6.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	7	4	328	3	94	1	542	285	37	753	8
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	56	32	395	4	344	45	1130	592	95	1712	18
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	405	232	1759	16	1533	1	2158	1129	88	3267	34
Grp Volume(v), veh/h	30	0	0	331	0	94	468	0	360	402	0	396
Grp Sat Flow(s),veh/h/ln	1737	0	0	1775	0	1533	1862	0	1426	1702	0	1687
Q Serve(g_s), s	1.2	0.0	0.0	14.2	0.0	4.1	0.0	0.0	12.9	0.0	0.0	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	14.2	0.0	4.1	12.8	0.0	12.9	10.5	0.0	11.7
Prop In Lane	0.63		0.13	0.99		1.00	0.00		0.79	0.09		0.02
Lane Grp Cap(c), veh/h	242	0	0	398	0	344	1021	0	747	941	0	884
V/C Ratio(X)	0.12	0.00	0.00	0.83	0.00	0.27	0.46	0.00	0.48	0.43	0.00	0.45
Avail Cap(c_a), veh/h	532	0	0	413	0	356	1021	0	747	941	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.83	0.00	0.83	0.82	0.00	0.82
Uniform Delay (d), s/veh	30.2	0.0	0.0	29.6	0.0	25.6	12.1	0.0	12.1	11.6	0.0	11.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	13.1	0.0	0.4	1.2	0.0	1.8	1.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	8.4	0.0	1.8	6.9	0.0	5.4	5.7	0.0	5.7
LnGrp Delay(d),s/veh	30.4	0.0	0.0	42.7	0.0	26.1	13.3	0.0	14.0	12.7	0.0	13.2
LnGrp LOS	C			D		C	B		B	B		B
Approach Vol, veh/h	30			425			828			798		
Approach Delay, s/veh	30.4			39.0			13.6			13.0		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	44.9		14.1		44.9		21.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	26.4		23.0		26.4		17.1					
Max Q Clear Time (g_c+I1), s	14.9		3.2		13.7		16.2					
Green Ext Time (p_c), s	4.3		0.1		4.3		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											

Intersection

Intersection Delay, s/veh 13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Future Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	128	1	0	114	223	16	48	0	162	23	270
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	17.8	11.8	11.6	13.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	57%	0%	0%	88%	0%
Vol Thru, %	75%	43%	100%	0%	12%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	300	114	223	185	270
LT Vol	16	171	0	0	162	0
Through Vol	48	128	114	0	23	0
RT Vol	0	1	0	223	0	270
Lane Flow Rate	64	300	114	223	185	270
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.555	0.209	0.365	0.359	0.437
Departure Headway (Hd)	7.475	6.661	6.6	5.886	6.988	5.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	540	540	607	512	613
Service Time	5.475	4.735	4.377	3.664	4.763	3.605
HCM Lane V/C Ratio	0.133	0.556	0.211	0.367	0.361	0.44
HCM Control Delay	11.6	17.8	11.1	12.1	13.7	13.1
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.8	1.7	1.6	2.2

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	741	73	88	653	113	57	5	61	34	5	3
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	832	82	186	770	133	644	52	613	533	76	38
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	699	1663	164	668	1540	266	1323	130	1533	1061	189	96
Grp Volume(v), veh/h	18	0	814	88	0	766	62	0	61	42	0	0
Grp Sat Flow(s),veh/h/ln	699	0	1827	668	0	1806	1453	0	1533	1347	0	0
Q Serve(g_s), s	1.4	0.0	24.1	5.9	0.0	22.1	0.0	0.0	1.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	24.1	30.0	0.0	22.1	1.3	0.0	1.5	1.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.15	0.92		1.00	0.81		0.07
Lane Grp Cap(c), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.47	0.00	0.85	0.09	0.00	0.10	0.06	0.00	0.00
Avail Cap(c_a), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	13.5	27.8	0.0	13.0	11.2	0.0	11.2	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	10.9	1.6	0.0	6.7	0.3	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.8	1.5	0.0	12.5	0.7	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	24.5	29.4	0.0	19.8	11.4	0.0	11.6	11.5	0.0	0.0
LnGrp LOS	C		C	C		B	B		B	B		
Approach Vol, veh/h	832				854				123		42	
Approach Delay, s/veh	24.4				20.8				11.5		11.5	
Approach LOS	C				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		33.0		27.0		33.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	22.5		28.5		22.5		28.5					
Max Q Clear Time (g_c+I1), s	3.5		26.1		3.8		32.0					
Green Ext Time (p_c), s	0.4		1.3		0.1		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	21.6											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 8.3

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Future Vol, veh/h	117	35	7	0	35	14	8	23	1	6	27	152
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	117	35	7	0	35	14	8	23	1	6	27	152
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.8	7.7	7.9	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	25%	74%	0%	3%
Vol Thru, %	72%	22%	71%	15%
Vol Right, %	3%	4%	29%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	32	159	49	185
LT Vol	8	117	0	6
Through Vol	23	35	35	27
RT Vol	1	7	14	152
Lane Flow Rate	32	159	49	185
Geometry Grp	1	1	1	1
Degree of Util (X)	0.041	0.203	0.06	0.204
Departure Headway (Hd)	4.646	4.587	4.407	3.975
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	772	787	814	905
Service Time	2.668	2.587	2.428	1.992
HCM Lane V/C Ratio	0.041	0.202	0.06	0.204
HCM Control Delay	7.9	8.8	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.8	0.2	0.8

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	61	1055	327	13	67	0	0	250	37
Future Volume (veh/h)	0	0	0	61	1055	327	13	67	0	0	250	37
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1471	1863	1900	980	0	0	2255	1900
Adj Flow Rate, veh/h				61	1055	200	13	67	0	0	250	37
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				86	1560	870	119	243	0	0	540	80
Arrive On Green				0.58	0.58	0.58	0.28	0.28	0.00	0.00	0.28	0.28
Sat Flow, veh/h				149	2711	1512	70	858	0	0	1907	282
Grp Volume(v), veh/h				597	519	200	80	0	0	0	0	287
Grp Sat Flow(s),veh/h/ln				1463	1397	1512	928	0	0	0	0	2189
Q Serve(g_s), s				12.4	10.6	2.7	0.0	0.0	0.0	0.0	0.0	4.6
Cycle Q Clear(g_c), s				12.4	10.6	2.7	2.7	0.0	0.0	0.0	0.0	4.6
Prop In Lane				0.10		1.00	0.16		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				842	804	870	361	0	0	0	0	620
V/C Ratio(X)				0.71	0.65	0.23	0.22	0.00	0.00	0.00	0.00	0.46
Avail Cap(c_a), veh/h				1243	1187	1285	795	0	0	0	0	1706
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				6.5	6.1	4.4	11.9	0.0	0.0	0.0	0.0	12.5
Incr Delay (d2), s/veh				1.1	0.9	0.1	0.3	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.1	4.2	1.1	0.8	0.0	0.0	0.0	0.0	2.8
LnGrp Delay(d),s/veh				7.6	6.9	4.5	12.2	0.0	0.0	0.0	0.0	13.1
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					1316			80			287	
Approach Delay, s/veh					6.9			12.2			13.1	
Approach LOS					A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		15.0				15.0		27.4				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		31.5				31.5		34.5				
Max Q Clear Time (g_c+I1), s		4.7				6.6		14.4				
Green Ext Time (p_c), s		0.4				1.8		8.5				
Intersection Summary												
HCM 2010 Ctrl Delay					8.2							
HCM 2010 LOS					A							
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

137: Curtiss St/Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	1058	62	21	912	16	81	9	85	27	7	6
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2249	131	83	2303	40	395	38	329	263	67	41
Arrive On Green	0.68	0.07	0.68	0.68	0.07	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	9	3297	192	30	3376	58	1290	175	1509	747	307	186
Grp Volume(v), veh/h	596	0	534	489	0	460	90	0	85	40	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	1654	1782	0	1682	1465	0	1509	1240	0	0
Q Serve(g_s), s	0.0	0.0	17.9	0.0	0.0	15.5	0.0	0.0	2.8	0.2	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	17.9	14.8	0.0	15.5	2.6	0.0	2.8	2.7	0.0	0.0
Prop In Lane	0.02		0.12	0.04		0.03	0.90		1.00	0.67		0.15
Lane Grp Cap(c), veh/h	1319	0	1128	1278	0	1147	433	0	329	371	0	0
V/C Ratio(X)	0.45	0.00	0.47	0.38	0.00	0.40	0.21	0.00	0.26	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1319	0	1128	1278	0	1147	802	0	730	736	0	0
HCM Platoon Ratio	1.00	0.10	1.00	1.00	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	15.9	15.3	0.0	15.7	19.3	0.0	19.4	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.9	0.0	1.0	0.2	0.0	0.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	8.6	8.0	0.0	7.6	1.3	0.0	1.2	0.6	0.0	0.0
LnGrp Delay(d),s/veh	18.4	0.0	17.3	16.2	0.0	16.8	19.6	0.0	19.9	19.0	0.0	0.0
LnGrp LOS	B		B	B		B	B		B	B		
Approach Vol, veh/h	1130				949				175		40	
Approach Delay, s/veh	17.9				16.5				19.7		19.0	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.9		16.1		43.9		16.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.5		27.5		23.5		27.5					
Max Q Clear Time (g_c+I1), s	20.4		4.7		17.5		4.8					
Green Ext Time (p_c), s	2.0		0.1		3.0		0.7					
Intersection Summary												
HCM 2010 Ctrl Delay	17.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	81	19	101	503	33	11	62	16	36	80	21
Future Volume (veh/h)	3	81	19	101	503	33	11	62	16	36	80	21
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	15	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.94	0.98		0.93	0.94		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	3	81	19	101	503	33	11	62	16	36	80	21
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	267	61	306	1286	83	148	554	131	153	228	36
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	9	750	172	513	3624	233	133	1736	410	140	605	135
Grp Volume(v), veh/h	103	0	0	329	0	308	89	0	0	137	0	0
Grp Sat Flow(s),veh/h/ln	931	0	0	2200	0	2171	2278	0	0	880	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	3.8	0.0	0.0	0.0	0.3	0.0	0.0
Cycle Q Clear(g_c), s	2.8	0.0	0.0	3.7	0.0	3.8	1.0	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.03		0.18	0.31		0.11	0.12		0.18	0.26		0.15
Lane Grp Cap(c), veh/h	426	0	0	903	0	772	833	0	0	417	0	0
V/C Ratio(X)	0.24	0.00	0.00	0.36	0.00	0.40	0.11	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	879	0	0	1956	0	1835	2364	0	0	984	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	10.0	0.0	10.1	8.9	0.0	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.2	0.0	0.3	0.1	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	0.0	2.8	0.0	2.6	0.7	0.0	0.0	4.0	0.0	0.0
LnGrp Delay(d),s/veh	10.0	0.0	0.0	10.3	0.0	10.4	9.0	0.0	0.0	25.4	0.0	0.0
LnGrp LOS	B			B		B	A			C		
Approach Vol, veh/h	103			637			89			137		
Approach Delay, s/veh	10.0			10.4			9.0			25.4		
Approach LOS	B			B			A			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		17.1		19.6		17.1		19.6				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		35.5		29.5		35.5		29.5				
Max Q Clear Time (g_c+I1), s		3.0		4.8		6.4		5.8				
Green Ext Time (p_c), s		0.5		0.5		0.8		4.4				
Intersection Summary												
HCM 2010 Ctrl Delay				12.3								
HCM 2010 LOS				B								

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	149	92	168	102	62	57	1505	152	70	1549	39
Future Volume (veh/h)	71	149	92	168	102	62	57	1505	152	70	1549	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.94	0.97		0.93	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1176	1863	1900	1275	1863	1900	1176	1765	1900	1471	1863	1900
Adj Flow Rate, veh/h	71	149	92	168	102	62	57	1505	152	70	1549	39
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	240	309	191	212	310	188	122	2353	237	105	2544	64
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.11	0.53	0.53	0.08	0.50	0.50
Sat Flow, veh/h	742	1051	649	756	1055	641	1120	4414	445	1401	5094	128
Grp Volume(v), veh/h	71	0	241	168	0	164	57	1095	562	70	1031	557
Grp Sat Flow(s),veh/h/ln	742	0	1700	756	0	1696	1120	1606	1648	1401	1695	1832
Q Serve(g_s), s	7.6	0.0	10.7	16.3	0.0	6.9	4.4	22.2	22.2	4.5	20.1	20.1
Cycle Q Clear(g_c), s	14.6	0.0	10.7	27.0	0.0	6.9	4.4	22.2	22.2	4.5	20.1	20.1
Prop In Lane	1.00		0.38	1.00		0.38	1.00		0.27	1.00		0.07
Lane Grp Cap(c), veh/h	240	0	499	212	0	498	122	1712	879	105	1693	915
V/C Ratio(X)	0.30	0.00	0.48	0.79	0.00	0.33	0.47	0.64	0.64	0.67	0.61	0.61
Avail Cap(c_a), veh/h	240	0	499	212	0	498	122	1712	879	152	1808	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.1	0.0	26.7	39.5	0.0	25.4	38.5	15.2	15.2	41.4	16.5	16.5
Incr Delay (d2), s/veh	0.7	0.0	0.7	18.1	0.0	0.4	12.3	1.8	3.6	7.0	0.5	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	5.1	5.3	0.0	3.3	1.8	10.2	10.9	1.9	9.4	10.3
LnGrp Delay(d),s/veh	31.7	0.0	27.4	57.6	0.0	25.8	50.8	17.0	18.8	48.4	17.1	17.5
LnGrp LOS	C		C	E		C	D	B	B	D	B	B
Approach Vol, veh/h	312		332			1714			1658			
Approach Delay, s/veh	28.4		41.9			18.7			18.6			
Approach LOS	C		D			B			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.9	52.0		30.0	13.0	48.9		30.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	47.5	47.5		25.5	8.5	47.5		25.5				
Max Q Clear Time (g_c+I10), s	24.2	24.2		16.6	6.4	22.1		29.0				
Green Ext Time (p_c), s	0.0	12.8		1.3	0.0	12.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	21.3											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	456	15	12	60	11	2	88	85	47	125	4
Future Volume (veh/h)	5	456	15	12	60	11	2	88	85	47	125	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.98	1.00		0.98	1.00		0.95	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	1863	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	5	456	15	12	60	11	2	88	85	47	125	4
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	49	1055	34	153	735	128	46	119	113	97	168	5
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	5	1796	59	173	1250	217	3	452	430	150	640	18
Grp Volume(v), veh/h	250	0	226	83	0	0	175	0	0	176	0	0
Grp Sat Flow(s),veh/h/ln	978	0	881	1641	0	0	885	0	0	809	0	0
Q Serve(g_s), s	0.0	0.0	11.4	0.0	0.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	11.3	0.0	11.4	1.6	0.0	0.0	14.7	0.0	0.0	16.7	0.0	0.0
Prop In Lane	0.02		0.07	0.14		0.13	0.01		0.49	0.27		0.02
Lane Grp Cap(c), veh/h	621	0	517	1015	0	0	278	0	0	269	0	0
V/C Ratio(X)	0.40	0.00	0.44	0.08	0.00	0.00	0.63	0.00	0.00	0.65	0.00	0.00
Avail Cap(c_a), veh/h	621	0	517	1015	0	0	278	0	0	269	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.00	0.92	1.00	0.00	0.00	1.00	0.00	0.00	0.91	0.00	0.00
Uniform Delay (d), s/veh	9.1	0.0	9.2	7.1	0.0	0.0	27.2	0.0	0.0	27.5	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	2.5	0.0	0.0	0.0	10.4	0.0	0.0	10.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	3.1	0.8	0.0	0.0	4.4	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	10.9	0.0	11.6	7.2	0.0	0.0	37.6	0.0	0.0	38.2	0.0	0.0
LnGrp LOS	B		B	A			D			D		
Approach Vol, veh/h	476				83		175				176	
Approach Delay, s/veh	11.3				7.2		37.6				38.2	
Approach LOS	B				A		D				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		53.0		27.0		53.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	19.5		45.5		19.5		45.5					
Max Q Clear Time (g_c+I1), s	16.7		13.4		18.7		3.6					
Green Ext Time (p_c), s	0.2		3.2		0.1		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	21.1											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 15.4

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	234	39	83	344	12	27	82	32	4	93	46
Future Vol, veh/h	80	234	39	83	344	12	27	82	32	4	93	46
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	234	39	83	344	12	27	82	32	4	93	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	14.9	18.4	11.4	11.3
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	19%	23%	19%	3%
Vol Thru, %	58%	66%	78%	65%
Vol Right, %	23%	11%	3%	32%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	353	439	143
LT Vol	27	80	83	4
Through Vol	82	234	344	93
RT Vol	32	39	12	46
Lane Flow Rate	141	353	439	143
Geometry Grp	1	1	1	1
Degree of Util (X)	0.245	0.539	0.66	0.245
Departure Headway (Hd)	6.264	5.494	5.409	6.175
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	568	653	663	576
Service Time	4.355	3.561	3.47	4.263
HCM Lane V/C Ratio	0.248	0.541	0.662	0.248
HCM Control Delay	11.4	14.9	18.4	11.3
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	1	3.2	4.9	1

Intersection

Intersection Delay, s/veh 9.6

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	103	38	3	2	16	47	15	167	7	24	169	81
Future Vol, veh/h	103	38	3	2	16	47	15	167	7	24	169	81
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	103	38	3	2	16	47	15	167	7	24	169	81
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.7	8.3	9.4	10
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	72%	3%	9%
Vol Thru, %	88%	26%	25%	62%
Vol Right, %	4%	2%	72%	30%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	189	144	65	274
LT Vol	15	103	2	24
Through Vol	167	38	16	169
RT Vol	7	3	47	81
Lane Flow Rate	189	144	65	274
Geometry Grp	1	1	1	1
Degree of Util (X)	0.251	0.208	0.086	0.345
Departure Headway (Hd)	4.774	5.209	4.778	4.533
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	748	684	743	789
Service Time	2.829	3.276	2.854	2.583
HCM Lane V/C Ratio	0.253	0.211	0.087	0.347
HCM Control Delay	9.4	9.7	8.3	10
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	1	0.8	0.3	1.5

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Future Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Conflicting Peds, #/hr	12	0	8	8	0	12	9	0	14	14	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	3	0	7	40	11	395	0	15	167	38
Major/Minor	Minor2		Minor1			Major1			Major2			
Conflicting Flow All	460	656	203	658	675	224	214	0	0	409	0	0
Stage 1	225	225	-	431	431	-	-	-	-	-	-	-
Stage 2	235	431	-	227	244	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	498	384	837	363	375	780	1355	-	-	1148	-	-
Stage 1	777	717	-	574	582	-	-	-	-	-	-	-
Stage 2	748	582	-	775	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	447	366	824	345	358	761	1343	-	-	1133	-	-
Mov Cap-2 Maneuver	447	366	-	345	358	-	-	-	-	-	-	-
Stage 1	763	700	-	561	569	-	-	-	-	-	-	-
Stage 2	685	569	-	752	686	-	-	-	-	-	-	-
Approach	EB		WB			NB			SB			
HCM Control Delay, s	13.2		11			0.2			0.6			
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1343	-	-	462 652	1133	-	-					
HCM Lane V/C Ratio	0.008	-	-	0.048 0.072	0.013	-	-					
HCM Control Delay (s)	7.7	0	-	13.2 11	8.2	0	-					
HCM Lane LOS	A	A	-	B B	A A	-	-					
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-					

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	167	93	1588	129	138	1593		
Future Volume (veh/h)	167	93	1588	129	138	1593		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	167	19	1588	129	138	1593		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	285	254	2469	200	235	3621		
Arrive On Green	0.16	0.16	0.52	0.52	0.13	0.71		
Sat Flow, veh/h	1774	1583	4953	388	1774	5253		
Grp Volume(v), veh/h	167	19	1125	592	138	1593		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1784	1774	1695		
Q Serve(g_s), s	4.1	0.5	11.3	11.3	3.4	6.2		
Cycle Q Clear(g_c), s	4.1	0.5	11.3	11.3	3.4	6.2		
Prop In Lane	1.00	1.00		0.22	1.00			
Lane Grp Cap(c), veh/h	285	254	1749	920	235	3621		
V/C Ratio(X)	0.59	0.07	0.64	0.64	0.59	0.44		
Avail Cap(c_a), veh/h	1318	1176	2087	1098	640	5289		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.3	16.8	8.3	8.3	19.2	2.8		
Incr Delay (d2), s/veh	1.9	0.1	0.5	1.0	2.3	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.1	0.2	5.3	5.7	1.8	2.8		
LnGrp Delay(d),s/veh	20.2	16.9	8.8	9.2	21.5	2.9		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	186		1717			1731		
Approach Delay, s/veh	19.9		8.9			4.4		
Approach LOS	B		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	27.3				36.5		10.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	27.5				47.5		33.5
Max Q Clear Time (g_c+I1), s	5.4	13.3				8.2		6.1
Green Ext Time (p_c), s	0.2	9.5				16.3		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			7.3					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	1.8					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	36	345	310	10	21	63
Future Vol, veh/h	36	345	310	10	21	63
Conflicting Peds, #/hr	32	0	0	21	21	32
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	36	345	310	10	21	63
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	352	0	-	0	785	379
Stage 1	-	-	-	-	347	-
Stage 2	-	-	-	-	438	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1207	-	-	-	361	668
Stage 1	-	-	-	-	716	-
Stage 2	-	-	-	-	651	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1170	-	-	-	327	628
Mov Cap-2 Maneuver	-	-	-	-	327	-
Stage 1	-	-	-	-	668	-
Stage 2	-	-	-	-	631	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.8	0		13.4		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1170	-	-	-	511	
HCM Lane V/C Ratio	0.031	-	-	-	0.164	
HCM Control Delay (s)	8.2	0	-	-	13.4	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9.1

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	65	100	2	4	149	25	12	75	6	15	84	64
Future Vol, veh/h	65	100	2	4	149	25	12	75	6	15	84	64
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	65	100	2	4	149	25	12	75	6	15	84	64
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	9.1	8.7	9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	13%	39%	2%	9%
Vol Thru, %	81%	60%	84%	52%
Vol Right, %	6%	1%	14%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	93	167	178	163
LT Vol	12	65	4	15
Through Vol	75	100	149	84
RT Vol	6	2	25	64
Lane Flow Rate	93	167	178	163
Geometry Grp	1	1	1	1
Degree of Util (X)	0.128	0.224	0.231	0.211
Departure Headway (Hd)	4.947	4.83	4.672	4.658
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	721	740	765	766
Service Time	3.005	2.884	2.725	2.71
HCM Lane V/C Ratio	0.129	0.226	0.233	0.213
HCM Control Delay	8.7	9.3	9.1	9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.9	0.9	0.8

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection																
Int Delay, s/veh	0															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR		
Lane Configurations		↑↑			↑↑	↔								↔		
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-		
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80		
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-		
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Major/Minor	Major1			Major2			Minor2									
Conflicting Flow All	-	0	-	0	0	0									-	23
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Critical Hdwy	-	-	-	4.13	-	-									-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-									-	-
Critical Hdwy Stg 2	-	-	-	-	-	-									-	-
Follow-up Hdwy	-	-	-	2.219	-	-									-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-									0	1053
Stage 1	0	-	0	-	-	-									0	-
Stage 2	0	-	0	-	-	-									0	-
Platoon blocked, %		-			-	-										
Mov Cap-1 Maneuver	-	-	-	-	-	-									-	1053
Mov Cap-2 Maneuver	-	-	-	-	-	-									-	-
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Approach	EB			WB			SW									
HCM Control Delay, s	0			0			0									
HCM LOS							A									
Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2												
Capacity (veh/h)	-	-	-	-	-	-										
HCM Lane V/C Ratio	-	-	-	-	-	-										
HCM Control Delay (s)	-	0	-	-	0	0										
HCM Lane LOS	-	A	-	-	A	A										
HCM 95th %tile Q(veh)	-	-	-	-	-	-										

HCM 2010 Research does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh 10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑			↔	
Traffic Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Future Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	142	76	49	2	68	158	39	1	206	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	10.7	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	1%	60%	0%
Vol Thru, %	60%	3%	39%	92%
Vol Right, %	15%	96%	2%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	148	127	225
LT Vol	68	2	76	1
Through Vol	158	4	49	206
RT Vol	39	142	2	18
Lane Flow Rate	265	148	127	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.358	0.194	0.191	0.306
Departure Headway (Hd)	4.86	4.719	5.411	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	750	655	725
Service Time	2.943	2.814	3.51	2.987
HCM Lane V/C Ratio	0.363	0.197	0.194	0.31
HCM Control Delay	10.7	9	9.8	10.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.7	1.3

Intersection						
Int Delay, s/veh	2.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	305	54	102	315	26	48
Future Vol, veh/h	305	54	102	315	26	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	305	54	102	315	26	48
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	359	0	851	332
Stage 1	-	-	-	-	332	-
Stage 2	-	-	-	-	519	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1200	-	330	710
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1200	-	296	710
Mov Cap-2 Maneuver	-	-	-	-	296	-
Stage 1	-	-	-	-	727	-
Stage 2	-	-	-	-	536	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		2		14	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	476	-	-	1200	-	
HCM Lane V/C Ratio	0.155	-	-	0.085	-	
HCM Control Delay (s)	14	-	-	8.3	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.5	-	-	0.3	-	

HCM Signalized Intersection Capacity Analysis

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1563	1770	3528		1681	1696	1556		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.93	
Satd. Flow (perm)	1770	3539	1563	1770	3528		1681	1696	1556		1629	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	784	568	68	592	11	327	24	17	11	47	29
RTOR Reduction (vph)	0	0	318	0	0	0	0	0	13	0	0	0
Lane Group Flow (vph)	32	784	250	68	603	0	173	178	4	0	87	0
Confl. Peds. (#/hr)			1			11			7	6		5
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	1.6	29.5	29.5	4.6	32.5		13.7	13.7	13.7		4.6	
Effective Green, g (s)	3.1	31.0	31.0	6.1	34.0		15.2	15.2	15.2		6.1	
Actuated g/C Ratio	0.04	0.44	0.44	0.09	0.48		0.22	0.22	0.22		0.09	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	1558	688	153	1703		362	366	335		141	
v/s Ratio Prot	0.02	c0.22		c0.04	c0.17		0.10	c0.10				
v/s Ratio Perm			0.16						0.00		c0.05	
v/c Ratio	0.42	0.50	0.36	0.44	0.35		0.48	0.49	0.01		0.62	
Uniform Delay, d1	32.8	14.2	13.1	30.5	11.4		24.1	24.2	21.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.3	0.3	2.1	0.1		1.0	1.0	0.0		7.8	
Delay (s)	36.4	14.4	13.5	32.6	11.5		25.1	25.2	21.7		38.8	
Level of Service	D	B	B	C	B		C	C	C		D	
Approach Delay (s)		14.5			13.6			25.0			38.8	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			54.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00			1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.96	0.85	1.00	1.00			0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3250	1407	3433	3527			3277		1770	3430	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (perm)	1770	3250	1407	3433	3527			3277		1770	3430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	561	507	464	342	7	129	12	48	12	222	49
RTOR Reduction (vph)	0	18	214	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	63	720	116	464	349	0	0	189	0	12	271	0
Confl. Peds. (#/hr)			10			8			8			10
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	7.3	30.4	30.4	18.3	41.4			11.1		13.1	13.1	
Effective Green, g (s)	8.8	31.9	31.9	19.8	42.9			12.6		14.6	14.6	
Actuated g/C Ratio	0.10	0.35	0.35	0.22	0.47			0.14		0.16	0.16	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	171	1140	493	747	1664			454		284	550	
v/s Ratio Prot	0.04	c0.22		c0.14	0.10			c0.06		0.01	c0.08	
v/s Ratio Perm			0.08									
v/c Ratio	0.37	0.63	0.23	0.62	0.21			0.42		0.04	0.49	
Uniform Delay, d1	38.4	24.6	20.9	32.2	14.1			35.8		32.2	34.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.2	0.2	1.6	0.1			0.6		0.1	0.7	
Delay (s)	39.8	25.8	21.1	33.8	14.1			36.4		32.3	35.5	
Level of Service	D	C	C	C	B			D		C	D	
Approach Delay (s)		25.2			25.3			36.4			35.3	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			27.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			90.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	530	655	239	293	16	160	116	456	70	447	131
RTOR Reduction (vph)	0	0	271	0	0	0	0	154	154	0	22	0
Lane Group Flow (vph)	104	530	384	239	309	0	160	190	74	70	556	0
Confl. Peds. (#/hr)			14			23			21			16
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	11.4	29.7	29.7	12.5	30.8		14.6	30.3	30.3	7.9	23.6	
Effective Green, g (s)	12.9	31.2	31.2	14.0	32.3		16.1	31.8	31.8	9.4	25.1	
Actuated g/C Ratio	0.13	0.32	0.32	0.14	0.33		0.16	0.32	0.32	0.10	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	1122	488	488	1150		289	966	451	169	866	
v/s Ratio Prot	0.06	0.15		c0.07	0.09		c0.09	0.06		0.04	c0.16	
v/s Ratio Perm			c0.25						0.05			
v/c Ratio	0.45	0.47	0.79	0.49	0.27		0.55	0.20	0.16	0.41	0.64	
Uniform Delay, d1	39.5	27.0	30.6	38.9	24.3		37.8	24.1	23.8	41.9	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.3	8.2	0.8	0.1		2.3	0.1	0.2	1.6	1.6	
Delay (s)	40.8	27.3	38.7	39.7	24.5		40.1	24.2	24.0	43.6	34.3	
Level of Service	D	C	D	D	C		D	C	C	D	C	
Approach Delay (s)		34.2			31.1			27.6			35.3	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			98.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	222	1299	681	64	743	50	317	83	70	179	109	27
Future Volume (vph)	222	1299	681	64	743	50	317	83	70	179	109	27
Ideal Flow (vphpl)	1500	1500	1600	1900	1500	1900	1300	1900	1900	1900	1300	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00		1.00	0.99			1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (perm)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	222	1299	681	64	743	50	317	83	70	179	109	27
RTOR Reduction (vph)	0	0	278	0	0	0	0	0	0	0	0	21
Lane Group Flow (vph)	222	1299	403	64	793	0	317	153	0	0	288	6
Confl. Peds. (#/hr)			37			9			11			35
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.6	51.9	51.9	8.4	42.7		21.4	21.4			26.7	26.7
Effective Green, g (s)	19.1	53.4	53.4	9.9	44.2		22.9	22.9			28.2	28.2
Actuated g/C Ratio	0.15	0.42	0.42	0.08	0.35		0.18	0.18			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	211	1180	532	138	1385		425	310			275	334
v/s Ratio Prot	c0.16	c0.46		0.04	0.20		c0.13	0.09			c0.23	
v/s Ratio Perm			0.32									0.00
v/c Ratio	1.05	1.10	0.76	0.46	0.57		0.75	0.49			1.05	0.02
Uniform Delay, d1	53.7	36.5	31.0	55.7	33.4		49.0	46.5			49.1	38.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	76.4	58.3	6.1	2.5	0.6		7.0	1.2			67.2	0.0
Delay (s)	130.0	94.8	37.1	58.2	34.0		56.0	47.8			116.3	38.3
Level of Service	F	F	D	E	C		E	D			F	D
Approach Delay (s)		80.5			35.8			53.3			109.6	
Approach LOS		F			D			D			F	
Intersection Summary												
HCM 2000 Control Delay			69.6			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.03									
Actuated Cycle Length (s)			126.4			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			104.2%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Ideal Flow (vphpl)	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	0.97		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	155	655	142	118	371	213	211	139	172	248	175	286
RTOR Reduction (vph)	0	0	81	0	0	139	0	0	0	0	0	235
Lane Group Flow (vph)	155	655	61	118	371	74	211	311	0	248	175	51
Confl. Peds. (#/hr)			12			17			11			18
Confl. Bikes (#/hr)			6			13			8			8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	12.1	38.8	38.8	6.8	33.5	33.5	16.9	15.0		18.9	17.0	17.0
Effective Green, g (s)	12.6	39.3	39.3	7.3	34.0	34.0	17.4	15.5		19.4	17.5	17.5
Actuated g/C Ratio	0.13	0.40	0.40	0.07	0.35	0.35	0.18	0.16		0.20	0.18	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	228	671	622	132	649	527	315	498		352	334	266
v/s Ratio Prot	0.09	c0.39		c0.07	0.20		0.12	c0.10		c0.14	0.09	
v/s Ratio Perm			0.04			0.05						0.03
v/c Ratio	0.68	0.98	0.10	0.89	0.57	0.14	0.67	0.62		0.70	0.52	0.19
Uniform Delay, d1	40.5	28.6	18.1	44.7	25.8	21.7	37.4	38.3		36.4	36.2	34.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.8	28.6	0.1	47.5	1.2	0.1	5.3	2.4		6.3	1.5	0.4
Delay (s)	48.3	57.2	18.2	92.2	27.0	21.9	42.7	40.7		42.7	37.7	34.4
Level of Service	D	E	B	F	C	C	D	D		D	D	C
Approach Delay (s)		49.9			36.4			41.5			38.1	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.2									
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			97.5									
Intersection Capacity Utilization			87.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Future Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Ideal Flow (vphpl)	1900	2200	2200	1700	2200	2200	2200	1900	1900	1900	1900	2200
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	*1.00	*1.00	1.00	*1.00		*1.00	1.00		1.00	*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.97		1.00	0.99	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
RTOR Reduction (vph)	0	1	58	0	4	0	0	15	0	0	8	157
Lane Group Flow (vph)	204	2327	274	112	1198	0	255	216	0	68	193	24
Confl. Peds. (#/hr)			8			25			21			13
Confl. Bikes (#/hr)			4			2						1
Turn Type	Prot	NA	custom	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2 7		1	6 7		8	8		4	4	
Permitted Phases			2									4
Actuated Green, G (s)	21.5	117.3	57.4	16.1	111.9		28.0	28.0		26.1	26.1	26.1
Effective Green, g (s)	23.0	120.3	58.9	17.6	114.9		29.5	29.5		27.6	27.6	27.6
Actuated g/C Ratio	0.11	0.57	0.28	0.08	0.55		0.14	0.14		0.13	0.13	0.13
Clearance Time (s)	4.5		4.5	4.5			4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0			3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	375	3704	579	132	3519		575	254		232	241	231
v/s Ratio Prot	0.06	c0.36		c0.07	0.19		0.06	c0.12		0.04	c0.11	
v/s Ratio Perm			0.13									0.01
v/c Ratio	0.54	0.63	0.47	0.85	0.34		0.44	0.85		0.29	0.80	0.10
Uniform Delay, d1	88.5	29.9	62.7	94.9	26.5		82.7	88.1		82.4	88.5	80.3
Progression Factor	1.02	1.00	1.03	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.3	36.9	0.1		0.5	23.0		0.7	17.2	0.2
Delay (s)	90.3	29.9	64.7	131.8	26.5		83.3	111.1		83.1	105.7	80.5
Level of Service	F	C	E	F	C		F	F		F	F	F
Approach Delay (s)		38.2			35.5			96.5			92.2	
Approach LOS		D			D			F			F	
Intersection Summary												
HCM 2000 Control Delay			47.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			210.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			84.2%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: Humboldt St/Humbolt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96		0.98			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.90			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1770	3403		1770	1863	1519		1630			1805	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.90			0.64	
Satd. Flow (perm)	1770	3403		1770	1863	1519		1476			1178	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	670	151	196	808	139	66	27	260	95	129	15
RTOR Reduction (vph)	0	0	0	0	0	32	0	106	0	0	3	0
Lane Group Flow (vph)	7	821	0	196	808	107	0	247	0	0	236	0
Confl. Peds. (#/hr)			20			8	11		9			19
Confl. Bikes (#/hr)			2			3			3			1
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	0.8	28.9		13.2	41.3	41.3		20.2			20.2	
Effective Green, g (s)	2.3	30.4		14.7	42.8	42.8		21.7			21.7	
Actuated g/C Ratio	0.03	0.40		0.19	0.56	0.56		0.29			0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	53	1364		343	1051	857		422			337	
v/s Ratio Prot	0.00	0.24		c0.11	c0.43							
v/s Ratio Perm						0.07		0.17			c0.20	
v/c Ratio	0.13	0.60		0.57	0.77	0.13		0.58			0.70	
Uniform Delay, d1	35.8	17.9		27.7	12.7	7.7		23.2			24.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.1	0.8		2.3	3.4	0.1		2.1			6.4	
Delay (s)	36.9	18.7		30.0	16.1	7.8		25.3			30.6	
Level of Service	D	B		C	B	A		C			C	
Approach Delay (s)		18.8			17.5			25.3			30.6	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			20.2									
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			75.8									
Intersection Capacity Utilization			81.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	10	10	9	10	10	9	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.94	1.00		0.98	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1802		1615	1674		1495	1721		1567	1628	
Flt Permitted	0.28	1.00		0.48	1.00		0.58	1.00		0.52	1.00	
Satd. Flow (perm)	480	1802		808	1674		910	1721		860	1628	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	276	39	80	433	100	49	255	13	195	157	56
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	56	315	0	80	533	0	49	268	0	195	213	0
Confl. Peds. (#/hr)	31		36	16		11	36		16	11		31
Confl. Bikes (#/hr)									1			1
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	35.5		35.5	35.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	222	833		373	774		420	795		397	752	
v/s Ratio Prot		0.17			c0.32			0.16			0.13	
v/s Ratio Perm	0.12			0.10			0.05			c0.23		
v/c Ratio	0.25	0.38		0.21	0.69		0.12	0.34		0.49	0.28	
Uniform Delay, d1	13.1	14.0		12.8	17.0		12.2	13.7		15.0	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.3		1.3	5.0		0.6	1.1		4.3	0.9	
Delay (s)	15.8	15.3		14.1	21.9		12.8	14.8		19.2	14.2	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		15.4			20.9			14.5			16.6	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			17.5			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				6.0		
Intersection Capacity Utilization			71.7%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

9: Humboldt St & 3rd Ave

06/12/2020



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	69	815	235	3	89	277	47	223	362	7
Future Volume (vph)	69	815	235	3	89	277	47	223	362	7
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1000	1000	1000	1900	1900
Lane Width	12	12	12	12	10	10	12	12	12	12
Grade (%)		-3%			0%	0%		0%		
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		0.91			1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes		0.99			1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	1.00	0.85	0.97	1.00	
Flt Protected		1.00			1.00	1.00	1.00	0.96	1.00	
Satd. Flow (prot)		3884			100	700	120	912	1863	
Flt Permitted		1.00			0.99	1.00	1.00	0.96	1.00	
Satd. Flow (perm)		3884			500	915	120	912	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	69	815	235	3	89	277	47	223	362	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1119	0	0	92	277	47	288	304	0
Confl. Peds. (#/hr)	36		18					6		
Confl. Bikes (#/hr)			3					3		
Turn Type	Perm	NA		Perm	NA	NA	Perm	Prot	Perm	
Protected Phases		3			2	6		4		
Permitted Phases	3			2			6		4	
Actuated Green, G (s)		37.5			24.6	24.6	24.6	30.6	30.6	
Effective Green, g (s)		39.0			26.1	26.1	26.1	32.1	32.1	
Actuated g/C Ratio		0.37			0.25	0.25	0.25	0.30	0.30	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1426			122	172	29	275	563	
v/s Ratio Prot						c0.40		c0.32		
v/s Ratio Perm		0.29			0.18		0.39		0.16	
v/c Ratio		0.78			0.75	1.61	1.62	1.05	0.54	
Uniform Delay, d1		29.9			37.1	40.0	40.0	37.0	30.9	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.9			22.9	300.0	394.2	67.2	1.0	
Delay (s)		32.8			60.0	340.0	434.2	104.2	31.9	
Level of Service		C			E	F	F	F	C	
Approach Delay (s)		32.8			60.0	353.7		67.1		
Approach LOS		C			E	F		E		
Intersection Summary										
HCM 2000 Control Delay			92.4		HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			1.09							
Actuated Cycle Length (s)			106.2		Sum of lost time (s)				9.0	
Intersection Capacity Utilization			104.2%		ICU Level of Service				G	
Analysis Period (min)			15							
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  									 	
Traffic Volume (vph)	28	1668	10	0	0	0	0	71	241	363	215	0
Future Volume (vph)	28	1668	10	0	0	0	0	71	241	363	215	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.91						0.95	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00						0.98	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00	1.00	1.00	
Frt	1.00	1.00						0.92	0.85	1.00	1.00	
Flt Protected	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3208						838	1455	1681	919	
Flt Permitted	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	3208						838	1455	1681	919	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1738	10	0	0	0	0	74	251	378	224	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	43	81	0	0	0
Lane Group Flow (vph)	29	1748	0	0	0	0	0	124	77	291	311	0
Confl. Peds. (#/hr)	10		7						10			
Confl. Bikes (#/hr)			2						1			
Turn Type	Split	NA						NA	Perm	Split	NA	
Protected Phases	4	4						2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	45.5	45.5						16.0	16.0	30.5	30.5	
Effective Green, g (s)	47.0	47.0						17.5	17.5	32.0	32.0	
Actuated g/C Ratio	0.45	0.45						0.17	0.17	0.30	0.30	
Clearance Time (s)	4.5	4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	788	1429						139	241	509	278	
v/s Ratio Prot	0.02	c0.54						c0.15		0.17	c0.34	
v/s Ratio Perm									0.05			
v/c Ratio	0.04	1.22						0.90	0.32	0.57	1.12	
Uniform Delay, d1	16.5	29.2						43.1	38.8	31.0	36.8	
Progression Factor	1.00	1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	106.9						52.4	3.5	1.6	89.7	
Delay (s)	16.5	136.2						95.5	42.2	32.5	126.5	
Level of Service	B	F						F	D	C	F	
Approach Delay (s)		134.2			0.0			69.6			81.1	
Approach LOS		F			A			E			F	
Intersection Summary												
HCM 2000 Control Delay		114.6			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.13										
Actuated Cycle Length (s)		105.5			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		108.2%			ICU Level of Service			G				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	0.97		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	116	188	160	272	55	296	155	43	21	129	30
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	0
Lane Group Flow (vph)	95	304	0	160	327	0	222	229	10	21	159	0
Confl. Peds. (#/hr)			34			30			34			30
Confl. Bikes (#/hr)			1			2			1			6
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.1	13.8		10.4	17.1		15.1	15.1	15.1	11.8	11.8	
Effective Green, g (s)	8.6	15.3		11.9	18.6		16.6	16.6	16.6	13.3	13.3	
Actuated g/C Ratio	0.12	0.22		0.17	0.27		0.24	0.24	0.24	0.19	0.19	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	220	693		304	915		403	418	363	340	345	
v/s Ratio Prot	0.05	c0.10		c0.09	0.10		c0.13	0.13		0.01	c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.43	0.44		0.53	0.36		0.55	0.55	0.03	0.06	0.46	
Uniform Delay, d1	28.0	23.2		26.0	20.4		23.0	23.0	20.1	22.8	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.4		1.6	0.2		1.6	1.5	0.0	0.1	1.0	
Delay (s)	29.4	23.6		27.7	20.7		24.6	24.4	20.1	22.9	25.7	
Level of Service	C	C		C	C		C	C	C	C	C	
Approach Delay (s)		25.0			23.0			24.1			25.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Util. Factor		1.00	1.00	1.00	1.00					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.95	1.00	1.00					1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		1863	1506	1770	1863					1681	1681	1528
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		1863	1506	1770	1863					1681	1681	1528
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	683	132	206	412	0	0	0	0	506	0	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	683	132	206	412	0	0	0	0	253	253	63
Confl. Peds. (#/hr)			9									2
Confl. Bikes (#/hr)			3									9
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases			4									6
Actuated Green, G (s)		51.0	51.0	18.2	73.7					37.3	37.3	37.3
Effective Green, g (s)		52.5	52.5	19.7	75.2					38.8	38.8	38.8
Actuated g/C Ratio		0.44	0.44	0.16	0.63					0.32	0.32	0.32
Clearance Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		815	658	290	1167					543	543	494
v/s Ratio Prot		c0.37		c0.12	0.22					c0.15	0.15	
v/s Ratio Perm			0.09									0.04
v/c Ratio		0.84	0.20	0.71	0.35					0.47	0.47	0.13
Uniform Delay, d1		30.0	20.8	47.5	10.7					32.3	32.3	28.7
Progression Factor		0.80	0.71	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		6.4	0.1	7.9	0.2					2.9	2.9	0.5
Delay (s)		30.4	14.9	55.4	10.9					35.2	35.2	29.2
Level of Service		C	B	E	B					D	D	C
Approach Delay (s)		27.9			25.7			0.0			34.5	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			29.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

13: US 101 NB Off Ramp & Hillsdale Blvd

06/12/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖↗
Traffic Volume (vph)	1312	0	0	1394	286	1553
Future Volume (vph)	1312	0	0	1394	286	1553
Ideal Flow (vphpl)	1260	1900	1900	1800	1200	1750
Total Lost time (s)	3.0			3.0	3.0	3.0
Lane Util. Factor	0.95			0.95	0.97	0.88
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2347			3353	2168	2567
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2347			3353	2168	2567
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1312	0	0	1394	286	1553
RTOR Reduction (vph)	0	0	0	0	0	17
Lane Group Flow (vph)	1312	0	0	1394	286	1536
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6 2	8	6
Permitted Phases						8 6
Actuated Green, G (s)	44.5			82.5	13.5	47.0
Effective Green, g (s)	46.0			84.0	15.0	50.0
Actuated g/C Ratio	0.44			0.80	0.14	0.48
Clearance Time (s)	4.5				4.5	4.5
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	1028			2682	309	1295
v/s Ratio Prot	c0.56			0.42	0.13	c0.40
v/s Ratio Perm						0.20
v/c Ratio	1.28			0.52	0.93	1.19
Uniform Delay, d1	29.5			3.6	44.4	27.5
Progression Factor	0.95			1.13	1.00	1.00
Incremental Delay, d2	128.0			0.7	32.2	91.9
Delay (s)	156.1			4.8	76.7	119.4
Level of Service	F			A	E	F
Approach Delay (s)	156.1			4.8	112.8	
Approach LOS	F			A	F	
Intersection Summary						
HCM 2000 Control Delay	92.1			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio	1.27					
Actuated Cycle Length (s)	105.0			Sum of lost time (s)		9.0
Intersection Capacity Utilization	120.3%			ICU Level of Service		H
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Ideal Flow (vphpl)	1900	1000	1000	1900	1900	1900	1900	1900	1900	1000	1100	1900
Total Lost time (s)		3.0	3.0		3.0					2.5	3.0	
Lane Util. Factor		*0.70	*0.70		*1.00					*0.70	*0.70	
Frpb, ped/bikes		1.00	0.97		1.00					1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	
Frt		1.00	0.85		1.00					1.00	1.00	
Flt Protected		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (prot)		2059	566		3725					1304	1510	
Flt Permitted		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (perm)		2059	566		3725					1304	1510	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1076	57	0	1000	0	0	0	0	402	391	0
Confl. Peds. (#/hr)			10									
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm		NA					Prot	NA	
Protected Phases		2			6					7	4	
Permitted Phases			2									
Actuated Green, G (s)		63.9	63.9		63.9					32.1	32.1	
Effective Green, g (s)		65.4	65.4		65.4					34.1	33.6	
Actuated g/C Ratio		0.62	0.62		0.62					0.32	0.32	
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	
Lane Grp Cap (vph)		1282	352		2320					423	483	
v/s Ratio Prot		c0.52			0.27					c0.31	0.26	
v/s Ratio Perm			0.10									
v/c Ratio		0.84	0.16		0.43					0.95	0.81	
Uniform Delay, d1		15.6	8.3		10.2					34.6	32.8	
Progression Factor		1.00	1.00		0.96					1.00	1.00	
Incremental Delay, d2		6.7	1.0		0.5					31.2	9.7	
Delay (s)		22.4	9.3		10.3					65.9	42.4	
Level of Service		C	A		B					E	D	
Approach Delay (s)		21.3			10.3			0.0			54.3	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)				6.0		
Intersection Capacity Utilization			120.3%			ICU Level of Service				H		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00			1.00	0.95		1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1762	3374		1745	1847			1796	1511		1812	
Flt Permitted	0.23	1.00		0.34	1.00			0.77	1.00		0.87	
Satd. Flow (perm)	429	3374		621	1847			1430	1511		1604	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	563	150	94	655	28	149	94	186	48	113	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	0
Lane Group Flow (vph)	16	713	0	94	683	0	0	243	64	0	172	0
Confl. Peds. (#/hr)	11		47	34		29	13		52	18		24
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		2	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	21.7	21.7		21.7	21.7			13.7	13.7		13.7	
Effective Green, g (s)	23.2	23.2		23.2	23.2			15.2	15.2		15.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.34	0.34		0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	224	1762		324	965			489	517		549	
v/s Ratio Prot		0.21			c0.37							
v/s Ratio Perm	0.04			0.15				c0.17	0.04		0.11	
v/c Ratio	0.07	0.40		0.29	0.71			0.50	0.12		0.31	
Uniform Delay, d1	5.3	6.4		6.0	8.0			11.6	10.0		10.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2		0.5	2.4			0.8	0.1		0.3	
Delay (s)	5.4	6.6		6.5	10.4			12.4	10.1		11.1	
Level of Service	A	A		A	B			B	B		B	
Approach Delay (s)		6.5			9.9			11.4			11.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			9.2			HCM 2000 Level of Service				A		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			44.4			Sum of lost time (s)			6.0			
Intersection Capacity Utilization			76.9%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1724		1770	1702		1770	1801		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1724		1770	1702		1770	1801		1770	1828	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	17	12	122	197	178	32	315	61	85	241	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	29	0	122	375	0	32	376	0	85	266	0
Confl. Peds. (#/hr)			17			18			19			16
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.1	11.3		11.9	21.1		2.4	22.6		7.1	27.3	
Effective Green, g (s)	3.6	12.8		13.4	22.6		3.9	24.1		8.6	28.8	
Actuated g/C Ratio	0.05	0.18		0.19	0.32		0.06	0.34		0.12	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	89	311		334	542		97	612		214	742	
v/s Ratio Prot	0.01	0.02		c0.07	c0.22		0.02	c0.21		c0.05	0.15	
v/s Ratio Perm												
v/c Ratio	0.20	0.09		0.37	0.69		0.33	0.61		0.40	0.36	
Uniform Delay, d1	32.3	24.2		25.0	21.1		32.2	19.5		28.8	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.1		0.7	3.8		2.0	1.8		1.2	0.3	
Delay (s)	33.4	24.3		25.7	24.9		34.2	21.4		30.0	14.9	
Level of Service	C	C		C	C		C	C		C	B	
Approach Delay (s)		27.8			25.1			22.4			18.6	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.6			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			70.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			57.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	0	209	280	450	92	44	318	0	0	500	26
Future Volume (vph)	48	0	209	280	450	92	44	318	0	0	500	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1000	1000	1900	1900	1400	1400
Total Lost time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Util. Factor	1.00		1.00	1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes	1.00		0.84	1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00		0.85	1.00	0.97		1.00	1.00			0.99	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1380		1034	1770	3402		931	1863			2578	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1380		1034	1770	3402		931	1863			2578	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	0	209	280	450	92	44	318	0	0	500	26
RTOR Reduction (vph)	0	0	174	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	0	35	280	542	0	44	318	0	0	526	0
Confl. Peds. (#/hr)			83			70			95			58
Confl. Bikes (#/hr)			4			1			1			4
Bus Blockages (#/hr)	55	0	55	0	0	0	0	0	0	0	0	0
Turn Type	Prot		Perm	Split	NA		Prot	NA			NA	
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4									
Actuated Green, G (s)	9.0		9.0	20.3	20.3		4.4	29.2			20.3	
Effective Green, g (s)	13.5		13.5	24.8	24.8		5.9	33.7			24.8	
Actuated g/C Ratio	0.17		0.17	0.31	0.31		0.07	0.42			0.31	
Clearance Time (s)	7.5		7.5	7.5	7.5		4.5	7.5			7.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	230		172	541	1041		67	775			789	
v/s Ratio Prot	c0.03			0.16	c0.16		c0.05	0.17			c0.20	
v/s Ratio Perm			0.03									
v/c Ratio	0.21		0.20	0.52	0.52		0.66	0.41			0.67	
Uniform Delay, d1	29.1		29.1	23.2	23.2		36.6	16.7			24.5	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.5		0.6	3.5	1.9		20.8	0.4			2.1	
Delay (s)	29.6		29.7	26.7	25.1		57.4	17.0			26.6	
Level of Service	C		C	C	C		E	B			C	
Approach Delay (s)		29.7			25.6			21.9			26.6	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			25.7			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			81.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			64.0%			ICU Level of Service					B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	35	738	25	0	0	0	31	343	203	343	500	81
Future Volume (vph)	35	738	25	0	0	0	31	343	203	343	500	81
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1650	1900	1300	1000	1900
Total Lost time (s)		3.0					3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95					1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00					1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00					1.00	1.00		1.00	1.00	
Frt		1.00					1.00	0.94		1.00	0.98	
Flt Protected		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2767					1770	2816		1211	1796	
Flt Permitted		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2767					1770	2816		1211	1796	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	35	738	25	0	0	0	31	343	203	343	500	81
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	798	0	0	0	0	31	546	0	343	581	0
Confl. Peds. (#/hr)	16		41						41			33
Confl. Bikes (#/hr)			4						3			3
Turn Type	Perm	NA					Prot	NA		Prot	NA	
Protected Phases		4					5	2		1	6	
Permitted Phases	4											
Actuated Green, G (s)		24.0					4.8	15.8		32.5	43.5	
Effective Green, g (s)		28.5					6.3	20.3		34.0	48.0	
Actuated g/C Ratio		0.31					0.07	0.22		0.37	0.52	
Clearance Time (s)		7.5					4.5	7.5		4.5	7.5	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		859					121	622		448	939	
v/s Ratio Prot							0.02	c0.19		c0.28	0.32	
v/s Ratio Perm		0.29										
v/c Ratio		0.93					0.26	0.88		0.77	0.62	
Uniform Delay, d1		30.7					40.5	34.6		25.4	15.4	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		17.7					1.1	13.3		11.8	1.2	
Delay (s)		48.3					41.7	47.8		37.2	16.7	
Level of Service		D					D	D		D	B	
Approach Delay (s)		48.3			0.0			47.5			24.3	
Approach LOS		D			A			D			C	
Intersection Summary												
HCM 2000 Control Delay		38.5					HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio		0.85										
Actuated Cycle Length (s)		91.8					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		85.7%					ICU Level of Service			E		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	89	299	70	7	118	37	60	478	14	15	319	164
Future Volume (vph)	89	299	70	7	118	37	60	478	14	15	319	164
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1350	1900	1900	1000	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		1.00			1.00			1.00			1.00	1.00
Frpb, ped/bikes		0.98			0.99			1.00			1.00	0.89
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.98			0.97			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.99			1.00	1.00
Satd. Flow (prot)		934			937			1305			978	1404
Flt Permitted		0.91			0.98			0.93			0.97	1.00
Satd. Flow (perm)		854			920			1219			951	1404
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	89	299	70	7	118	37	60	478	14	15	319	164
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	82
Lane Group Flow (vph)	0	458	0	0	162	0	0	551	0	0	334	82
Confl. Peds. (#/hr)	16		36	21		31	15		36	15		31
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		29.5			29.5			35.5			35.5	35.5
Effective Green, g (s)		34.0			34.0			40.0			40.0	40.0
Actuated g/C Ratio		0.42			0.42			0.50			0.50	0.50
Clearance Time (s)		7.5			7.5			7.5			7.5	7.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		362			391			609			475	702
v/s Ratio Prot												
v/s Ratio Perm		c0.54			0.18			c0.45			0.35	0.06
v/c Ratio		1.27			0.41			0.90			0.70	0.12
Uniform Delay, d1		23.0			16.1			18.3			15.4	10.6
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		139.6			0.7			19.3			8.4	0.3
Delay (s)		162.6			16.8			37.6			23.9	11.0
Level of Service		F			B			D			C	B
Approach Delay (s)		162.6			16.8			37.6			19.6	
Approach LOS		F			B			D			B	
Intersection Summary												
HCM 2000 Control Delay		64.5			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.07										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		153.4%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	301	79	26	157	13	56	382	34	13	337	79
Future Volume (vph)	120	301	79	26	157	13	56	382	34	13	337	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.99			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1779			1823			1822			1796	
Flt Permitted		0.88			0.92			0.93			0.98	
Satd. Flow (perm)		1583			1688			1698			1769	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	301	79	26	157	13	56	382	34	13	337	79
RTOR Reduction (vph)	0	11	0	0	4	0	0	5	0	0	14	0
Lane Group Flow (vph)	0	489	0	0	192	0	0	467	0	0	415	0
Confl. Peds. (#/hr)	12		28	19		30	9		37	18		21
Confl. Bikes (#/hr)			3			4			5			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.0			19.0			18.3			18.3	
Effective Green, g (s)		20.5			20.5			19.8			19.8	
Actuated g/C Ratio		0.44			0.44			0.43			0.43	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		700			747			726			756	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.11			c0.28			0.23	
v/c Ratio		0.70			0.26			0.64			0.55	
Uniform Delay, d1		10.4			8.1			10.5			9.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.1			0.2			2.0			0.8	
Delay (s)		13.5			8.3			12.4			10.7	
Level of Service		B			A			B			B	
Approach Delay (s)		13.5			8.3			12.4			10.7	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		11.8			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.67										
Actuated Cycle Length (s)		46.3			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		98.2%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.92	1.00	0.98		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	189	258	210	206	378	169	209	507	112	163	412	143
RTOR Reduction (vph)	0	0	162	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	189	258	48	206	547	0	209	619	0	163	555	0
Confl. Peds. (#/hr)			73			55			43			85
Confl. Bikes (#/hr)			3			7			4			4
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Effective Green, g (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Actuated g/C Ratio	0.17	0.23	0.23	0.18	0.24		0.12	0.25		0.15	0.28	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	803	329	311	777		404	859		262	936	
v/s Ratio Prot	0.11	0.07		c0.12	c0.17		0.06	c0.18		c0.09	c0.17	
v/s Ratio Perm			0.03									
v/c Ratio	0.64	0.32	0.14	0.66	0.70		0.52	0.72		0.62	0.59	
Uniform Delay, d1	35.6	29.5	28.3	35.2	32.1		38.0	31.3		36.6	28.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.2	0.2	5.2	2.9		1.1	3.0		4.5	1.0	
Delay (s)	40.3	29.7	28.5	40.4	35.0		39.1	34.3		41.1	29.3	
Level of Service	D	C	C	D	C		D	C		D	C	
Approach Delay (s)		32.4			36.5			35.5			32.0	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			34.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			91.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			78.8%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			4.0	3.0			
Lane Util. Factor		1.00		0.95	0.95			1.00	0.88			
Frpb, ped/bikes		0.99		1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			
Frt		0.89		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (prot)		1643		1681	1692			1770	2724			
Flt Permitted		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (perm)		1643		1681	1692			1770	2724			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	31	128	749	33	0	40	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	498	0	0	0
Lane Group Flow (vph)	0	159	0	389	393	0	0	40	121	0	0	0
Confl. Peds. (#/hr)			1						1			
Confl. Bikes (#/hr)						3						3
Turn Type		NA		Split	NA	Perm	Split	NA	Perm			
Protected Phases		4		8	8		2	2		6	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)		11.9		21.5	21.5			9.5	9.5			
Effective Green, g (s)		13.4		23.0	23.0			10.0	11.0			
Actuated g/C Ratio		0.24		0.41	0.41			0.18	0.20			
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		390		685	690			313	531			
v/s Ratio Prot		c0.10		0.23	c0.23			0.02				
v/s Ratio Perm									c0.04			
v/c Ratio		0.41		0.57	0.57			0.13	0.23			
Uniform Delay, d1		18.1		12.9	12.9			19.5	19.1			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.7		1.1	1.1			0.2	0.2			
Delay (s)		18.8		14.0	14.0			19.7	19.3			
Level of Service		B		B	B			B	B			
Approach Delay (s)		18.8			14.0			19.4			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			56.4			Sum of lost time (s)				14.0		
Intersection Capacity Utilization			45.4%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		0.97	1.00	
Frpb, ped/bikes		1.00	0.92	1.00		0.97		0.97		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Frt		1.00	0.85	1.00		0.85		0.90		1.00	1.00	
Flt Protected		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		900	1459	1770		1528		1050		1900	1863	
Flt Permitted		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)		1846	1459	1770		1528		3098		3433	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	41	179	33	162	0	296	0	86	152	364	130	0
RTOR Reduction (vph)	0	0	0	0	0	250	0	0	0	0	0	0
Lane Group Flow (vph)	0	220	33	162	0	46	0	238	0	364	130	0
Confl. Peds. (#/hr)			27			12			23			
Confl. Bikes (#/hr)			5			7			5			
Turn Type	Split	NA	Perm	Prot		Perm		NA		Prot	NA	
Protected Phases	4	4		8				2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		27.0	27.0	14.9		14.9		25.6		20.5	50.6	
Effective Green, g (s)		28.5	28.5	16.4		16.4		27.1		22.0	52.1	
Actuated g/C Ratio		0.27	0.27	0.15		0.15		0.26		0.21	0.49	
Clearance Time (s)		4.5	4.5	4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		241	392	273		236		268		394	915	
v/s Ratio Prot		c0.24		c0.09				c0.23		c0.19	0.07	
v/s Ratio Perm			0.02			0.03						
v/c Ratio		0.91	0.08	0.59		0.19		0.89		0.92	0.14	
Uniform Delay, d1		37.5	29.0	41.7		39.0		38.0		41.2	14.7	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		35.3	0.1	3.4		0.4		27.8		27.0	0.1	
Delay (s)		72.8	29.1	45.1		39.4		65.7		68.2	14.8	
Level of Service		E	C	D		D		E		E	B	
Approach Delay (s)		67.1			41.5			65.7			54.2	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			54.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			106.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			65.6%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0					3.0	2.5	3.0	3.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	0.91	0.91	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					0.99	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					0.97	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1681	1683	1462					3278	1389	1610	3350	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1681	1683	1462					3278	1389	1610	3350	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	233	344	89	0	0	0	0	530	396	418	439	0
RTOR Reduction (vph)	0	1	56	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	210	375	24	0	0	0	0	645	281	280	577	0
Confl. Peds. (#/hr)			14						25			
Confl. Bikes (#/hr)			6						6			
Turn Type	Perm	NA	Perm					NA	Perm	Split	NA	
Protected Phases		4						2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	21.9	21.9	21.9					23.2	23.2	18.4	18.4	
Effective Green, g (s)	23.4	23.4	23.4					24.7	25.2	19.9	19.9	
Actuated g/C Ratio	0.30	0.30	0.30					0.32	0.33	0.26	0.26	
Clearance Time (s)	4.5	4.5	4.5					4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	510	511	444					1051	454	416	865	
v/s Ratio Prot								0.20		c0.17	0.17	
v/s Ratio Perm	0.12	0.22	0.02						c0.20			
v/c Ratio	0.41	0.73	0.05					0.61	0.62	0.67	0.67	
Uniform Delay, d1	21.3	24.0	19.0					22.1	21.8	25.6	25.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	5.4	0.1					1.1	2.5	4.3	2.0	
Delay (s)	21.9	29.4	19.0					23.2	24.4	29.9	27.5	
Level of Service	C	C	B					C	C	C	C	
Approach Delay (s)		25.8			0.0			23.5			28.3	
Approach LOS		C			A			C			C	
Intersection Summary												
HCM 2000 Control Delay		25.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		77.0			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		67.7%			ICU Level of Service			C				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.97			1.00	0.97		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.91			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1629			1763	1530		3539	1535	1770	3536	
Flt Permitted		0.97			0.75	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (perm)		1591			1399	1530		3378	1535	1770	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	1	4	133	0	499	1	699	125	213	488	2
RTOR Reduction (vph)	0	0	0	0	0	319	0	0	80	0	0	0
Lane Group Flow (vph)	0	6	0	0	133	180	0	700	45	213	490	0
Confl. Peds. (#/hr)	5		27	5		21	22		21			27
Confl. Bikes (#/hr)			18			9			5			17
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		13.4			13.4	13.4		19.6	19.6	11.8	35.9	
Effective Green, g (s)		14.9			14.9	14.9		21.1	21.1	13.3	37.4	
Actuated g/C Ratio		0.26			0.26	0.26		0.36	0.36	0.23	0.64	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		406			357	391		1222	555	403	2268	
v/s Ratio Prot										c0.12	0.14	
v/s Ratio Perm		0.00			0.10	c0.12		c0.21	0.03			
v/c Ratio		0.01			0.37	0.46		0.57	0.08	0.53	0.22	
Uniform Delay, d1		16.2			17.9	18.3		15.0	12.2	19.7	4.3	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.7	0.9		0.7	0.1	1.3	0.0	
Delay (s)		16.2			18.5	19.2		15.6	12.3	21.0	4.4	
Level of Service		B			B	B		B	B	C	A	
Approach Delay (s)		16.2			19.0			15.1			9.4	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		14.4										
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		58.3										
Intersection Capacity Utilization		76.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

26: Delaware St & 25th Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	↑↑	↑	←←
Traffic Volume (vph)	502	221	143	305	146	483
Future Volume (vph)	502	221	143	305	146	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.88
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.98	1.00	1.00
Satd. Flow (prot)	3433	1519		3483	1863	2650
Flt Permitted	0.95	1.00		0.83	1.00	1.00
Satd. Flow (perm)	3433	1519		2921	1863	2650
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	502	221	143	305	146	483
RTOR Reduction (vph)	0	0	0	0	0	291
Lane Group Flow (vph)	502	221	0	448	146	192
Confl. Peds. (#/hr)		4	2			15
Confl. Bikes (#/hr)		20				21
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	10.8	10.8		10.6	10.6	10.6
Effective Green, g (s)	12.3	12.3		12.1	12.1	12.1
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1389	614		1162	741	1054
v/s Ratio Prot	c0.15				0.08	
v/s Ratio Perm		0.15		c0.15		0.07
v/c Ratio	0.36	0.36		0.39	0.20	0.18
Uniform Delay, d1	6.3	6.3		6.5	6.0	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4		0.2	0.1	0.1
Delay (s)	6.5	6.7		6.7	6.1	6.0
Level of Service	A	A		A	A	A
Approach Delay (s)	6.5			6.7	6.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		6.4		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.37				
Actuated Cycle Length (s)		30.4		Sum of lost time (s)		6.0
Intersection Capacity Utilization		49.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Ideal Flow (vphpl)	2200	2200	2200	2200	2200	2200	1900	1900	1900	1100	1100	1100
Total Lost time (s)	3.0	3.0	3.0	3.0	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	*1.00	*1.00	*1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	134	234	378	232	163	46	271	54	131	313	34
RTOR Reduction (vph)	0	0	208	0	98	0	0	9	0	0	3	0
Lane Group Flow (vph)	85	134	26	378	297	0	46	316	0	131	344	0
Confl. Peds. (#/hr)			1			33			40			33
Confl. Bikes (#/hr)			8						1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.2	14.2	14.2	18.2	21.2		7.9	66.1		23.5	81.7	
Effective Green, g (s)	12.7	15.7	15.7	19.7	23.2		9.4	68.1		25.0	83.7	
Actuated g/C Ratio	0.09	0.11	0.11	0.14	0.17		0.07	0.49		0.18	0.60	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	185	241	398	576	652		118	1658		183	1199	
v/s Ratio Prot	0.04	c0.06		c0.09	0.08		0.03	0.09		c0.13	c0.17	
v/s Ratio Perm			0.01									
v/c Ratio	0.46	0.56	0.07	0.66	0.45		0.39	0.19		0.72	0.29	
Uniform Delay, d1	60.4	58.8	55.6	56.9	52.7		62.6	20.4		54.2	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.16	1.08		1.00	1.00	
Incremental Delay, d2	1.8	2.8	0.1	2.7	0.5		1.9	0.2		12.5	0.6	
Delay (s)	62.2	61.6	55.7	59.6	53.2		74.4	22.2		66.7	14.3	
Level of Service	E	E	E	E	D		E	C		E	B	
Approach Delay (s)		58.7			56.3			28.7			28.6	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			45.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)				11.5		
Intersection Capacity Utilization			70.7%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

28: Saratoga Dr & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 	 	 	
Traffic Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Future Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Ideal Flow (vphpl)	1000	1000	1000	1000	1900	1900	1000	1000	1100	1000	1000	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	*0.50	*0.80		*0.60	0.91	1.00		*0.95	0.88	*0.65	*0.70	0.91
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.93	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (perm)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	875	0	163	527	235	28	60	236	370	178	314
RTOR Reduction (vph)	0	0	0	0	0	165	0	0	192	0	46	113
Lane Group Flow (vph)	71	875	0	163	527	71	0	88	44	370	289	44
Confl. Peds. (#/hr)						12			22			
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	18.7	36.2		24.0	40.2	40.2		24.5	24.5	37.0	37.0	37.0
Effective Green, g (s)	21.0	38.0		25.0	42.0	42.0		26.2	26.2	38.8	38.8	38.8
Actuated g/C Ratio	0.15	0.27		0.18	0.30	0.30		0.19	0.19	0.28	0.28	0.28
Clearance Time (s)	5.3	4.8		4.0	4.8	4.8		4.7	4.7	4.8	4.8	4.8
Vehicle Extension (s)	3.0	6.0		3.0	6.0	6.0		4.0	4.0	6.0	6.0	6.0
Lane Grp Cap (vph)	69	638		199	1525	460		171	289	335	353	399
v/s Ratio Prot	0.15	c0.37		c0.15	0.10			c0.10		c0.31	0.23	
v/s Ratio Perm						0.05			0.03			0.03
v/c Ratio	1.03	1.37		0.82	0.35	0.15		0.51	0.15	1.10	0.82	0.11
Uniform Delay, d1	59.5	51.0		55.3	38.3	36.0		51.2	47.6	50.6	47.3	37.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.21	0.21	0.78	0.71	0.75
Incremental Delay, d2	116.6	177.0		22.4	0.6	0.7		3.2	0.3	79.4	15.4	0.3
Delay (s)	176.1	228.0		77.7	38.9	36.7		14.0	10.5	119.1	49.2	28.4
Level of Service	F	F		E	D	D		B	B	F	D	C
Approach Delay (s)		224.1			45.2			11.4			75.4	
Approach LOS		F			D			B			E	
Intersection Summary												
HCM 2000 Control Delay			105.5				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			92.1%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.87			0.85			0.90			0.96	
Flpb, ped/bikes		0.99			0.97			0.98			0.95	
Frt		0.97			0.95			0.97			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1535			1451			1598			1652	
Flt Permitted		0.97			0.95			0.96			0.85	
Satd. Flow (perm)		1503			1391			1536			1430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	73	27	23	71	49	26	183	48	73	161	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	110	0	0	143	0	0	257	0	0	254	0
Confl. Peds. (#/hr)	99		289	112		240	177		253	141		276
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		601			556			789			735	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.10			0.17			c0.18	
v/c Ratio		0.18			0.26			0.33			0.35	
Uniform Delay, d1		13.6			14.0			9.9			10.0	
Progression Factor		1.00			1.00			0.75			1.00	
Incremental Delay, d2		0.7			1.1			1.0			1.3	
Delay (s)		14.3			15.2			8.5			11.3	
Level of Service		B			B			A			B	
Approach Delay (s)		14.3			15.2			8.5			11.3	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		11.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		53.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.89			0.87			0.89			0.93	
Flpb, ped/bikes		0.98			0.99			0.96			0.97	
Frt		0.97			0.97			0.97			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1562			1539			1548			1627	
Flt Permitted		0.95			0.95			0.94			0.93	
Satd. Flow (perm)		1488			1465			1458			1520	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	149	49	22	105	40	42	185	57	33	151	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	230	0	0	167	0	0	284	0	0	213	0
Confl. Peds. (#/hr)	96		246	88		248	158		240	152		254
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		595			586			749			781	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.11			c0.19			0.14	
v/c Ratio		0.39			0.28			0.38			0.27	
Uniform Delay, d1		14.9			14.2			10.3			9.6	
Progression Factor		1.00			1.00			1.00			0.65	
Incremental Delay, d2		1.9			1.2			1.5			0.8	
Delay (s)		16.8			15.4			11.7			7.1	
Level of Service		B			B			B			A	
Approach Delay (s)		16.8			15.4			11.7			7.1	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		47.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	115	61	90	301	118	24	136	27	20	126	56
Future Volume (vph)	38	115	61	90	301	118	24	136	27	20	126	56
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.85		1.00	1.00	0.49		0.95			0.85	
Flpb, ped/bikes		0.97		0.90	1.00	1.00		0.97			0.99	
Frt		0.96		1.00	1.00	0.85		0.98			0.96	
Flt Protected		0.99		0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)		775		1600	980	780		872			783	
Flt Permitted		0.91		0.62	1.00	1.00		0.95			0.96	
Satd. Flow (perm)		712		1042	980	780		833			759	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	115	61	90	301	118	24	136	27	20	126	56
RTOR Reduction (vph)	0	0	0	0	0	60	0	0	0	0	0	0
Lane Group Flow (vph)	0	214	0	90	301	58	0	187	0	0	202	0
Confl. Peds. (#/hr)	131		272	76		244	196		189	113		327
Confl. Bikes (#/hr)			8			4			4			6
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		27.5		27.5	27.5	27.5		22.5			22.5	
Effective Green, g (s)		32.0		32.0	32.0	32.0		27.0			27.0	
Actuated g/C Ratio		0.49		0.49	0.49	0.49		0.42			0.42	
Clearance Time (s)		7.5		7.5	7.5	7.5		7.5			7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		350		512	482	384		346			315	
v/s Ratio Prot				c0.31								
v/s Ratio Perm		0.30		0.09		0.07		0.22			c0.27	
v/c Ratio		0.61		0.18	0.62	0.15		0.54			0.64	
Uniform Delay, d1		12.0		9.2	12.1	9.1		14.3			15.1	
Progression Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2		3.1		0.7	6.0	0.8		5.9			9.6	
Delay (s)		15.1		9.9	18.1	9.9		20.3			24.8	
Level of Service		B		A	B	A		C			C	
Approach Delay (s)		15.1			14.7			20.3			24.8	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			17.6				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			65.0				Sum of lost time (s)				6.0	
Intersection Capacity Utilization			93.9%				ICU Level of Service				F	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	560	47	10	109	22	18	127	55	45	111	97
Future Volume (vph)	37	560	47	10	109	22	18	127	55	45	111	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		2.5			2.5			3.0			2.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.92			0.91			0.85	
Flpb, ped/bikes		0.99			1.00			0.99			0.97	
Frt		0.99			0.98			0.96			0.95	
Flt Protected		1.00			1.00			1.00			0.99	
Satd. Flow (prot)		3355			872			849			761	
Flt Permitted		0.93			0.95			0.96			0.92	
Satd. Flow (perm)		3137			833			822			708	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	560	47	10	109	22	18	127	55	45	111	97
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	644	0	0	141	0	0	200	0	0	253	0
Confl. Peds. (#/hr)	93		161	74		251	87		232	158		180
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.5			34.5			30.5			30.5	
Effective Green, g (s)		39.5			39.5			35.0			35.5	
Actuated g/C Ratio		0.49			0.49			0.44			0.44	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		1548			411			359			314	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.17			0.24			c0.36	
v/c Ratio		0.42			0.34			0.56			0.81	
Uniform Delay, d1		12.9			12.3			16.7			19.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			2.3			6.1			19.4	
Delay (s)		13.7			14.6			22.9			38.7	
Level of Service		B			B			C			D	
Approach Delay (s)		13.7			14.6			22.9			38.7	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay		20.4			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			5.5				
Intersection Capacity Utilization		86.1%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	367	55	25	286	30	38	138	72	18	116	34
Future Volume (vph)	37	367	55	25	286	30	38	138	72	18	116	34
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1900	1900	1300	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.98			0.94			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.98			0.99			0.96			0.97	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		1403			947			1129			1731	
Flt Permitted		0.95			0.95			0.94			0.96	
Satd. Flow (perm)		1342			906			1067			1665	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	367	55	25	286	30	38	138	72	18	116	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	459	0	0	341	0	0	248	0	0	168	0
Confl. Peds. (#/hr)	28		90	38		74	52		84	46		80
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5			24.5	
Effective Green, g (s)		35.0			35.0			29.0			29.0	
Actuated g/C Ratio		0.50			0.50			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		671			453			442			689	
v/s Ratio Prot												
v/s Ratio Perm		0.34			c0.38			c0.23			0.10	
v/c Ratio		0.68			0.75			0.56			0.24	
Uniform Delay, d1		13.3			14.0			15.6			13.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		5.6			11.0			5.1			0.8	
Delay (s)		18.9			25.0			20.7			14.2	
Level of Service		B			C			C			B	
Approach Delay (s)		18.9			25.0			20.7			14.2	
Approach LOS		B			C			C			B	
Intersection Summary												
HCM 2000 Control Delay		20.3			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.67										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		83.1%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.90			0.93			0.90			0.89	
Flpb, ped/bikes		0.98			0.98			0.99			0.99	
Frt		0.97			0.97			0.97			0.97	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1584			1644			1601			1577	
Flt Permitted		0.91			0.92			0.97			0.97	
Satd. Flow (perm)		1454			1530			1556			1543	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	182	57	26	101	34	9	76	26	28	239	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	302	0	0	161	0	0	111	0	0	349	0
Confl. Peds. (#/hr)	74		242	105		143	137		174	69		211
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			34.5			34.5	
Effective Green, g (s)		35.0			35.0			39.0			39.0	
Actuated g/C Ratio		0.44			0.44			0.49			0.49	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		636			669			758			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.11			0.07			c0.23	
v/c Ratio		0.47			0.24			0.15			0.46	
Uniform Delay, d1		16.0			14.1			11.3			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			0.9			0.4			2.1	
Delay (s)		18.5			15.0			11.7			15.6	
Level of Service		B			B			B			B	
Approach Delay (s)		18.5			15.0			11.7			15.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		59.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.98			0.98	
Flpb, ped/bikes		0.99			0.99			0.99			0.99	
Frt		0.98			0.97			0.98			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1734			1732			1764			1769	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1641			1692			1686			1732	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	165	38	18	224	65	10	69	12	20	217	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	228	0	0	307	0	0	91	0	0	273	0
Confl. Peds. (#/hr)	142		166	166		142	123		107	107		123
Confl. Bikes (#/hr)						2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.2			13.2			12.1			12.1	
Effective Green, g (s)		17.7			17.7			16.6			16.6	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		720			743			694			713	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.18			0.05			0.16	
v/c Ratio		0.32			0.41			0.13			0.38	
Uniform Delay, d1		7.4			7.7			7.4			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.4			0.1			0.3	
Delay (s)		7.6			8.1			7.5			8.6	
Level of Service		A			A			A			A	
Approach Delay (s)		7.6			8.1			7.5			8.6	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		40.3			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		46.2%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.5	2.5	2.5	2.5	2.5	2.5		2.5	2.5		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.93		1.00	0.93		0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.98	
Satd. Flow (prot)	1747	1863	1511	1751	1863	1477		3534	1470		3423	
Flt Permitted	0.50	1.00	1.00	0.52	1.00	1.00		0.94	1.00		0.66	
Satd. Flow (perm)	918	1863	1511	958	1863	1477		3313	1470		2286	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	274	29	102	296	290	12	450	195	209	439	36
RTOR Reduction (vph)	0	0	15	0	0	117	0	0	108	0	0	0
Lane Group Flow (vph)	19	274	14	102	296	173	0	462	87	0	684	0
Confl. Peds. (#/hr)	17		24	13		41	11		37	24		28
Confl. Bikes (#/hr)			5			4			4			6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	37.5	37.5	37.5	37.5	37.5	37.5		33.5	33.5		33.5	
Effective Green, g (s)	39.5	39.5	39.5	39.5	39.5	39.5		35.5	35.5		35.5	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Grp Cap (vph)	453	919	746	473	919	729		1470	652		1014	
v/s Ratio Prot		0.15			c0.16							
v/s Ratio Perm	0.02		0.01	0.11		0.12		0.14	0.06		c0.30	
v/c Ratio	0.04	0.30	0.02	0.22	0.32	0.24		0.31	0.13		0.67	
Uniform Delay, d1	10.5	12.0	10.3	11.5	12.2	11.6		14.4	13.2		17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.8	0.0	1.0	0.9	0.8		0.6	0.4		3.6	
Delay (s)	10.6	12.9	10.4	12.5	13.1	12.4		14.9	13.6		21.3	
Level of Service	B	B	B	B	B	B		B	B		C	
Approach Delay (s)		12.5			12.7			14.5			21.3	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			15.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			5.0		
Intersection Capacity Utilization			66.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.99	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		3455			1786			3462			3454	
Flt Permitted		0.89			0.85			0.93			0.73	
Satd. Flow (perm)		3088			1540			3212			2545	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	266	32	90	224	65	25	596	75	108	430	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	341	0	0	379	0	0	696	0	0	579	0
Confl. Peds. (#/hr)	9		29	15		25	14		31	16		23
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.6			19.6			16.3			16.3	
Effective Green, g (s)		21.1			21.1			17.8			17.8	
Actuated g/C Ratio		0.47			0.47			0.40			0.40	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1451			723			1273			1008	
v/s Ratio Prot												
v/s Ratio Perm		0.11			0.25			0.22			0.23	
v/c Ratio		0.24			0.52			0.55			0.57	
Uniform Delay, d1		7.1			8.4			10.4			10.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.7			0.5			0.8	
Delay (s)		7.2			9.1			10.9			11.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.2			9.1			10.9			11.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		10.1			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		44.9			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		83.9%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95			0.98			0.97		1.00	0.94	
Flpb, ped/bikes	0.97	1.00			0.99			1.00		0.97	1.00	
Frt	1.00	0.96			0.97			0.97		1.00	0.95	
Flt Protected	0.95	1.00			0.99			1.00		0.95	1.00	
Satd. Flow (prot)	1719	1706			1756			1736		1725	1658	
Flt Permitted	0.58	1.00			0.95			0.97		0.58	1.00	
Satd. Flow (perm)	1050	1706			1681			1694		1051	1658	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	177	206	63	25	161	49	13	170	51	63	249	121
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	269	0	0	235	0	0	234	0	63	370	0
Confl. Peds. (#/hr)	34		109	51		55	58		72	21		92
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.5	27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)	32.0	32.0			32.0			32.0		32.0	32.0	
Actuated g/C Ratio	0.46	0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)	7.5	7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)	480	779			768			774		480	757	
v/s Ratio Prot		0.16									c0.22	
v/s Ratio Perm	c0.17				0.14			0.14		0.06		
v/c Ratio	0.37	0.35			0.31			0.30		0.13	0.49	
Uniform Delay, d1	12.4	12.2			12.0			12.0		11.0	13.3	
Progression Factor	1.00	1.00			1.00			0.83		1.00	1.00	
Incremental Delay, d2	2.2	1.2			1.0			1.0		0.6	2.3	
Delay (s)	14.6	13.5			13.0			10.9		11.5	15.5	
Level of Service	B	B			B			B		B	B	
Approach Delay (s)		13.9			13.0			10.9			15.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		77.2%			ICU Level of Service			D				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5		2.5	2.5	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.87			0.93			0.92		1.00	0.90	
Flpb, ped/bikes		0.98			0.98			0.99		0.86	1.00	
Frt		0.97			0.98			0.98		1.00	0.97	
Flt Protected		0.99			0.99			0.99		0.95	1.00	
Satd. Flow (prot)		1539			1647			1635		1514	1624	
Flt Permitted		0.95			0.94			0.94		0.63	1.00	
Satd. Flow (perm)		1467			1563			1552		1009	1624	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	202	73	30	200	40	22	125	28	42	240	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	308	0	0	270	0	0	175	0	42	299	0
Confl. Peds. (#/hr)	149		268	177		245	91		273	96		240
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)		32.5			32.5			32.5		32.5	32.5	
Actuated g/C Ratio		0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)		7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)		681			725			720		468	754	
v/s Ratio Prot												c0.18
v/s Ratio Perm		c0.21			0.17			0.11		0.04		
v/c Ratio		0.45			0.37			0.24		0.09	0.40	
Uniform Delay, d1		12.7			12.1			11.3		10.5	12.3	
Progression Factor		1.00			1.00			1.00		0.71	0.65	
Incremental Delay, d2		2.2			1.5			0.8		0.3	1.4	
Delay (s)		14.9			13.6			12.1		7.8	9.5	
Level of Service		B			B			B		A	A	
Approach Delay (s)		14.9			13.6			12.1			9.3	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		59.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

40: San Mateo Dr & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.94			0.96			0.94			0.94	
Flpb, ped/bikes		0.97			0.97			1.00			0.98	
Frt		0.98			0.98			0.97			0.97	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		3132			3213			1679			1643	
Flt Permitted		0.90			0.87			0.99			0.86	
Satd. Flow (perm)		2831			2804			1661			1429	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	320	48	30	160	31	6	110	37	109	164	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	411	0	0	221	0	0	153	0	0	337	0
Confl. Peds. (#/hr)	128		217	124		196	93		192	68		221
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			41.5			41.5	
Effective Green, g (s)		28.0			28.0			46.0			46.0	
Actuated g/C Ratio		0.35			0.35			0.58			0.58	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		990			981			955			821	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.08			0.09			c0.24	
v/c Ratio		0.42			0.23			0.16			0.41	
Uniform Delay, d1		19.8			18.3			8.0			9.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			0.5			0.4			1.5	
Delay (s)		21.1			18.9			8.3			11.0	
Level of Service		C			B			A			B	
Approach Delay (s)		21.1			18.9			8.3			11.0	
Approach LOS		C			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		15.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		68.3%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	102	367	271	112	143	102
Future Volume (vph)	102	367	271	112	143	102
Ideal Flow (vphpl)	1000	1500	1900	1900	1000	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97		1.00	0.90
Flpb, ped/bikes	0.95	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	886	1471	1737		931	1421
Flt Permitted	0.53	1.00	1.00		0.95	1.00
Satd. Flow (perm)	490	1471	1737		931	1421
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	102	367	271	112	143	102
RTOR Reduction (vph)	0	0	0	0	0	75
Lane Group Flow (vph)	102	367	383	0	143	27
Confl. Peds. (#/hr)	55			53	32	55
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	18.0	18.0	18.0		10.0	10.0
Effective Green, g (s)	19.5	19.5	19.5		11.5	11.5
Actuated g/C Ratio	0.45	0.45	0.45		0.27	0.27
Clearance Time (s)	7.5	7.5	7.5		7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	222	667	787		248	380
v/s Ratio Prot		c0.25	0.22		c0.15	
v/s Ratio Perm	0.21					0.02
v/c Ratio	0.46	0.55	0.49		0.58	0.07
Uniform Delay, d1	8.1	8.6	8.2		13.6	11.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.7	3.2	2.1		3.2	0.1
Delay (s)	14.8	11.8	10.4		16.9	11.8
Level of Service	B	B	B		B	B
Approach Delay (s)		12.5	10.4		14.8	
Approach LOS		B	B		B	
Intersection Summary						
HCM 2000 Control Delay			12.3		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			43.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			63.1%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

42: El Camino Real & Peninsula Ave & Pard Rd

06/12/2020

												
Movement	WBL	WBR	WBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Future Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0					3.0		3.0	
Lane Util. Factor	1.00			0.95					0.95		0.97	
Frpb, ped/bikes	0.97			0.99					1.00		1.00	
Flpb, ped/bikes	1.00			1.00					1.00		1.00	
Frt	0.93			0.96					1.00		1.00	
Flt Protected	0.98			1.00					1.00		0.95	
Satd. Flow (prot)	1651			3371					3525		3426	
Flt Permitted	0.98			1.00					0.70		0.95	
Satd. Flow (perm)	1651			3371					2475		3426	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	115	12	914	151	154	1	78	879	3	88	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	260	0	0	1219	0	0	0	0	958	0	94	0
Confl. Peds. (#/hr)		9	9		16	8					7	9
Turn Type	Prot			NA			Perm	Perm	NA	Prot	Prot	
Protected Phases	3			2					6	4	4	
Permitted Phases							6	6				
Actuated Green, G (s)	16.7			39.3					39.3		6.0	
Effective Green, g (s)	18.2			40.8					40.8		7.5	
Actuated g/C Ratio	0.24			0.54					0.54		0.10	
Clearance Time (s)	4.5			4.5					4.5		4.5	
Vehicle Extension (s)	3.0			3.0					3.0		3.0	
Lane Grp Cap (vph)	397			1821					1337		340	
v/s Ratio Prot	c0.16			0.36							c0.03	
v/s Ratio Perm									c0.39			
v/c Ratio	0.65			0.67					0.72		0.28	
Uniform Delay, d1	25.8			12.5					13.0		31.5	
Progression Factor	1.00			1.00					1.00		1.00	
Incremental Delay, d2	3.9			0.9					1.9		0.4	
Delay (s)	29.7			13.4					14.9		31.9	
Level of Service	C			B					B		C	
Approach Delay (s)	29.7			13.4					14.9		31.9	
Approach LOS	C			B					B		C	
Intersection Summary												
HCM 2000 Control Delay			16.3									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.5						9.0			
Intersection Capacity Utilization			98.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5		2.5	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.96		1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760		1759	1649		1770	3470		1770	3534	
Flt Permitted		0.95		0.62	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1688		1152	1649		1770	3470		1770	3534	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	200	95	0	34	1389	0	105	1135	0
Confl. Peds. (#/hr)	7		7	7		7			6			4
Confl. Bikes (#/hr)						1						1
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		25.7		25.7	25.7		4.7	56.1		12.5	63.9	
Effective Green, g (s)		27.7		27.7	27.7		6.2	58.1		14.0	65.9	
Actuated g/C Ratio		0.26		0.26	0.26		0.06	0.54		0.13	0.61	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		433		296	423		101	1870		229	2160	
v/s Ratio Prot					0.06		0.02	c0.40		c0.06	0.32	
v/s Ratio Perm		0.06		c0.17								
v/c Ratio		0.24		0.68	0.22		0.34	0.74		0.46	0.53	
Uniform Delay, d1		31.8		36.0	31.6		48.8	19.1		43.4	12.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		6.0	0.3		2.0	1.6		1.5	0.2	
Delay (s)		32.1		42.0	31.9		50.8	20.7		44.8	12.2	
Level of Service		C		D	C		D	C		D	B	
Approach Delay (s)		32.1			38.7			21.5			15.0	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		20.9										
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		107.8										
Intersection Capacity Utilization		72.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5			2.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1780			1772			3481			3508	
Flt Permitted		0.86			0.73			0.94			0.92	
Satd. Flow (perm)		1554			1329			3275			3231	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	218	0	0	205	0	0	1598	0	0	1302	0
Confl. Peds. (#/hr)	16		5	5		16	15		14	14		15
Confl. Bikes (#/hr)			1			1						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.6			15.6			40.4			40.4	
Effective Green, g (s)		17.6			17.6			42.4			42.4	
Actuated g/C Ratio		0.27			0.27			0.65			0.65	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		420			359			2136			2107	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.15			c0.49			0.40	
v/c Ratio		0.52			0.57			0.75			0.62	
Uniform Delay, d1		20.1			20.4			7.7			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			2.2			1.5			0.5	
Delay (s)		21.2			22.6			9.1			7.1	
Level of Service		C			C			A			A	
Approach Delay (s)		21.2			22.6			9.1			7.1	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		10.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		79.5%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

45: El Camino Real & Crystal Springs Rd

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	257	74	77	1139	1269	201
Future Volume (vph)	257	74	77	1139	1269	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1724		1770	3539	3442	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1724		1770	3539	3442	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	257	74	77	1139	1269	201
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	331	0	77	1139	1470	0
Confl. Peds. (#/hr)		21				11
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	19.4		4.7	49.6	40.4	
Effective Green, g (s)	20.9		6.2	51.1	41.9	
Actuated g/C Ratio	0.27		0.08	0.66	0.54	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	461		140	2318	1848	
v/s Ratio Prot	c0.19		c0.04	0.32	c0.43	
v/s Ratio Perm						
v/c Ratio	0.72		0.55	0.49	0.80	
Uniform Delay, d1	25.9		34.6	6.8	14.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.3		4.6	0.2	2.5	
Delay (s)	31.2		39.2	7.0	17.0	
Level of Service	C		D	A	B	
Approach Delay (s)	31.2			9.0	17.0	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			78.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			75.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: El Camino Real & 2nd Ave

06/12/2020

												
Movement	WBL	WBR	NBT	NBR	SBL	SBT						
Lane Configurations												
Traffic Volume (vph)	276	118	1404	282	74	1208						
Future Volume (vph)	276	118	1404	282	74	1208						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900						
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0						
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95						
Frpb, ped/bikes	1.00	0.95	1.00	0.91	1.00	1.00						
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00						
Frt	1.00	0.85	1.00	0.85	1.00	1.00						
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00						
Satd. Flow (prot)	1770	1507	3539	1445	1770	3539						
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00						
Satd. Flow (perm)	1770	1507	3539	1445	1770	3539						
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00						
Adj. Flow (vph)	276	118	1404	282	74	1208						
RTOR Reduction (vph)	0	87	0	137	0	0						
Lane Group Flow (vph)	276	31	1404	145	74	1208						
Confl. Peds. (#/hr)	11	50		41								
Turn Type	Prot	Perm	NA	Perm	Prot	NA						
Protected Phases	3		2		1	6						
Permitted Phases		3		2								
Actuated Green, G (s)	15.2	15.2	31.2	31.2	3.7	39.4						
Effective Green, g (s)	16.7	16.7	32.7	32.7	5.2	40.9						
Actuated g/C Ratio	0.26	0.26	0.51	0.51	0.08	0.64						
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5						
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0						
Lane Grp Cap (vph)	464	395	1819	742	144	2275						
v/s Ratio Prot	c0.16		c0.40		0.04	c0.34						
v/s Ratio Perm		0.02		0.10								
v/c Ratio	0.59	0.08	0.77	0.20	0.51	0.53						
Uniform Delay, d1	20.5	17.7	12.4	8.3	28.0	6.2						
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00						
Incremental Delay, d2	2.0	0.1	2.1	0.1	3.1	0.2						
Delay (s)	22.5	17.7	14.5	8.5	31.1	6.4						
Level of Service	C	B	B	A	C	A						
Approach Delay (s)	21.1		13.5			7.8						
Approach LOS	C		B			A						
Intersection Summary												
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service	B						
HCM 2000 Volume to Capacity ratio			0.70									
Actuated Cycle Length (s)			63.6		Sum of lost time (s)	9.0						
Intersection Capacity Utilization			73.4%		ICU Level of Service	D						
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	118	171	143	106	87	96	1568	170	66	1309	119
Future Volume (vph)	115	118	171	143	106	87	96	1568	170	66	1309	119
Ideal Flow (vphpl)	1900	1600	1900	1000	1600	1900	1900	2500	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	2.5	2.5	2.5	3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.86	1.00	0.97		1.00	0.99	
Flpb, ped/bikes	0.96	1.00	1.00	0.94	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1697	1569	1413	876	1569	1367	1770	6363		1770	4948	
Flt Permitted	0.63	1.00	1.00	0.63	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1132	1569	1413	576	1569	1367	1770	6363		1770	4948	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	115	118	171	143	106	87	96	1568	170	66	1309	119
RTOR Reduction (vph)	0	0	124	0	0	63	0	0	0	0	0	0
Lane Group Flow (vph)	115	118	47	143	106	24	96	1738	0	66	1428	0
Confl. Peds. (#/hr)	45		88	67		114			136			66
Confl. Bikes (#/hr)			2			4			2			3
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	27.3	27.3	27.3	27.3	27.3	27.3	8.7	58.1		7.0	56.4	
Effective Green, g (s)	28.8	28.8	28.8	29.3	29.3	29.3	10.2	60.1		8.5	58.4	
Actuated g/C Ratio	0.27	0.27	0.27	0.28	0.28	0.28	0.10	0.57		0.08	0.55	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	307	426	384	159	434	378	170	3611		142	2728	
v/s Ratio Prot		0.08			0.07		c0.05	0.27		0.04	c0.29	
v/s Ratio Perm	0.10		0.03	c0.25		0.02						
v/c Ratio	0.37	0.28	0.12	0.90	0.24	0.06	0.56	0.48		0.46	0.52	
Uniform Delay, d1	31.2	30.4	29.0	36.9	29.7	28.2	45.7	13.6		46.5	15.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.4	0.1	42.8	0.3	0.1	4.2	0.5		2.4	0.2	
Delay (s)	32.0	30.7	29.2	79.7	30.0	28.3	50.0	14.1		48.9	15.2	
Level of Service	C	C	C	E	C	C	D	B		D	B	
Approach Delay (s)		30.4			50.7			16.0			16.6	
Approach LOS		C			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.5									
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			105.9									
Intersection Capacity Utilization			77.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	74	54	115	41	79	17	1595	174	185	1437	30
Future Volume (vph)	54	74	54	115	41	79	17	1595	174	185	1437	30
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1000	2500	1900	2500	2500	1900
Total Lost time (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		1.00	0.94	1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		0.99	1.00	0.97	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.90		1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		949	1488	1714	2117		931	6541		2328	6641	
Flt Permitted		0.84	1.00	0.60	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		817	1488	1084	2117		931	6541		2328	6641	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	74	54	115	41	79	17	1595	174	185	1437	30
RTOR Reduction (vph)	0	0	37	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	128	17	115	120	0	17	1769	0	185	1467	0
Confl. Peds. (#/hr)	37		82	45		60			68			74
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		18.2	23.8	18.2	18.2		5.6	43.0		12.4	49.8	
Effective Green, g (s)		19.7	26.8	19.7	19.7		7.1	44.5		13.9	51.3	
Actuated g/C Ratio		0.23	0.31	0.23	0.23		0.08	0.51		0.16	0.59	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		184	509	245	478		75	3341		371	3911	
v/s Ratio Prot			0.00		0.06		0.02	c0.27		c0.08	0.22	
v/s Ratio Perm		c0.16	0.01	0.11								
v/c Ratio		0.70	0.03	0.47	0.25		0.23	0.53		0.50	0.38	
Uniform Delay, d1		30.9	21.1	29.2	27.6		37.4	14.3		33.4	9.4	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		10.9	0.0	1.4	0.3		6.9	0.6		1.1	0.1	
Delay (s)		41.8	21.1	30.6	27.9		44.3	14.9		34.5	9.5	
Level of Service		D	C	C	C		D	B		C	A	
Approach Delay (s)		35.7			29.2			15.2			12.3	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.8			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			87.1			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			69.3%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

49: El Camino Real & Barneson Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	154	48	44	1861	1532	67
Future Volume (vph)	154	48	44	1861	1532	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.97			1.00	0.99	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1722			5079	5041	
Flt Permitted	0.96			0.86	1.00	
Satd. Flow (perm)	1722			4351	5041	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	154	48	44	1861	1532	67
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	202	0	0	1905	1599	0
Confl. Peds. (#/hr)		33	18			18
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	13.9			43.4	43.4	
Effective Green, g (s)	15.4			44.9	44.9	
Actuated g/C Ratio	0.23			0.68	0.68	
Clearance Time (s)	4.5			4.5	4.5	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	399			2946	3413	
v/s Ratio Prot	c0.12				0.32	
v/s Ratio Perm				c0.44		
v/c Ratio	0.51			0.65	0.47	
Uniform Delay, d1	22.1			6.1	5.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.0			0.5	0.1	
Delay (s)	23.2			6.6	5.2	
Level of Service	C			A	A	
Approach Delay (s)	23.2			6.6	5.2	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			66.3		Sum of lost time (s)	6.0
Intersection Capacity Utilization			92.6%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	1863	1526	1735	1704		1770	4878		1770	5049	
Flt Permitted	0.62	1.00	1.00	0.66	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1131	1863	1526	1213	1704		1770	4878		1770	5049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
RTOR Reduction (vph)	0	0	235	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	104	95	72	195	118	0	256	2046	0	86	1527	0
Confl. Peds. (#/hr)	23		27	25		46			48			25
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	20.5	20.5	20.5	20.5	20.5		18.4	52.7		7.0	41.3	
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0		19.9	54.2		8.5	42.8	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.21	0.58		0.09	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	437	358	284	400		375	2821		160	2306	
v/s Ratio Prot		0.05			0.07		c0.14	c0.42		0.05	0.30	
v/s Ratio Perm	0.09		0.05	c0.16								
v/c Ratio	0.39	0.22	0.20	0.69	0.29		0.68	0.73		0.54	0.66	
Uniform Delay, d1	30.2	28.9	28.8	32.7	29.5		34.0	14.3		40.7	19.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3	0.3	6.7	0.4		5.1	0.9		3.4	0.7	
Delay (s)	31.2	29.2	29.1	39.4	29.9		39.1	15.3		44.2	20.5	
Level of Service	C	C	C	D	C		D	B		D	C	
Approach Delay (s)		29.5			35.8			17.9			21.8	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			93.7			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			79.0%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98			1.00	0.95	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1605			1813	1500	1770	5062		1770	4955	
Flt Permitted	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1605			1813	1500	1770	5062		1770	4955	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
RTOR Reduction (vph)	0	0	0	0	0	154	0	0	0	0	0	0
Lane Group Flow (vph)	336	327	0	0	159	50	85	1422	0	101	1482	0
Confl. Peds. (#/hr)			24			29			17			26
Confl. Bikes (#/hr)						3						5
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	31.2	31.2			17.2	17.2	11.5	47.7		13.5	49.7	
Effective Green, g (s)	32.7	32.7			18.7	18.7	13.0	49.2		15.0	51.2	
Actuated g/C Ratio	0.26	0.26			0.15	0.15	0.10	0.39		0.12	0.40	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	430	411			265	219	180	1951		208	1988	
v/s Ratio Prot	0.20	c0.20			c0.09		0.05	c0.28		0.06	c0.30	
v/s Ratio Perm						0.03						
v/c Ratio	0.78	0.80			0.60	0.23	0.47	0.73		0.49	0.75	
Uniform Delay, d1	44.1	44.3			51.0	48.1	54.1	33.5		52.7	32.6	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	10.2			3.6	0.5	2.0	1.4		1.8	1.6	
Delay (s)	53.1	54.5			54.6	48.6	56.0	34.9		54.5	34.2	
Level of Service	D	D			D	D	E	C		D	C	
Approach Delay (s)		53.8			51.2			36.1			35.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.0		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			127.6		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			88.0%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.90	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
RTOR Reduction (vph)	0	0	26	0	0	119	0	0	0	0	0	0
Lane Group Flow (vph)	137	193	4	218	226	28	78	1542	0	204	1204	0
Confl. Peds. (#/hr)			19			72			21			70
Confl. Bikes (#/hr)			1			5			1			5
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)	15.9	15.9	15.9	22.3	22.3	22.3	19.4	50.4		16.8	47.8	
Effective Green, g (s)	17.4	17.4	17.4	23.8	23.8	23.8	20.9	51.9		18.3	49.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.19	0.19	0.19	0.17	0.42		0.15	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	248	211	324	334	274	299	2049		262	1975	
v/s Ratio Prot	0.08	c0.11		0.13	c0.13		0.04	c0.32		c0.12	0.24	
v/s Ratio Perm			0.00			0.02						
v/c Ratio	0.58	0.78	0.02	0.67	0.68	0.10	0.26	0.75		0.78	0.61	
Uniform Delay, d1	49.6	51.1	45.7	46.2	46.2	41.0	44.5	30.3		50.6	29.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	14.2	0.0	5.4	5.4	0.2	0.5	1.6		13.6	0.5	
Delay (s)	53.0	65.4	45.7	51.6	51.6	41.2	45.0	31.9		64.2	30.0	
Level of Service	D	E	D	D	D	D	D	C		E	C	
Approach Delay (s)		59.0			49.0			32.5			34.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			38.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			123.4				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.8%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		0.99			0.96		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.90		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3175			1585		1770	5085		1770	5028	
Flt Permitted		0.81			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2632			1469		1770	5085		1770	5028	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
RTOR Reduction (vph)	0	95	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	8	0	133	1528	0	32	1419	0
Confl. Peds. (#/hr)			29	15		24			39			14
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.3			10.3		10.8	41.7		2.8	33.7	
Effective Green, g (s)		11.8			11.8		12.3	43.2		4.3	35.2	
Actuated g/C Ratio		0.17			0.17		0.18	0.63		0.06	0.52	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		454			253		318	3216		111	2591	
v/s Ratio Prot							c0.08	0.30		0.02	c0.28	
v/s Ratio Perm		c0.07			0.01							
v/c Ratio		0.41			0.03		0.42	0.48		0.29	0.55	
Uniform Delay, d1		25.1			23.5		24.8	6.6		30.5	11.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.1		0.9	0.1		1.4	0.2	
Delay (s)		25.8			23.5		25.7	6.7		32.0	11.4	
Level of Service		C			C		C	A		C	B	
Approach Delay (s)		25.8			23.5			8.2			11.9	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			68.3				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			66.0%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	NWR
Lane Configurations												
Traffic Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Future Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.91	1.00	0.86		1.00
Frpb, ped/bikes	1.00	1.00	0.88		0.98		1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85		0.96		1.00	1.00	1.00	0.98		1.00
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00	0.95	1.00		1.00
Satd. Flow (prot)	1681	1694	1400		3289		1770	5085	1770	6194		1863
Flt Permitted	0.95	0.96	1.00		0.79		0.95	1.00	0.95	1.00		1.00
Satd. Flow (perm)	1681	1694	1400		2658		1770	5085	1770	6194		1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	145	144	209	0	166	0	135	1075	106	1665	0	410
Confl. Peds. (#/hr)			63			34					51	
Confl. Bikes (#/hr)			1			6					7	
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA	Prot	NA		Prot
Protected Phases	3	3			4		5	2!	1	6		2!
Permitted Phases			3	4								
Actuated Green, G (s)	25.9	25.9	25.9		13.7		15.1	51.0	10.7	46.6		51.0
Effective Green, g (s)	27.4	27.4	27.4		15.2		16.6	52.5	12.2	48.1		52.5
Actuated g/C Ratio	0.23	0.23	0.23		0.13		0.14	0.44	0.10	0.40		0.44
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	386	389	321		338		246	2237	181	2497		819
v/s Ratio Prot	0.09	0.09					0.08	0.21	0.06	c0.27		c0.22
v/s Ratio Perm			c0.15		c0.06							
v/c Ratio	0.38	0.37	0.65		0.49		0.55	0.48	0.59	0.67		0.50
Uniform Delay, d1	38.7	38.7	41.6		48.5		47.9	23.7	51.1	29.1		24.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.6	0.6	4.7		1.1		2.5	0.2	4.8	0.7		0.5
Delay (s)	39.4	39.3	46.3		49.6		50.4	23.9	55.9	29.7		24.5
Level of Service	D	D	D		D		D	C	E	C		C
Approach Delay (s)		42.2			49.6			26.8		31.3		
Approach LOS		D			D			C		C		
Intersection Summary												
HCM 2000 Control Delay			31.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			119.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.4%				ICU Level of Service			E		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020



Movement	NWR2
Lane Configurations	LT
Traffic Volume (vph)	98
Future Volume (vph)	98
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	98
RTOR Reduction (vph)	54
Lane Group Flow (vph)	44
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	51.0
Effective Green, g (s)	52.5
Actuated g/C Ratio	0.44
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	696
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.06
Uniform Delay, d1	19.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	19.3
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

55: El Camino Real NB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 				
Traffic Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Future Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	2200	2200	1900	2200	2200	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Util. Factor		0.91			*1.00	1.00	0.95	*1.00	1.00			
Frpb, ped/bikes		1.00			1.00	0.59	1.00	1.00	1.00			
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00			
Frt		1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (prot)		5033			4314	1275	1681	2089	2157			
Flt Permitted		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (perm)		5033			4314	1275	1681	2089	2157			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	180	689	0	0	693	262	133	28	319	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	184	0	0	291	0	0	0
Lane Group Flow (vph)	0	869	0	0	693	78	80	81	28	0	0	0
Confl. Peds. (#/hr)						105						
Confl. Bikes (#/hr)						4						
Turn Type	Split	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	5			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)		63.5			34.1	34.1	8.9	8.9	8.9			
Effective Green, g (s)		65.0			35.6	35.6	10.4	10.4	10.4			
Actuated g/C Ratio		0.54			0.30	0.30	0.09	0.09	0.09			
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		2726			1279	378	145	181	186			
v/s Ratio Prot		c0.17			c0.16		c0.05	0.04				
v/s Ratio Perm						0.06			0.01			
v/c Ratio		0.32			0.54	0.21	0.55	0.45	0.15			
Uniform Delay, d1		15.2			35.4	31.6	52.6	52.1	50.7			
Progression Factor		0.04			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		0.2			1.7	1.2	4.5	1.8	0.4			
Delay (s)		0.9			37.0	32.8	57.0	53.8	51.1			
Level of Service		A			D	C	E	D	D			
Approach Delay (s)		0.9			35.9			52.5			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		26.1			HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)				13.5			
Intersection Capacity Utilization		51.3%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

56: El Camino Real SB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Future Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Ideal Flow (vphpl)	1900	1300	1900	1300	1300	1300	1900	1900	1900	1300	1400	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00					1.00	1.00	0.95
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (prot)		3479	1351		3413					1150	1279	1501
Flt Permitted		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (perm)		3479	1351		3413					1150	1279	1501
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	637	145	321	504	0	0	0	0	256	114	144
RTOR Reduction (vph)	0	0	71	0	0	0	0	0	0	0	0	103
Lane Group Flow (vph)	0	637	74	0	825	0	0	0	0	182	188	41
Confl. Peds. (#/hr)			49									26
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm	Split	NA					Split	NA	Perm
Protected Phases		2		1	1					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		28.5	28.5		45.5					32.5	32.5	32.5
Effective Green, g (s)		30.0	30.0		47.0					34.0	34.0	34.0
Actuated g/C Ratio		0.25	0.25		0.39					0.28	0.28	0.28
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		869	337		1336					325	362	425
v/s Ratio Prot		c0.18			c0.24					c0.16	0.15	
v/s Ratio Perm			0.05									0.03
v/c Ratio		0.73	0.22		0.62					0.56	0.52	0.10
Uniform Delay, d1		41.3	35.7		29.3					36.6	36.1	31.7
Progression Factor		1.00	1.00		0.19					1.00	1.00	1.00
Incremental Delay, d2		5.4	1.5		1.8					2.2	1.3	0.1
Delay (s)		46.8	37.2		7.3					38.8	37.4	31.8
Level of Service		D	D		A					D	D	C
Approach Delay (s)		45.0			7.3			0.0			36.3	
Approach LOS		D			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			28.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			70.8%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

57: El Camino Real & 41st Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		W	TT	TTT	
Traffic Volume (vph)	103	54	30	1361	1427	107
Future Volume (vph)	103	54	30	1361	1427	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00	0.95	0.91	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.95		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	3286		1770	3539	5016	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	3286		1770	3539	5016	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	103	54	30	1361	1427	107
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	157	0	30	1361	1534	0
Confl. Peds. (#/hr)		27				19
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	8.6		1.9	42.8	36.4	
Effective Green, g (s)	10.1		3.4	44.3	37.9	
Actuated g/C Ratio	0.17		0.06	0.73	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	549		99	2595	3147	
v/s Ratio Prot	c0.05		0.02	c0.38	0.31	
v/s Ratio Perm						
v/c Ratio	0.29		0.30	0.52	0.49	
Uniform Delay, d1	22.0		27.4	3.5	6.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		1.7	0.2	0.1	
Delay (s)	22.3		29.1	3.7	6.2	
Level of Service	C		C	A	A	
Approach Delay (s)	22.3			4.2	6.2	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			60.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			60.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
RTOR Reduction (vph)	0	0	19	0	0	185	0	0	88	0	0	0
Lane Group Flow (vph)	77	147	3	111	161	34	42	1147	77	260	1210	0
Confl. Peds. (#/hr)			16			2			3			15
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.3	15.3	15.3	17.3	17.3	17.3	4.1	45.7	45.7	23.2	64.8	
Effective Green, g (s)	16.8	16.8	16.8	18.8	18.8	18.8	5.6	47.2	47.2	24.7	66.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.16	0.16	0.16	0.05	0.39	0.39	0.21	0.55	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	247	212	264	277	245	82	1397	615	365	2781	
v/s Ratio Prot	0.05	c0.08		0.07	c0.09		0.02	c0.32		c0.15	0.24	
v/s Ratio Perm			0.00			0.02			0.05			
v/c Ratio	0.33	0.60	0.01	0.42	0.58	0.14	0.51	0.82	0.12	0.71	0.44	
Uniform Delay, d1	46.3	48.2	44.2	45.4	46.7	43.4	55.6	32.4	23.0	44.1	15.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.8	0.0	1.1	3.1	0.3	5.3	4.0	0.1	6.4	0.1	
Delay (s)	47.1	52.0	44.2	46.5	49.8	43.7	60.9	36.4	23.1	50.5	15.7	
Level of Service	D	D	D	D	D	D	E	D	C	D	B	
Approach Delay (s)		49.7			46.3			35.5			21.9	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			32.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			119.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			75.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		0.97		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	1.00		1.00	0.94	
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1544		1722		1770	1859		1770	1727	
Flt Permitted	0.95	0.95	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1544		1485		1770	1859		1770	1727	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	234	1	329	5	7	4	311	451	3	2	267	169
RTOR Reduction (vph)	0	0	273	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	118	56	0	16	0	311	454	0	2	436	0
Confl. Peds. (#/hr)			2			74			38			38
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	13.4	13.4	13.4		2.3		21.5	53.4		0.7	32.6	
Effective Green, g (s)	14.9	14.9	14.9		3.8		23.0	54.9		2.2	34.1	
Actuated g/C Ratio	0.17	0.17	0.17		0.04		0.26	0.63		0.03	0.39	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	285	286	262		64		463	1162		44	670	
v/s Ratio Prot	0.07	c0.07					c0.18	0.24		0.00	c0.25	
v/s Ratio Perm			0.04		c0.01							
v/c Ratio	0.41	0.41	0.21		0.25		0.67	0.39		0.05	0.65	
Uniform Delay, d1	32.5	32.5	31.4		40.6		29.0	8.2		41.8	22.0	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.0	0.4		2.1		3.8	0.2		0.4	2.3	
Delay (s)	33.5	33.5	31.8		42.7		32.8	8.4		42.2	24.2	
Level of Service	C	C	C		D		C	A		D	C	
Approach Delay (s)		32.5			42.7			18.3			24.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			87.8				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			71.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

60: Alameda De Las Pulgas & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1551		1775	1551	1770	3431		1770	3532	
Flt Permitted		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1796	1551		1775	1551	1770	3431		1770	3532	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	30	11	59	1	172	13	544	118	347	714	8
RTOR Reduction (vph)	0	0	10	0	0	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	116	1	0	60	21	13	662	0	347	722	0
Confl. Peds. (#/hr)			9			9			11			7
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)		8.6	8.6		8.2	8.2	0.8	24.8		19.5	43.5	
Effective Green, g (s)		10.1	10.1		9.7	9.7	2.3	26.3		21.0	45.0	
Actuated g/C Ratio		0.13	0.13		0.12	0.12	0.03	0.33		0.27	0.57	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		229	198		217	190	51	1140		469	2009	
v/s Ratio Prot		c0.06			c0.03		0.01	c0.19		c0.20	0.20	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.51	0.01		0.28	0.11	0.25	0.58		0.74	0.36	
Uniform Delay, d1		32.2	30.1		31.5	30.9	37.6	21.8		26.6	9.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0		0.7	0.3	2.6	0.8		6.0	0.1	
Delay (s)		33.9	30.1		32.2	31.1	40.2	22.6		32.6	9.3	
Level of Service		C	C		C	C	D	C		C	A	
Approach Delay (s)		33.6			31.4			22.9			16.9	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay		21.4										
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		79.1										
Intersection Capacity Utilization		63.6%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑	↑↑		↔	↔↔
Traffic Volume (vph)	195	929	562	51	103	437
Future Volume (vph)	195	929	562	51	103	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	2.5	2.5		2.5	2.5
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	3491		1770	2713
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	3491		1770	2713
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	929	562	51	103	437
RTOR Reduction (vph)	0	0	0	0	0	335
Lane Group Flow (vph)	195	929	613	0	103	102
Confl. Peds. (#/hr)				3		3
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	8.4	27.6	14.7		8.6	8.6
Effective Green, g (s)	9.9	29.6	16.7		10.6	10.6
Actuated g/C Ratio	0.22	0.65	0.37		0.23	0.23
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	751	2317	1289		415	636
v/s Ratio Prot	0.06	c0.26	c0.18		c0.06	
v/s Ratio Perm						0.04
v/c Ratio	0.26	0.40	0.48		0.25	0.16
Uniform Delay, d1	14.6	3.7	10.9		14.1	13.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.1	0.3		0.3	0.1
Delay (s)	14.8	3.8	11.2		14.4	13.9
Level of Service	B	A	B		B	B
Approach Delay (s)		5.7	11.2		14.0	
Approach LOS		A	B		B	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.40			
Actuated Cycle Length (s)			45.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			39.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

62: Bayshore Blvd & Peninsula Ave

06/12/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	646	350	215	833	246	72
Future Volume (vph)	646	350	215	833	246	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3318		1770	3539	1770	1555
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3318		1770	3539	1770	1555
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	646	350	215	833	246	72
RTOR Reduction (vph)	0	0	0	0	0	53
Lane Group Flow (vph)	996	0	215	833	246	19
Confl. Peds. (#/hr)		4				3
Confl. Bikes (#/hr)		4				3
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	18.2		9.7	32.4	12.6	12.6
Effective Green, g (s)	19.7		11.2	33.9	14.1	14.1
Actuated g/C Ratio	0.36		0.21	0.63	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1210		367	2221	462	406
v/s Ratio Prot	c0.30		c0.12	0.24	c0.14	
v/s Ratio Perm						0.01
v/c Ratio	0.82		0.59	0.38	0.53	0.05
Uniform Delay, d1	15.6		19.3	4.9	17.1	14.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7		2.4	0.1	1.2	0.0
Delay (s)	20.2		21.7	5.0	18.3	15.0
Level of Service	C		C	A	B	B
Approach Delay (s)	20.2			8.4	17.5	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			14.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.67			
Actuated Cycle Length (s)			54.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			64.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

63: Peninsula Ave/Coyote Point Dr & Airport Blvd

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←	↑
Traffic Volume (vph)	648	64	91	39	35	1136
Future Volume (vph)	648	64	91	39	35	1136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1863	1863	1540	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1863	1863	1540	1770	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	648	64	91	39	35	1136
RTOR Reduction (vph)	0	0	0	34	0	0
Lane Group Flow (vph)	648	64	91	5	35	1136
Confl. Peds. (#/hr)				19		21
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases				8		
Actuated Green, G (s)	16.1	28.0	7.4	7.4	34.8	55.4
Effective Green, g (s)	17.6	29.5	8.9	8.9	36.3	56.9
Actuated g/C Ratio	0.25	0.41	0.12	0.12	0.51	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	841	765	230	190	894	1254
v/s Ratio Prot	0.19	0.03	c0.05		0.02	c0.72
v/s Ratio Perm				0.00		
v/c Ratio	0.77	0.08	0.40	0.03	0.04	0.91
Uniform Delay, d1	25.2	12.9	29.0	27.6	9.0	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.0	1.1	0.1	0.0	9.5
Delay (s)	29.6	13.0	30.1	27.7	9.0	15.0
Level of Service	C	B	C	C	A	B
Approach Delay (s)		28.1	29.4		14.8	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			71.8		Sum of lost time (s)	9.0
Intersection Capacity Utilization			91.7%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

64: Airport Blvd & US 101 NB

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	514	578	103	486	53
Future Volume (vph)	44	514	578	103	486	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (prot)	1770	1583	1681	1710	3482	
Flt Permitted	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (perm)	1770	1583	1681	1710	3482	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	514	578	103	486	53
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	44	514	335	346	539	0
Confl. Bikes (#/hr)		4				4
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	4 1	1	1	2	
Permitted Phases						
Actuated Green, G (s)	17.4	44.0	22.1	22.1	16.7	
Effective Green, g (s)	18.9	45.5	23.6	23.6	18.2	
Actuated g/C Ratio	0.27	0.65	0.34	0.34	0.26	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	479	1033	569	578	909	
v/s Ratio Prot	0.02	c0.32	0.20	c0.20	c0.15	
v/s Ratio Perm						
v/c Ratio	0.09	0.50	0.59	0.60	0.59	
Uniform Delay, d1	19.0	6.2	19.0	19.1	22.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.4	1.6	1.7	1.0	
Delay (s)	19.1	6.6	20.6	20.8	23.6	
Level of Service	B	A	C	C	C	
Approach Delay (s)	7.6			20.7	23.6	
Approach LOS	A			C	C	

Intersection Summary

HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		25.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		0.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

66: Claremont St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	43	435	61	26	259	9	45	63	25	40	53	47
Future Volume (vph)	43	435	61	26	259	9	45	63	25	40	53	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	43	435	61	26	259	9	45	63	25	40	53	47
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	539	294	133	140								
Volume Left (vph)	43	26	45	40								
Volume Right (vph)	61	9	25	47								
Hadj (s)	-0.02	0.03	-0.01	-0.11								
Departure Headway (s)	5.3	5.7	6.5	6.4								
Degree Utilization, x	0.79	0.46	0.24	0.25								
Capacity (veh/h)	662	584	488	501								
Control Delay (s)	25.1	13.5	11.5	11.4								
Approach Delay (s)	25.1	13.5	11.5	11.4								
Approach LOS	D	B	B	B								
Intersection Summary												
Delay				18.7								
Level of Service				C								
Intersection Capacity Utilization				56.3%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	1332	11	0	0	0	0	71	97	208	91	0
Future Volume (vph)	20	1332	11	0	0	0	0	71	97	208	91	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.92			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		2228						891			1800	
Flt Permitted		1.00						1.00			0.65	
Satd. Flow (perm)		2228						891			1216	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1332	11	0	0	0	0	71	97	208	91	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	27	0	0	0	0
Lane Group Flow (vph)	0	1362	0	0	0	0	0	141	0	0	299	0
Confl. Peds. (#/hr)	17		32						11			
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4								6			
Actuated Green, G (s)		41.7						20.7			20.7	
Effective Green, g (s)		42.2						21.2			21.2	
Actuated g/C Ratio		0.59						0.30			0.30	
Clearance Time (s)		4.5						4.5			4.5	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1316						264			361	
v/s Ratio Prot								0.16				
v/s Ratio Perm		0.61									c0.25	
v/c Ratio		1.04						0.54			0.83	
Uniform Delay, d1		14.6						21.0			23.4	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		34.3						2.1			14.4	
Delay (s)		48.9						23.1			37.8	
Level of Service		D						C			D	
Approach Delay (s)		48.9			0.0			23.1			37.8	
Approach LOS		D			A			C			D	
Intersection Summary												
HCM 2000 Control Delay		44.8						HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio		0.97										
Actuated Cycle Length (s)		71.4						Sum of lost time (s)		8.0		
Intersection Capacity Utilization		105.1%						ICU Level of Service		G		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	49	319	11	89	212	104	11	128	207	72	76	39
Future Volume (vph)	49	319	11	89	212	104	11	128	207	72	76	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.98		1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00		1.00	1.00		0.98	1.00		0.99	1.00	
Frt		1.00		1.00	0.95		1.00	0.91		1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1838		1761	1735		1730	1634		1744	1729	
Flt Permitted		0.92		0.57	1.00		0.68	1.00		0.51	1.00	
Satd. Flow (perm)		1709		1060	1735		1244	1634		943	1729	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	49	319	11	89	212	104	11	128	207	72	76	39
RTOR Reduction (vph)	0	2	0	0	26	0	0	114	0	0	26	0
Lane Group Flow (vph)	0	377	0	89	290	0	11	221	0	72	89	0
Confl. Peds. (#/hr)	19		40	10		46	30		37	27		49
Confl. Bikes (#/hr)			1			2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.7		12.7	12.7		10.0	10.0		10.0	10.0	
Effective Green, g (s)		13.2		13.2	13.2		10.5	10.5		10.5	10.5	
Actuated g/C Ratio		0.42		0.42	0.42		0.33	0.33		0.33	0.33	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		711		441	722		412	541		312	572	
v/s Ratio Prot					0.17			c0.14			0.05	
v/s Ratio Perm		c0.22		0.08			0.01			0.08		
v/c Ratio		0.53		0.20	0.40		0.03	0.41		0.23	0.16	
Uniform Delay, d1		6.9		5.9	6.5		7.2	8.2		7.7	7.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.8		0.2	0.4		0.0	0.5		0.4	0.1	
Delay (s)		7.7		6.1	6.8		7.2	8.7		8.1	7.6	
Level of Service		A		A	A		A	A		A	A	
Approach Delay (s)		7.7			6.7			8.7			7.8	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		7.6										
HCM 2000 Volume to Capacity ratio		0.48										
Actuated Cycle Length (s)		31.7										
Intersection Capacity Utilization		77.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0		4.0	
Lane Util. Factor				0.97		0.88		0.91	1.00		0.91	
Frpb, ped/bikes				1.00		0.98		1.00	0.96		0.98	
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	
Frt				1.00		0.85		1.00	0.85		0.96	
Flt Protected				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (prot)				3433		2728		5085	1525		4774	
Flt Permitted				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (perm)				3433		2728		5085	1525		4774	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	108	0	52	0
Lane Group Flow (vph)	0	0	0	392	0	718	0	1601	167	0	2013	0
Confl. Peds. (#/hr)						10			10			13
Turn Type				Prot		Perm		NA	Perm		NA	
Protected Phases				3				2			6	
Permitted Phases						3			2			
Actuated Green, G (s)				36.8		36.8		69.2	69.2		69.2	
Effective Green, g (s)				37.3		37.3		69.7	69.7		69.7	
Actuated g/C Ratio				0.32		0.32		0.61	0.61		0.61	
Clearance Time (s)				4.5		4.5		4.5	4.5		4.5	
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)				1113		884		3081	924		2893	
v/s Ratio Prot				0.11				0.31			c0.42	
v/s Ratio Perm						c0.26			0.11			
v/c Ratio				0.35		0.81		0.52	0.18		0.70	
Uniform Delay, d1				29.6		35.6		13.0	10.0		15.4	
Progression Factor				1.00		1.00		1.00	1.00		1.00	
Incremental Delay, d2				0.2		5.7		0.6	0.4		1.4	
Delay (s)				29.8		41.4		13.7	10.4		16.8	
Level of Service				C		D		B	B		B	
Approach Delay (s)		0.0			37.3			13.2			16.8	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.0									
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			115.0						8.0			
Intersection Capacity Utilization			63.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		0.88					0.91			0.91	1.00
Flpb, ped/bikes	1.00		0.96					0.98			1.00	0.95
Flpb, ped/bikes	1.00		1.00					1.00			1.00	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		2673					4806			5085	1508
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		2673					4806			5085	1508
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	77
Lane Group Flow (vph)	346	0	201	0	0	0	0	2052	0	0	1493	307
Confl. Peds. (#/hr)			14						9			14
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			7									6
Actuated Green, G (s)	19.6		19.6					111.4			111.4	111.4
Effective Green, g (s)	20.1		20.1					111.9			111.9	111.9
Actuated g/C Ratio	0.14		0.14					0.80			0.80	0.80
Clearance Time (s)	4.5		4.5					4.5			4.5	4.5
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	492		383					3841			4064	1205
v/s Ratio Prot	c0.10							c0.43			0.29	
v/s Ratio Perm			0.08									0.20
v/c Ratio	0.70		0.52					0.53			0.37	0.25
Uniform Delay, d1	57.1		55.5					4.9			4.0	3.5
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.5		1.3					0.5			0.3	0.5
Delay (s)	61.6		56.8					5.5			4.2	4.1
Level of Service	E		E					A			A	A
Approach Delay (s)		59.9			0.0			5.5			4.2	
Approach LOS		E			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.6					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			140.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			58.1%					ICU Level of Service			B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

72: Delaware St & Sunnybrae Blvd

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	15	487	95	17	369
Future Volume (Veh/h)	26	15	487	95	17	369
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	15	487	95	17	369
Pedestrians	15		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	954	550			597	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	954	550			597	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	97			98	
cM capacity (veh/h)	278	527			966	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	26	15	582	386		
Volume Left	26	0	0	17		
Volume Right	0	15	95	0		
cSH	278	527	1700	966		
Volume to Capacity	0.09	0.03	0.34	0.02		
Queue Length 95th (ft)	8	2	0	1		
Control Delay (s)	19.3	12.0	0.0	0.6		
Lane LOS	C	B		A		
Approach Delay (s)	16.6		0.0	0.6		
Approach LOS	C					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			43.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

73: Delaware St & 16th Ave

06/12/2020

																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations																	
Sign Control	Stop			Stop			Stop			Stop							
Traffic Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15					
Future Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Hourly flow rate (vph)	16	30	213	21	23	13	161	551	16	14	364	15					
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2										
Volume Total (vph)	16	243	57	161	567	14	379										
Volume Left (vph)	16	0	21	161	0	14	0										
Volume Right (vph)	0	213	13	0	16	0	15										
Hadj (s)	0.53	-0.58	-0.03	0.53	0.01	0.53	0.01										
Departure Headway (s)	8.1	7.0	8.1	6.9	6.4	7.3	6.8										
Degree Utilization, x	0.04	0.47	0.13	0.31	1.00	0.03	0.71										
Capacity (veh/h)	431	503	415	511	567	481	521										
Control Delay (s)	10.2	14.9	12.2	11.7	61.7	9.3	23.8										
Approach Delay (s)	14.6		12.2	50.7		23.3											
Approach LOS	B		B	F		C											
Intersection Summary																	
Delay	35.1																
Level of Service	E																
Intersection Capacity Utilization	65.2%			ICU Level of Service			C										
Analysis Period (min)	15																

HCM Signalized Intersection Capacity Analysis

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.94			0.97		1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes		0.99			1.00		0.98	1.00	1.00	0.99	1.00	
Frt		0.91			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1563			1672		1741	1863	1492	1749	1857	
Flt Permitted		0.92			0.78		0.39	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1464			1347		722	1863	1492	710	1857	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	0	11	50	0	20	4	654	68	37	629	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	70	0	4	654	68	37	637	0
Confl. Peds. (#/hr)	10		17	1		27	16		18	17		26
Confl. Bikes (#/hr)			3			7			8			3
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		9.1			9.1		81.9	81.9	81.9	81.9	81.9	
Effective Green, g (s)		9.6			9.6		82.4	82.4	82.4	82.4	82.4	
Actuated g/C Ratio		0.10			0.10		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		140			129		594	1535	1229	585	1530	
v/s Ratio Prot								c0.35				0.34
v/s Ratio Perm		0.01			c0.05		0.01		0.05	0.05		
v/c Ratio		0.12			0.54		0.01	0.43	0.06	0.06	0.42	
Uniform Delay, d1		41.3			43.1		1.6	2.4	1.6	1.6	2.4	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			4.6		0.0	0.9	0.1	0.2	0.8	
Delay (s)		41.7			47.7		1.6	3.3	1.7	1.8	3.2	
Level of Service		D			D		A	A	A	A	A	
Approach Delay (s)		41.7			47.7			3.1			3.1	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay		5.7										
HCM 2000 Volume to Capacity ratio		0.44										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		55.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		0.97			1.00	0.94		0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.98			1.00	0.85		0.97			1.00	
Flt Protected		0.97			0.95	1.00		1.00			1.00	
Satd. Flow (prot)		1709			1775	1486		3366			3507	
Flt Permitted		0.97			0.95	1.00		0.95			0.84	
Satd. Flow (perm)		1709			1775	1486		3214			2940	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	12	2	3	238	4	56	1	863	238	37	479	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	242	56	0	1102	0	0	527	0
Confl. Peds. (#/hr)			30			13	14		29	13		14
Confl. Bikes (#/hr)			14			7			11			6
Turn Type	Split	NA		Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		1.6			18.6	18.6		46.3			46.3	
Effective Green, g (s)		2.1			19.1	19.1		46.8			46.8	
Actuated g/C Ratio		0.03			0.24	0.24		0.58			0.58	
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		44			423	354		1880			1719	
v/s Ratio Prot		c0.01			c0.14							
v/s Ratio Perm						0.04		c0.34			0.18	
v/c Ratio		0.39			0.57	0.16		0.59			0.31	
Uniform Delay, d1		38.3			26.8	24.1		10.5			8.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		5.6			1.9	0.2		1.3			0.5	
Delay (s)		43.9			28.7	24.3		11.8			8.9	
Level of Service		D			C	C		B			A	
Approach Delay (s)		43.9			27.9			11.8			8.9	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM 2000 Control Delay		13.8										
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		65.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

76: Ginnever St & Bermuda Dr

06/12/2020

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Sign Control	Stop			Stop			Stop			Stop								
Traffic Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Future Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Hourly flow rate (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2												
Volume Total (vph)	248	33	58	23	104	256												
Volume Left (vph)	186	0	0	6	84	0												
Volume Right (vph)	4	0	58	0	0	256												
Hadj (s)	0.17	0.03	-0.67	0.09	0.44	-0.67												
Departure Headway (s)	5.7	5.8	5.1	6.0	5.9	4.8												
Degree Utilization, x	0.39	0.05	0.08	0.04	0.17	0.34												
Capacity (veh/h)	600	571	647	548	578	713												
Control Delay (s)	12.4	8.0	7.4	9.3	8.9	9.1												
Approach Delay (s)	12.4	7.6		9.3	9.1													
Approach LOS	B	A		A	A													
Intersection Summary																		
Delay	10.0																	
Level of Service	B																	
Intersection Capacity Utilization	44.0%			ICU Level of Service			A											
Analysis Period (min)	15																	

HCM Signalized Intersection Capacity Analysis

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.87		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.96	
Satd. Flow (prot)	1770	1851		1770	1832			1763	1373		1758	
Flt Permitted	0.42	1.00		0.19	1.00			0.69	1.00		0.74	
Satd. Flow (perm)	784	1851		345	1832			1283	1373		1351	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	756	24	17	395	40	36	0	30	130	8	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	4	780	0	17	435	0	0	36	30	0	152	0
Confl. Peds. (#/hr)			15	13			2		13			2
Confl. Bikes (#/hr)			4			13			4			13
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	68.9	68.9		68.9	68.9			42.1	42.1		42.1	
Effective Green, g (s)	69.4	69.4		69.4	69.4			42.6	42.6		42.6	
Actuated g/C Ratio	0.58	0.58		0.58	0.58			0.36	0.36		0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	453	1070		199	1059			455	487		479	
v/s Ratio Prot		c0.42			0.24							
v/s Ratio Perm	0.01			0.05				0.03	0.02		c0.11	
v/c Ratio	0.01	0.73		0.09	0.41			0.08	0.06		0.32	
Uniform Delay, d1	10.7	18.4		11.2	14.0			25.7	25.5		28.1	
Progression Factor	1.00	1.00		0.88	0.74			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.5		0.2	0.3			0.3	0.2		1.7	
Delay (s)	10.7	21.0		10.0	10.6			26.0	25.8		29.9	
Level of Service	B	C		B	B			C	C		C	
Approach Delay (s)		20.9			10.6			25.9			29.9	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		18.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		77.1%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

88: Humboldt St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	151	64	5	0	21	6	4	20	0	12	29	86
Future Volume (vph)	151	64	5	0	21	6	4	20	0	12	29	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	151	64	5	0	21	6	4	20	0	12	29	86
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	220	27	24	127								
Volume Left (vph)	151	0	4	12								
Volume Right (vph)	5	6	0	86								
Hadj (s)	0.16	-0.10	0.07	-0.35								
Departure Headway (s)	4.4	4.4	4.7	4.2								
Degree Utilization, x	0.27	0.03	0.03	0.15								
Capacity (veh/h)	789	771	716	810								
Control Delay (s)	9.1	7.5	7.8	7.9								
Approach Delay (s)	9.1	7.5	7.8	7.9								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.5									
Level of Service			A									
Intersection Capacity Utilization			35.2%		ICU Level of Service				A			
Analysis Period (min)			15									

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↑↑	↑		↑			↑	
Traffic Volume (vph)	0	0	0	57	870	238	10	74	0	0	244	30
Future Volume (vph)	0	0	0	57	870	238	10	74	0	0	244	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	2500	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.92		1.00			0.99	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.99	
Flt Protected					1.00	1.00		0.99			1.00	
Satd. Flow (prot)					1850	1462		973			2398	
Flt Permitted					1.00	1.00		0.95			1.00	
Satd. Flow (perm)					1850	1462		927			2398	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	57	870	238	10	74	0	0	244	30
RTOR Reduction (vph)	0	0	0	0	0	86	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	927	152	0	84	0	0	267	0
Confl. Peds. (#/hr)				38		36	25					51
Confl. Bikes (#/hr)						3						3
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					35.6	35.6		11.8			11.8	
Effective Green, g (s)					36.1	36.1		12.3			12.3	
Actuated g/C Ratio					0.64	0.64		0.22			0.22	
Clearance Time (s)					4.5	4.5		4.5			4.5	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1184	935		202			522	
v/s Ratio Prot											c0.11	
v/s Ratio Perm					0.50	0.10		0.09				
v/c Ratio					0.78	0.16		0.42			0.51	
Uniform Delay, d1					7.3	4.1		19.0			19.4	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					3.5	0.1		1.4			0.8	
Delay (s)					10.8	4.2		20.3			20.3	
Level of Service					B	A		C			C	
Approach Delay (s)		0.0			9.4			20.3			20.3	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			12.0									HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			56.4									Sum of lost time (s) 8.0
Intersection Capacity Utilization			78.9%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

113: US 101 SB

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Volume (vph)	584	0	0	0	0	0
Future Volume (vph)	584	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					
Lane Util. Factor	0.95					
Frt	1.00					
Flt Protected	1.00					
Satd. Flow (prot)	3539					
Flt Permitted	1.00					
Satd. Flow (perm)	3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	584	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	584	0	0	0	0	0
Turn Type	NA					Perm
Protected Phases	4					
Permitted Phases						2
Actuated Green, G (s)	1.0					
Effective Green, g (s)	19.0					
Actuated g/C Ratio	0.67					
Clearance Time (s)	22.0					
Lane Grp Cap (vph)	2359					
v/s Ratio Prot	c0.17					
v/s Ratio Perm						
v/c Ratio	0.25					
Uniform Delay, d1	1.9					
Progression Factor	1.00					
Incremental Delay, d2	0.3					
Delay (s)	2.1					
Level of Service	A					
Approach Delay (s)	2.1			0.0	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		2.1		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.21				
Actuated Cycle Length (s)		28.5		Sum of lost time (s)		6.0
Intersection Capacity Utilization		19.5%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Intersection has too many legs for HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Ideal Flow (vphpl)	1900	1270	1900	1900	1900	1900	1900	1100	1100	1900	1300	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.95	
Flt Protected		1.00			1.00			0.97	1.00		0.98	
Satd. Flow (prot)		2346			3516			1044	890		1170	
Flt Permitted		0.95			0.95			0.83	1.00		0.88	
Satd. Flow (perm)		2238			3342			897	890		1054	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	25	0	9	0
Lane Group Flow (vph)	0	1049	0	0	866	0	0	58	19	0	22	0
Confl. Peds. (#/hr)	14		12	12		14	4		24	24		4
Confl. Bikes (#/hr)			1			1			1			
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		31.1			31.1			10.9	10.9		10.9	
Effective Green, g (s)		31.6			31.6			11.4	11.4		11.4	
Actuated g/C Ratio		0.62			0.62			0.22	0.22		0.22	
Clearance Time (s)		4.5			4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1386			2070			200	198		235	
v/s Ratio Prot												
v/s Ratio Perm		c0.47			0.26			c0.06	0.02		0.02	
v/c Ratio		0.76			0.42			0.29	0.10		0.10	
Uniform Delay, d1		6.9			5.0			16.4	15.7		15.7	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.9			0.6			0.8	0.2		0.2	
Delay (s)		10.8			5.6			17.2	15.9		15.9	
Level of Service		B			A			B	B		B	
Approach Delay (s)		10.8			5.6			16.7			15.9	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		51.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		73.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

188: Hillsdale EB Off-Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	902			317		
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1622		1023	1084
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	120	47	61	471	35	26	119	32	16	124	30
Future Volume (vph)	10	120	47	61	471	35	26	119	32	16	124	30
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1900	2500	1900	1900	1000	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.94			0.99			0.96			0.98	
Flpb, ped/bikes		1.00			0.99			1.00			0.99	
Frt		0.96			0.99			0.98			0.98	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		888			4480			2263			929	
Flt Permitted		0.97			0.90			0.94			0.97	
Satd. Flow (perm)		860			4056			2150			902	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	120	47	61	471	35	26	119	32	16	124	30
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	177	0	0	567	0	0	177	0	0	170	0
Confl. Peds. (#/hr)	44		77	54		80	23		90	36		67
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.5			38.5			26.5			26.5	
Effective Green, g (s)		42.0			42.0			30.0			30.0	
Actuated g/C Ratio		0.52			0.52			0.38			0.38	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		451			2129			806			338	
v/s Ratio Prot												
v/s Ratio Perm		0.21			0.14			0.08			0.19	
v/c Ratio		0.39			0.27			0.22			0.50	
Uniform Delay, d1		11.4			10.5			17.0			19.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.6			0.3			0.1			5.3	
Delay (s)		13.9			10.8			17.2			24.5	
Level of Service		B			B			B			C	
Approach Delay (s)		13.9			10.8			17.2			24.5	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay		14.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.44										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		63.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: Saratoga Dr & Hillsdale EB Off-Ramp

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Future Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes		1.00	0.93	1.00		0.98		1.00			1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00			1.00	
Frt		1.00	0.85	1.00		0.85		1.00			1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00			0.99	
Satd. Flow (prot)		1810	1479	1770		1557		3518			3492	
Flt Permitted		0.97	1.00	0.75		1.00		1.00			0.54	
Satd. Flow (perm)		1810	1479	1390		1557		3518			1919	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	7	7	9	0	75	0	380	10	109	293	0
RTOR Reduction (vph)	0	0	5	0	0	55	0	2	0	0	0	0
Lane Group Flow (vph)	0	17	2	9	0	20	0	388	0	0	402	0
Confl. Peds. (#/hr)			18			3			30			
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		2						8			4 1	
Permitted Phases	2		2	2		2			4 1			
Actuated Green, G (s)		36.2	36.2	36.2		36.2		24.5			61.0	
Effective Green, g (s)		37.0	37.0	37.0		37.0		25.2			62.6	
Actuated g/C Ratio		0.26	0.26	0.26		0.26		0.18			0.45	
Clearance Time (s)		4.8	4.8	4.8		4.8		4.7				
Vehicle Extension (s)		6.0	6.0	6.0		6.0		4.0				
Lane Grp Cap (vph)		478	390	367		411		633			858	
v/s Ratio Prot								c0.11				
v/s Ratio Perm		0.01	0.00	0.01		c0.01					c0.21	
v/c Ratio		0.04	0.00	0.02		0.05		0.61			0.47	
Uniform Delay, d1		38.2	37.9	38.1		38.4		52.9			27.1	
Progression Factor		1.00	1.00	1.00		1.00		1.00			0.38	
Incremental Delay, d2		0.1	0.0	0.1		0.2		2.0			0.8	
Delay (s)		38.4	38.0	38.3		38.6		54.9			11.1	
Level of Service		D	D	D		D		D			B	
Approach Delay (s)		38.3			38.6			54.9			11.1	
Approach LOS		D			D			D			B	
Intersection Summary												
HCM 2000 Control Delay			33.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			18.1			
Intersection Capacity Utilization			75.3%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	55	148	68	155	118	111	95	1669	256	112	1373	91
Future Volume (vph)	55	148	68	155	118	111	95	1669	256	112	1373	91
Ideal Flow (vphpl)	2000	2500	1900	2500	2500	1900	1900	1350	1900	2500	2500	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.97		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.96	1.00		0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1793	2269		2237	2205		1770	3457		2328	6561	
Flt Permitted	0.35	1.00		0.39	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	663	2269		907	2205		1770	3457		2328	6561	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	55	148	68	155	118	111	95	1669	256	112	1373	91
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	55	216	0	155	229	0	95	1925	0	112	1464	0
Confl. Peds. (#/hr)	72		90	69		51			69			72
Confl. Bikes (#/hr)			3			8			4			7
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	12.6	12.6		12.6	12.6		8.1	45.3		7.7	44.9	
Effective Green, g (s)	13.1	13.1		13.1	13.1		8.6	45.8		8.2	45.4	
Actuated g/C Ratio	0.17	0.17		0.17	0.17		0.11	0.58		0.10	0.57	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	109	375		150	365		192	2001		241	3765	
v/s Ratio Prot		0.10			0.10		c0.05	c0.56		0.05	0.22	
v/s Ratio Perm	0.08			c0.17								
v/c Ratio	0.50	0.58		1.03	0.63		0.49	0.96		0.46	0.39	
Uniform Delay, d1	30.0	30.4		33.0	30.7		33.2	15.8		33.4	9.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.6	2.1		82.6	3.4		2.0	13.0		1.4	0.3	
Delay (s)	33.7	32.6		115.6	34.1		35.2	28.8		34.8	9.5	
Level of Service	C	C		F	C		D	C		C	A	
Approach Delay (s)		32.8			67.0			29.1			11.3	
Approach LOS		C			E			C			B	
Intersection Summary												
HCM 2000 Control Delay			26.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.92									
Actuated Cycle Length (s)			79.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			101.3%			ICU Level of Service			G			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	604	28	6	94	20	6	122	86	83	132	23
Future Volume (vph)	22	604	28	6	94	20	6	122	86	83	132	23
Ideal Flow (vphpl)	1900	1100	2500	1900	1000	1900	1000	1000	1000	1900	1000	1900
Lane Width	10	10	10	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.98			0.95			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.98			0.95			0.99	
Flt Protected		1.00			1.00			1.00			0.98	
Satd. Flow (prot)		1886			935			882			934	
Flt Permitted		0.94			0.96			0.99			0.82	
Satd. Flow (perm)		1782			903			876			780	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	604	28	6	94	20	6	122	86	83	132	23
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	654	0	0	120	0	0	214	0	0	238	0
Confl. Peds. (#/hr)	6		41	36		42	5		72	36		11
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.3			29.3			35.5			35.5	
Effective Green, g (s)		30.8			30.8			37.0			37.0	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		687			348			406			361	
v/s Ratio Prot												
v/s Ratio Perm		c0.37			0.13			0.24			c0.31	
v/c Ratio		0.95			0.34			0.53			0.66	
Uniform Delay, d1		23.8			17.4			15.2			16.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		23.1			0.6			4.8			9.1	
Delay (s)		46.9			18.0			20.0			25.6	
Level of Service		D			B			C			C	
Approach Delay (s)		46.9			18.0			20.0			25.6	
Approach LOS		D			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		35.2			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.79										
Actuated Cycle Length (s)		79.8			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		99.5%			ICU Level of Service			F				
Analysis Period (min)		15										

c Critical Lane Group

HCM Unsignalized Intersection Capacity Analysis

217: Claremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	89	403	23	30	293	19	13	125	27	23	107	42
Future Volume (vph)	89	403	23	30	293	19	13	125	27	23	107	42
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Hourly flow rate (vph)	114	517	29	38	366	24	19	179	39	29	134	53
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	660	428	237	216								
Volume Left (vph)	114	38	19	29								
Volume Right (vph)	29	24	39	53								
Hadj (s)	0.04	0.02	-0.05	-0.09								
Departure Headway (s)	6.9	7.1	7.8	7.9								
Degree Utilization, x	1.27	0.84	0.52	0.47								
Capacity (veh/h)	511	499	425	411								
Control Delay (s)	159.7	36.9	18.9	17.9								
Approach Delay (s)	159.7	36.9	18.9	17.9								
Approach LOS	F	E	C	C								
Intersection Summary												
Delay				84.1								
Level of Service				F								
Intersection Capacity Utilization				68.3%	ICU Level of Service	C						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	77	9	1	15	41	6	181	7	20	146	59
Future Volume (vph)	94	77	9	1	15	41	6	181	7	20	146	59
Ideal Flow (vphpl)	1900	1300	1900	1900	1800	1900	1900	1450	1900	1900	2500	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.92			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.90			1.00			0.96	
Flt Protected		0.97			1.00			1.00			1.00	
Satd. Flow (prot)		1231			1466			1409			2326	
Flt Permitted		0.97			1.00			1.00			1.00	
Satd. Flow (perm)		1231			1466			1409			2326	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	94	77	9	1	15	41	6	181	7	20	146	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	180	0	0	57	0	0	194	0	0	225	0
Confl. Peds. (#/hr)	6		6	9		9	6		9	9		6
Confl. Bikes (#/hr)						1						
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		2.2			0.4			2.2			2.2	
Effective Green, g (s)		2.2			0.4			2.2			2.2	
Actuated g/C Ratio		0.12			0.02			0.12			0.12	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		142			30			163			269	
v/s Ratio Prot		c0.15			c0.04			c0.14			c0.10	
v/s Ratio Perm												
v/c Ratio		1.27			1.90			1.19			0.84	
Uniform Delay, d1		8.4			9.3			8.4			8.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		164.4			506.3			130.8			19.7	
Delay (s)		172.8			515.6			139.2			27.9	
Level of Service		F			F			F			C	
Approach Delay (s)		172.8			515.6			139.2			27.9	
Approach LOS		F			F			F			C	
Intersection Summary												
HCM 2000 Control Delay		142.9										
HCM 2000 Volume to Capacity ratio		1.14										
Actuated Cycle Length (s)		19.0										
Intersection Capacity Utilization		43.5%										
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

223: Saratoga Dr & Poinsettia Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Future Volume (Veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	118	4	5	1	2	24	5	260	3	38	232	34
Pedestrians	8			28			5			8		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	3.5			3.5			3.5			3.5		
Percent Blockage	1			3			0			1		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												297
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	506	634	262	636	650	168	274				291	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	418	557	152	560	574	168	165				291	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	73	99	99	100	99	97	100				97	
cM capacity (veh/h)	431	374	786	342	366	818	1286				1234	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	127	27	135	133	304							
Volume Left	118	1	5	0	38							
Volume Right	5	24	0	3	34							
cSH	436	716	1286	1700	1234							
Volume to Capacity	0.29	0.04	0.00	0.08	0.03							
Queue Length 95th (ft)	30	3	0	0	2							
Control Delay (s)	16.6	10.2	0.3	0.0	1.3							
Lane LOS	C	B	A		A							
Approach Delay (s)	16.6	10.2	0.2		1.3							
Approach LOS	C	B										
Intersection Summary												
Average Delay				3.9								
Intersection Capacity Utilization				51.2%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

226: El Camino Real & 9th Ave

06/12/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	142	1816	166	149	1540
Future Volume (vph)	146	142	1816	166	149	1540
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	0.95	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1507	5001		1770	5085
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1507	5001		1770	5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	142	1816	166	149	1540
RTOR Reduction (vph)	0	118	9	0	0	0
Lane Group Flow (vph)	146	24	1973	0	149	1540
Confl. Peds. (#/hr)	2	21		15		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	10.9	10.9	31.7		10.9	47.1
Effective Green, g (s)	11.4	11.4	32.2		11.4	47.6
Actuated g/C Ratio	0.17	0.17	0.48		0.17	0.71
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	301	256	2403		301	3612
v/s Ratio Prot	c0.08		c0.39		c0.08	0.30
v/s Ratio Perm		0.02				
v/c Ratio	0.49	0.09	0.82		0.50	0.43
Uniform Delay, d1	25.1	23.4	14.9		25.2	4.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.2	2.4		1.3	0.1
Delay (s)	26.4	23.6	17.3		26.5	4.1
Level of Service	C	C	B		C	A
Approach Delay (s)	25.0		17.3			6.1
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			13.1		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.68			
Actuated Cycle Length (s)			67.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			65.3%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

228: 5th Ave & Ellsworth Ave

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	45	363	289	27	32	120
Future Volume (Veh/h)	45	363	289	27	32	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	45	363	289	27	32	120
Pedestrians		36	22		36	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	2		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		366	310			
pX, platoon unblocked					0.96	
vC, conflicting volume	352				814	374
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	352				784	374
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				90	81
cM capacity (veh/h)	1165				315	626
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	408	316	152			
Volume Left	45	0	32			
Volume Right	0	27	120			
cSH	1165	1700	519			
Volume to Capacity	0.04	0.19	0.29			
Queue Length 95th (ft)	3	0	30			
Control Delay (s)	1.3	0.0	14.8			
Lane LOS	A		B			
Approach Delay (s)	1.3	0.0	14.8			
Approach LOS			B			
Intersection Summary						
Average Delay			3.2			
Intersection Capacity Utilization			61.4%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

229: 5th Ave & Idaho St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				0.0%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

231: Fremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	80	179	5	0	109	21	13	67	3	11	56	34
Future Volume (vph)	80	179	5	0	109	21	13	67	3	11	56	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	80	179	5	0	109	21	13	67	3	11	56	34
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	264	130	83	101								
Volume Left (vph)	80	0	13	11								
Volume Right (vph)	5	21	3	34								
Hadj (s)	0.08	-0.06	0.04	-0.15								
Departure Headway (s)	4.6	4.6	5.0	4.8								
Degree Utilization, x	0.34	0.17	0.12	0.14								
Capacity (veh/h)	742	730	655	680								
Control Delay (s)	10.0	8.6	8.7	8.6								
Approach Delay (s)	10.0	8.6	8.7	8.6								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.2									
Level of Service			A									
Intersection Capacity Utilization			43.1%	ICU Level of Service		A						
Analysis Period (min)			15									

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

237: US 101 SB Off Diag & Idaho St

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↰			↱
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)		382				
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	WB 1	SB 1				
Volume Total	0	0				
Volume Left	0	0				
Volume Right	0	0				
cSH	1700	1700				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS		A				
Approach Delay (s)	0.0	0.0				
Approach LOS		A				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

HCM Signalized Intersection Capacity Analysis

245: US 101 NB On Diag

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	0	0	657	0	0	0	0	572
Future Volume (vph)	0	0	657	0	0	0	0	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0					4.0
Lane Util. Factor			1.00					1.00
Frt			1.00					0.86
Flt Protected			1.00					1.00
Satd. Flow (prot)			1863					1611
Flt Permitted			1.00					1.00
Satd. Flow (perm)			1863					1611
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	657	0	0	0	0	572
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	657	0	0	0	0	572
Turn Type		Perm	NA					Perm
Protected Phases			2					
Permitted Phases		4						3
Actuated Green, G (s)			1.0					1.0
Effective Green, g (s)			1.0					1.0
Actuated g/C Ratio			0.06					0.06
Clearance Time (s)			4.0					4.0
Lane Grp Cap (vph)			120					103
v/s Ratio Prot			c0.35					
v/s Ratio Perm								c0.35
v/c Ratio			5.47					5.55
Uniform Delay, d1			7.2					7.2
Progression Factor			1.00					1.00
Incremental Delay, d2			2031.9					2070.1
Delay (s)			2039.2					2077.4
Level of Service			F					F
Approach Delay (s)	0.0		2039.2			0.0	2077.4	
Approach LOS	A		F			A	F	
Intersection Summary								
HCM 2000 Control Delay			2057.0			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.99					
Actuated Cycle Length (s)			15.5			Sum of lost time (s)		10.0
Intersection Capacity Utilization			83.3%			ICU Level of Service		E
Analysis Period (min)			15					
c Critical Lane Group								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

251:

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	298
Future Volume (vph)	0	0	0	0	0	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0
Lane Util. Factor						1.00
Frt						1.00
Flt Protected						1.00
Satd. Flow (prot)						1863
Flt Permitted						1.00
Satd. Flow (perm)						1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	298
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	298
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Actuated Green, G (s)						1.1
Effective Green, g (s)						1.5
Actuated g/C Ratio						0.14
Clearance Time (s)						4.4
Lane Grp Cap (vph)						254
v/s Ratio Prot						c0.16
v/s Ratio Perm						
v/c Ratio						1.17
Uniform Delay, d1						4.8
Progression Factor						1.00
Incremental Delay, d2						111.5
Delay (s)						116.3
Level of Service						F
Approach Delay (s)	0.0		0.0			116.3
Approach LOS	A		A			F
Intersection Summary						
HCM 2000 Control Delay			116.3		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			11.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			58.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

255: Norfolk St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Future Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	167	82	359	160								
Volume Left (vph)	2	41	78	2								
Volume Right (vph)	163	2	117	21								
Hadj (s)	-0.55	0.12	-0.12	-0.04								
Departure Headway (s)	4.7	5.5	4.6	5.0								
Degree Utilization, x	0.22	0.13	0.46	0.22								
Capacity (veh/h)	681	576	743	672								
Control Delay (s)	9.1	9.3	11.6	9.4								
Approach Delay (s)	9.1	9.3	11.6	9.4								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay				10.3								
Level of Service				B								
Intersection Capacity Utilization				60.3%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

258: 5th Ave

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	414	40	65	283	53	101
Future Volume (Veh/h)	414	40	65	283	53	101
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	414	40	65	283	53	101
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh)						
Upstream signal (ft)	439					
pX, platoon unblocked			0.88		0.88	0.88
vC, conflicting volume			454		847	434
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			305		754	282
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			94		83	85
cM capacity (veh/h)			1099		310	662
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	454	348	154			
Volume Left	0	65	53			
Volume Right	40	0	101			
cSH	1700	1099	476			
Volume to Capacity	0.27	0.06	0.32			
Queue Length 95th (ft)	0	5	35			
Control Delay (s)	0.0	2.1	16.1			
Lane LOS		A	C			
Approach Delay (s)	0.0	2.1	16.1			
Approach LOS			C			
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization		61.9%	ICU Level of Service		B	
Analysis Period (min)		15				

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	784	250	68	592	11	344	0	4	11	47	29
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1422	636	154	1512	28	687	0	303	21	89	55
Arrive On Green	0.06	0.40	0.40	0.09	0.43	0.43	0.19	0.00	0.19	0.10	0.10	0.10
Sat Flow, veh/h	1774	3539	1582	1774	3554	66	3548	0	1566	220	938	579
Grp Volume(v), veh/h	32	784	250	68	295	308	344	0	4	87	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1850	1774	0	1566	1737	0	0
Q Serve(g_s), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.13		0.33
Lane Grp Cap(c), veh/h	112	1422	636	154	753	787	687	0	303	166	0	0
V/C Ratio(X)	0.29	0.55	0.39	0.44	0.39	0.39	0.50	0.00	0.01	0.53	0.00	0.00
Avail Cap(c_a), veh/h	214	2657	1188	263	1378	1440	2072	0	914	258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	12.4	11.5	23.4	10.7	10.7	19.4	0.0	17.6	23.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.4	2.0	0.3	0.3	0.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	2.7	1.0	3.0	3.2	2.3	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	25.5	12.7	11.9	25.3	11.0	11.0	20.0	0.0	17.6	25.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h	1066				671				348			87
Approach Delay, s/veh	12.9				12.5				20.0			25.8
Approach LOS	B				B				B			C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.4		7.7	24.7	8.1		6.4	26.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	30.0		6.5	39.0	6.5		5.0	40.5				
Max Q Clear Time (g_c+I1), s	6.7		4.0	11.2	4.6		2.9	8.2				
Green Ext Time (p_c), s	1.2		0.0	7.2	0.1		0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	14.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	561	275	464	342	7	129	12	48	12	222	49
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1089	458	677	1474	30	284	52	207	307	499	108
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1774	3725	1567	3442	3547	72	1774	322	1290	1774	2886	624
Grp Volume(v), veh/h	63	561	275	464	170	179	129	0	60	12	134	137
Grp Sat Flow(s),veh/h/ln	1774	1863	1567	1721	1770	1849	1774	0	1612	1774	1770	1740
Q Serve(g_s), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Cycle Q Clear(g_c), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	131	1089	458	677	735	769	284	0	258	307	306	301
V/C Ratio(X)	0.48	0.51	0.60	0.69	0.23	0.23	0.45	0.00	0.23	0.04	0.44	0.45
Avail Cap(c_a), veh/h	604	2042	859	1173	970	1014	972	0	884	815	813	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	19.9	20.5	25.2	12.8	12.8	25.7	0.0	24.7	23.2	25.0	25.1
Incr Delay (d2), s/veh	2.7	0.4	1.3	1.2	0.2	0.2	1.1	0.0	0.5	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.4	4.5	4.1	2.1	2.2	2.3	0.0	1.0	0.2	2.3	2.4
LnGrp Delay(d),s/veh	32.8	20.3	21.8	26.4	12.9	12.9	26.8	0.0	25.2	23.3	26.0	26.1
LnGrp LOS	C	C	C	C	B	B	C		C	C	C	C
Approach Vol, veh/h		899			813			189			283	
Approach Delay, s/veh		21.6			20.6			26.3			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.8	16.3	22.7		14.7	8.0	31.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		6.4	10.4	12.2		6.8	4.3	6.2				
Green Ext Time (p_c), s		1.1	1.3	5.0		1.6	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	530	384	239	293	16	160	116	148	70	447	109
Adj No. of Lanes	1	2	1	2	2	0	1	1	2	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1144	505	400	1179	64	232	640	1069	124	796	193
Arrive On Green	0.09	0.32	0.32	0.12	0.35	0.35	0.13	0.34	0.34	0.07	0.28	0.28
Sat Flow, veh/h	1774	3539	1563	3442	3410	185	1774	1863	3109	1774	2817	681
Grp Volume(v), veh/h	104	530	384	239	151	158	160	116	148	70	279	277
Grp Sat Flow(s),veh/h/ln	1774	1770	1563	1721	1770	1826	1774	1863	1554	1774	1770	1729
Q Serve(g_s), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Cycle Q Clear(g_c), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	166	1144	505	400	612	631	232	640	1069	124	500	489
V/C Ratio(X)	0.63	0.46	0.76	0.60	0.25	0.25	0.69	0.18	0.14	0.57	0.56	0.57
Avail Cap(c_a), veh/h	478	1388	613	928	694	716	631	799	1334	631	759	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	22.0	24.8	34.2	19.1	19.1	33.9	18.7	18.4	36.8	24.9	25.0
Incr Delay (d2), s/veh	3.8	0.3	4.5	1.4	0.2	0.2	3.6	0.1	0.1	4.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.8	8.3	2.6	2.5	2.6	3.7	1.9	1.2	1.7	5.5	5.4
LnGrp Delay(d),s/veh	39.4	22.3	29.3	35.7	19.3	19.3	37.5	18.9	18.5	40.8	25.9	26.0
LnGrp LOS	D	C	C	D	B	B	D	B	B	D	C	C
Approach Vol, veh/h	1018				548		424		626			
Approach Delay, s/veh	26.7				26.4		25.8		27.6			
Approach LOS	C				C		C		C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	31.0	12.5	29.4	13.7	26.1	10.7	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.5	33.5	20.5	30.5	27.5	33.5	20.5	30.5				
Max Q Clear Time (g_c+1.5I), s	15.6	5.6	7.4	20.0	9.0	13.1	6.6	7.0				
Green Ext Time (p_c), s	0.1	1.2	0.6	3.7	0.4	3.4	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			26.7									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1299	681	64	743	50	317	83	70	179	109	27
Future Volume (veh/h)	222	1299	681	64	743	50	317	83	70	179	109	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1471	1471	1569	1863	1471	1900	1275	1863	1900	1900	1275	1863
Adj Flow Rate, veh/h	222	1299	403	64	743	50	317	83	70	179	109	5
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1217	566	104	1298	87	417	164	138	177	108	348
Arrive On Green	0.16	0.44	0.44	0.06	0.34	0.34	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	1401	2794	1299	1774	3840	257	2355	926	781	768	468	1511
Grp Volume(v), veh/h	222	1299	403	64	517	276	317	0	153	288	0	5
Grp Sat Flow(s),veh/h/ln	1401	1397	1299	1774	1338	1421	1177	0	1707	1236	0	1511
Q Serve(g_s), s	19.0	53.0	30.9	4.3	19.3	19.4	15.6	0.0	9.9	28.0	0.0	0.3
Cycle Q Clear(g_c), s	19.0	53.0	30.9	4.3	19.3	19.4	15.6	0.0	9.9	28.0	0.0	0.3
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.46	0.62		1.00
Lane Grp Cap(c), veh/h	219	1217	566	104	904	480	417	0	303	284	0	348
V/C Ratio(X)	1.02	1.07	0.71	0.62	0.57	0.58	0.76	0.00	0.51	1.01	0.00	0.01
Avail Cap(c_a), veh/h	219	1217	566	219	1078	572	522	0	379	284	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	34.3	28.1	56.0	33.1	33.1	47.6	0.0	45.2	46.8	0.0	36.2
Incr Delay (d2), s/veh	64.8	45.8	4.2	5.8	0.6	1.1	5.0	0.0	1.3	56.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	28.0	11.7	2.3	7.2	7.7	5.4	0.0	4.7	14.0	0.0	0.1
LnGrp Delay(d),s/veh	116.3	80.2	32.3	61.8	33.6	34.2	52.6	0.0	46.5	103.5	0.0	36.2
LnGrp LOS	F	F	C	E	C	C	D		D	F		D
Approach Vol, veh/h	1924			857			470			293		
Approach Delay, s/veh	74.3			35.9			50.6			102.4		
Approach LOS	E			D			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	10.1	56.0		31.0	22.0	44.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	13.5	51.5		26.5	17.5	47.5				
Max Q Clear Time (g_c+I1), s		17.6	6.3	55.0		30.0	21.0	21.4				
Green Ext Time (p_c), s		1.4	0.1	0.0		0.0	0.0	5.7				
Intersection Summary												
HCM 2010 Ctrl Delay	64.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1667	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	677	628	133	691	588	258	325	272	298	384	326
Arrive On Green	0.11	0.41	0.41	0.08	0.37	0.00	0.15	0.18	0.18	0.17	0.21	0.00
Sat Flow, veh/h	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Grp Volume(v), veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Grp Sat Flow(s),veh/h/ln	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Q Serve(g_s), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Cycle Q Clear(g_c), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	677	628	133	691	588	258	325	272	298	384	326
V/C Ratio(X)	0.79	0.97	0.10	0.89	0.54	0.00	0.82	0.43	0.63	0.83	0.46	0.00
Avail Cap(c_a), veh/h	244	677	628	133	691	588	468	467	390	601	631	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	27.8	17.6	44.0	23.7	0.0	39.8	34.7	36.4	38.6	33.4	0.0
Incr Delay (d2), s/veh	13.1	26.5	0.1	45.7	0.8	0.0	6.3	0.9	2.4	6.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	21.9	1.0	4.8	7.9	0.0	5.8	3.3	4.4	6.8	4.1	0.0
LnGrp Delay(d),s/veh	54.7	54.3	17.7	89.7	24.5	0.0	46.0	35.6	38.8	44.7	34.2	0.0
LnGrp LOS	D	D	B	F	C		D	D	D	D	C	
Approach Vol, veh/h		872			489			522			423	
Approach Delay, s/veh		51.8			40.2			40.9			40.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	30.1	21.6	11.2	43.0	18.0	23.8	14.6	39.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	32.0	24.8	6.7	38.5	24.8	32.0	12.7	32.5				
Max Q Clear Time (g_c+11.5), s	11.5	12.3	8.3	38.9	13.1	9.9	10.2	17.0				
Green Ext Time (p_c), s	0.6	1.5	0.0	0.0	0.4	0.9	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.8									
HCM 2010 LOS			D									

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	7	670	151	196	808	107	66	27	154	95	129	12
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1187	267	298	1021	843	165	68	246	227	247	20
Arrive On Green	0.04	0.42	0.42	0.17	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	2844	640	1774	1863	1537	326	275	995	538	998	82
Grp Volume(v), veh/h	7	417	404	196	808	107	247	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1863	1537	1596	0	0	1618	0	0
Q Serve(g_s), s	0.2	9.7	9.7	5.6	18.6	1.8	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.7	9.7	5.6	18.6	1.8	6.8	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.27		0.62	0.40		0.05
Lane Grp Cap(c), veh/h	66	739	716	298	1021	843	480	0	0	494	0	0
V/C Ratio(X)	0.11	0.56	0.57	0.66	0.79	0.13	0.52	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	214	1252	1213	672	1799	1484	729	0	0	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	11.9	12.0	21.0	9.7	5.9	17.8	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.7	2.5	1.4	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	4.6	2.9	9.8	0.8	3.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	25.8	12.6	12.7	23.4	11.1	6.0	18.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	A	B			B		
Approach Vol, veh/h		828			1111			247			236	
Approach Delay, s/veh		12.8			12.8			18.7			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	12.0	25.5		16.3	5.0	32.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	18.9	36.6		21.0	5.0	50.5				
Max Q Clear Time (g_c+I1), s		8.8	7.6	11.7		8.4	2.2	20.6				
Green Ext Time (p_c), s		1.2	0.4	5.8		1.1	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.98	0.98		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	56	276	39	80	433	100	49	255	13	195	157	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	734	104	457	675	156	517	810	41	479	597	213
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	868	1588	224	1050	1459	337	1100	1751	89	1048	1291	460
Grp Volume(v), veh/h	56	0	315	80	0	533	49	0	268	195	0	213
Grp Sat Flow(s),veh/h/ln	868	0	1812	1050	0	1796	1100	0	1840	1048	0	1751
Q Serve(g_s), s	4.2	0.0	9.0	4.3	0.0	18.1	2.3	0.0	7.3	11.5	0.0	6.0
Cycle Q Clear(g_c), s	22.4	0.0	9.0	13.3	0.0	18.1	8.2	0.0	7.3	18.8	0.0	6.0
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
V/C Ratio(X)	0.19	0.00	0.38	0.18	0.00	0.64	0.09	0.00	0.31	0.41	0.00	0.26
Avail Cap(c_a), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	14.0	18.3	0.0	16.4	15.7	0.0	13.5	19.5	0.0	13.2
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.8	0.0	3.8	0.4	0.0	1.0	2.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.8	1.4	0.0	9.8	0.7	0.0	4.0	3.6	0.0	3.0
LnGrp Delay(d),s/veh	26.4	0.0	15.3	19.2	0.0	20.2	16.0	0.0	14.5	22.0	0.0	13.9
LnGrp LOS	C		B	B		C	B		B	C		B
Approach Vol, veh/h	371				613				317		408	
Approach Delay, s/veh	17.0				20.1				14.7		17.8	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+I1), s	10.2		24.4		20.8		20.1					
Green Ext Time (p_c), s	1.9		1.7		1.9		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↑↑↑	↱					↰	↑↑↑	↱	↰	↱
Traffic Volume (veh/h)	28	1668	10	0	0	0	0	71	241	363	215	0
Future Volume (veh/h)	28	1668	10	0	0	0	0	71	241	363	215	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1176	1900				0	980	1863	1863	980	0
Adj Flow Rate, veh/h	29	1738	10				0	111	98	301	332	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	834	1548	9				0	118	183	568	314	0
Arrive On Green	0.47	0.47	0.47				0.00	0.12	0.12	0.32	0.32	0.00
Sat Flow, veh/h	1774	3295	19				0	980	1523	1774	980	0
Grp Volume(v), veh/h	29	1129	619				0	111	98	301	332	0
Grp Sat Flow(s), veh/h/ln	1774	1071	1172				0	980	1523	1774	980	0
Q Serve(g_s), s	0.9	47.0	47.0				0.0	11.2	6.1	13.9	32.0	0.0
Cycle Q Clear(g_c), s	0.9	47.0	47.0				0.0	11.2	6.1	13.9	32.0	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	834	1006	551				0	118	183	568	314	0
V/C Ratio(X)	0.03	1.12	1.12				0.00	0.94	0.54	0.53	1.06	0.00
Avail Cap(c_a), veh/h	834	1006	551				0	118	183	568	314	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	26.5	26.5				0.0	43.7	41.4	27.8	34.0	0.0
Incr Delay (d2), s/veh	0.0	68.3	76.7				0.0	68.9	10.8	0.9	67.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	23.4	26.9				0.0	5.3	3.1	6.9	14.5	0.0
LnGrp Delay(d),s/veh	14.3	94.8	103.2				0.0	112.5	52.2	28.8	101.0	0.0
LnGrp LOS	B	F	F					F	D	C	F	
Approach Vol, veh/h		1777						209			633	
Approach Delay, s/veh		96.4						84.3			66.7	
Approach LOS		F						F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		50.0		35.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		10.5		45.5		30.5						
Max Q Clear Time (g_c+I1), s		13.2		49.0		34.0						
Green Ext Time (p_c), s		0.0		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			88.2									
HCM 2010 LOS			F									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	95	116	188	160	272	55	226	254	10	21	129	30
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	478	407	234	909	180	423	444	357	338	275	64
Arrive On Green	0.09	0.27	0.27	0.13	0.31	0.31	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	1774	1770	1505	1774	2906	575	1774	1863	1497	1774	1441	335
Grp Volume(v), veh/h	95	116	188	160	163	164	226	254	10	21	0	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1505	1774	1770	1711	1774	1863	1497	1774	0	1776
Q Serve(g_s), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Cycle Q Clear(g_c), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	159	478	407	234	554	535	423	444	357	338	0	338
V/C Ratio(X)	0.60	0.24	0.46	0.68	0.29	0.31	0.53	0.57	0.03	0.06	0.00	0.47
Avail Cap(c_a), veh/h	297	660	561	312	675	653	612	642	516	612	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.6	29.4	18.5	18.5	23.6	23.9	20.8	23.6	0.0	25.6
Incr Delay (d2), s/veh	3.6	0.3	0.8	3.8	0.3	0.3	1.1	1.2	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.8	3.2	3.2	2.4	2.5	4.0	4.5	0.2	0.3	0.0	2.9
LnGrp Delay(d),s/veh	34.7	20.5	22.4	33.2	18.8	18.9	24.7	25.0	20.8	23.6	0.0	26.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		399			487			490			180	
Approach Delay, s/veh		24.8			23.6			24.8			26.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	12.4	22.2		16.5	9.4	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.0	11.0	25.0		23.0	10.4	25.6				
Max Q Clear Time (g_c+I1), s		10.5	8.1	9.4		7.7	5.7	7.2				
Green Ext Time (p_c), s		1.8	0.1	1.7		0.8	0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	66	0	0	0	0				43	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	683	132	206	412	0				506	0	63
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916	699	255	1164	0				1279	0	497
Arrive On Green	0.00	0.77	0.77	0.14	0.55	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	1863	1529	1774	1863	0				3548	0	1534
Grp Volume(v), veh/h	0	683	132	206	412	0				506	0	63
Grp Sat Flow(s),veh/h/ln	0	1863	1529	1774	1863	0				1774	0	1534
Q Serve(g_s), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Cycle Q Clear(g_c), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916	699	255	1164	0				1279	0	497
V/C Ratio(X)	0.00	0.75	0.19	0.81	0.35	0.00				0.40	0.00	0.13
Avail Cap(c_a), veh/h	0	916	752	340	1319	0				1403	0	607
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	1.0	3.3	49.8	11.0	0.0				31.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	2.2	0.1	10.1	0.2	0.0				0.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	145.0	0.0	0.0	0.0	0.0				13.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	38.0	0.5	7.4	6.6	0.0				12.1	0.0	1.5
LnGrp Delay(d),s/veh	0.0	148.2	3.4	59.9	11.2	0.0				45.6	0.0	29.2
LnGrp LOS		F	A	E	B					D		C
Approach Vol, veh/h		815			618						569	
Approach Delay, s/veh		124.7			27.4						43.8	
Approach LOS		F			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	49.3		50.5		69.5				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			21.5	57.5		27.5		83.5				
Max Q Clear Time (g_c+I1), s			15.5	39.8		14.1		17.2				
Green Ext Time (p_c), s			0.3	5.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			71.7									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	92	22	0	0	0				20	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	1863	0				980	1078	0
Adj Flow Rate, veh/h	0	1076	57	0	1000	0				402	391	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	1275	350	0	2306	0				430	489	0
Arrive On Green	0.00	0.62	0.62	0.00	0.62	0.00				0.33	0.32	0.00
Sat Flow, veh/h	0	2353	566	0	3725	0				1307	1833	0
Grp Volume(v), veh/h	0	1076	57	0	1000	0				402	391	0
Grp Sat Flow(s),veh/h/ln	0	686	566	0	1863	0				654	755	0
Q Serve(g_s), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Cycle Q Clear(g_c), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1275	350	0	2306	0				430	489	0
V/C Ratio(X)	0.00	0.84	0.16	0.00	0.43	0.00				0.94	0.80	0.00
Avail Cap(c_a), veh/h	0	1275	350	0	2306	0				430	489	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	11.9	0.0	10.4	0.0				35.2	32.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	0.6	0.0				28.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	189.8	33.9	0.0	0.0	0.0				138.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.6	6.8	0.0	7.7	0.0				16.2	5.8	0.0
LnGrp Delay(d),s/veh	0.0	210.5	45.9	0.0	11.0	0.0				202.0	41.6	0.0
LnGrp LOS		F	D		B					F	D	
Approach Vol, veh/h		1133			1000						793	
Approach Delay, s/veh		202.2			11.0						122.9	
Approach LOS		F			B						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.0		37.0		68.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		63.5		32.5		63.5						
Max Q Clear Time (g_c+I1), s		45.8		33.3		16.7						
Green Ext Time (p_c), s		7.0		0.0		8.4						
Intersection Summary												
HCM 2010 Ctrl Delay				115.4								
HCM 2010 LOS				F								

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	563	150	94	655	28	149	94	64	48	113	11
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1385	367	454	896	38	424	234	518	216	436	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	752	2737	726	723	1771	76	811	684	1511	293	1272	107
Grp Volume(v), veh/h	16	363	350	94	0	683	243	0	64	172	0	0
Grp Sat Flow(s),veh/h/ln	752	1770	1693	723	0	1846	1494	0	1511	1672	0	0
Q Serve(g_s), s	0.7	5.1	5.1	3.7	0.0	11.5	1.8	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	5.1	5.1	8.8	0.0	11.5	4.5	0.0	1.2	2.7	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.04	0.61		1.00	0.28		0.06
Lane Grp Cap(c), veh/h	344	896	857	454	0	934	659	0	518	689	0	0
V/C Ratio(X)	0.05	0.41	0.41	0.21	0.00	0.73	0.37	0.00	0.12	0.25	0.00	0.00
Avail Cap(c_a), veh/h	550	1381	1321	653	0	1440	992	0	875	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.1	6.1	8.8	0.0	7.7	9.9	0.0	9.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.2	0.0	1.1	0.3	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.4	0.8	0.0	6.0	2.1	0.0	0.5	1.4	0.0	0.0
LnGrp Delay(d),s/veh	12.5	6.4	6.4	9.1	0.0	8.8	10.3	0.0	9.1	9.7	0.0	0.0
LnGrp LOS	B	A	A	A		A	B		A	A		
Approach Vol, veh/h		729			777			307			172	
Approach Delay, s/veh		6.5			8.8			10.0			9.7	
Approach LOS		A			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		23.1		16.6		23.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		21.5		29.5		21.5		29.5				
Max Q Clear Time (g_c+I1), s		6.5		14.2		4.7		13.5				
Green Ext Time (p_c), s		1.5		4.2		0.8		5.1				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	17	12	122	197	178	32	315	61	85	241	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	249	176	207	281	254	114	468	91	171	567	59
Arrive On Green	0.05	0.25	0.25	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1774	1008	712	1774	895	809	1774	1508	292	1774	1656	172
Grp Volume(v), veh/h	18	0	29	122	0	375	32	0	376	85	0	266
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	0	1703	1774	0	1800	1774	0	1828
Q Serve(g_s), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Cycle Q Clear(g_c), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Prop In Lane	1.00		0.41	1.00		0.47	1.00		0.16	1.00		0.09
Lane Grp Cap(c), veh/h	90	0	426	207	0	534	114	0	558	171	0	626
V/C Ratio(X)	0.20	0.00	0.07	0.59	0.00	0.70	0.28	0.00	0.67	0.50	0.00	0.43
Avail Cap(c_a), veh/h	474	0	985	474	0	976	474	0	1031	474	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.1	21.9	0.0	15.8	23.4	0.0	15.8	22.5	0.0	13.3
Incr Delay (d2), s/veh	1.1	0.0	0.1	2.6	0.0	1.7	1.3	0.0	1.4	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.8	0.0	4.9	0.5	0.0	4.9	1.3	0.0	3.0
LnGrp Delay(d),s/veh	24.9	0.0	15.2	24.6	0.0	17.5	24.7	0.0	17.2	24.7	0.0	13.7
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	47			497			408			351		
Approach Delay, s/veh	18.9			19.2			17.8			16.4		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	19.2	9.1	16.0	6.4	20.9	5.7	19.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+14.4), s	11.5	11.5	5.4	2.7	2.9	7.9	2.5	12.1				
Green Ext Time (p_c), s	0.1	2.2	0.2	0.1	0.0	1.6	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay	18.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	0	209	280	450	92	44	318	0	0	500	26
Future Volume (veh/h)	48	0	209	280	450	92	44	318	0	0	500	26
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		1.00	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	980	980	0	0	1373	1400
Adj Flow Rate, veh/h	48	0	41	280	450	92	44	318	0	0	500	26
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	864	1411	286	70	733	0	0	648	34
Arrive On Green	0.09	0.00	0.09	0.49	0.49	0.43	0.08	0.39	0.00	0.00	0.26	0.20
Sat Flow, veh/h		0		1774	2898	587	934	1912	0	0	2575	130
Grp Volume(v), veh/h		0.0		280	273	269	44	318	0	0	259	267
Grp Sat Flow(s),veh/h/ln				1774	1770	1715	934	931	0	0	1304	1332
Q Serve(g_s), s				4.8	4.7	4.9	2.3	6.3	0.0	0.0	9.3	9.4
Cycle Q Clear(g_c), s				4.8	4.7	4.9	2.3	6.3	0.0	0.0	9.3	9.4
Prop In Lane				1.00		0.34	1.00		0.00	0.00		0.10
Lane Grp Cap(c), veh/h				864	862	835	70	733	0	0	337	344
V/C Ratio(X)				0.32	0.32	0.32	0.62	0.43	0.00	0.00	0.77	0.77
Avail Cap(c_a), veh/h				864	862	835	176	944	0	0	337	344
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.9	7.8	8.2	22.6	11.2	0.0	0.0	17.3	17.4
Incr Delay (d2), s/veh				1.0	1.0	1.0	8.7	0.4	0.0	0.0	10.4	10.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	2.5	2.5	0.8	1.6	0.0	0.0	4.3	4.4
LnGrp Delay(d),s/veh				8.9	8.8	9.2	31.3	11.6	0.0	0.0	27.6	27.9
LnGrp LOS				A	A	A	C	B			C	C
Approach Vol, veh/h					822			362			526	
Approach Delay, s/veh					8.9			14.0			27.8	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		22.8			6.8	16.0		27.5				
Change Period (Y+Rc), s		7.5			4.5	7.5		7.5				
Max Green Setting (Gmax), s		21.0			8.0	8.5		20.0				
Max Q Clear Time (g_c+I1), s		8.3			4.3	11.4		6.9				
Green Ext Time (p_c), s		1.7			0.0	0.0		3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT					NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	35	738	25	0	0	0	31	343	203	343	500	81
Future Volume (veh/h)	35	738	25	0	0	0	31	343	203	343	500	81
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900				1863	1618	1900	1275	980	1900
Adj Flow Rate, veh/h	35	738	25				31	343	203	343	500	81
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	39	853	30				83	373	214	459	855	138
Arrive On Green	0.32	0.32	0.28				0.05	0.21	0.17	0.38	0.54	0.50
Sat Flow, veh/h	122	2694	96				1774	1815	1042	1214	1593	256
Grp Volume(v), veh/h	420	0	378				31	289	257	343	291	290
Grp Sat Flow(s),veh/h/ln	1464	0	1447				1774	1537	1319	1214	931	918
Q Serve(g_s), s	24.7	0.0	21.8				1.5	16.6	17.3	22.1	19.0	19.5
Cycle Q Clear(g_c), s	24.7	0.0	21.8				1.5	16.6	17.3	22.1	19.0	19.5
Prop In Lane	0.08		0.07				1.00		0.79	1.00		0.28
Lane Grp Cap(c), veh/h	464	0	458				83	316	271	459	500	493
V/C Ratio(X)	0.91	0.00	0.82				0.37	0.91	0.95	0.75	0.58	0.59
Avail Cap(c_a), veh/h	464	0	458				296	316	271	459	500	493
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.5	0.0	28.5				41.6	35.0	36.5	24.3	14.1	14.5
Incr Delay (d2), s/veh	23.9	0.0	15.5				2.8	29.7	40.6	10.7	1.7	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	10.6				0.8	9.6	9.4	8.7	5.1	5.1
LnGrp Delay(d),s/veh	53.4	0.0	44.0				44.4	64.7	77.1	34.9	15.8	16.3
LnGrp LOS	D		D				D	E	E	C	B	B
Approach Vol, veh/h		798						577			924	
Approach Delay, s/veh		48.9						69.2			23.0	
Approach LOS		D						E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	37.0	21.5		31.5	7.2	51.3						
Change Period (Y+Rc), s	4.5	7.5		7.5	4.5	7.5						
Max Green Setting (Gmax), s	32.5	14.0		24.0	13.5	33.0						
Max Q Clear Time (g_c+Tb), s	24.1	19.3		26.7	3.5	21.5						
Green Ext Time (p_c), s	0.7	0.0		0.0	0.0	2.9						
Intersection Summary												
HCM 2010 Ctrl Delay			43.6									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	89	299	70	7	118	37	60	478	14	15	319	164
Future Volume (veh/h)	89	299	70	7	118	37	60	478	14	15	319	164
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	980	1900	1900	1324	1900	1900	980	1863
Adj Flow Rate, veh/h	89	299	70	7	118	37	60	478	14	15	319	95
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	260	58	54	297	90	81	421	12	56	454	767
Arrive On Green	0.43	0.43	0.39	0.43	0.43	0.39	0.50	0.50	0.46	0.50	0.50	0.50
Sat Flow, veh/h	141	611	136	15	698	211	63	843	24	18	909	1534
Grp Volume(v), veh/h	458	0	0	162	0	0	552	0	0	334	0	95
Grp Sat Flow(s),veh/h/ln	887	0	0	925	0	0	929	0	0	926	0	1534
Q Serve(g_s), s	24.3	0.0	0.0	0.0	0.0	0.0	19.3	0.0	0.0	0.0	0.0	2.6
Cycle Q Clear(g_c), s	34.0	0.0	0.0	9.7	0.0	0.0	40.0	0.0	0.0	20.7	0.0	2.6
Prop In Lane	0.19		0.15	0.04		0.23	0.11		0.03	0.04		1.00
Lane Grp Cap(c), veh/h	431	0	0	440	0	0	514	0	0	510	0	767
V/C Ratio(X)	1.06	0.00	0.00	0.37	0.00	0.00	1.07	0.00	0.00	0.65	0.00	0.12
Avail Cap(c_a), veh/h	431	0	0	440	0	0	514	0	0	510	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	0.0	16.3	0.0	0.0	22.8	0.0	0.0	15.2	0.0	10.7
Incr Delay (d2), s/veh	61.1	0.0	0.0	0.5	0.0	0.0	60.7	0.0	0.0	6.4	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	0.0	0.0	2.6	0.0	0.0	20.0	0.0	0.0	6.5	0.0	1.2
LnGrp Delay(d),s/veh	86.2	0.0	0.0	16.8	0.0	0.0	83.4	0.0	0.0	21.6	0.0	11.0
LnGrp LOS	F			B			F			C		B
Approach Vol, veh/h	458				162		552				429	
Approach Delay, s/veh	86.2				16.8		83.4				19.2	
Approach LOS	F				B		F				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	42.0		36.0		22.7		11.7					
Green Ext Time (p_c), s	0.0		0.0		2.0		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay	60.3											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	301	79	26	157	13	56	382	34	13	337	79
Future Volume (veh/h)	120	301	79	26	157	13	56	382	34	13	337	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.93	0.98		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	120	301	79	26	157	13	56	382	34	13	337	79
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	249	468	112	156	665	51	159	598	50	108	572	131
Arrive On Green	0.44	0.44	0.44	0.44	0.44	0.44	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	298	1073	257	110	1522	116	128	1480	125	22	1417	325
Grp Volume(v), veh/h	500	0	0	196	0	0	472	0	0	429	0	0
Grp Sat Flow(s),veh/h/ln	1628	0	0	1748	0	0	1733	0	0	1764	0	0
Q Serve(g_s), s	5.6	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	0.0	2.5	0.0	0.0	7.9	0.0	0.0	7.1	0.0	0.0
Prop In Lane	0.24		0.16	0.13		0.07	0.12		0.07	0.03		0.18
Lane Grp Cap(c), veh/h	829	0	0	872	0	0	807	0	0	811	0	0
V/C Ratio(X)	0.60	0.00	0.00	0.22	0.00	0.00	0.58	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	1274	0	0	1332	0	0	1323	0	0	1355	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.4	0.0	0.0	6.7	0.0	0.0	9.0	0.0	0.0	8.8	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.1	0.0	0.0	0.7	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	0.0	1.3	0.0	0.0	4.1	0.0	0.0	3.6	0.0	0.0
LnGrp Delay(d),s/veh	9.1	0.0	0.0	6.8	0.0	0.0	9.7	0.0	0.0	9.3	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	500				196				472		429	
Approach Delay, s/veh	9.1				6.8				9.7		9.3	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.2		19.4		18.2		19.4					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	9.9		11.1		9.1		4.5					
Green Ext Time (p_c), s	3.0		3.1		2.7		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	9.1											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.93	1.00		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	258	48	206	378	169	209	507	112	163	412	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	950	385	246	650	285	289	804	176	200	782	267
Arrive On Green	0.13	0.27	0.27	0.14	0.28	0.29	0.08	0.28	0.30	0.11	0.31	0.33
Sat Flow, veh/h	1774	3539	1434	1774	2337	1022	3442	2852	626	1774	2520	859
Grp Volume(v), veh/h	189	258	48	206	284	263	209	313	306	163	287	268
Grp Sat Flow(s),veh/h/ln	1774	1770	1434	1774	1770	1590	1721	1770	1708	1774	1770	1610
Q Serve(g_s), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Cycle Q Clear(g_c), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.37	1.00		0.53
Lane Grp Cap(c), veh/h	228	950	385	246	492	442	289	499	481	200	549	500
V/C Ratio(X)	0.83	0.27	0.12	0.84	0.58	0.59	0.72	0.63	0.64	0.82	0.52	0.54
Avail Cap(c_a), veh/h	413	1094	443	421	555	498	471	586	565	343	685	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.2	25.1	38.0	28.1	27.8	40.5	28.4	28.2	39.3	25.7	25.5
Incr Delay (d2), s/veh	7.5	0.2	0.1	7.4	1.2	1.5	3.4	1.6	1.8	7.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.9	5.5	6.2	5.8	2.7	7.0	6.9	4.4	6.0	5.6
LnGrp Delay(d),s/veh	46.0	26.3	25.2	45.4	29.3	29.4	43.9	30.0	30.0	47.2	26.5	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		495			753			828			718	
Approach Delay, s/veh		33.7			33.7			33.5			31.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.7	30.0	17.1	28.8	12.1	32.6	16.2	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	30.0	21.5	28.0	12.4	35.1	21.1	28.4				
Max Q Clear Time (g_c+110), s	16.1	16.1	12.3	7.2	7.4	14.4	11.4	14.9				
Green Ext Time (p_c), s	0.2	3.3	0.4	1.7	0.3	3.5	0.3	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				33.0								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	31	128	773	0	0	40	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	56	229	1318	0	542	286	0	530	0	5	0
Arrive On Green	0.00	0.17	0.17	0.37	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	318	1311	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	159	773	0	0	40	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1629	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.81	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	285	1318	0	542	286	0	530	0	5	0
V/C Ratio(X)	0.00	0.00	0.56	0.59	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	953	4154	0	1807	1220	0	1998	0	409	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	12.9	8.6	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.6	9.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			B					
Approach Vol, veh/h		159			773			40			0	
Approach Delay, s/veh		14.6			9.0			12.1			0.0	
Approach LOS		B			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		9.0		0.0		15.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.5		7.0		38.5				
Max Q Clear Time (g_c+I1), s		2.6		5.1		0.0		8.0				
Green Ext Time (p_c), s		0.1		0.7		0.0		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩	↩	↩		↩		↩		↩	↩	↩
Traffic Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	41	179	33	162	0	296	0	86	152	364	130	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	98	429	420	0	0	0	0	457	392	735	1029	0
Arrive On Green	0.29	0.29	0.29	0.04	0.00	0.04	0.00	0.26	0.26	0.21	0.55	0.00
Sat Flow, veh/h	344	1502	1469		0		0	1863	1516	3442	1863	0
Grp Volume(v), veh/h	220	0	33		0.0		0	86	152	364	130	0
Grp Sat Flow(s),veh/h/ln	1846	0	1469				0	1770	1516	1721	1863	0
Q Serve(g_s), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Prop In Lane	0.19		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	528	0	420				0	457	392	735	1029	0
V/C Ratio(X)	0.42	0.00	0.08				0.00	0.19	0.39	0.50	0.13	0.00
Avail Cap(c_a), veh/h	1415	0	1126				0	1285	1101	2037	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	9.7				0.0	10.7	11.4	12.9	4.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1				0.0	0.2	0.6	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3				0.0	0.7	1.3	1.7	0.6	0.0
LnGrp Delay(d),s/veh	11.3	0.0	9.8				0.0	10.9	12.0	13.4	4.1	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		253						238			494	
Approach Delay, s/veh		11.1						11.6			10.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.9	12.6		13.6		23.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	20.5	25.5		27.0		50.5						
Max Q Clear Time (g_c+I), s	15.5	5.1		5.6		3.2						
Green Ext Time (p_c), s	1.1	1.4		1.3		0.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	233	344	32				0	661	309	286	624	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	516	425				0	1235	517	451	948	0
Arrive On Green	0.28	0.28	0.28				0.00	0.33	0.34	0.25	0.25	0.00
Sat Flow, veh/h	1774	1863	1533				0	3725	1524	1774	3725	0
Grp Volume(v), veh/h	233	344	32				0	661	309	286	624	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1533				0	1863	1524	1774	1863	0
Q Serve(g_s), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Cycle Q Clear(g_c), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	516	425				0	1235	517	451	948	0
V/C Ratio(X)	0.47	0.67	0.08				0.00	0.54	0.60	0.63	0.66	0.00
Avail Cap(c_a), veh/h	769	807	665				0	1728	718	593	1246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.8	21.1	17.5				0.0	17.9	18.0	21.8	22.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	0.1				0.0	0.4	1.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.8	0.4				0.0	4.9	4.8	4.8	5.1	0.0
LnGrp Delay(d),s/veh	20.5	22.6	17.6				0.0	18.2	19.1	23.3	22.7	0.0
LnGrp LOS	C	C	B					B	B	C	C	
Approach Vol, veh/h		609						970			910	
Approach Delay, s/veh		21.5						18.5			22.9	
Approach LOS		C						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.8		21.2		19.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.0		27.0		20.5						
Max Q Clear Time (g_c+I1), s		13.1		12.8		11.9						
Green Ext Time (p_c), s		5.2		2.5		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.97		0.96	0.98		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	4	133	0	180	1	699	45	213	488	2
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	113	297	535	0	439	70	1243	548	317	2150	9
Arrive On Green	0.29	0.29	0.29	0.29	0.00	0.29	0.36	0.36	0.36	0.18	0.59	0.59
Sat Flow, veh/h	124	390	1028	1370	0	1520	1	3471	1531	1774	3614	15
Grp Volume(v), veh/h	6	0	0	133	0	180	375	325	45	213	239	251
Grp Sat Flow(s),veh/h/ln	1543	0	0	1370	0	1520	1862	1610	1531	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	4.9	0.0	8.4	1.0	5.8	3.3	3.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.9	0.0	4.9	8.4	8.4	1.0	5.8	3.3	3.3
Prop In Lane	0.17		0.67	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	527	0	0	535	0	439	737	577	548	317	1053	1106
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.41	0.51	0.56	0.08	0.67	0.23	0.23
Avail Cap(c_a), veh/h	887	0	0	867	0	809	1059	857	815	549	1592	1673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	14.4	0.0	14.8	13.3	13.3	11.0	19.8	4.9	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.5	0.9	0.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.1	4.4	3.8	0.4	3.1	1.6	1.7
LnGrp Delay(d),s/veh	13.1	0.0	0.0	14.7	0.0	15.4	13.9	14.2	11.0	22.3	5.0	5.0
LnGrp LOS	B			B		B	B	B	B	C	A	A
Approach Vol, veh/h		6			313			745			703	
Approach Delay, s/veh		13.1			15.1			13.8			10.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	2.2	21.5		17.9		33.8		17.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	4.5	26.0		26.0		45.0		26.0				
Max Q Clear Time (g_c+I1), s	10.4			2.1		5.3		6.9				
Green Ext Time (p_c), s	0.3	4.1		0.0		3.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	502	221	143	305	146	483		
Future Volume (veh/h)	502	221	143	305	146	483		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.94		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	502	221	143	305	146	192		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1244	572	493	871	708	996		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	646	2377	1863	2621		
Grp Volume(v), veh/h	502	221	239	209	146	192		
Grp Sat Flow(s),veh/h/ln	1721	1583	1328	1610	1863	1311		
Q Serve(g_s), s	2.5	2.4	1.5	2.1	1.2	1.1		
Cycle Q Clear(g_c), s	2.5	2.4	2.7	2.1	1.2	1.1		
Prop In Lane	1.00	1.00	0.60			1.00		
Lane Grp Cap(c), veh/h	1244	572	753	612	708	996		
V/C Ratio(X)	0.40	0.39	0.32	0.34	0.21	0.19		
Avail Cap(c_a), veh/h	3189	1467	1491	1561	1806	2541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.5	5.2	5.1	4.8	4.8		
Incr Delay (d2), s/veh	0.2	0.4	0.2	0.3	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.0	0.6	0.4		
LnGrp Delay(d),s/veh	5.7	5.9	5.4	5.5	5.0	4.9		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	723			448	338			
Approach Delay, s/veh	5.8			5.5	4.9			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		11.8		11.4		11.8		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+l1), s		4.7		4.5		3.2		
Green Ext Time (p_c), s		2.6		2.4		1.5		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	8	20	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	2157	2157	2157	2157	2157	2200	1863	1863	1900	1078	1078	1100
Adj Flow Rate, veh/h	85	134	26	378	232	65	46	271	45	131	313	31
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	198	325	504	493	133	79	1656	271	172	1251	114
Arrive On Green	0.06	0.09	0.09	0.12	0.15	0.15	0.01	0.18	0.18	0.15	0.66	0.66
Sat Flow, veh/h	2054	2157	3540	4108	3217	871	1774	3029	495	1027	1882	185
Grp Volume(v), veh/h	85	134	26	378	153	144	46	157	159	131	169	175
Grp Sat Flow(s),veh/h/ln	2054	2157	1770	2054	2157	1931	1774	1770	1755	1027	1025	1042
Q Serve(g_s), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Cycle Q Clear(g_c), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.28	1.00		0.18
Lane Grp Cap(c), veh/h	133	198	325	504	331	296	79	968	959	172	675	689
V/C Ratio(X)	0.64	0.68	0.08	0.75	0.46	0.49	0.58	0.16	0.17	0.76	0.25	0.25
Avail Cap(c_a), veh/h	470	478	784	939	485	434	317	981	973	183	675	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	61.6	58.2	59.4	54.0	54.3	67.7	30.3	30.4	57.7	10.9	10.9
Incr Delay (d2), s/veh	5.0	4.0	0.1	2.3	1.0	1.2	5.6	0.3	0.3	16.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	2.1	2.0
%ile BackOfQ(50%),veh/ln	3.4	5.2	0.5	7.2	5.5	5.2	1.9	5.2	5.3	10.2	5.1	5.2
LnGrp Delay(d),s/veh	68.9	65.6	58.3	61.6	55.0	55.6	73.3	30.6	30.7	139.8	13.9	13.8
LnGrp LOS	E	E	E	E	E	E	E	C	C	F	B	B
Approach Vol, veh/h	245					675		362		475		
Approach Delay, s/veh	66.0					58.8		36.1		48.6		
Approach LOS	E					E		D		D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.9	80.1	20.2	15.9	9.2	94.8	12.1	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.5	38.5	30.5	29.5	23.5	38.5	30.5	29.5				
Max Q Clear Time (g_c+119, s)	119.4	12.7	14.4	10.4	5.6	11.6	7.7	11.6				
Green Ext Time (p_c), s	0.1	1.9	1.2	0.7	0.1	2.1	0.2	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay			52.4									
HCM 2010 LOS			D									

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.79		0.68	0.80		0.66	0.86		0.75	0.84		0.71
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	27	23	71	49	26	183	48	73	161	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	437	150	116	307	190	104	629	155	246	511	59
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	1.00	1.00	0.94	0.51	0.51	0.47
Sat Flow, veh/h	64	1093	376	142	768	474	92	1224	302	349	994	115
Grp Volume(v), veh/h	110	0	0	143	0	0	257	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1533	0	0	1383	0	0	1618	0	0	1458	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.6	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0
Prop In Lane	0.09		0.25	0.16		0.34	0.10		0.19	0.29		0.08
Lane Grp Cap(c), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.00	0.00	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	14.3	0.0	0.0	0.2	0.0	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	14.3	0.0	0.0	15.2	0.0	0.0	1.0	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	110				143		257				254	
Approach Delay, s/veh	14.3				15.2		1.0				10.7	
Approach LOS	B				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	2.2		5.2		8.0		6.6					
Green Ext Time (p_c), s	1.8		0.6		1.8		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		0.68	0.87		0.71	0.89		0.79	0.94		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	149	49	22	105	40	42	185	57	33	151	29
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	429	130	104	418	146	141	571	164	148	629	113
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	0.51	0.51	0.47	0.51	0.51	0.47
Sat Flow, veh/h	129	1071	325	115	1045	366	159	1111	319	173	1223	220
Grp Volume(v), veh/h	230	0	0	167	0	0	284	0	0	213	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1526	0	0	1589	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	4.9	0.0	0.0	6.9	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.14		0.21	0.13		0.24	0.15		0.20	0.15		0.14
Lane Grp Cap(c), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.25	0.00	0.00	0.32	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	14.3	0.0	0.0	10.1	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.2	0.0	0.0	11.1	0.0	0.0	10.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	230				167				284		213	
Approach Delay, s/veh	16.4				15.2				11.1		10.2	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	8.9		9.1		6.8		6.9					
Green Ext Time (p_c), s	1.9		1.3		1.4		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay			13.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	115	61	90	301	118	24	136	27	20	126	56
Future Volume (veh/h)	38	115	61	90	301	118	24	136	27	20	126	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.69	1.00		0.73	0.97		0.72	0.91		0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1863	980	1863	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	38	115	61	90	301	58	24	136	27	20	126	56
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	183	87	478	483	573	89	283	52	78	216	89
Arrive On Green	0.49	0.49	0.45	0.49	0.49	0.49	0.42	0.42	0.37	0.42	0.42	0.37
Sat Flow, veh/h	70	372	176	1204	980	1164	63	682	126	41	520	215
Grp Volume(v), veh/h	214	0	0	90	301	58	187	0	0	202	0	0
Grp Sat Flow(s),veh/h/ln	618	0	0	1204	980	1164	871	0	0	775	0	0
Q Serve(g_s), s	6.0	0.0	0.0	0.0	14.6	1.7	0.0	0.0	0.0	0.8	0.0	0.0
Cycle Q Clear(g_c), s	20.6	0.0	0.0	7.4	14.6	1.7	10.1	0.0	0.0	13.1	0.0	0.0
Prop In Lane	0.18		0.29	1.00		1.00	0.13		0.14	0.10		0.28
Lane Grp Cap(c), veh/h	370	0	0	478	483	573	424	0	0	383	0	0
V/C Ratio(X)	0.58	0.00	0.00	0.19	0.62	0.10	0.44	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	370	0	0	478	483	573	424	0	0	383	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	0.97	0.97	0.97	0.81	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	13.2	0.0	0.0	10.3	12.1	8.8	14.2	0.0	0.0	15.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.9	5.8	0.3	2.7	0.0	0.0	5.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	1.1	4.7	0.6	2.8	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	15.3	0.0	0.0	11.1	17.9	9.2	16.9	0.0	0.0	20.2	0.0	0.0
LnGrp LOS	B			B	B	A	B			C		
Approach Vol, veh/h	214				449		187				202	
Approach Delay, s/veh	15.3				15.4		16.9				20.2	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		35.0		30.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	22.5		27.5		22.5		27.5					
Max Q Clear Time (g_c+I1), s	12.1		22.6		15.1		16.6					
Green Ext Time (p_c), s	0.8		0.6		0.7		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	16.6											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	560	47	10	109	22	18	127	55	45	111	97
Future Volume (veh/h)	37	560	47	10	109	22	18	127	55	45	111	97
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.81	0.97		0.77	1.00		0.85	0.99		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	980	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	37	560	47	10	109	22	18	127	55	45	111	97
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	1484	122	63	348	67	67	260	106	99	170	134
Arrive On Green	0.49	0.49	0.43	0.49	0.49	0.43	0.44	0.44	0.38	0.44	0.44	0.38
Sat Flow, veh/h	122	3005	247	29	704	136	42	595	241	104	383	303
Grp Volume(v), veh/h	342	0	302	141	0	0	200	0	0	253	0	0
Grp Sat Flow(s),veh/h/ln	1788	0	1585	869	0	0	878	0	0	789	0	0
Q Serve(g_s), s	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	6.9	0.0	0.0
Cycle Q Clear(g_c), s	9.1	0.0	9.7	7.6	0.0	0.0	13.4	0.0	0.0	20.3	0.0	0.0
Prop In Lane	0.11		0.16	0.07		0.16	0.09		0.27	0.18		0.38
Lane Grp Cap(c), veh/h	933	0	783	477	0	0	433	0	0	403	0	0
V/C Ratio(X)	0.37	0.00	0.39	0.30	0.00	0.00	0.46	0.00	0.00	0.63	0.00	0.00
Avail Cap(c_a), veh/h	933	0	783	477	0	0	433	0	0	403	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.6	0.0	12.9	12.4	0.0	0.0	16.9	0.0	0.0	18.7	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	1.6	0.0	0.0	3.5	0.0	0.0	7.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	4.5	2.1	0.0	0.0	3.7	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	13.7	0.0	14.4	14.0	0.0	0.0	20.4	0.0	0.0	25.9	0.0	0.0
LnGrp LOS	B		B	B			C			C		
Approach Vol, veh/h	644				141		200				253	
Approach Delay, s/veh	14.0				14.0		20.4				25.9	
Approach LOS	B				B		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	30.5		34.5		30.5		34.5					
Max Q Clear Time (g_c+I1), s	15.4		11.7		22.3		9.6					
Green Ext Time (p_c), s	1.0		4.4		1.0		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay			17.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	367	55	25	286	30	38	138	72	18	116	34
Future Volume (veh/h)	37	367	55	25	286	30	38	138	72	18	116	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	0.94		0.89	0.98		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900	1900	980	1900	1900	1275	1900	1900	1863	1900
Adj Flow Rate, veh/h	37	367	55	25	286	30	38	138	72	18	116	34
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	572	83	73	404	41	104	280	133	96	521	142
Arrive On Green	0.50	0.50	0.46	0.50	0.50	0.46	0.41	0.41	0.37	0.41	0.41	0.37
Sat Flow, veh/h	68	1145	165	37	808	82	107	676	321	95	1257	343
Grp Volume(v), veh/h	459	0	0	341	0	0	248	0	0	168	0	0
Grp Sat Flow(s),veh/h/ln	1378	0	0	927	0	0	1104	0	0	1694	0	0
Q Serve(g_s), s	0.0	0.0	0.0	2.7	0.0	0.0	1.3	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	17.0	0.0	0.0	19.7	0.0	0.0	11.4	0.0	0.0	4.4	0.0	0.0
Prop In Lane	0.08		0.12	0.07		0.09	0.15		0.29	0.11		0.20
Lane Grp Cap(c), veh/h	745	0	0	518	0	0	517	0	0	759	0	0
V/C Ratio(X)	0.62	0.00	0.00	0.66	0.00	0.00	0.48	0.00	0.00	0.22	0.00	0.00
Avail Cap(c_a), veh/h	745	0	0	518	0	0	517	0	0	759	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	13.7	0.0	0.0	15.6	0.0	0.0	13.5	0.0	0.0
Incr Delay (d2), s/veh	3.8	0.0	0.0	6.4	0.0	0.0	3.2	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	0.0	6.0	0.0	0.0	4.1	0.0	0.0	2.3	0.0	0.0
LnGrp Delay(d),s/veh	16.9	0.0	0.0	20.1	0.0	0.0	18.8	0.0	0.0	14.2	0.0	0.0
LnGrp LOS	B			C			B			B		
Approach Vol, veh/h	459				341				248		168	
Approach Delay, s/veh	16.9				20.1				18.8		14.2	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	13.4		19.0		6.4		21.7					
Green Ext Time (p_c), s	1.1		2.4		0.9		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.71	0.92		0.82	0.95		0.81	0.87		0.77
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	182	57	26	101	34	9	76	26	28	239	82
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	432	125	130	469	146	82	575	186	85	565	185
Arrive On Green	0.44	0.44	0.40	0.44	0.44	0.40	0.49	0.49	0.45	0.49	0.49	0.45
Sat Flow, veh/h	243	988	286	178	1072	335	68	1179	382	74	1158	379
Grp Volume(v), veh/h	302	0	0	161	0	0	111	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1517	0	0	1585	0	0	1629	0	0	1611	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	4.7	0.0	0.0	2.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.21		0.19	0.16		0.21	0.08		0.23	0.08		0.23
Lane Grp Cap(c), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	14.2	0.0	0.0	11.5	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	2.4	0.0	0.0	1.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	17.5	0.0	0.0	14.9	0.0	0.0	11.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	302				161				111		349	
Approach Delay, s/veh	17.5				14.9				11.8		15.1	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.0		38.0		42.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	34.5		30.5		34.5		30.5					
Max Q Clear Time (g_c+I1), s	4.9		12.5		13.1		6.7					
Green Ext Time (p_c), s	0.7		2.0		2.4		1.0					
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.80	0.89		0.78	0.92		0.81	0.88		0.81
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	165	38	18	224	65	10	69	12	20	217	36
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	607	131	97	595	166	113	563	91	103	579	92
Arrive On Green	0.48	0.48	0.42	0.48	0.48	0.42	0.41	0.41	0.35	0.41	0.41	0.35
Sat Flow, veh/h	97	1275	275	49	1252	349	86	1381	223	70	1420	226
Grp Volume(v), veh/h	228	0	0	307	0	0	91	0	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1647	0	0	1650	0	0	1690	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	6.1	0.0	0.0	1.7	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.11		0.17	0.06		0.21	0.11		0.13	0.07		0.13
Lane Grp Cap(c), veh/h	861	0	0	859	0	0	767	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.36	0.00	0.00	0.12	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1060	0	0	1062	0	0	986	0	0	1002	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.9	0.0	0.0	9.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.9	0.0	0.0	0.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	A			A			A			B		
Approach Vol, veh/h	228				307				91		273	
Approach Delay, s/veh	8.5				9.1				9.7		11.1	
Approach LOS	A				A				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		27.5		24.0		27.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.7		6.2		7.7		8.1					
Green Ext Time (p_c), s	0.4		1.4		1.5		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	19	274	14	102	296	174	12	450	85	209	439	36
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	920	760	529	920	752	62	1511	676	344	771	66
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	913	1863	1538	1080	1863	1523	33	3405	1522	598	1737	148
Grp Volume(v), veh/h	19	274	14	102	296	174	246	216	85	282	0	402
Grp Sat Flow(s),veh/h/ln	913	1863	1538	1080	1863	1523	1828	1610	1522	825	0	1658
Q Serve(g_s), s	1.0	7.0	0.4	5.0	7.7	5.2	0.0	6.9	2.6	19.2	0.0	14.3
Cycle Q Clear(g_c), s	8.7	7.0	0.4	11.9	7.7	5.2	6.8	6.9	2.6	26.1	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	0.05		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
V/C Ratio(X)	0.04	0.30	0.02	0.19	0.32	0.23	0.29	0.30	0.13	0.63	0.00	0.55
Avail Cap(c_a), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	12.0	10.3	15.6	12.2	11.6	14.3	14.3	13.1	22.2	0.0	16.4
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.8	0.9	0.7	0.8	1.1	0.4	6.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	0.2	1.6	4.1	2.3	3.7	3.3	1.2	6.3	0.0	7.1
LnGrp Delay(d),s/veh	15.0	12.8	10.4	16.4	13.1	12.3	15.1	15.4	13.5	28.9	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h	307				572				547		684	
Approach Delay, s/veh	12.9				13.4				15.0		23.2	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	38.0		42.0		38.0		42.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	33.5		37.5		33.5		37.5					
Max Q Clear Time (g_c+I1), s	8.9		10.7		28.1		13.9					
Green Ext Time (p_c), s	3.2		1.8		2.2		2.9					
Intersection Summary												
HCM 2010 Ctrl Delay	16.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	266	32	90	224	65	25	596	75	108	430	41
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1088	126	234	414	108	135	1309	162	281	994	97
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	233	2782	323	271	1058	275	56	2997	371	314	2275	221
Grp Volume(v), veh/h	180	0	161	379	0	0	368	0	328	273	0	306
Grp Sat Flow(s),veh/h/ln	1709	0	1629	1604	0	0	1804	0	1620	1161	0	1649
Q Serve(g_s), s	0.0	0.0	2.3	2.6	0.0	0.0	0.0	0.0	5.0	1.3	0.0	4.5
Cycle Q Clear(g_c), s	2.3	0.0	2.3	6.2	0.0	0.0	4.8	0.0	5.0	6.2	0.0	4.5
Prop In Lane	0.24		0.20	0.24		0.17	0.07		0.23	0.40		0.13
Lane Grp Cap(c), veh/h	796	0	637	755	0	0	898	0	708	651	0	720
V/C Ratio(X)	0.23	0.00	0.25	0.50	0.00	0.00	0.41	0.00	0.46	0.42	0.00	0.42
Avail Cap(c_a), veh/h	1131	0	981	1079	0	0	3530	0	3160	2440	0	3216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	7.2	8.2	0.0	0.0	6.9	0.0	6.9	6.7	0.0	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	3.0	0.0	0.0	2.5	0.0	2.3	2.0	0.0	2.0
LnGrp Delay(d),s/veh	7.3	0.0	7.4	8.8	0.0	0.0	7.2	0.0	7.4	7.2	0.0	7.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		341			379			696			579	
Approach Delay, s/veh		7.3			8.8			7.3			7.2	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		16.6		18.2		16.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		66.5		19.5		66.5		19.5				
Max Q Clear Time (g_c+I1), s		7.0		4.3		8.2		8.2				
Green Ext Time (p_c), s		5.2		1.8		4.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.87	0.95		0.93	0.97		0.91	0.95		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	206	63	25	161	49	13	170	51	63	249	121
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	602	184	102	568	161	74	594	171	614	518	252
Arrive On Green	0.46	0.46	0.41	0.46	0.46	0.41	0.91	0.91	0.83	0.46	0.46	0.41
Sat Flow, veh/h	1122	1317	403	98	1242	353	43	1299	374	1093	1134	551
Grp Volume(v), veh/h	177	0	269	235	0	0	234	0	0	63	0	370
Grp Sat Flow(s),veh/h/ln	1122	0	1720	1694	0	0	1716	0	0	1093	0	1685
Q Serve(g_s), s	1.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.9
Cycle Q Clear(g_c), s	7.1	0.0	7.1	5.9	0.0	0.0	1.3	0.0	0.0	1.6	0.0	10.9
Prop In Lane	1.00		0.23	0.11		0.21	0.06		0.22	1.00		0.33
Lane Grp Cap(c), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
V/C Ratio(X)	0.29	0.00	0.34	0.28	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.48
Avail Cap(c_a), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.5	12.1	0.0	0.0	2.1	0.0	0.0	10.7	0.0	13.6
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.9	0.0	0.0	0.8	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	3.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	5.5
LnGrp Delay(d),s/veh	13.4	0.0	13.7	13.0	0.0	0.0	2.9	0.0	0.0	11.1	0.0	15.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h		446			235			234			433	
Approach Delay, s/veh		13.6			13.0			2.9			15.1	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		3.3		9.1		12.9		7.9				
Green Ext Time (p_c), s		1.4		2.4		2.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.82		0.73	0.93		0.70	0.92		0.71	0.85		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	202	73	30	200	40	22	125	28	42	240	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	500	170	106	591	111	113	565	118	605	617	152
Arrive On Green	0.46	0.46	0.41	0.93	0.93	0.83	0.46	0.46	0.41	0.46	0.46	0.41
Sat Flow, veh/h	99	1076	365	105	1273	240	120	1218	255	1045	1330	327
Grp Volume(v), veh/h	308	0	0	270	0	0	175	0	0	42	0	299
Grp Sat Flow(s),veh/h/ln	1540	0	0	1617	0	0	1592	0	0	1045	0	1657
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	1.2	0.0	8.4
Prop In Lane	0.11		0.24	0.11		0.15	0.13		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
V/C Ratio(X)	0.40	0.00	0.00	0.33	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.39
Avail Cap(c_a), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	1.7	0.0	0.0	11.4	0.0	0.0	10.4	0.0	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	0.5	0.0	4.1
LnGrp Delay(d),s/veh	14.2	0.0	0.0	2.8	0.0	0.0	12.0	0.0	0.0	10.6	0.0	14.0
LnGrp LOS	B			A			B			B		B
Approach Vol, veh/h	308				270				175		341	
Approach Delay, s/veh	14.2				2.8				12.0		13.6	
Approach LOS	B				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	6.4		10.9		10.4		3.4					
Green Ext Time (p_c), s	1.1		2.0		2.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.74	0.96		0.69	0.97		0.89	0.94		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	320	48	30	160	31	6	110	37	109	164	64
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	887	129	155	755	143	60	734	238	309	450	164
Arrive On Green	0.35	0.35	0.31	0.35	0.35	0.31	0.57	0.57	0.54	0.57	0.57	0.54
Sat Flow, veh/h	223	2536	367	281	2158	409	24	1276	415	435	783	285
Grp Volume(v), veh/h	218	0	193	115	0	106	153	0	0	337	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	1477	1446	0	1403	1715	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	7.9	0.2	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.9	8.1	0.0	4.3	3.4	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.20		0.25	0.26		0.29	0.04		0.24	0.32		0.19
Lane Grp Cap(c), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.20	0.00	0.22	0.15	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	0.0	19.7	18.0	0.0	18.6	8.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	1.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.5	1.9	0.0	1.8	1.7	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	20.6	0.0	21.8	18.9	0.0	19.6	8.4	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	C		C	B		B	A			B		
Approach Vol, veh/h	411				221		153				337	
Approach Delay, s/veh	21.2				19.2		8.4				10.3	
Approach LOS	C				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	49.0		31.0		49.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	41.5		23.5		41.5		23.5					
Max Q Clear Time (g_c+I1), s	5.4		9.9		11.2		10.1					
Green Ext Time (p_c), s	1.0		2.3		2.6		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	15.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	102	367	271	112	143	102		
Future Volume (veh/h)	102	367	271	112	143	102		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.97			0.94	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1471	1863	1900	980	1863		
Adj Flow Rate, veh/h	102	367	271	112	143	26		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	352	660	551	228	200	339		
Arrive On Green	0.45	0.45	0.45	0.45	0.21	0.21		
Sat Flow, veh/h	511	1471	1228	508	934	1583		
Grp Volume(v), veh/h	102	367	0	383	143	26		
Grp Sat Flow(s),veh/h/ln	511	1471	0	1736	934	1583		
Q Serve(g_s), s	6.3	6.5	0.0	5.6	5.1	0.5		
Cycle Q Clear(g_c), s	11.8	6.5	0.0	5.6	5.1	0.5		
Prop In Lane	1.00			0.29	1.00	1.00		
Lane Grp Cap(c), veh/h	352	660	0	779	200	339		
V/C Ratio(X)	0.29	0.56	0.00	0.49	0.72	0.08		
Avail Cap(c_a), veh/h	352	660	0	779	970	1644		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.1	7.2	0.0	6.9	13.0	11.2		
Incr Delay (d2), s/veh	2.1	3.4	0.0	2.2	4.7	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	3.2	0.0	3.0	1.5	0.2		
LnGrp Delay(d),s/veh	13.2	10.6	0.0	9.1	17.7	11.3		
LnGrp LOS	B	B		A	B	B		
Approach Vol, veh/h		469	383		169			
Approach Delay, s/veh		11.1	9.1		16.7			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				22.0		13.6		22.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				14.5		35.5		14.5
Max Q Clear Time (g_c+I1), s				13.8		7.1		7.6
Green Ext Time (p_c), s				0.2		0.5		1.4
Intersection Summary								
HCM 2010 Ctrl Delay			11.3					
HCM 2010 LOS			B					

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	56	31	200	31	64	34	1244	145	105	1126	9
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	227	109	417	118	244	102	1791	208	175	2167	17
Arrive On Green	0.22	0.22	0.21	0.22	0.22	0.21	0.06	0.56	0.55	0.10	0.60	0.59
Sat Flow, veh/h	171	1027	495	1295	534	1103	1774	3194	371	1774	3598	29
Grp Volume(v), veh/h	106	0	0	200	0	95	34	687	702	105	554	581
Grp Sat Flow(s),veh/h/ln	1693	0	0	1295	0	1638	1774	1770	1795	1774	1770	1857
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.1	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Prop In Lane	0.18		0.29	1.00		0.67	1.00		0.21	1.00		0.02
Lane Grp Cap(c), veh/h	437	0	0	417	0	362	102	992	1007	175	1066	1119
V/C Ratio(X)	0.24	0.00	0.00	0.48	0.00	0.26	0.33	0.69	0.70	0.60	0.52	0.52
Avail Cap(c_a), veh/h	1236	0	0	1048	0	1160	352	1991	2020	502	2142	2247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	21.8	30.4	10.6	10.7	29.0	7.7	7.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.4	1.9	0.9	0.9	3.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.4	0.0	1.5	0.7	9.2	9.4	2.0	6.0	6.3
LnGrp Delay(d),s/veh	22.0	0.0	0.0	24.1	0.0	22.1	32.3	11.5	11.5	32.2	8.1	8.1
LnGrp LOS	C			C		C	C	B	B	C	A	A
Approach Vol, veh/h	106			295			1423			1240		
Approach Delay, s/veh	22.0			23.5			12.0			10.1		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	40.1		17.3	6.8	42.9		17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+1.5), s	15.8	20.9		5.3	3.2	14.2		10.1				
Green Ext Time (p_c), s	0.2	14.7		0.6	0.0	10.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	12.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	110	37	104	72	29	14	1458	126	18	1231	53
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	235	70	273	165	55	76	2102	180	81	2170	93
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	427	955	282	693	669	224	10	3188	273	17	3292	141
Grp Volume(v), veh/h	218	0	0	205	0	0	840	0	758	674	0	628
Grp Sat Flow(s),veh/h/ln	1664	0	0	1586	0	0	1829	0	1643	1781	0	1668
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	10.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	0.0	0.0	14.8	0.0	15.5	10.2	0.0	10.9
Prop In Lane	0.33		0.17	0.51		0.14	0.02		0.17	0.03		0.08
Lane Grp Cap(c), veh/h	500	0	0	493	0	0	1275	0	1083	1244	0	1100
V/C Ratio(X)	0.44	0.00	0.00	0.42	0.00	0.00	0.66	0.00	0.70	0.54	0.00	0.57
Avail Cap(c_a), veh/h	883	0	0	844	0	0	1743	0	1520	1682	0	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	17.0	0.0	0.0	5.6	0.0	5.7	4.8	0.0	4.9
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.6	0.0	0.0	7.7	0.0	7.0	5.2	0.0	5.0
LnGrp Delay(d),s/veh	17.8	0.0	0.0	17.6	0.0	0.0	6.2	0.0	6.6	5.2	0.0	5.4
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	218				205		1598				1302	
Approach Delay, s/veh	17.8				17.6		6.4				5.3	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.4		15.6		37.4		15.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	17.5		7.5		12.9		7.2					
Green Ext Time (p_c), s	15.4		1.1		12.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	257	74	77	1139	1269	201		
Future Volume (veh/h)	257	74	77	1139	1269	201		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	257	74	77	1139	1269	201		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	334	96	138	2342	1655	260		
Arrive On Green	0.25	0.25	0.08	0.66	0.54	0.54		
Sat Flow, veh/h	1329	383	1774	3632	3154	481		
Grp Volume(v), veh/h	332	0	77	1139	730	740		
Grp Sat Flow(s),veh/h/ln	1717	0	1774	1770	1770	1772		
Q Serve(g_s), s	12.4	0.0	2.9	11.1	22.2	22.7		
Cycle Q Clear(g_c), s	12.4	0.0	2.9	11.1	22.2	22.7		
Prop In Lane	0.77	0.22	1.00			0.27		
Lane Grp Cap(c), veh/h	431	0	138	2342	957	958		
V/C Ratio(X)	0.77	0.00	0.56	0.49	0.76	0.77		
Avail Cap(c_a), veh/h	623	0	206	3030	1232	1234		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	0.0	30.6	5.8	12.4	12.5		
Incr Delay (d2), s/veh	3.6	0.0	3.5	0.2	2.1	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	1.5	5.4	11.3	11.5		
LnGrp Delay(d),s/veh	27.6	0.0	34.2	6.0	14.5	14.8		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	332			1216	1470			
Approach Delay, s/veh	27.6			7.8	14.7			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.6		20.3	8.4	40.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		57.5		23.5	6.5	46.5		
Max Q Clear Time (g_c+I1), s		13.1		14.4	4.9	24.7		
Green Ext Time (p_c), s		10.6		0.7	0.0	11.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	276	118	1404	282	74	1208		
Future Volume (veh/h)	276	118	1404	282	74	1208		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	276	31	1404	145	74	1208		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	1865	802	157	2371		
Arrive On Green	0.22	0.22	0.53	0.53	0.09	0.67		
Sat Flow, veh/h	1774	1583	3632	1522	1774	3632		
Grp Volume(v), veh/h	276	31	1404	145	74	1208		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1522	1774	1770		
Q Serve(g_s), s	7.9	0.9	17.2	2.7	2.2	9.4		
Cycle Q Clear(g_c), s	7.9	0.9	17.2	2.7	2.2	9.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	392	350	1865	802	157	2371		
V/C Ratio(X)	0.70	0.09	0.75	0.18	0.47	0.51		
Avail Cap(c_a), veh/h	981	875	2181	938	209	2791		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	17.1	10.2	6.8	23.9	4.6		
Incr Delay (d2), s/veh	2.3	0.1	1.3	0.1	2.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.4	8.5	1.2	1.2	4.6		
LnGrp Delay(d),s/veh	22.1	17.2	11.5	6.9	26.1	4.7		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	307		1549			1282		
Approach Delay, s/veh	21.6		11.1			6.0		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	32.1				40.0		15.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+14), s	14.2	19.2				11.4		9.9
Green Ext Time (p_c), s	0.0	8.4				10.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	118	171	143	106	87	96	1568	170	66	1309	119
Future Volume (veh/h)	115	118	171	143	106	87	96	1568	170	66	1309	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.90	0.94		0.87	1.00		0.86	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1569	1863	980	1569	1863	1863	2451	1900	1863	1863	1900
Adj Flow Rate, veh/h	115	118	48	143	106	19	96	1568	170	66	1309	119
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	348	461	418	213	468	413	146	3395	367	109	2557	232
Arrive On Green	0.29	0.29	0.29	0.30	0.30	0.30	0.08	0.56	0.56	0.06	0.54	0.54
Sat Flow, veh/h	1150	1569	1423	600	1569	1383	1774	6021	651	1774	4705	428
Grp Volume(v), veh/h	115	118	48	143	106	19	96	1161	577	66	943	485
Grp Sat Flow(s),veh/h/ln	1150	1569	1423	600	1569	1383	1774	2230	2211	1774	1695	1742
Q Serve(g_s), s	8.9	6.1	2.6	25.1	5.4	1.0	5.5	16.2	16.3	3.8	18.6	18.6
Cycle Q Clear(g_c), s	14.2	6.1	2.6	31.1	5.4	1.0	5.5	16.2	16.3	3.8	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		0.25
Lane Grp Cap(c), veh/h	348	461	418	213	468	413	146	2516	1247	109	1843	947
V/C Ratio(X)	0.33	0.26	0.11	0.67	0.23	0.05	0.66	0.46	0.46	0.60	0.51	0.51
Avail Cap(c_a), veh/h	348	461	418	213	468	413	235	2516	1247	185	1843	947
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.6	28.5	27.2	39.9	27.8	26.3	47.0	13.6	13.6	48.2	15.2	15.3
Incr Delay (d2), s/veh	0.6	0.3	0.1	8.0	0.2	0.0	5.0	0.6	1.2	5.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	2.7	1.0	4.6	2.4	0.4	2.9	10.0	10.4	2.0	8.7	9.0
LnGrp Delay(d),s/veh	34.1	28.7	27.3	47.9	28.1	26.4	52.0	14.2	14.9	53.5	15.5	15.7
LnGrp LOS	C	C	C	D	C	C	D	B	B	D	B	B
Approach Vol, veh/h	281				268				1834		1494	
Approach Delay, s/veh	30.7				38.5				16.4		17.2	
Approach LOS	C				D				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.5	62.0			34.0	11.7	59.8	34.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	9.5	57.5			29.5	12.5	54.5	29.5				
Max Q Clear Time (g_c+1/5), s	15.8	18.3			16.2	7.5	20.6	33.1				
Green Ext Time (p_c), s	0.0	18.7			1.0	0.1	13.2	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	54	74	54	115	41	79	17	1595	174	185	1437	30				
Future Volume (veh/h)	54	74	54	115	41	79	17	1595	174	185	1437	30				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.95		0.92	0.95		0.94	1.00		0.96	1.00		0.93				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	2451	1900	980	2451	1900	2451	2451	1900				
Adj Flow Rate, veh/h	54	74	17	115	41	79	17	1595	174	185	1437	30				
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	145	152	569	287	221	427	71	2919	318	269	3488	73				
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.48	0.48	0.23	0.52	0.52				
Sat Flow, veh/h	291	494	1457	1232	719	1386	934	6096	664	2334	6734	141				
Grp Volume(v), veh/h	128	0	17	115	0	120	17	1166	603	185	952	515				
Grp Sat Flow(s),veh/h/ln	785	0	1457	1232	0	2105	934	2230	2299	2334	2230	2413				
Q Serve(g_s), s	8.9	0.0	0.7	7.9	0.0	3.8	1.6	17.0	17.0	6.7	12.0	12.0				
Cycle Q Clear(g_c), s	12.7	0.0	0.7	20.6	0.0	3.8	1.6	17.0	17.0	6.7	12.0	12.0				
Prop In Lane	0.42		1.00	1.00		0.66	1.00		0.29	1.00		0.06				
Lane Grp Cap(c), veh/h	297	0	569	287	0	648	71	2136	1101	269	2311	1250				
V/C Ratio(X)	0.43	0.00	0.03	0.40	0.00	0.19	0.24	0.55	0.55	0.69	0.41	0.41				
Avail Cap(c_a), veh/h	303	0	580	296	0	664	71	2136	1101	711	3155	1707				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00				
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	26.4	0.0	17.6	35.0	0.0	23.3	39.9	16.9	16.9	33.8	13.6	13.6				
Incr Delay (d2), s/veh	1.0	0.0	0.0	0.9	0.0	0.1	7.8	1.0	2.0	3.1	0.1	0.2				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.3	2.8	0.0	2.3	0.6	10.7	11.3	4.5	7.4	8.1				
LnGrp Delay(d),s/veh	27.4	0.0	17.7	35.9	0.0	23.5	47.7	17.9	18.9	36.9	13.7	13.8				
LnGrp LOS	C		B	D		C	D	B	B	D	B	B				
Approach Vol, veh/h	145		235			1786			1652							
Approach Delay, s/veh	26.3		29.5			18.5			16.3							
Approach LOS	C		C			B			B							
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	3.6	47.0			31.3	10.0	50.6	31.3								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	26.5	42.5			27.5	5.5	63.5	27.5								
Max Q Clear Time (g_c+1.0), s	19.0	19.0			14.7	3.6	14.0	22.6								
Green Ext Time (p_c), s	0.4	13.8			0.6	0.0	14.2	0.5								
Intersection Summary																
HCM 2010 Ctrl Delay	18.5															
HCM 2010 LOS	B															
Notes																

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	154	48	44	1861	1532	67		
Future Volume (veh/h)	154	48	44	1861	1532	67		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.96	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	154	48	44	1861	1532	67		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	310	97	101	3047	3284	144		
Arrive On Green	0.24	0.24	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1294	403	54	4785	5160	218		
Grp Volume(v), veh/h	203	0	658	1247	1040	559		
Grp Sat Flow(s),veh/h/ln	1706	0	1601	1543	1695	1821		
Q Serve(g_s), s	6.0	0.0	0.0	13.6	8.8	8.8		
Cycle Q Clear(g_c), s	6.0	0.0	10.9	13.6	8.8	8.8		
Prop In Lane	0.76	0.24	0.07			0.12		
Lane Grp Cap(c), veh/h	408	0	1119	2030	2230	1198		
V/C Ratio(X)	0.50	0.00	0.59	0.61	0.47	0.47		
Avail Cap(c_a), veh/h	818	0	1541	2958	3251	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	0.0	5.3	5.7	4.9	4.9		
Incr Delay (d2), s/veh	0.9	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.6	5.6	4.1	4.4		
LnGrp Delay(d),s/veh	20.1	0.0	5.8	6.0	5.1	5.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	203			1905	1599			
Approach Delay, s/veh	20.1			6.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		41.4		17.0		41.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		54.5		26.5		54.5		
Max Q Clear Time (g_c+l1), s		15.6		8.0		10.8		
Green Ext Time (p_c), s		21.4		0.6		15.9		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57				
Future Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	0.96		0.97	0.98		0.95	1.00		0.95	1.00		0.98				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900				
Adj Flow Rate, veh/h	104	95	72	195	68	50	256	1772	274	86	1470	57				
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0				
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	375	552	457	384	290	213	320	2343	359	137	2145	83				
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.18	0.53	0.53	0.08	0.43	0.43				
Sat Flow, veh/h	1223	1863	1540	1189	977	718	1774	4420	676	1774	5020	195				
Grp Volume(v), veh/h	104	95	72	195	0	118	256	1355	691	86	993	534				
Grp Sat Flow(s),veh/h/ln	1223	1863	1540	1189	0	1695	1774	1695	1706	1774	1695	1824				
Q Serve(g_s), s	6.6	3.6	3.2	13.7	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3				
Cycle Q Clear(g_c), s	11.5	3.6	3.2	17.2	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3				
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.40	1.00		0.11				
Lane Grp Cap(c), veh/h	375	552	457	384	0	502	320	1798	904	137	1448	779				
V/C Ratio(X)	0.28	0.17	0.16	0.51	0.00	0.23	0.80	0.75	0.76	0.63	0.69	0.69				
Avail Cap(c_a), veh/h	436	645	533	443	0	587	482	2061	1037	215	1552	835				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Uniform Delay (d), s/veh	29.3	24.5	24.4	30.9	0.0	25.0	36.9	17.3	17.4	42.0	21.8	21.8				
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.2	5.6	1.4	3.0	4.6	1.2	2.2				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.3	1.8	1.4	4.6	0.0	2.3	6.8	13.9	14.8	2.3	10.6	11.6				
LnGrp Delay(d),s/veh	29.7	24.6	24.5	31.9	0.0	25.2	42.5	18.7	20.4	46.6	22.9	23.9				
LnGrp LOS	C	C	C	C		C	D	B	C	D	C	C				
Approach Vol, veh/h	271			313			2302			1613						
Approach Delay, s/veh	26.6			29.4			21.8			24.5						
Approach LOS	C			C			C			C						
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	30.3	52.8			30.8	19.9	43.1	30.8								
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5								
Max Green Setting (Gmax), s	30.9	55.6			31.0	24.0	41.5	31.0								
Max Q Clear Time (g_c+16, s)	16.4	32.0			13.5	15.0	24.3	19.2								
Green Ext Time (p_c), s	0.0	16.2			1.0	0.5	9.6	1.1								
Intersection Summary																
HCM 2010 Ctrl Delay	23.6															
HCM 2010 LOS	C															

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	332	241	135	88	71	50	85	1393	29	101	1333	149
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	282	158	177	143	261	130	1909	40	166	1809	202
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	1774	1110	622	1003	809	1482	1774	5125	107	1774	4610	515
Grp Volume(v), veh/h	332	0	376	159	0	50	85	922	500	101	980	502
Grp Sat Flow(s),veh/h/ln	1774	0	1732	1813	0	1482	1774	1695	1841	1774	1695	1735
Q Serve(g_s), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Cycle Q Clear(g_c), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Prop In Lane	1.00		0.36	0.55		1.00	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	451	0	441	319	0	261	130	1263	686	166	1331	681
V/C Ratio(X)	0.74	0.00	0.85	0.50	0.00	0.19	0.65	0.73	0.73	0.61	0.74	0.74
Avail Cap(c_a), veh/h	489	0	478	500	0	409	260	1958	1063	260	1958	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	43.1	0.0	40.7	52.3	31.4	31.4	50.5	30.1	30.1
Incr Delay (d2), s/veh	5.3	0.0	13.2	1.2	0.0	0.4	5.4	0.8	1.5	3.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.1	4.7	0.0	1.4	2.8	12.8	14.1	3.3	13.5	14.0
LnGrp Delay(d),s/veh	44.9	0.0	54.4	44.3	0.0	41.1	57.7	32.2	32.9	54.1	30.9	31.7
LnGrp LOS	D		D	D		D	E	C	C	D	C	C
Approach Vol, veh/h	708				209				1507		1583	
Approach Delay, s/veh	49.9				43.6				33.9		32.7	
Approach LOS	D				D				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	3.8	46.2			32.5	11.5	48.5	23.4				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	15.5	65.5			30.5	15.5	65.5	30.5				
Max Q Clear Time (g_c+1/3), s	19.3	29.2			26.0	7.4	30.7	11.2				
Green Ext Time (p_c), s	0.1	12.5			1.6	0.1	13.4	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			36.7									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.90	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	178	4	222	260	28	78	1206	336	204	1102	102
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	187	425	446	339	385	1545	430	251	1500	139
Arrive On Green	0.13	0.13	0.13	0.24	0.24	0.24	0.22	0.40	0.40	0.14	0.32	0.32
Sat Flow, veh/h	1774	1863	1491	1774	1863	1418	1774	3909	1089	1774	4698	434
Grp Volume(v), veh/h	152	178	4	222	260	28	78	1046	496	204	795	409
Grp Sat Flow(s),veh/h/ln	1774	1863	1491	1774	1863	1418	1774	1695	1608	1774	1695	1742
Q Serve(g_s), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Cycle Q Clear(g_c), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.25
Lane Grp Cap(c), veh/h	222	233	187	425	446	339	385	1340	635	251	1082	556
V/C Ratio(X)	0.68	0.76	0.02	0.52	0.58	0.08	0.20	0.78	0.78	0.81	0.73	0.74
Avail Cap(c_a), veh/h	264	277	222	476	500	380	385	1637	776	278	1746	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	51.2	46.5	40.1	40.7	35.8	38.8	32.0	32.1	50.5	36.7	36.7
Incr Delay (d2), s/veh	5.7	10.0	0.0	1.0	1.4	0.1	0.3	2.0	4.2	15.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	6.4	0.1	6.6	7.8	0.7	2.2	15.6	15.2	7.7	12.0	12.5
LnGrp Delay(d),s/veh	56.4	61.2	46.5	41.1	42.1	35.9	39.1	34.1	36.3	65.9	37.7	38.6
LnGrp LOS	E	E	D	D	D	D	D	C	D	E	D	D
Approach Vol, veh/h	334				510				1620		1408	
Approach Delay, s/veh	58.8				41.3				35.0		42.0	
Approach LOS	E				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	30.1	50.9			32.0	29.3	41.7	18.2				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	75.5	57.0			31.0	13.6	60.9	16.5				
Max Q Clear Time (g_c+1/5), s	34.7	34.7			16.9	6.4	27.3	13.2				
Green Ext Time (p_c), s	0.1	11.7			2.0	0.1	9.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	40.4											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT		NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	160	0	26	2	0	6	133	1528	0	32	1338	81
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	388	140	34	317	208	2694	0	100	2298	139
Arrive On Green	0.28	0.00	0.28	0.28	0.00	0.28	0.12	0.53	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1373	0	1396	259	122	1143	1774	5253	0	1774	4899	297
Grp Volume(v), veh/h	160	0	26	8	0	0	133	1528	0	32	926	493
Grp Sat Flow(s),veh/h/ln	1373	0	1396	1524	0	0	1774	1695	0	1774	1695	1805
Q Serve(g_s), s	6.0	0.0	0.9	0.0	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Cycle Q Clear(g_c), s	6.3	0.0	0.9	0.2	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	490	0	388	491	0	0	208	2694	0	100	1590	847
V/C Ratio(X)	0.33	0.00	0.07	0.02	0.00	0.00	0.64	0.57	0.00	0.32	0.58	0.58
Avail Cap(c_a), veh/h	773	0	676	798	0	0	322	7463	0	322	4975	2649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.6	17.3	0.0	0.0	27.9	10.4	0.0	30.0	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	3.3	0.2	0.0	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.4	0.1	0.0	0.0	2.5	6.3	0.0	0.6	6.1	6.6
LnGrp Delay(d),s/veh	19.9	0.0	17.6	17.3	0.0	0.0	31.1	10.6	0.0	31.8	13.2	13.5
LnGrp LOS	B		B	B			C	B		C	B	B
Approach Vol, veh/h	186			8			1661			1451		
Approach Delay, s/veh	19.5			17.3			12.3			13.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.0		21.4	10.7	34.0		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	95.5		30.5	10.5	95.5		30.5				
Max Q Clear Time (g_c+I), s	13.1	15.3		8.3	6.7	15.2		2.2				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.1	14.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	54	30	1361	1427	107		
Future Volume (veh/h)	103	54	30	1361	1427	107		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	78	80	30	1361	1427	107		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	238	216	124	2569	2823	212		
Arrive On Green	0.13	0.13	0.07	0.73	0.59	0.59		
Sat Flow, veh/h	1774	1615	1774	3632	4988	361		
Grp Volume(v), veh/h	78	80	30	1361	1004	530		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1792		
Q Serve(g_s), s	1.7	1.9	0.7	7.3	7.5	7.5		
Cycle Q Clear(g_c), s	1.7	1.9	0.7	7.3	7.5	7.5		
Prop In Lane	1.00	1.00	1.00			0.20		
Lane Grp Cap(c), veh/h	238	216	124	2569	1985	1049		
V/C Ratio(X)	0.33	0.37	0.24	0.53	0.51	0.51		
Avail Cap(c_a), veh/h	1285	1170	290	4383	3406	1800		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.8	16.9	18.8	2.6	5.2	5.2		
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.2	0.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.4	3.5	3.4	3.6		
LnGrp Delay(d),s/veh	17.6	17.9	19.8	2.8	5.4	5.6		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	158			1391	1534			
Approach Delay, s/veh	17.8			3.2	5.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.1		8.7	6.0	28.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+l1), s		9.3		3.9	2.7	9.5		
Green Ext Time (p_c), s		14.6		0.4	0.0	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	86	138	3	123	149	34	42	1147	77	260	1128	82
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	221	180	239	251	212	95	1498	669	330	2686	195
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.05	0.42	0.42	0.19	0.56	0.56
Sat Flow, veh/h	1774	1863	1519	1774	1863	1576	1774	3539	1580	1774	4834	351
Grp Volume(v), veh/h	86	138	3	123	149	34	42	1147	77	260	791	419
Grp Sat Flow(s),veh/h/ln	1774	1863	1519	1774	1863	1576	1774	1770	1580	1774	1695	1795
Q Serve(g_s), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Cycle Q Clear(g_c), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	211	221	180	239	251	212	95	1498	669	330	1883	997
V/C Ratio(X)	0.41	0.62	0.02	0.51	0.59	0.16	0.44	0.77	0.12	0.79	0.42	0.42
Avail Cap(c_a), veh/h	446	469	382	649	682	577	142	2105	940	548	2792	1479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	36.7	34.0	35.2	35.6	33.4	40.1	21.5	15.3	33.9	11.3	11.3
Incr Delay (d2), s/veh	1.3	2.9	0.0	1.7	2.2	0.3	3.2	1.1	0.1	4.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.4	0.1	2.9	3.5	0.7	1.1	12.0	1.1	6.4	5.5	5.9
LnGrp Delay(d),s/veh	37.0	39.5	34.1	36.9	37.8	33.8	43.3	22.6	15.4	38.1	11.4	11.5
LnGrp LOS	D	D	C	D	D	C	D	C	B	D	B	B
Approach Vol, veh/h	227		306				1266			1470		
Approach Delay, s/veh	38.5		37.0				22.9			16.2		
Approach LOS	D		D				C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	19.3	40.0			13.4	7.7	51.6	14.8				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	25.5	50.5			20.5	5.5	70.5	30.5				
Max Q Clear Time (g_c+14.2), s	14.2	26.2			8.2	4.0	13.8	8.6				
Green Ext Time (p_c), s	0.6	9.3			0.7	0.0	10.7	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.87	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	235	0	56	5	7	4	311	451	3	2	267	169
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	0	197	89	124	71	397	961	6	41	336	212
Arrive On Green	0.13	0.00	0.13	0.17	0.17	0.17	0.22	0.52	0.52	0.02	0.32	0.32
Sat Flow, veh/h	3548	0	1571	527	738	422	1774	1848	12	1774	1051	665
Grp Volume(v), veh/h	235	0	56	16	0	0	311	0	454	2	0	436
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1687	0	0	1774	0	1860	1774	0	1716
Q Serve(g_s), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0
Cycle Q Clear(g_c), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0
Prop In Lane	1.00		1.00	0.31		0.25	1.00		0.01	1.00		0.39
Lane Grp Cap(c), veh/h	444	0	197	284	0	0	397	0	968	41	0	548
V/C Ratio(X)	0.53	0.00	0.28	0.06	0.00	0.00	0.78	0.00	0.47	0.05	0.00	0.80
Avail Cap(c_a), veh/h	1280	0	567	471	0	0	797	0	1758	159	0	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	29.1	25.7	0.0	0.0	26.8	0.0	11.2	35.1	0.0	22.8
Incr Delay (d2), s/veh	1.0	0.0	0.8	0.1	0.0	0.0	3.4	0.0	0.4	0.5	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.1	0.3	0.0	0.0	6.3	0.0	5.9	0.0	0.0	8.4
LnGrp Delay(d),s/veh	31.1	0.0	29.9	25.7	0.0	0.0	30.2	0.0	11.5	35.6	0.0	25.5
LnGrp LOS	C		C	C			C		B	D		C
Approach Vol, veh/h	291			16			765			438		
Approach Delay, s/veh	30.9			25.7			19.1			25.5		
Approach LOS	C			C			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	41.2		12.2	19.4	26.5		15.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	67.9			25.0	31.5	41.5		19.0				
Max Q Clear Time (g_c+I1), s	13.4			6.6	14.1	19.0		2.6				
Green Ext Time (p_c), s	0.0	3.3		0.9	0.9	2.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	23.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

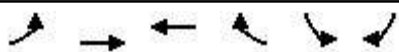
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	86	30	1	59	1	21	13	544	118	347	714	8
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	63	210	195	3	173	73	873	189	443	1832	21
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.04	0.30	0.30	0.25	0.51	0.51
Sat Flow, veh/h	1332	465	1552	1746	30	1545	1774	2885	623	1774	3585	40
Grp Volume(v), veh/h	116	0	1	60	0	21	13	333	329	347	352	370
Grp Sat Flow(s),veh/h/ln	1796	0	1552	1775	0	1545	1774	1770	1739	1774	1770	1855
Q Serve(g_s), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Prop In Lane	0.74		1.00	0.98		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	243	0	210	198	0	173	73	535	526	443	904	948
V/C Ratio(X)	0.48	0.00	0.00	0.30	0.00	0.12	0.18	0.62	0.63	0.78	0.39	0.39
Avail Cap(c_a), veh/h	765	0	661	756	0	658	193	786	772	604	1197	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	22.4	24.5	0.0	24.0	27.7	17.9	18.0	21.0	8.9	8.9
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.8	0.0	0.3	1.1	1.2	1.2	4.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.0	0.0	0.3	0.2	4.9	4.8	5.9	3.6	3.8
LnGrp Delay(d),s/veh	25.4	0.0	22.4	25.3	0.0	24.3	28.9	19.1	19.2	25.6	9.2	9.2
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h	117				81		675				1069	
Approach Delay, s/veh	25.3				25.0		19.3				14.5	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	8.0	21.1			9.7	5.5	33.6	11.1				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	18.9	25.1			24.0	5.0	39.0	24.0				
Max Q Clear Time (g_c+112, s)	11.8	11.8			3.9	2.4	9.3	5.6				
Green Ext Time (p_c), s	0.6	3.5			0.3	0.0	4.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay		17.3										
HCM 2010 LOS		B										

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020

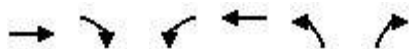


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	195	929	562	51	103	437		
Future Volume (veh/h)	195	929	562	51	103	437		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	195	929	562	51	103	98		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	615	2349	1276	116	312	491		
Arrive On Green	0.18	0.66	0.39	0.37	0.18	0.18		
Sat Flow, veh/h	3442	3632	3375	297	1774	2787		
Grp Volume(v), veh/h	195	929	303	310	103	98		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1809	1774	1393		
Q Serve(g_s), s	1.5	3.7	3.9	4.0	1.6	0.9		
Cycle Q Clear(g_c), s	1.5	3.7	3.9	4.0	1.6	0.9		
Prop In Lane	1.00			0.16	1.00	1.00		
Lane Grp Cap(c), veh/h	615	2349	688	703	312	491		
V/C Ratio(X)	0.32	0.40	0.44	0.44	0.33	0.20		
Avail Cap(c_a), veh/h	1764	6066	1956	1999	1790	2812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	2.4	7.0	7.1	11.2	11.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.4	0.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.9	2.0	0.8	0.8		
LnGrp Delay(d),s/veh	11.5	2.5	7.5	7.5	11.9	11.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		1124	613		201			
Approach Delay, s/veh		4.1	7.5		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.2		8.0	8.6	14.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				51.5		29.5	14.5	32.5
Max Q Clear Time (g_c+I1), s				5.7		3.6	3.5	6.0
Green Ext Time (p_c), s				8.4		0.7	0.5	4.0
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	646	350	215	833	246	72		
Future Volume (veh/h)	646	350	215	833	246	72		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	646	350	215	833	246	19		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	869	471	329	2301	377	336		
Arrive On Green	0.40	0.40	0.19	0.65	0.21	0.21		
Sat Flow, veh/h	2286	1188	1774	3632	1774	1583		
Grp Volume(v), veh/h	521	475	215	833	246	19		
Grp Sat Flow(s),veh/h/ln	1770	1612	1774	1770	1774	1583		
Q Serve(g_s), s	11.0	11.0	4.9	4.7	5.5	0.4		
Cycle Q Clear(g_c), s	11.0	11.0	4.9	4.7	5.5	0.4		
Prop In Lane		0.74	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	701	638	329	2301	377	336		
V/C Ratio(X)	0.74	0.74	0.65	0.36	0.65	0.06		
Avail Cap(c_a), veh/h	791	720	488	2798	793	708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	11.3	16.5	3.5	15.7	13.7		
Incr Delay (d2), s/veh	3.4	3.7	2.2	0.1	1.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.0	5.5	2.6	2.2	2.9	0.2		
LnGrp Delay(d),s/veh	14.7	15.0	18.7	3.6	17.6	13.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	996			1048	265			
Approach Delay, s/veh	14.8			6.7	17.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	11.1	20.3				31.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	10.5	18.0				33.0
Max Q Clear Time (g_c+I1), s		7.5	6.9	13.0				6.7
Green Ext Time (p_c), s		0.6	0.2	2.8				6.5
Intersection Summary								
HCM 2010 Ctrl Delay			11.4					
HCM 2010 LOS			B					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-72647		0	0-74510		0	0-74510		0	0-74510		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	135118356480		0	71114932224		0	71114932224		0	71114932224		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	24996896309248		13156260822464	13156260822464		13156260822464	13156260822464		13156260822464	13156260822464		0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 18.4

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	435	61	26	259	9	45	63	25	40	53	47
Future Vol, veh/h	43	435	61	26	259	9	45	63	25	40	53	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	435	61	26	259	9	45	63	25	40	53	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	24.6	13.4	11.5	11.4
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	8%	9%	29%
Vol Thru, %	47%	81%	88%	38%
Vol Right, %	19%	11%	3%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	133	539	294	140
LT Vol	45	43	26	40
Through Vol	63	435	259	53
RT Vol	25	61	9	47
Lane Flow Rate	133	539	294	140
Geometry Grp	1	1	1	1
Degree of Util (X)	0.237	0.783	0.459	0.245
Departure Headway (Hd)	6.405	5.231	5.625	6.29
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	556	690	635	566
Service Time	4.496	3.291	3.699	4.381
HCM Lane V/C Ratio	0.239	0.781	0.463	0.247
HCM Control Delay	11.5	24.6	13.4	11.4
HCM Lane LOS	B	C	B	B
HCM 95th-tile Q	0.9	7.7	2.4	1

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1332	11	0	0	0	0	71	97	208	91	0
Future Volume (veh/h)	20	1332	11	0	0	0	0	71	97	208	91	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900				0	980	1900	1900	1863	0
Adj Flow Rate, veh/h	20	1332	11				0	71	97	208	91	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	18	1285	11				0	124	169	246	92	0
Arrive On Green	0.56	0.56	0.55				0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	33	2294	20				0	371	507	494	277	0
Grp Volume(v), veh/h	714	0	649				0	0	168	299	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1172				0	0	877	771	0	0
Q Serve(g_s), s	42.0	0.0	40.9				0.0	0.0	11.9	13.1	0.0	0.0
Cycle Q Clear(g_c), s	42.0	0.0	40.9				0.0	0.0	11.9	25.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.58	0.70		0.00
Lane Grp Cap(c), veh/h	658	0	656				0	0	292	338	0	0
V/C Ratio(X)	1.09	0.00	0.99				0.00	0.00	0.57	0.88	0.00	0.00
Avail Cap(c_a), veh/h	658	0	656				0	0	292	338	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	16.3				0.0	0.0	20.7	30.6	0.0	0.0
Incr Delay (d2), s/veh	60.7	0.0	32.1				0.0	0.0	2.7	23.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	24.4	0.0	18.8				0.0	0.0	3.1	8.3	0.0	0.0
LnGrp Delay(d),s/veh	77.2	0.0	48.4				0.0	0.0	23.5	53.6	0.0	0.0
LnGrp LOS	F		D						C		D	
Approach Vol, veh/h		1363						168			299	
Approach Delay, s/veh		63.5						23.5			53.6	
Approach LOS		E						C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		29.0		46.0		29.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		24.5		41.5		24.5						
Max Q Clear Time (g_c+I1), s		13.9		44.0		27.0						
Green Ext Time (p_c), s		0.7		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			58.2									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	49	319	11	89	212	104	11	128	207	72	76	39
Future Volume (veh/h)	49	319	11	89	212	104	11	128	207	72	76	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.97		0.92	0.95		0.93	0.98		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	49	319	11	89	212	104	11	128	207	72	76	39
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	594	19	622	434	213	626	240	388	439	440	226
Arrive On Green	0.38	0.38	0.37	0.38	0.38	0.37	0.39	0.39	0.38	0.39	0.39	0.38
Sat Flow, veh/h	128	1567	51	1018	1143	561	1208	612	989	1017	1122	576
Grp Volume(v), veh/h	379	0	0	89	0	316	11	0	335	72	0	115
Grp Sat Flow(s),veh/h/ln	1745	0	0	1018	0	1704	1208	0	1601	1017	0	1697
Q Serve(g_s), s	0.2	0.0	0.0	0.0	0.0	5.0	0.2	0.0	5.7	2.1	0.0	1.6
Cycle Q Clear(g_c), s	5.6	0.0	0.0	1.7	0.0	5.0	1.8	0.0	5.7	7.7	0.0	1.6
Prop In Lane	0.13		0.03	1.00		0.33	1.00		0.62	1.00		0.34
Lane Grp Cap(c), veh/h	778	0	0	622	0	646	626	0	628	439	0	665
V/C Ratio(X)	0.49	0.00	0.00	0.14	0.00	0.49	0.02	0.00	0.53	0.16	0.00	0.17
Avail Cap(c_a), veh/h	1386	0	0	992	0	1266	1222	0	1418	941	0	1503
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	7.3	0.0	8.3	7.5	0.0	8.3	11.2	0.0	7.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.7	0.2	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	0.6	0.0	2.4	0.1	0.0	2.6	0.6	0.0	0.7
LnGrp Delay(d),s/veh	9.0	0.0	0.0	7.4	0.0	8.9	7.5	0.0	9.0	11.3	0.0	7.1
LnGrp LOS	A			A		A	A		A	B		A
Approach Vol, veh/h	379		405			346			187			
Approach Delay, s/veh	9.0		8.6			9.0			8.7			
Approach LOS	A		A			A			A			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.7		17.3		17.7		17.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.5		25.5		30.5		25.5					
Max Q Clear Time (g_c+I1), s	7.7		7.6		9.7		7.0					
Green Ext Time (p_c), s	2.3		2.4		0.9		2.3					
Intersection Summary												
HCM 2010 Ctrl Delay			8.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				392	0	718	0	1601	169	0	1498	515
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1032	0	836	0	3206	990	0	2362	799
Arrive On Green				0.30	0.00	0.30	0.00	0.63	0.63	0.00	0.63	0.63
Sat Flow, veh/h				3442	0	2787	0	5253	1571	0	3915	1267
Grp Volume(v), veh/h				392	0	718	0	1601	169	0	1353	660
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1571	0	1695	1624
Q Serve(g_s), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Cycle Q Clear(g_c), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.78
Lane Grp Cap(c), veh/h				1032	0	836	0	3206	990	0	2137	1024
V/C Ratio(X)				0.38	0.00	0.86	0.00	0.50	0.17	0.00	0.63	0.64
Avail Cap(c_a), veh/h				1317	0	1066	0	3206	990	0	2137	1024
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.81	0.00	0.71	0.71
Uniform Delay (d), s/veh				31.8	0.0	38.0	0.0	11.5	8.8	0.0	13.1	13.4
Incr Delay (d2), s/veh				0.2	0.0	5.9	0.0	0.5	0.3	0.0	1.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	11.4	0.0	9.2	2.3	0.0	13.5	13.7
LnGrp Delay(d),s/veh				32.0	0.0	43.8	0.0	11.9	9.1	0.0	14.1	15.6
LnGrp LOS				C		D		B	A		B	B
Approach Vol, veh/h				1110				1770			2013	
Approach Delay, s/veh				39.6				11.6			14.6	
Approach LOS				D				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.5				76.5		38.5				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		62.5				62.5		43.5				
Max Q Clear Time (g_c+I1), s		21.5				31.3		29.9				
Green Ext Time (p_c), s		17.9				19.5		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱					↰			↱	↱
Traffic Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	346	0	201				0	1505	547	0	1493	310
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	441	0	357				0	3011	1073	0	4143	1279
Arrive On Green	0.13	0.00	0.13				0.00	0.81	0.81	0.00	0.81	0.81
Sat Flow, veh/h	3442	0	2787				0	3863	1317	0	5253	1570
Grp Volume(v), veh/h	346	0	201				0	1378	674	0	1493	310
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1622	0	1695	1570
Q Serve(g_s), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Cycle Q Clear(g_c), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Prop In Lane	1.00		1.00				0.00		0.81	0.00		1.00
Lane Grp Cap(c), veh/h	441	0	357				0	2762	1321	0	4143	1279
V/C Ratio(X)	0.78	0.00	0.56				0.00	0.50	0.51	0.00	0.36	0.24
Avail Cap(c_a), veh/h	737	0	597				0	2762	1321	0	4143	1279
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00				0.00	0.62	0.62	0.00	0.72	0.72
Uniform Delay (d), s/veh	59.2	0.0	57.4				0.0	4.0	4.2	0.0	3.4	3.0
Incr Delay (d2), s/veh	3.1	0.0	1.4				0.0	0.4	0.9	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	3.7				0.0	8.4	8.6	0.0	5.0	14.3
LnGrp Delay(d),s/veh	62.3	0.0	58.7				0.0	4.4	5.1	0.0	3.6	3.3
LnGrp LOS	E		E					A	A		A	A
Approach Vol, veh/h		547						2052			1803	
Approach Delay, s/veh		61.0						4.7			3.5	
Approach LOS		E						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		101.5		29.5		101.5						
Max Q Clear Time (g_c+l1), s		20.7		15.6		12.8						
Green Ext Time (p_c), s		31.4		1.8		20.5						
Intersection Summary												
HCM 2010 Ctrl Delay			11.2									
HCM 2010 LOS			B									

Intersection							
Int Delay, s/veh	0.8						
Movement	WBL	WBR	NBT	NBR	SBL	SBT	
Lane Configurations							
Traffic Vol, veh/h	26	15	487	95	17	369	
Future Vol, veh/h	26	15	487	95	17	369	
Conflicting Peds, #/hr	1	0	0	15	15	0	
Sign Control	Stop	Stop	Free	Free	Free	Free	
RT Channelized	-	Stop	-	None	-	None	
Storage Length	0	0	-	-	-	-	
Veh in Median Storage, #	0	-	0	-	-	0	
Grade, %	0	-	0	-	-	0	
Peak Hour Factor	100	100	100	100	100	100	
Heavy Vehicles, %	2	2	2	2	2	2	
Mvmt Flow	26	15	487	95	17	369	
Major/Minor	Minor1	Major1		Major2			
Conflicting Flow All	954	550	0	0	597	0	
Stage 1	550	-	-	-	-	-	
Stage 2	404	-	-	-	-	-	
Critical Hdwy	6.42	6.22	-	-	4.12	-	
Critical Hdwy Stg 1	5.42	-	-	-	-	-	
Critical Hdwy Stg 2	5.42	-	-	-	-	-	
Follow-up Hdwy	3.518	3.318	-	-	2.218	-	
Pot Cap-1 Maneuver	287	535	-	-	980	-	
Stage 1	578	-	-	-	-	-	
Stage 2	674	-	-	-	-	-	
Platoon blocked, %			-	-		-	
Mov Cap-1 Maneuver	276	527	-	-	966	-	
Mov Cap-2 Maneuver	276	-	-	-	-	-	
Stage 1	570	-	-	-	-	-	
Stage 2	658	-	-	-	-	-	
Approach	WB	NB		SB			
HCM Control Delay, s	16.7	0		0.4			
HCM LOS	C						
Minor Lane/Major Mvmt		NBT	NBRWBLn1	WBLn2	SBL	SBT	
Capacity (veh/h)		-	-	276	527	966	-
HCM Lane V/C Ratio		-	-	0.094	0.028	0.018	-
HCM Control Delay (s)		-	-	19.4	12	8.8	0
HCM Lane LOS		-	-	C	B	A	A
HCM 95th %tile Q(veh)		-	-	0.3	0.1	0.1	-

Intersection												
Intersection Delay, s/veh	38.1											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Future Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	213	21	23	13	161	551	16	14	364	15
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16	12.8	54.9	25.3
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	37%	100%	0%
Vol Thru, %	0%	97%	0%	12%	40%	0%	96%
Vol Right, %	0%	3%	0%	88%	23%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	567	16	243	57	14	379
LT Vol	161	0	16	0	21	14	0
Through Vol	0	551	0	30	23	0	364
RT Vol	0	16	0	213	13	0	15
Lane Flow Rate	161	567	16	243	57	14	379
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.312	1.014	0.036	0.481	0.132	0.029	0.726
Departure Headway (Hd)	6.97	6.44	8.315	7.13	8.536	7.435	6.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	567	433	505	422	482	523
Service Time	4.705	4.175	6.015	4.87	6.536	5.174	4.634
HCM Lane V/C Ratio	0.311	1	0.037	0.481	0.135	0.029	0.725
HCM Control Delay	12.8	66.8	11.3	16.3	12.8	10.4	25.9
HCM Lane LOS	B	F	B	C	B	B	D
HCM 95th-tile Q	1.3	15	0.1	2.6	0.5	0.1	6

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.95	0.97		0.86	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	0	11	50	0	20	4	654	68	37	629	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	20	134	190	10	55	595	1453	1192	552	1431	18
Arrive On Green	0.14	0.00	0.13	0.14	0.00	0.13	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	383	142	961	917	69	394	787	1863	1528	727	1834	23
Grp Volume(v), veh/h	17	0	0	70	0	0	4	654	68	37	0	637
Grp Sat Flow(s),veh/h/ln	1486	0	0	1381	0	0	787	1863	1528	727	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	0.2	11.9	1.0	1.8	0.0	11.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	4.4	0.0	0.0	11.6	11.9	1.0	13.7	0.0	11.5
Prop In Lane	0.35		0.65	0.71		0.29	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	255	0	0	595	1453	1192	552	0	1449
V/C Ratio(X)	0.07	0.00	0.00	0.27	0.00	0.00	0.01	0.45	0.06	0.07	0.00	0.44
Avail Cap(c_a), veh/h	412	0	0	404	0	0	595	1453	1192	552	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.64	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	38.9	0.0	0.0	5.6	3.7	2.5	6.0	0.0	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	0.0	0.0	0.0	6.3	0.4	0.4	0.0	6.1
LnGrp Delay(d),s/veh	37.6	0.0	0.0	39.5	0.0	0.0	5.6	4.4	2.6	6.3	0.0	4.6
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	17				70				726		674	
Approach Delay, s/veh	37.6				39.5				4.2		4.7	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	82.0		18.0		82.0		18.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		24.5		66.5		24.5					
Max Q Clear Time (g_c+I1), s	13.9		2.9		15.7		6.4					
Green Ext Time (p_c), s	5.7		0.0		5.6		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			6.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.95	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	2	3	238	4	56	1	863	238	37	479	11
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	22	33	240	4	207	45	1597	440	133	1698	40
Arrive On Green	0.11	0.11	0.10	0.14	0.14	0.14	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1200	200	300	1746	29	1503	0	2653	730	135	2820	67
Grp Volume(v), veh/h	17	0	0	242	0	56	606	0	496	249	0	278
Grp Sat Flow(s),veh/h/ln	1701	0	0	1775	0	1503	1862	0	1521	1341	0	1681
Q Serve(g_s), s	0.7	0.0	0.0	10.9	0.0	2.7	0.0	0.0	15.5	1.0	0.0	6.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	10.9	0.0	2.7	15.4	0.0	15.5	16.5	0.0	6.3
Prop In Lane	0.71		0.18	0.98		1.00	0.00		0.48	0.15		0.04
Lane Grp Cap(c), veh/h	188	0	0	244	0	207	1167	0	916	859	0	1012
V/C Ratio(X)	0.09	0.00	0.00	0.99	0.00	0.27	0.52	0.00	0.54	0.29	0.00	0.27
Avail Cap(c_a), veh/h	544	0	0	244	0	207	1167	0	916	859	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.73	0.00	0.73	0.76	0.00	0.76
Uniform Delay (d), s/veh	32.0	0.0	0.0	34.5	0.0	30.9	9.4	0.0	9.5	7.4	0.0	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	55.0	0.0	0.7	1.2	0.0	1.7	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.0	0.0	1.1	8.1	0.0	6.8	2.6	0.0	3.1
LnGrp Delay(d),s/veh	32.2	0.0	0.0	89.5	0.0	31.6	10.6	0.0	11.2	8.1	0.0	8.1
LnGrp LOS	C			F		C	B		B	A		A
Approach Vol, veh/h	17			298			1102			527		
Approach Delay, s/veh	32.2			78.6			10.9			8.1		
Approach LOS	C			E			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	52.2		12.8		52.2		15.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.9		25.1		30.9		10.5					
Max Q Clear Time (g_c+I1), s	17.5		2.7		18.5		12.9					
Green Ext Time (p_c), s	6.3		0.0		2.8		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Future Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	58	4	0	33	58	6	17	0	84	20	256
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	12.4	8.5	9.3	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	75%	0%	0%	81%	0%
Vol Thru, %	74%	23%	100%	0%	19%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	248	33	58	104	256
LT Vol	6	186	0	0	84	0
Through Vol	17	58	33	0	20	0
RT Vol	0	4	0	58	0	256
Lane Flow Rate	23	248	33	58	104	256
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.038	0.392	0.053	0.082	0.17	0.34
Departure Headway (Hd)	5.982	5.691	5.773	5.066	5.898	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	627	614	699	605	748
Service Time	4.082	3.764	3.566	2.857	3.661	2.549
HCM Lane V/C Ratio	0.039	0.396	0.054	0.083	0.172	0.342
HCM Control Delay	9.3	12.4	8.9	8.3	9.9	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.9	0.2	0.3	0.6	1.5

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	4	756	24	17	395	40	36	0	30	130	8	14
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	836	27	113	772	78	722	0	712	598	38	59
Arrive On Green	0.47	0.47	0.46	0.93	0.93	0.92	0.47	0.00	0.47	0.47	0.47	0.46
Sat Flow, veh/h	944	1793	57	690	1656	168	1418	0	1525	1162	82	126
Grp Volume(v), veh/h	4	0	780	17	0	435	36	0	30	152	0	0
Grp Sat Flow(s),veh/h/ln	944	0	1850	690	0	1824	1418	0	1525	1369	0	0
Q Serve(g_s), s	0.3	0.0	46.7	2.6	0.0	3.7	0.0	0.0	1.3	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	46.7	49.3	0.0	3.7	1.5	0.0	1.3	9.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.09	1.00		1.00	0.86		0.09
Lane Grp Cap(c), veh/h	471	0	863	113	0	851	722	0	712	695	0	0
V/C Ratio(X)	0.01	0.00	0.90	0.15	0.00	0.51	0.05	0.00	0.04	0.22	0.00	0.00
Avail Cap(c_a), veh/h	676	0	1264	263	0	1246	722	0	712	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	29.6	24.6	0.0	2.3	17.4	0.0	17.4	19.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.6	0.0	0.5	0.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	25.5	0.5	0.0	1.6	0.7	0.0	0.6	3.2	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	36.3	25.2	0.0	2.8	17.6	0.0	17.5	20.5	0.0	0.0
LnGrp LOS	B		D	C		A	B		B	C		
Approach Vol, veh/h	784				452				66		152	
Approach Delay, s/veh	36.3				3.6				17.5		20.5	
Approach LOS	D				A				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	60.0		60.0		60.0		60.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	29.5		81.5		29.5		81.5					
Max Q Clear Time (g_c+I1), s	3.5		48.7		11.0		51.3					
Green Ext Time (p_c), s	0.2		6.8		0.7		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Intersection

Intersection Delay, s/veh 8.5

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Future Vol, veh/h	151	64	5	0	21	6	4	20	0	12	29	86
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	151	64	5	0	21	6	4	20	0	12	29	86
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	7.5	7.8	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	17%	69%	0%	9%
Vol Thru, %	83%	29%	78%	23%
Vol Right, %	0%	2%	22%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	24	220	27	127
LT Vol	4	151	0	12
Through Vol	20	64	21	29
RT Vol	0	5	6	86
Lane Flow Rate	24	220	27	127
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.265	0.033	0.146
Departure Headway (Hd)	4.681	4.34	4.374	4.15
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	768	816	821	869
Service Time	2.688	2.432	2.386	2.153
HCM Lane V/C Ratio	0.031	0.27	0.033	0.146
HCM Control Delay	7.8	9	7.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	1.1	0.1	0.5

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					↖ ↗	↖ ↗		↖			↖	
Traffic Volume (veh/h)	0	0	0	57	870	238	10	74	0	0	244	30
Future Volume (veh/h)	0	0	0	57	870	238	10	74	0	0	244	30
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.97		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	980	1863	1900	980	0	0	2451	1900
Adj Flow Rate, veh/h				57	870	154	10	74	0	0	244	30
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				66	1058	884	89	230	0	0	540	66
Arrive On Green				0.59	0.59	0.59	0.25	0.25	0.00	0.00	0.25	0.24
Sat Flow, veh/h				112	1794	1499	43	904	0	0	2119	261
Grp Volume(v), veh/h				496	431	154	84	0	0	0	0	274
Grp Sat Flow(s),veh/h/ln				975	931	1499	948	0	0	0	0	2380
Q Serve(g_s), s				21.8	18.2	2.4	0.0	0.0	0.0	0.0	0.0	5.0
Cycle Q Clear(g_c), s				21.8	18.2	2.4	3.6	0.0	0.0	0.0	0.0	5.0
Prop In Lane				0.11		1.00	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				575	549	884	320	0	0	0	0	606
V/C Ratio(X)				0.86	0.78	0.17	0.26	0.00	0.00	0.00	0.00	0.45
Avail Cap(c_a), veh/h				759	725	1166	563	0	0	0	0	1250
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				8.8	8.1	4.8	15.6	0.0	0.0	0.0	0.0	16.2
Incr Delay (d2), s/veh				8.0	4.2	0.1	0.4	0.0	0.0	0.0	0.0	0.5
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				6.9	5.2	1.0	1.0	0.0	0.0	0.0	0.0	3.4
LnGrp Delay(d),s/veh				16.8	12.2	4.9	16.0	0.0	0.0	0.0	0.0	16.7
LnGrp LOS				B	B	A	B					B
Approach Vol, veh/h					1081			84			274	
Approach Delay, s/veh					13.3			16.0			16.7	
Approach LOS					B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.1				17.1		34.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		26.5				26.5		39.5				
Max Q Clear Time (g_c+I1), s		5.6				7.0		23.8				
Green Ext Time (p_c), s		0.4				1.6		6.0				
Intersection Summary												
HCM 2010 Ctrl Delay				14.1								
HCM 2010 LOS				B								

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			EBT			EBT	EBT		EBT	
Traffic Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	10	0	0	0	0	0	0	0	0	10	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1245	1900	1900	1863	1900	1900	1078	1078	1900	1275	1900
Adj Flow Rate, veh/h	2	1003	45	5	835	27	36	22	16	15	5	1
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1058	11	72	1451	49	193	74	341	214	427	3
Arrive On Green	0.65	0.65	0.64	0.65	0.65	0.64	0.19	0.19	0.19	0.19	0.19	0.18
Sat Flow, veh/h	1	2254	101	4	3411	110	489	431	871	528	273	40
Grp Volume(v), veh/h	555	0	495	456	0	411	58	0	16	21	0	0
Grp Sat Flow(s),veh/h/ln	1244	0	1111	1853	0	1672	920	0	871	842	0	0
Q Serve(g_s), s	0.0	0.0	14.4	0.0	0.0	5.8	0.0	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.3	0.0	14.4	5.8	0.0	5.8	2.4	0.0	0.8	2.4	0.0	0.0
Prop In Lane	0.00		0.09	0.01		0.07	0.62		1.00	0.71		0.05
Lane Grp Cap(c), veh/h	534	0	420	805	0	768	266	0	341	308	0	0
V/C Ratio(X)	1.04	0.00	1.18	0.57	0.00	0.54	0.22	0.00	0.05	0.07	0.00	0.00
Avail Cap(c_a), veh/h	879	0	722	1276	0	1086	535	0	410	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.0	10.5	0.0	10.6	10.7	0.0	10.3	16.8	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	103.3	2.9	0.0	2.7	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	31.8	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.0	22.9	5.0	0.0	4.8	0.6	0.0	0.1	1.5	0.0	0.0
LnGrp Delay(d),s/veh	98.2	0.0	154.8	13.3	0.0	13.3	11.1	0.0	10.3	25.0	0.0	0.0
LnGrp LOS	F		F	B		B	B		B	C		
Approach Vol, veh/h	1050			867			74			21		
Approach Delay, s/veh	124.9			13.3			11.0			25.0		
Approach LOS	F			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		37.1		13.9		37.1		13.9				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.5		23.5		18.5		23.5				
Max Q Clear Time (g_c+I1), s		16.4		4.4		7.8		4.4				
Green Ext Time (p_c), s		1.3		0.0		4.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			71.6									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	120	47	61	471	35	26	119	32	16	124	30
Future Volume (veh/h)	10	120	47	61	471	35	26	119	32	16	124	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.98		0.92	0.99		0.86	0.93		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	10	120	47	61	471	35	26	119	32	16	124	30
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	59	332	124	253	1968	144	128	600	149	65	266	60
Arrive On Green	0.52	0.52	0.48	0.52	0.52	0.48	0.38	0.38	0.33	0.38	0.38	0.33
Sat Flow, veh/h	21	632	236	378	3748	274	205	1600	398	42	710	161
Grp Volume(v), veh/h	177	0	0	292	0	275	177	0	0	170	0	0
Grp Sat Flow(s),veh/h/ln	890	0	0	2247	0	2153	2203	0	0	913	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	5.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	9.3	0.0	0.0	5.1	0.0	5.6	4.2	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.06		0.27	0.21		0.13	0.15		0.18	0.09		0.18
Lane Grp Cap(c), veh/h	515	0	0	1234	0	1130	878	0	0	392	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.24	0.00	0.24	0.20	0.00	0.00	0.43	0.00	0.00
Avail Cap(c_a), veh/h	515	0	0	1234	0	1130	878	0	0	392	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.00	0.00	0.86	0.00	0.86	0.84	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	11.5	0.0	0.0	10.2	0.0	10.5	17.2	0.0	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.4	0.0	0.4	0.1	0.0	0.0	3.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	3.6	0.0	3.5	2.7	0.0	0.0	3.3	0.0	0.0
LnGrp Delay(d),s/veh	12.9	0.0	0.0	10.6	0.0	10.9	17.2	0.0	0.0	22.8	0.0	0.0
LnGrp LOS	B			B		B	B			C		
Approach Vol, veh/h	177				567		177				170	
Approach Delay, s/veh	12.9				10.8		17.2				22.8	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	34.0		46.0		34.0		46.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	26.5		38.5		26.5		38.5					
Max Q Clear Time (g_c+I1), s	6.2		11.3		13.1		7.6					
Green Ext Time (p_c), s	1.0		1.1		0.8		4.1					
Intersection Summary												
HCM 2010 Ctrl Delay			14.0									
HCM 2010 LOS			B									

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	148	68	155	118	111	95	1669	256	112	1373	91
Future Volume (veh/h)	55	148	68	155	118	111	95	1669	256	112	1373	91
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.82	0.92		0.86	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1961	2451	1900	2451	2451	1900	1863	1324	1900	2451	2451	1900
Adj Flow Rate, veh/h	55	148	68	155	118	111	95	1669	256	112	1373	91
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	173	254	117	207	183	173	136	1859	283	175	3782	251
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.60	0.59	0.08	0.59	0.59
Sat Flow, veh/h	1139	1481	680	1405	1069	1006	1774	3124	475	2334	6369	422
Grp Volume(v), veh/h	55	0	216	155	0	229	95	1284	641	112	962	502
Grp Sat Flow(s),veh/h/ln	1139	0	2161	1405	0	2075	1774	1204	1191	2334	2230	2331
Q Serve(g_s), s	3.6	0.0	7.0	6.0	0.0	7.8	4.0	35.0	35.9	3.5	8.5	8.5
Cycle Q Clear(g_c), s	11.4	0.0	7.0	13.0	0.0	7.8	4.0	35.0	35.9	3.5	8.5	8.5
Prop In Lane	1.00		0.31	1.00		0.48	1.00		0.40	1.00		0.18
Lane Grp Cap(c), veh/h	173	0	371	207	0	356	136	1433	709	175	2648	1384
V/C Ratio(X)	0.32	0.00	0.58	0.75	0.00	0.64	0.70	0.90	0.90	0.64	0.36	0.36
Avail Cap(c_a), veh/h	173	0	371	207	0	356	468	1433	709	616	2648	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.5	0.0	29.0	35.7	0.0	29.4	34.2	13.3	13.6	34.0	8.0	8.0
Incr Delay (d2), s/veh	1.0	0.0	2.3	14.2	0.0	3.9	6.4	9.0	17.2	3.8	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	4.4	4.0	0.0	4.8	2.2	13.2	15.0	2.5	5.2	5.7
LnGrp Delay(d),s/veh	35.6	0.0	31.3	49.9	0.0	33.3	40.6	22.3	30.8	37.9	8.4	8.7
LnGrp LOS	D		C	D		C	D	C	C	D	A	A
Approach Vol, veh/h	271			384			2020			1576		
Approach Delay, s/veh	32.2			40.0			25.9			10.6		
Approach LOS	C			D			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	49.1		17.0	9.8	49.0		17.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	49.5	44.5		12.5	19.5	44.5		12.5				
Max Q Clear Time (g_c+I), s	15.5	37.9		13.4	6.0	10.5		15.0				
Green Ext Time (p_c), s	0.2	5.5		0.0	0.2	12.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	21.9											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	604	28	6	94	20	6	122	86	83	132	23
Future Volume (veh/h)	22	604	28	6	94	20	6	122	86	83	132	23
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	24	0	0	35	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	2500	1900	980	1900	1000	980	1000	1900	980	1900
Adj Flow Rate, veh/h	22	604	28	6	94	20	6	122	86	83	132	23
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	693	32	52	242	49	50	343	98	98	289	21
Arrive On Green	0.39	0.37	0.35	0.39	0.37	0.35	0.50	0.48	0.46	0.50	0.48	0.46
Sat Flow, veh/h	35	1876	86	10	654	133	8	525	358	239	464	75
Grp Volume(v), veh/h	341	0	313	120	0	0	214	0	0	238	0	0
Grp Sat Flow(s),veh/h/ln	1037	0	960	797	0	0	892	0	0	778	0	0
Q Serve(g_s), s	0.0	0.0	23.7	0.6	0.0	0.0	0.0	0.0	0.0	5.4	0.0	0.0
Cycle Q Clear(g_c), s	23.3	0.0	23.7	24.3	0.0	0.0	12.7	0.0	0.0	18.1	0.0	0.0
Prop In Lane	0.06		0.09	0.05		0.17	0.03		0.40	0.35		0.10
Lane Grp Cap(c), veh/h	459	0	354	363	0	0	507	0	0	448	0	0
V/C Ratio(X)	0.74	0.00	0.88	0.33	0.00	0.00	0.42	0.00	0.00	0.53	0.00	0.00
Avail Cap(c_a), veh/h	490	0	383	390	0	0	495	0	0	453	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	22.5	0.0	23.0	17.9	0.0	0.0	16.7	0.0	0.0	19.8	0.0	0.0
Incr Delay (d2), s/veh	5.7	0.0	19.8	0.5	0.0	0.0	2.6	0.0	0.0	4.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.9	0.0	0.0	93.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	8.2	1.8	0.0	0.0	9.7	0.0	0.0	19.6	0.0	0.0
LnGrp Delay(d),s/veh	28.1	0.0	42.8	18.4	0.0	0.0	47.2	0.0	0.0	118.0	0.0	0.0
LnGrp LOS	C		D	B			D			F		
Approach Vol, veh/h	654				120		214				238	
Approach Delay, s/veh	35.1				18.4		47.2				118.0	
Approach LOS	D				B		D				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		34.7		43.0		34.7					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	14.7		25.7		20.1		26.3					
Green Ext Time (p_c), s	1.3		1.5		1.3		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay			51.7									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 82.5

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	403	23	30	293	19	13	125	27	23	107	42
Future Vol, veh/h	89	403	23	30	293	19	13	125	27	23	107	42
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	114	517	29	38	366	24	19	179	39	29	134	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	154.2	38	20.1	19
HCM LOS	F	E	C	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	17%	9%	13%
Vol Thru, %	76%	78%	86%	62%
Vol Right, %	16%	4%	6%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	515	342	172
LT Vol	13	89	30	23
Through Vol	125	403	293	107
RT Vol	27	23	19	42
Lane Flow Rate	236	660	428	215
Geometry Grp	1	1	1	1
Degree of Util (X)	0.511	1.26	0.832	0.47
Departure Headway (Hd)	8.518	6.872	7.554	8.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	427	528	483	421
Service Time	6.518	4.94	5.554	6.592
HCM Lane V/C Ratio	0.553	1.25	0.886	0.511
HCM Control Delay	20.1	154.2	38	19
HCM Lane LOS	C	F	E	C
HCM 95th-tile Q	2.8	26.2	8.2	2.4

HCM 2010 Signalized Intersection Summary

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	77	9	1	15	41	6	181	7	20	146	59
Future Volume (veh/h)	94	77	9	1	15	41	6	181	7	20	146	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900	1900	1765	1900	1900	1422	1900	1900	2451	1900
Adj Flow Rate, veh/h	94	77	9	1	15	41	6	181	7	20	146	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	69	56	7	1	14	39	5	141	5	22	160	65
Arrive On Green	0.11	0.11	0.11	0.04	0.04	0.04	0.11	0.11	0.11	0.11	0.21	0.11
Sat Flow, veh/h	642	526	61	26	392	1070	44	1313	51	205	1494	604
Grp Volume(v), veh/h	180	0	0	57	0	0	194	0	0	225	0	0
Grp Sat Flow(s),veh/h/ln	1229	0	0	1488	0	0	1408	0	0	2303	0	0
Q Serve(g_s), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	0.7	0.0	0.0	2.0	0.0	0.0	1.8	0.0	0.0
Prop In Lane	0.52		0.05	0.02		0.72	0.03		0.04	0.09		0.26
Lane Grp Cap(c), veh/h	132	0	0	55	0	0	151	0	0	246	0	0
V/C Ratio(X)	1.37	0.00	0.00	1.04	0.00	0.00	1.29	0.00	0.00	0.91	0.00	0.00
Avail Cap(c_a), veh/h	132	0	0	159	0	0	151	0	0	246	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	9.0	0.0	0.0	8.3	0.0	0.0	7.6	0.0	0.0
Incr Delay (d2), s/veh	206.4	0.0	0.0	67.2	0.0	0.0	170.1	0.0	0.0	34.9	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	0.0	0.0	1.3	0.0	0.0	7.8	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	214.8	0.0	0.0	77.1	0.0	0.0	178.5	0.0	0.0	42.6	0.0	0.0
LnGrp LOS	F			F			F			D		
Approach Vol, veh/h	180			57			194			225		
Approach Delay, s/veh	214.8			77.1			178.5			42.6		
Approach LOS	F			E			F			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	5.0		5.0		5.0		3.7					
Change Period (Y+Rc), s	3.0		3.0		3.0		3.0					
Max Green Setting (Gmax), s	2.0		2.0		2.0		2.0					
Max Q Clear Time (g_c+I1), s	4.0		4.0		3.8		2.7					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	133.0											
HCM 2010 LOS	F											

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Future Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Conflicting Peds, #/hr	8	0	5	5	0	8	8	0	28	28	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	4	5	1	2	24	5	260	3	38	232	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	634	262	635	650	168	274	0	0	291	0	0
Stage 1	333	333	-	300	300	-	-	-	-	-	-	-
Stage 2	149	301	-	335	350	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	481	396	776	377	387	847	1288	-	-	1269	-	-
Stage 1	680	643	-	685	665	-	-	-	-	-	-	-
Stage 2	839	664	-	678	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	443	367	766	349	358	818	1278	-	-	1235	-	-
Mov Cap-2 Maneuver	443	367	-	349	358	-	-	-	-	-	-	-
Stage 1	671	615	-	663	644	-	-	-	-	-	-	-
Stage 2	802	643	-	642	604	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.2		10.2		0.1		1	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1278	-	-	448	714	1235	-
HCM Lane V/C Ratio	0.004	-	-	0.283	0.038	0.031	-
HCM Control Delay (s)	7.8	0	-	16.2	10.2	8	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	146	142	1816	166	149	1540		
Future Volume (veh/h)	146	142	1816	166	149	1540		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	146	24	1816	166	149	1540		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	220	196	2530	230	210	3697		
Arrive On Green	0.12	0.12	0.53	0.52	0.12	0.73		
Sat Flow, veh/h	1774	1583	4906	431	1774	5253		
Grp Volume(v), veh/h	146	24	1297	685	149	1540		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1779	1774	1695		
Q Serve(g_s), s	4.2	0.7	15.5	15.7	4.3	6.4		
Cycle Q Clear(g_c), s	4.2	0.7	15.5	15.7	4.3	6.4		
Prop In Lane	1.00	1.00		0.24	1.00			
Lane Grp Cap(c), veh/h	220	196	1810	950	210	3697		
V/C Ratio(X)	0.66	0.12	0.72	0.72	0.71	0.42		
Avail Cap(c_a), veh/h	993	886	2023	1062	529	4932		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	22.4	20.9	9.4	9.5	22.7	2.9		
Incr Delay (d2), s/veh	3.4	0.3	1.1	2.1	4.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.3	0.3	7.3	8.2	2.4	2.9		
LnGrp Delay(d),s/veh	25.9	21.2	10.5	11.7	27.1	2.9		
LnGrp LOS	C	C	B	B	C	A		
Approach Vol, veh/h	170		1982			1689		
Approach Delay, s/veh	25.2		10.9			5.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.4	32.6				43.0		10.6
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	31.5				51.5		29.5
Max Q Clear Time (g_c+I1), s	6.3	17.7				8.4		6.2
Green Ext Time (p_c), s	0.2	10.5				16.0		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			9.0					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	45	363	289	27	32	120
Future Vol, veh/h	45	363	289	27	32	120
Conflicting Peds, #/hr	36	0	0	22	22	36
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	45	363	289	27	32	120
Major/Minor	Major1	Major2	Minor2			
Conflicting Flow All	352	0	-	0	814	375
Stage 1	-	-	-	-	339	-
Stage 2	-	-	-	-	475	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1207	-	-	-	347	671
Stage 1	-	-	-	-	722	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1166	-	-	-	308	626
Mov Cap-2 Maneuver	-	-	-	-	308	-
Stage 1	-	-	-	-	664	-
Stage 2	-	-	-	-	605	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		14.9		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1166	-	-	-	514	
HCM Lane V/C Ratio	0.039	-	-	-	0.296	
HCM Control Delay (s)	8.2	0	-	-	14.9	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.2	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	179	5	0	109	21	13	67	3	11	56	34
Future Vol, veh/h	80	179	5	0	109	21	13	67	3	11	56	34
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	179	5	0	109	21	13	67	3	11	56	34
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.9	8.6	8.7	8.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	16%	30%	0%	11%
Vol Thru, %	81%	68%	84%	55%
Vol Right, %	4%	2%	16%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	83	264	130	101
LT Vol	13	80	0	11
Through Vol	67	179	109	56
RT Vol	3	5	21	34
Lane Flow Rate	83	264	130	101
Geometry Grp	1	1	1	1
Degree of Util (X)	0.115	0.336	0.166	0.134
Departure Headway (Hd)	4.989	4.583	4.592	4.778
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	715	784	779	747
Service Time	3.038	2.62	2.635	2.825
HCM Lane V/C Ratio	0.116	0.337	0.167	0.135
HCM Control Delay	8.7	9.9	8.6	8.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	1.5	0.6	0.5

Intersection						
Int Delay, s/veh	-					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0
Major/Minor	Major2		Minor2			
Conflicting Flow All	-		0		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Critical Hdwy	-		-		6.22	
Critical Hdwy Stg 1	-		-		-	
Critical Hdwy Stg 2	-		-		-	
Follow-up Hdwy	-		-		3.318	
Pot Cap-1 Maneuver	-		0		0	
Stage 1	-		0		0	
Stage 2	-		0		0	
Platoon blocked, %	-					
Mov Cap-1 Maneuver	-		-		-	
Mov Cap-2 Maneuver	-		-		-	
Stage 1	-		-		-	
Stage 2	-		-		-	
Approach	WB		SB			
HCM Control Delay, s	0		0			
HCM LOS			A			
Minor Lane/Major Mvmt	WBT SBLn1					
Capacity (veh/h)	-		-			
HCM Lane V/C Ratio	-		-			
HCM Control Delay (s)	-		0			
HCM Lane LOS	-		A			
HCM 95th %tile Q(veh)	-		-			

Intersection																
Int Delay, s/veh	0															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR		
Lane Configurations		↑↑			↑↑	↔								↔		
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-		
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80		
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-		
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Major/Minor	Major1			Major2			Minor2									
Conflicting Flow All	-	0	-	0	0	0									-	0
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Critical Hdwy	-	-	-	4.13	-	-									-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-									-	-
Critical Hdwy Stg 2	-	-	-	-	-	-									-	-
Follow-up Hdwy	-	-	-	2.219	-	-									-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-									0	-
Stage 1	0	-	0	-	-	-									0	-
Stage 2	0	-	0	-	-	-									0	-
Platoon blocked, %		-			-	-										
Mov Cap-1 Maneuver	-	-	-	-	-	-									-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-									-	-
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Approach	EB			WB			SW									
HCM Control Delay, s	0														0	
HCM LOS															A	
Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2												
Capacity (veh/h)	-	-	-	-	-	-										
HCM Lane V/C Ratio	-	-	-	-	-	-										
HCM Control Delay (s)	-	-	-	-	0	0										
HCM Lane LOS	-	-	-	-	A	A										
HCM 95th %tile Q(veh)	-	-	-	-	-	-										

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 analysis supports yellow change in the range of 3 and 6 seconds

Intersection

Intersection Delay, s/veh 10.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Future Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	163	41	39	2	78	164	117	2	137	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.3	11.5	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	1%	50%	1%
Vol Thru, %	46%	1%	48%	86%
Vol Right, %	33%	98%	2%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	167	82	160
LT Vol	78	2	41	2
Through Vol	164	2	39	137
RT Vol	117	163	2	21
Lane Flow Rate	359	167	82	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.217	0.124	0.217
Departure Headway (Hd)	4.583	4.669	5.446	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	762	651	726
Service Time	2.649	2.748	3.539	2.967
HCM Lane V/C Ratio	0.461	0.219	0.126	0.22
HCM Control Delay	11.5	9.1	9.3	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.8	0.4	0.8

Intersection						
Int Delay, s/veh	3.3					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	414	40	65	283	53	101
Future Vol, veh/h	414	40	65	283	53	101
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	414	40	65	283	53	101
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	454	0	847	434
Stage 1	-	-	-	-	434	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1107	-	332	622
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	668	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1107	-	309	622
Mov Cap-2 Maneuver	-	-	-	-	309	-
Stage 1	-	-	-	-	653	-
Stage 2	-	-	-	-	621	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		1.6		16.7	
HCM LOS	C					
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	461	-	-	1107	-	
HCM Lane V/C Ratio	0.334	-	-	0.059	-	
HCM Control Delay (s)	16.7	-	-	8.5	0	
HCM Lane LOS	C	-	-	A	A	
HCM 95th %tile Q(veh)	1.4	-	-	0.2	-	

HCM Signalized Intersection Capacity Analysis

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (vph)	7	741	347	8	726	7	343	16	27	1	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1564	1770	3533		1681	1692	1561		1847	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1564	1770	3533		1681	1692	1561		1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	741	347	8	726	7	343	16	27	1	5	0
RTOR Reduction (vph)	0	0	200	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	7	741	147	8	733	0	178	181	7	0	6	0
Confl. Peds. (#/hr)			1			1			4			4
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.5	20.1	20.1	0.5	20.1		12.0	12.0	12.0		0.5	
Effective Green, g (s)	2.0	21.6	21.6	2.0	21.6		13.5	13.5	13.5		2.0	
Actuated g/C Ratio	0.04	0.42	0.42	0.04	0.42		0.26	0.26	0.26		0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	69	1495	661	69	1493		444	447	412		72	
v/s Ratio Prot	0.00	c0.21		c0.00	0.21		0.11	c0.11				
v/s Ratio Perm			0.09						0.00		c0.00	
v/c Ratio	0.10	0.50	0.22	0.12	0.49		0.40	0.40	0.02		0.08	
Uniform Delay, d1	23.7	10.8	9.4	23.7	10.7		15.5	15.5	13.9		23.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.3	0.2	0.8	0.3		0.6	0.6	0.0		0.5	
Delay (s)	24.3	11.0	9.6	24.4	11.0		16.1	16.1	13.9		24.2	
Level of Service	C	B	A	C	B		B	B	B		C	
Approach Delay (s)		10.7			11.1			15.9			24.2	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			11.8			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			51.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			45.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (vph)	44	395	275	172	212	6	310	42	43	2	28	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.98	0.85	1.00	1.00			0.98		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96		0.95	1.00	
Satd. Flow (prot)	1770	3303	1416	3433	3523			3344		1770	3328	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.96		0.95	1.00	
Satd. Flow (perm)	1770	3303	1416	3433	3523			3344		1770	3328	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	395	275	172	212	6	310	42	43	2	28	16
RTOR Reduction (vph)	0	10	138	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	44	457	65	172	218	0	0	395	0	2	44	0
Confl. Peds. (#/hr)			7			6			8			5
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	4.3	19.3	19.3	9.6	24.6			14.4		3.6	3.6	
Effective Green, g (s)	5.8	20.8	20.8	11.1	26.1			15.9		5.1	5.1	
Actuated g/C Ratio	0.09	0.32	0.32	0.17	0.40			0.24		0.08	0.08	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	158	1058	453	587	1416			819		139	261	
v/s Ratio Prot	0.02	c0.14		c0.05	0.06			c0.12		0.00	c0.01	
v/s Ratio Perm			0.05									
v/c Ratio	0.28	0.43	0.14	0.29	0.15			0.48		0.01	0.17	
Uniform Delay, d1	27.6	17.4	15.7	23.5	12.4			21.0		27.6	27.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3	0.1	0.3	0.1			0.4		0.0	0.3	
Delay (s)	28.6	17.7	15.9	23.8	12.4			21.4		27.6	28.2	
Level of Service	C	B	B	C	B			C		C	C	
Approach Delay (s)		17.8			17.4			21.4			28.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			19.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			64.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			55.0%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (vph)	104	228	179	60	461	21	272	460	518	41	105	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	3433	3514		1770	3207	1414	1770	3196	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	3433	3514		1770	3207	1414	1770	3196	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	228	179	60	461	21	272	460	518	41	105	142
RTOR Reduction (vph)	0	0	123	0	0	0	0	42	180	0	114	0
Lane Group Flow (vph)	104	228	56	60	482	0	272	636	120	41	133	0
Confl. Peds. (#/hr)			17			5			10			12
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.3	21.8	21.8	3.8	17.3		18.0	28.5	28.5	2.6	13.1	
Effective Green, g (s)	9.8	23.3	23.3	5.3	18.8		19.5	30.0	30.0	4.1	14.6	
Actuated g/C Ratio	0.13	0.31	0.31	0.07	0.25		0.26	0.40	0.40	0.05	0.20	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	1103	480	243	884		462	1287	567	97	624	
v/s Ratio Prot	c0.06	0.06		0.02	c0.14		c0.15	c0.20		0.02	0.04	
v/s Ratio Perm			0.04						0.09			
v/c Ratio	0.45	0.21	0.12	0.25	0.55		0.59	0.49	0.21	0.42	0.21	
Uniform Delay, d1	30.0	18.9	18.3	32.8	24.2		24.1	16.7	14.6	34.2	25.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.1	0.1	0.5	0.7		1.9	0.3	0.2	3.0	0.2	
Delay (s)	31.3	19.0	18.5	33.3	24.9		26.0	17.0	14.8	37.1	25.4	
Level of Service	C	B	B	C	C		C	B	B	D	C	
Approach Delay (s)		21.3			25.9			18.4			27.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			74.7			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	740	438	77	1220	89	651	155	86	131	196	137
Future Volume (vph)	190	740	438	77	1220	89	651	155	86	131	196	137
Ideal Flow (vphpl)	1300	1500	1900	1000	1550	1900	1750	1600	1600	1900	1600	1600
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.93	1.00	0.99		1.00	0.98			1.00	0.87
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1211	2794	1467	931	4079		3162	1458			1538	1159
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1211	2794	1467	931	4079		3162	1458			1538	1159
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	190	740	438	77	1220	89	651	155	86	131	196	137
RTOR Reduction (vph)	0	0	95	0	7	0	0	0	0	0	0	105
Lane Group Flow (vph)	190	740	343	77	1302	0	651	241	0	0	327	32
Confl. Peds. (#/hr)			50			21			17			54
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	16.5	40.5	67.0	9.5	33.5		26.5	26.5			25.5	25.5
Effective Green, g (s)	18.0	42.0	70.0	11.0	35.0		28.0	28.0			27.0	27.0
Actuated g/C Ratio	0.15	0.35	0.58	0.09	0.29		0.23	0.23			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	181	977	892	85	1189		737	340			346	260
v/s Ratio Prot	c0.16	0.26	0.09	0.08	c0.32		c0.21	0.17			c0.21	
v/s Ratio Perm			0.14									0.03
v/c Ratio	1.05	0.76	0.38	0.91	1.09		0.88	0.71			0.95	0.12
Uniform Delay, d1	51.0	34.5	13.4	54.0	42.5		44.4	42.3			45.8	37.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	80.6	3.4	0.3	66.6	56.0		12.1	6.6			34.0	0.2
Delay (s)	131.6	37.9	13.7	120.6	98.5		56.6	48.9			79.8	37.3
Level of Service	F	D	B	F	F		E	D			E	D
Approach Delay (s)		43.2			99.8			54.5			67.2	
Approach LOS		D			F			D			E	
Intersection Summary												
HCM 2000 Control Delay			67.4			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			101.2%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (vph)	158	241	182	94	511	265	213	224	132	202	261	598
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.96	1.00	0.98		1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1508	1770	1863	1513	1770	3287		1770	1863	1478
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1508	1770	1863	1513	1770	3287		1770	1863	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	158	241	182	94	511	265	213	224	132	202	261	598
RTOR Reduction (vph)	0	0	120	0	0	181	0	0	0	0	0	204
Lane Group Flow (vph)	158	241	62	94	511	84	213	356	0	202	261	394
Confl. Peds. (#/hr)			11			20			8			23
Confl. Bikes (#/hr)			11			3			6			9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	10.5	33.7	33.7	7.9	31.1	31.1	13.4	27.6		16.2	30.4	30.4
Effective Green, g (s)	12.0	35.2	35.2	9.4	32.6	32.6	14.9	29.1		17.7	31.9	31.9
Actuated g/C Ratio	0.12	0.34	0.34	0.09	0.32	0.32	0.14	0.28		0.17	0.31	0.31
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	205	634	513	160	587	477	255	925		302	574	455
v/s Ratio Prot	c0.09	c0.13		0.05	c0.27		c0.12	0.11		0.11	0.14	
v/s Ratio Perm			0.04			0.06						c0.27
v/c Ratio	0.77	0.38	0.12	0.59	0.87	0.18	0.84	0.38		0.67	0.45	0.87
Uniform Delay, d1	44.4	25.8	23.5	45.1	33.4	25.7	43.1	29.9		40.1	28.8	33.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	16.3	0.4	0.1	5.4	13.3	0.2	20.4	0.3		5.5	0.6	15.7
Delay (s)	60.6	26.2	23.6	50.6	46.7	25.8	63.5	30.2		45.6	29.3	49.5
Level of Service	E	C	C	D	D	C	E	C		D	C	D
Approach Delay (s)		34.7			40.8			42.7			43.8	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			41.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			103.4			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			87.9%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (vph)	308	1041	178	50	1960	84	406	132	59	51	108	313
Ideal Flow (vphpl)	1800	2200	2200	1800	2200	2200	1900	2100	2100	1900	1900	2200
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	0.86	0.86	1.00	0.91		0.97	1.00		1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99		1.00	0.98	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95		1.00	0.92	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3252	5548	1532	1676	5836		3433	2201		1770	1606	1678
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3252	5548	1532	1676	5836		3433	2201		1770	1606	1678
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	308	1041	178	50	1960	84	406	132	59	51	108	313
RTOR Reduction (vph)	0	1	62	0	3	0	0	10	0	0	24	155
Lane Group Flow (vph)	308	1058	98	50	2041	0	406	181	0	51	194	48
Confl. Peds. (#/hr)			6			20			14			15
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.8	86.5	86.5	8.1	76.8		24.7	24.7		22.7	22.7	22.7
Effective Green, g (s)	19.3	88.0	88.0	9.6	78.3		26.2	26.2		24.2	24.2	24.2
Actuated g/C Ratio	0.12	0.55	0.55	0.06	0.49		0.16	0.16		0.15	0.15	0.15
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	392	3051	842	100	2855		562	360		267	242	253
v/s Ratio Prot	c0.09	0.19		0.03	c0.35		c0.12	0.08		0.03	c0.12	
v/s Ratio Perm			0.06									0.03
v/c Ratio	0.79	0.35	0.12	0.50	0.72		0.72	0.50		0.19	0.80	0.19
Uniform Delay, d1	68.3	20.0	17.3	72.9	32.1		63.5	61.0		59.3	65.6	59.3
Progression Factor	1.05	1.07	1.32	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.5	0.3	0.2	3.9	1.6		4.6	1.1		0.3	17.2	0.4
Delay (s)	80.6	21.7	23.1	76.8	33.7		68.0	62.1		59.7	82.8	59.7
Level of Service	F	C	C	E	C		E	E		E	F	E
Approach Delay (s)		33.7			34.7			66.1			70.4	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			42.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			85.9%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Humboldt St/Humbolt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (vph)	4	818	129	183	656	148	69	56	213	83	153	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95		0.98			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.91			1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1770	3440		1770	1863	1498		1653			1820	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.87			0.68	
Satd. Flow (perm)	1770	3440		1770	1863	1498		1453			1255	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	818	129	183	656	148	69	56	213	83	153	8
RTOR Reduction (vph)	0	0	0	0	0	30	0	73	0	0	1	0
Lane Group Flow (vph)	4	947	0	183	656	118	0	265	0	0	243	0
Confl. Peds. (#/hr)			15			13	8		8	1		20
Confl. Bikes (#/hr)			8			6			10			4
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	0.8	30.9		12.7	42.8	42.8		18.5			18.5	
Effective Green, g (s)	2.3	32.4		14.2	44.3	44.3		20.0			20.0	
Actuated g/C Ratio	0.03	0.43		0.19	0.59	0.59		0.26			0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	53	1474		332	1091	877		384			332	
v/s Ratio Prot	0.00	0.28		c0.10	c0.35							
v/s Ratio Perm						0.08		0.18			c0.19	
v/c Ratio	0.08	0.64		0.55	0.60	0.13		0.69			0.73	
Uniform Delay, d1	35.6	17.0		27.8	10.0	7.0		25.0			25.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.6	1.0		2.0	0.9	0.1		5.3			8.0	
Delay (s)	36.2	18.0		29.8	10.9	7.1		30.3			33.4	
Level of Service	D	B		C	B	A		C			C	
Approach Delay (s)		18.1			13.9			30.3			33.4	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			19.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.6				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			72.0%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	291	81	85	277	53	87	254	19	205	230	110
Future Volume (vph)	48	291	81	85	277	53	87	254	19	205	230	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	10	10	9	10	10	9	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.97	1.00		0.94	1.00		0.96	1.00		0.97	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1606	1787		1560	1676		1529	1712		1551	1599	
Flt Permitted	0.46	1.00		0.42	1.00		0.45	1.00		0.52	1.00	
Satd. Flow (perm)	778	1787		690	1676		725	1712		843	1599	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	291	81	85	277	53	87	254	19	205	230	110
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	372	0	85	330	0	87	273	0	205	340	0
Confl. Peds. (#/hr)	21		7	48		21	33		18	18		33
Confl. Bikes (#/hr)									4			4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	35.5		35.5	35.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	359	826		319	775		335	791		389	739	
v/s Ratio Prot		c0.21			0.20			0.16			0.21	
v/s Ratio Perm	0.06			0.12			0.12			c0.24		
v/c Ratio	0.13	0.45		0.27	0.43		0.26	0.35		0.53	0.46	
Uniform Delay, d1	12.3	14.6		13.2	14.4		13.1	13.8		15.3	14.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.8		2.0	1.7		1.9	1.2		5.0	2.1	
Delay (s)	13.1	16.4		15.2	16.1		15.0	14.9		20.3	16.7	
Level of Service	B	B		B	B		B	B		C	B	
Approach Delay (s)		16.0			15.9			15.0			18.1	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		64.4%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Humboldt St & 3rd Ave

06/12/2020



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	269	1064	329	6	81	311	49	182	429	25
Future Volume (vph)	269	1064	329	6	81	311	49	182	429	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			0%	0%		0%		
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		0.91			1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes		0.99			1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	1.00	0.85	0.93	0.85	
Flt Protected		0.99			1.00	1.00	1.00	0.97	1.00	
Satd. Flow (prot)		4895			1856	1863	1550	1691	1583	
Flt Permitted		0.99			0.98	1.00	1.00	0.97	1.00	
Satd. Flow (perm)		4895			1817	1863	1550	1691	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	269	1064	329	6	81	311	49	182	429	25
RTOR Reduction (vph)	0	0	0	0	0	0	35	0	0	0
Lane Group Flow (vph)	0	1662	0	0	87	311	14	328	308	0
Confl. Peds. (#/hr)	11		22				9			
Confl. Bikes (#/hr)							2			
Turn Type	Perm	NA		Perm	NA	NA	Perm	Prot	Perm	
Protected Phases		3			2	6		4		
Permitted Phases	3			2			6		4	
Actuated Green, G (s)		17.1			16.9	16.9	16.9	19.1	19.1	
Effective Green, g (s)		18.6			18.4	18.4	18.4	20.6	20.6	
Actuated g/C Ratio		0.28			0.28	0.28	0.28	0.31	0.31	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1367			501	514	428	523	489	
v/s Ratio Prot						c0.17		0.19		
v/s Ratio Perm		0.34			0.05		0.01		c0.19	
v/c Ratio		1.22			0.17	0.61	0.03	0.63	0.63	
Uniform Delay, d1		24.0			18.3	20.9	17.6	19.7	19.7	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		104.0			0.2	2.0	0.0	2.4	2.5	
Delay (s)		128.0			18.5	23.0	17.6	22.1	22.3	
Level of Service		F			B	C	B	C	C	
Approach Delay (s)		128.0			18.5	22.2		22.2		
Approach LOS		F			B	C		C		
Intersection Summary										
HCM 2000 Control Delay			86.2		HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			0.81							
Actuated Cycle Length (s)			66.6		Sum of lost time (s)				9.0	
Intersection Capacity Utilization			80.2%		ICU Level of Service				D	
Analysis Period (min)			15							
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  							 		 	
Traffic Volume (vph)	20	1292	14	0	0	0	0	57	508	377	369	0
Future Volume (vph)	20	1292	14	0	0	0	0	57	508	377	369	0
Ideal Flow (vphpl)	1700	1600	1700	1900	1900	1900	1900	1700	1100	1600	1500	1900
Total Lost time (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.91						0.95	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00						0.98	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00	1.00	1.00	
Frt	1.00	1.00						0.88	0.85	1.00	1.00	
Flt Protected	0.95	1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4273						1362	846	1416	1391	
Flt Permitted	0.95	1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1583	4273						1362	846	1416	1391	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1292	14	0	0	0	0	57	508	377	369	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	70	70	0	0	0
Lane Group Flow (vph)	20	1306	0	0	0	0	0	216	209	339	407	0
Confl. Peds. (#/hr)	12		13						13			
Turn Type	Split	NA						NA	Perm	Split	NA	
Protected Phases	4	4						2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	18.5	18.5						17.8	17.8	18.5	18.5	
Effective Green, g (s)	20.0	20.0						19.3	19.3	20.0	20.0	
Actuated g/C Ratio	0.29	0.29						0.28	0.28	0.29	0.29	
Clearance Time (s)	4.5	4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	463	1251						384	239	414	407	
v/s Ratio Prot	0.01	c0.31						0.16		0.24	c0.29	
v/s Ratio Perm									c0.25			
v/c Ratio	0.04	1.04						0.56	0.87	0.82	1.00	
Uniform Delay, d1	17.3	24.1						20.9	23.3	22.5	24.1	
Progression Factor	1.00	1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	37.7						1.9	27.7	11.9	44.6	
Delay (s)	17.3	61.9						22.8	51.0	34.4	68.8	
Level of Service	B	E						C	D	C	E	
Approach Delay (s)		61.2			0.0			36.7			53.1	
Approach LOS		E			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			53.7		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			68.3		Sum of lost time (s)					9.0		
Intersection Capacity Utilization			103.1%		ICU Level of Service					G		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (vph)	52	331	197	66	78	11	242	123	187	53	224	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3295		1770	3446		1681	1740	1516	1770	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3295		1770	3446		1681	1740	1516	1770	1795	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	331	197	66	78	11	242	123	187	53	224	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	146	0	0	0
Lane Group Flow (vph)	52	528	0	66	89	0	179	186	41	53	282	0
Confl. Peds. (#/hr)			23			20			28			15
Confl. Bikes (#/hr)			7			2			5			3
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	2.9	19.0		4.1	20.2		14.5	14.5	14.5	16.6	16.6	
Effective Green, g (s)	4.4	20.5		5.6	21.7		16.0	16.0	16.0	18.1	18.1	
Actuated g/C Ratio	0.06	0.28		0.08	0.30		0.22	0.22	0.22	0.25	0.25	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	107	935		137	1035		372	385	335	443	449	
v/s Ratio Prot	0.03	c0.16		c0.04	0.03		0.11	c0.11		0.03	c0.16	
v/s Ratio Perm									0.03			
v/c Ratio	0.49	0.56		0.48	0.09		0.48	0.48	0.12	0.12	0.63	
Uniform Delay, d1	32.8	22.0		31.9	18.1		24.5	24.5	22.5	20.9	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.4	0.8		2.7	0.0		1.0	1.0	0.2	0.1	2.7	
Delay (s)	36.3	22.8		34.6	18.2		25.5	25.5	22.7	21.0	26.8	
Level of Service	D	C		C	B		C	C	C	C	C	
Approach Delay (s)		24.0			25.1			24.5			25.9	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.7			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			72.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (vph)	0	528	219	486	556	0	0	0	0	204	64	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Util. Factor		1.00	1.00	1.00	1.00					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.94	1.00	1.00					1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.97	1.00
Satd. Flow (prot)		1863	1486	1770	1863					1681	1724	1531
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.97	1.00
Satd. Flow (perm)		1863	1486	1770	1863					1681	1724	1531
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	528	219	486	556	0	0	0	0	204	64	228
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	528	219	486	556	0	0	0	0	133	135	228
Confl. Peds. (#/hr)			15									2
Confl. Bikes (#/hr)			6									7
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases			4									6
Actuated Green, G (s)		28.3	28.3	28.8	61.6					24.4	24.4	24.4
Effective Green, g (s)		29.8	29.8	30.3	63.1					25.9	25.9	25.9
Actuated g/C Ratio		0.31	0.31	0.32	0.66					0.27	0.27	0.27
Clearance Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		584	466	564	1237					458	470	417
v/s Ratio Prot		c0.28		c0.27	0.30					0.08	0.08	
v/s Ratio Perm			0.15									c0.15
v/c Ratio		0.90	0.47	0.86	0.45					0.29	0.29	0.55
Uniform Delay, d1		31.2	26.2	30.4	7.6					27.3	27.3	29.5
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		17.4	0.8	12.8	0.3					1.6	1.5	5.1
Delay (s)		48.6	27.0	43.2	7.9					28.9	28.8	34.6
Level of Service		D	C	D	A					C	C	C
Approach Delay (s)		42.3			24.4			0.0			31.5	
Approach LOS		D			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			84.8%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

13: US 101 NB Off Ramp & Hillsdale Blvd

06/12/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖↗
Traffic Volume (vph)	822	0	0	2132	511	728
Future Volume (vph)	822	0	0	2132	511	728
Ideal Flow (vphpl)	1300	1900	1900	1900	1600	2100
Total Lost time (s)	3.0			3.0	3.0	3.0
Lane Util. Factor	0.95			0.95	0.97	*1.00
Frt	1.00			1.00	1.00	1.00
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2179			3185	2602	3706
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2179			3185	2602	3706
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	822	0	0	2132	511	728
RTOR Reduction (vph)	0	0	0	0	0	420
Lane Group Flow (vph)	822	0	0	2132	511	308
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	8	
Permitted Phases						8
Actuated Green, G (s)	119.5			119.5	31.5	31.5
Effective Green, g (s)	121.0			121.0	33.0	33.0
Actuated g/C Ratio	0.76			0.76	0.21	0.21
Clearance Time (s)	4.5			4.5	4.5	4.5
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1647			2408	536	764
v/s Ratio Prot	0.38			c0.67	c0.20	
v/s Ratio Perm						0.08
v/c Ratio	0.50			0.89	0.95	0.40
Uniform Delay, d1	7.6			14.4	62.7	55.0
Progression Factor	0.78			1.90	1.00	1.00
Incremental Delay, d2	0.9			3.9	28.9	1.6
Delay (s)	6.9			31.3	91.6	56.6
Level of Service	A			C	F	E
Approach Delay (s)	6.9			31.3	71.0	
Approach LOS	A			C	E	
Intersection Summary						
HCM 2000 Control Delay	38.2			HCM 2000 Level of Service		D
HCM 2000 Volume to Capacity ratio	0.90					
Actuated Cycle Length (s)	160.0			Sum of lost time (s)		6.0
Intersection Capacity Utilization	91.4%			ICU Level of Service		F
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

14: US 101 SB & Hillsdale Blvd

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (vph)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (vph)	0	1270	406	0	1459	0	0	0	0	53	229	0
Ideal Flow (vphpl)	1900	1000	1000	1900	1000	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	
Lane Util. Factor		*0.95	1.00		*0.90					0.97	0.95	
Frpb, ped/bikes		1.00	0.98		1.00					1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	
Frt		1.00	0.85		1.00					1.00	1.00	
Flt Protected		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (prot)		2794	814		1765					3433	3539	
Flt Permitted		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (perm)		2794	814		1765					3433	3539	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1270	406	0	1459	0	0	0	0	53	229	0
RTOR Reduction (vph)	0	0	92	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1270	314	0	1459	0	0	0	0	53	229	0
Confl. Peds. (#/hr)			8									
Confl. Bikes (#/hr)			1									
Turn Type		NA	Perm		NA					Split	NA	
Protected Phases		4			8					6	6	
Permitted Phases			4									
Actuated Green, G (s)		60.3	60.3		60.3					10.7	10.7	
Effective Green, g (s)		61.8	61.8		61.8					12.2	12.2	
Actuated g/C Ratio		0.77	0.77		0.77					0.15	0.15	
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	
Lane Grp Cap (vph)		2158	628		1363					523	539	
v/s Ratio Prot		0.45			c0.83					0.02	c0.06	
v/s Ratio Perm			0.39									
v/c Ratio		0.59	0.50		1.07					0.10	0.42	
Uniform Delay, d1		3.8	3.4		9.1					29.2	30.7	
Progression Factor		1.00	1.00		1.47					1.00	1.00	
Incremental Delay, d2		1.2	2.8		38.6					0.1	0.5	
Delay (s)		5.0	6.2		51.9					29.3	31.3	
Level of Service		A	A		D					C	C	
Approach Delay (s)		5.3			51.9			0.0			30.9	
Approach LOS		A			D			A			C	
Intersection Summary												
HCM 2000 Control Delay			27.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			80.0			Sum of lost time (s)				6.0		
Intersection Capacity Utilization			91.4%			ICU Level of Service				F		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (vph)	7	612	107	118	541	28	144	79	249	51	105	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.97		1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00			0.99	1.00		1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1758	3431		1757	1844			1790	1530		1802	
Flt Permitted	0.31	1.00		0.33	1.00			0.78	1.00		0.87	
Satd. Flow (perm)	565	3431		614	1844			1433	1530		1592	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	612	107	118	541	28	144	79	249	51	105	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	116	0	0	0
Lane Group Flow (vph)	7	719	0	118	569	0	0	223	133	0	171	0
Confl. Peds. (#/hr)	13		35	19		30	16		36	17		29
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		2	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	18.7	18.7		18.7	18.7			13.1	13.1		13.1	
Effective Green, g (s)	20.2	20.2		20.2	20.2			14.6	14.6		14.6	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.36	0.36		0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	279	1698		303	912			512	547		569	
v/s Ratio Prot		0.21			c0.31							
v/s Ratio Perm	0.01			0.19				c0.16	0.09		0.11	
v/c Ratio	0.03	0.42		0.39	0.62			0.44	0.24		0.30	
Uniform Delay, d1	5.3	6.6		6.4	7.5			10.0	9.2		9.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.2		0.8	1.3			0.6	0.2		0.3	
Delay (s)	5.3	6.8		7.3	8.9			10.6	9.5		9.7	
Level of Service	A	A		A	A			B	A		A	
Approach Delay (s)		6.7			8.6			10.0			9.7	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.3			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		40.8			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		63.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (vph)	24	57	19	138	168	117	61	277	73	113	196	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.94		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1774		1770	1677		1770	1749		1770	1789	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1774		1770	1677		1770	1749		1770	1789	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	57	19	138	168	117	61	277	73	113	196	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	24	76	0	138	285	0	61	350	0	113	238	0
Confl. Peds. (#/hr)			27			71			66			32
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.4	16.0		8.0	21.6		4.7	21.2		7.6	24.1	
Effective Green, g (s)	3.9	17.5		9.5	23.1		6.2	22.7		9.1	25.6	
Actuated g/C Ratio	0.06	0.25		0.13	0.33		0.09	0.32		0.13	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	438		237	547		155	560		227	646	
v/s Ratio Prot	0.01	0.04		c0.08	c0.17		0.03	c0.20		c0.06	c0.13	
v/s Ratio Perm												
v/c Ratio	0.25	0.17		0.58	0.52		0.39	0.62		0.50	0.37	
Uniform Delay, d1	32.0	21.0		28.8	19.4		30.5	20.4		28.7	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.2		3.6	0.9		1.6	2.2		1.7	0.4	
Delay (s)	33.4	21.2		32.4	20.3		32.2	22.6		30.4	17.0	
Level of Service	C	C		C	C		C	C		C	B	
Approach Delay (s)		24.1			24.2			24.0			21.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			70.8			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			56.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	0	192	299	617	89	46	276	0	0	529	49
Future Volume (vph)	61	0	192	299	617	89	46	276	0	0	529	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1500	1000	1000	1900	1100	1900
Total Lost time (s)	7.5		7.5	3.0	3.0		7.5	8.0			3.0	
Lane Util. Factor	1.00		1.00	1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes	1.00		0.89	1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770		1404	1770	3436		1397	1000			2013	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770		1404	1770	3436		1397	1863			2013	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	61	0	192	299	617	89	46	276	0	0	529	49
RTOR Reduction (vph)	0	0	174	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	61	0	18	299	706	0	46	276	0	0	578	0
Confl. Peds. (#/hr)			30			65						35
Confl. Bikes (#/hr)			4			3			2			4
Turn Type	Prot		Perm	Split	NA		Prot	NA			NA	
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4									
Actuated Green, G (s)	6.0		6.0	20.6	20.6		2.3	29.9			23.6	
Effective Green, g (s)	7.5		7.5	22.1	22.1		3.8	31.4			25.1	
Actuated g/C Ratio	0.09		0.09	0.28	0.28		0.05	0.39			0.32	
Clearance Time (s)	9.0		9.0	4.5	4.5		9.0	9.5			4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	166		132	492	955		66	394			635	
v/s Ratio Prot	c0.03			0.17	c0.21		0.03	c0.28			c0.29	
v/s Ratio Perm			0.01									
v/c Ratio	0.37		0.14	0.61	0.74		0.70	0.70			0.91	
Uniform Delay, d1	33.8		33.0	24.9	26.1		37.3	20.1			26.1	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	1.4		0.5	5.5	5.1		27.4	5.5			17.2	
Delay (s)	35.2		33.5	30.4	31.2		64.7	25.7			43.4	
Level of Service	D		C	C	C		E	C			D	
Approach Delay (s)		33.9			31.0			31.2			43.4	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			34.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.82									
Actuated Cycle Length (s)			79.5			Sum of lost time (s)			21.0			
Intersection Capacity Utilization			76.2%			ICU Level of Service				D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	568	17	0	0	0	20	288	174	321	594	72
Future Volume (vph)	20	568	17	0	0	0	20	288	174	321	594	72
Ideal Flow (vphpl)	1900	2500	1900	1900	1900	1900	1900	2500	1900	1100	2500	1900
Total Lost time (s)		3.0					3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95					1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00					1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00					1.00	1.00		1.00	1.00	
Frt		1.00					1.00	0.94		1.00	0.98	
Flt Protected		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4623					1770	4254		1025	4542	
Flt Permitted		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)		4623					1770	4254		1025	4542	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	568	17	0	0	0	20	288	174	321	594	72
RTOR Reduction (vph)	0	0	0	0	0	0	0	111	0	0	0	0
Lane Group Flow (vph)	0	605	0	0	0	0	20	351	0	321	666	0
Confl. Peds. (#/hr)	14		18						28			24
Confl. Bikes (#/hr)			4						1			4
Turn Type	Perm	NA					Prot	NA		Prot	NA	
Protected Phases		4					5	2		1	6	
Permitted Phases	4											
Actuated Green, G (s)		32.5					3.0	11.9		24.5	33.4	
Effective Green, g (s)		34.0					4.5	13.4		26.0	34.9	
Actuated g/C Ratio		0.41					0.05	0.16		0.32	0.42	
Clearance Time (s)		4.5					4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1907					96	691		323	1923	
v/s Ratio Prot							0.01	c0.08		c0.31	0.15	
v/s Ratio Perm		0.13										
v/c Ratio		0.32					0.21	0.51		0.99	0.35	
Uniform Delay, d1		16.4					37.2	31.5		28.1	16.0	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.4					1.1	0.6		48.5	0.1	
Delay (s)		16.8					38.3	32.1		76.7	16.2	
Level of Service		B					D	C		E	B	
Approach Delay (s)		16.8			0.0			32.3			35.8	
Approach LOS		B			A			C			D	
Intersection Summary												
HCM 2000 Control Delay		29.5					HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		82.4					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		70.3%					ICU Level of Service			C		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	152	43	22	216	44	36	363	13	4	319	153
Future Volume (vph)	56	152	43	22	216	44	36	363	13	4	319	153
Ideal Flow (vphpl)	1900	1100	1900	1900	1000	1900	1900	1000	1900	1900	1000	1000
Total Lost time (s)		6.0			6.0			6.0			6.0	6.0
Lane Util. Factor		1.00			1.00			1.00			1.00	1.00
Frpb, ped/bikes		0.99			0.99			1.00			1.00	0.93
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.98			0.98			1.00			1.00	0.85
Flt Protected		0.99			1.00			1.00			1.00	1.00
Satd. Flow (prot)		1026			948			967			980	779
Flt Permitted		0.84			0.96			0.95			1.00	1.00
Satd. Flow (perm)		868			913			922			976	779
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	152	43	22	216	44	36	363	13	4	319	153
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	69
Lane Group Flow (vph)	0	251	0	0	282	0	0	411	0	0	323	84
Confl. Peds. (#/hr)	8		27	20		24	7		36	16		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		22.5			22.5			42.5			42.5	42.5
Effective Green, g (s)		24.0			24.0			44.0			44.0	44.0
Actuated g/C Ratio		0.30			0.30			0.55			0.55	0.55
Clearance Time (s)		7.5			7.5			7.5			7.5	7.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		260			273			507			536	428
v/s Ratio Prot												
v/s Ratio Perm		0.29			c0.31			c0.45			0.33	0.11
v/c Ratio		0.97			1.03			0.81			0.60	0.20
Uniform Delay, d1		27.6			28.0			14.6			12.1	9.1
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		45.8			63.3			13.1			5.0	1.0
Delay (s)		73.4			91.3			27.7			17.1	10.1
Level of Service		E			F			C			B	B
Approach Delay (s)		73.4			91.3			27.7			14.8	
Approach LOS		E			F			C			B	
Intersection Summary												
HCM 2000 Control Delay		44.1			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		0.89										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		137.3%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	194	76	89	235	16	83	290	60	9	363	107
Future Volume (vph)	64	194	76	89	235	16	83	290	60	9	363	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1766			1815			1795			1786	
Flt Permitted		0.90			0.87			0.87			0.99	
Satd. Flow (perm)		1598			1591			1583			1772	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	194	76	89	235	16	83	290	60	9	363	107
RTOR Reduction (vph)	0	19	0	0	3	0	0	10	0	0	17	0
Lane Group Flow (vph)	0	315	0	0	337	0	0	423	0	0	462	0
Confl. Peds. (#/hr)	17		17	24		24	17		24	24		17
Confl. Bikes (#/hr)			6			4						6
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.7			14.7			16.3			16.3	
Effective Green, g (s)		16.2			16.2			17.8			17.8	
Actuated g/C Ratio		0.40			0.40			0.45			0.45	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		647			644			704			788	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.21			c0.27			0.26	
v/c Ratio		0.49			0.52			0.60			0.59	
Uniform Delay, d1		8.8			9.0			8.4			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.8			1.5			1.1	
Delay (s)		9.4			9.8			9.9			9.5	
Level of Service		A			A			A			A	
Approach Delay (s)		9.4			9.8			9.9			9.5	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		9.6			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		40.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		88.0%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (vph)	219	260	386	86	288	81	181	391	136	110	439	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1488	1770	3393		3433	3368		1770	3313	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1488	1770	3393		3433	3368		1770	3313	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	219	260	386	86	288	81	181	391	136	110	439	185
RTOR Reduction (vph)	0	0	242	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	219	260	144	86	369	0	181	527	0	110	624	0
Confl. Peds. (#/hr)			50			31			25			56
Confl. Bikes (#/hr)			8						7			8
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.5	24.2	24.2	7.2	15.9		9.0	23.8		8.3	23.1	
Effective Green, g (s)	17.0	25.7	25.7	8.7	17.4		10.5	25.3		9.8	24.6	
Actuated g/C Ratio	0.21	0.32	0.32	0.11	0.21		0.13	0.31		0.12	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	369	1115	469	188	724		442	1045		212	999	
v/s Ratio Prot	c0.12	0.07		0.05	c0.11		0.05	0.16		c0.06	c0.19	
v/s Ratio Perm			0.10									
v/c Ratio	0.59	0.23	0.31	0.46	0.51		0.41	0.50		0.52	0.62	
Uniform Delay, d1	29.1	20.6	21.2	34.2	28.3		32.6	23.0		33.6	24.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.1	0.4	1.8	0.6		0.6	0.4		2.1	1.2	
Delay (s)	31.7	20.7	21.5	35.9	28.9		33.3	23.4		35.8	25.7	
Level of Service	C	C	C	D	C		C	C		D	C	
Approach Delay (s)		23.9			30.2			25.9			27.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			81.5			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			70.4%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (vph)	0	23	67	638	38	0	63	0	857	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			3.0	3.0			
Lane Util. Factor		1.00		0.95	0.95			1.00	0.88			
Frt		0.90		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (prot)		1676		1681	1694			1770	2787			
Flt Permitted		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (perm)		1676		1681	1694			1770	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	23	67	638	38	0	63	0	857	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	618	0	0	0
Lane Group Flow (vph)	0	90	0	338	338	0	0	63	239	0	0	0
Turn Type		NA		Split	NA	Perm	Split	NA	Perm			
Protected Phases		4		8	8		2	2		6	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)		6.5		16.7	16.7			12.1	12.1			
Effective Green, g (s)		8.0		18.2	18.2			13.6	13.6			
Actuated g/C Ratio		0.16		0.37	0.37			0.28	0.28			
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		274		626	631			493	776			
v/s Ratio Prot		c0.05		c0.20	0.20			0.04				
v/s Ratio Perm									c0.09			
v/c Ratio		0.33		0.54	0.54			0.13	0.31			
Uniform Delay, d1		18.0		12.0	12.0			13.2	13.9			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.7		0.9	0.9			0.1	0.2			
Delay (s)		18.7		12.9	12.9			13.3	14.1			
Level of Service		B		B	B			B	B			
Approach Delay (s)		18.7			12.9			14.1			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			13.8									
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			48.8									
Intersection Capacity Utilization			42.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (vph)	117	234	35	270	0	392	0	197	248	261	158	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		0.97	1.00	
Frpb, ped/bikes		1.00	0.92	1.00		0.98		0.98		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Frt		1.00	0.85	1.00		0.85		0.92		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1456	1770		1546		3175		3433	1863	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)		1832	1456	1770		1546		3175		3433	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	117	234	35	270	0	392	0	197	248	261	158	0
RTOR Reduction (vph)	0	0	0	0	0	301	0	0	0	0	0	0
Lane Group Flow (vph)	0	351	35	270	0	91	0	445	0	261	158	0
Confl. Peds. (#/hr)			28			5			11			
Confl. Bikes (#/hr)			10			7			12			4
Turn Type	Split	NA	Perm	Prot		Perm		NA		Prot	NA	
Protected Phases	4	4		8				2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		23.6	23.6	20.2		20.2		19.2		12.1	35.8	
Effective Green, g (s)		25.1	25.1	21.7		21.7		20.7		13.6	37.3	
Actuated g/C Ratio		0.27	0.27	0.23		0.23		0.22		0.15	0.40	
Clearance Time (s)		4.5	4.5	4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		493	392	412		360		705		501	746	
v/s Ratio Prot		c0.19		c0.15				c0.14		c0.08	0.08	
v/s Ratio Perm			0.02			0.06						
v/c Ratio		0.71	0.09	0.66		0.25		0.63		0.52	0.21	
Uniform Delay, d1		30.7	25.4	32.3		29.1		32.7		36.7	18.3	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.8	0.1	3.7		0.4		1.8		1.0	0.1	
Delay (s)		35.6	25.5	36.0		29.5		34.6		37.7	18.4	
Level of Service		D	C	D		C		C		D	B	
Approach Delay (s)		34.6			32.2			34.6			30.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			93.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			71.9%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (vph)	238	352	213	0	0	0	0	401	235	344	483	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	0.91	0.91	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	0.99	0.85					0.99	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1681	1674	1463					3334	1404	1610	3367	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1681	1674	1463					3334	1404	1610	3367	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	238	352	213	0	0	0	0	401	235	344	483	0
RTOR Reduction (vph)	0	2	127	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	214	395	65	0	0	0	0	443	193	268	559	0
Confl. Peds. (#/hr)			14						15			
Confl. Bikes (#/hr)			7						3			
Turn Type	Perm	NA	Perm					NA	Perm	Split	NA	
Protected Phases		4						2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	22.2	22.2	22.2					17.3	17.3	17.4	17.4	
Effective Green, g (s)	23.7	23.7	23.7					18.8	18.8	18.9	18.9	
Actuated g/C Ratio	0.34	0.34	0.34					0.27	0.27	0.27	0.27	
Clearance Time (s)	4.5	4.5	4.5					4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	565	563	492					890	374	432	903	
v/s Ratio Prot								0.13		c0.17	0.17	
v/s Ratio Perm	0.13	0.24	0.04						c0.14			
v/c Ratio	0.38	0.70	0.13					0.50	0.52	0.62	0.62	
Uniform Delay, d1	17.8	20.3	16.2					21.8	21.9	22.6	22.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	3.9	0.1					0.4	1.2	2.8	1.3	
Delay (s)	18.2	24.2	16.3					22.2	23.1	25.4	23.9	
Level of Service	B	C	B					C	C	C	C	
Approach Delay (s)		20.7			0.0			22.5			24.3	
Approach LOS		C			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			22.6									
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			70.4									
Intersection Capacity Utilization			63.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (vph)	2	2	1	82	0	319	0	518	125	451	608	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.99			1.00	0.97		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1768			1761	1537		3539	1532	1770	3536	
Flt Permitted		0.92			0.75	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1663			1399	1537		3539	1532	1770	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	2	1	82	0	319	0	518	125	451	608	3
RTOR Reduction (vph)	0	0	0	0	0	260	0	0	88	0	0	0
Lane Group Flow (vph)	0	5	0	0	82	59	0	518	37	451	611	0
Confl. Peds. (#/hr)			16	6		6	10		12	11		10
Confl. Bikes (#/hr)			1			11			14			1
Turn Type	Perm	NA		Perm	NA	Perm		NA	Perm	Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		10.4			10.4	10.4		17.6	17.6	22.8	44.9	
Effective Green, g (s)		11.9			11.9	11.9		19.1	19.1	24.3	46.4	
Actuated g/C Ratio		0.19			0.19	0.19		0.30	0.30	0.38	0.72	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		307			258	284		1051	455	668	2551	
v/s Ratio Prot								c0.15		c0.25	0.17	
v/s Ratio Perm		0.00			c0.06	0.04			0.02			
v/c Ratio		0.02			0.32	0.21		0.49	0.08	0.68	0.24	
Uniform Delay, d1		21.4			22.7	22.2		18.6	16.3	16.7	3.0	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.7	0.4		0.4	0.1	2.7	0.0	
Delay (s)		21.4			23.4	22.6		19.0	16.4	19.4	3.1	
Level of Service		C			C	C		B	B	B	A	
Approach Delay (s)		21.4			22.7			18.5			10.0	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		15.0			HCM 2000 Level of Service				B			
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		64.3			Sum of lost time (s)				9.0			
Intersection Capacity Utilization		62.8%			ICU Level of Service				B			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

26: Delaware St & 25th Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→		↑↑	↑	→→
Traffic Volume (vph)	448	240	100	197	286	428
Future Volume (vph)	448	240	100	197	286	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.88
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.98	1.00	1.00
Satd. Flow (prot)	3433	1523		3480	1863	2696
Flt Permitted	0.95	1.00		0.80	1.00	1.00
Satd. Flow (perm)	3433	1523		2832	1863	2696
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	448	240	100	197	286	428
RTOR Reduction (vph)	0	0	0	0	0	248
Lane Group Flow (vph)	448	240	0	297	286	180
Confl. Peds. (#/hr)		6	2			13
Confl. Bikes (#/hr)		15				4
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	11.3	11.3		12.2	12.2	12.2
Effective Green, g (s)	12.8	12.8		13.7	13.7	13.7
Actuated g/C Ratio	0.39	0.39		0.42	0.42	0.42
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1352	599		1193	785	1136
v/s Ratio Prot	0.13				c0.15	
v/s Ratio Perm		c0.16		0.10		0.07
v/c Ratio	0.33	0.40		0.25	0.36	0.16
Uniform Delay, d1	6.9	7.1		6.1	6.4	5.8
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.4		0.1	0.3	0.1
Delay (s)	7.0	7.5		6.2	6.7	5.9
Level of Service	A	A		A	A	A
Approach Delay (s)	7.2			6.2	6.2	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.38			
Actuated Cycle Length (s)			32.5		Sum of lost time (s)	6.0
Intersection Capacity Utilization			49.1%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (vph)	34	84	59	189	41	44	184	441	120	122	194	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	0.88	0.97	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	2724	3433	3183		1770	3390		1770	3429	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	2724	3433	3183		1770	3390		1770	3429	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	84	59	189	41	44	184	441	120	122	194	42
RTOR Reduction (vph)	0	0	52	0	36	0	0	21	0	0	17	0
Lane Group Flow (vph)	34	84	7	189	49	0	184	540	0	122	219	0
Confl. Peds. (#/hr)			2			28			37			15
Confl. Bikes (#/hr)			3			6						
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	3.3	9.2	9.2	8.0	13.9		14.6	43.4		11.4	40.2	
Effective Green, g (s)	4.8	10.7	10.7	9.5	15.4		16.1	44.9		12.9	41.7	
Actuated g/C Ratio	0.05	0.12	0.12	0.11	0.17		0.18	0.50		0.14	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	94	221	323	362	544		316	1691		253	1588	
v/s Ratio Prot	0.02	c0.05		c0.06	0.02		c0.10	c0.16		0.07	0.06	
v/s Ratio Perm			0.00									
v/c Ratio	0.36	0.38	0.02	0.52	0.09		0.58	0.32		0.48	0.14	
Uniform Delay, d1	41.1	36.6	35.0	38.1	31.4		33.9	13.4		35.5	13.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	1.1	0.0	1.4	0.1		2.7	0.5		1.4	0.2	
Delay (s)	43.5	37.7	35.1	39.5	31.5		36.6	13.9		36.9	14.0	
Level of Service	D	D	D	D	C		D	B		D	B	
Approach Delay (s)		37.9			37.0			19.5			21.8	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			61.4%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

28: Saratoga Dr & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 	 	 	
Traffic Volume (vph)	93	999	0	153	777	490	42	118	353	197	97	120
Future Volume (vph)	93	999	0	153	777	490	42	118	353	197	97	120
Ideal Flow (vphpl)	1000	1050	1900	1900	1500	1900	1900	1400	1700	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	*0.70	*0.75		0.97	0.91	1.00		1.00	0.88	0.97	0.91	0.91
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96		1.00	0.97	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.95	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	652	2316		3433	4015	1524		1355	2409	3433	3211	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	652	2316		3433	4015	1524		1355	2409	3433	3211	1441
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	93	999	0	153	777	490	42	118	353	197	97	120
RTOR Reduction (vph)	0	0	0	0	0	317	0	0	281	0	44	56
Lane Group Flow (vph)	93	999	0	153	777	173	0	160	72	197	106	11
Confl. Peds. (#/hr)			6			15			16			
Confl. Bikes (#/hr)			1			4						
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	24.1	61.6		11.4	47.6	47.6		27.0	27.0	21.7	21.7	21.7
Effective Green, g (s)	26.4	63.4		12.4	49.4	49.4		28.7	28.7	23.5	23.5	23.5
Actuated g/C Ratio	0.19	0.45		0.09	0.35	0.35		0.20	0.20	0.17	0.17	0.17
Clearance Time (s)	5.3	4.8		4.0	4.8	4.8		4.7	4.7	4.8	4.8	4.8
Vehicle Extension (s)	3.0	6.0		3.0	6.0	6.0		4.0	4.0	6.0	6.0	6.0
Lane Grp Cap (vph)	122	1048		304	1416	537		277	493	576	538	241
v/s Ratio Prot	c0.14	c0.43		0.04	0.19			c0.12		c0.06	0.03	
v/s Ratio Perm						0.11			0.03			0.01
v/c Ratio	0.76	0.95		0.50	0.55	0.32		0.58	0.15	0.34	0.20	0.05
Uniform Delay, d1	53.8	36.9		60.9	36.4	33.1		50.2	45.6	51.4	50.1	48.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.27	0.25	1.00	1.00	1.00
Incremental Delay, d2	24.1	18.6		1.3	1.5	1.6		3.3	0.2	1.0	0.5	0.2
Delay (s)	77.9	55.5		62.2	37.9	34.7		16.9	11.6	52.4	50.6	49.1
Level of Service	E	E		E	D	C		B	B	D	D	D
Approach Delay (s)		57.4			39.4			13.2			51.2	
Approach LOS		E			D			B			D	
Intersection Summary												
HCM 2000 Control Delay			42.6				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			12.2		
Intersection Capacity Utilization			78.1%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (vph)	2	29	15	17	57	54	38	139	33	36	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.90			0.83			0.92			0.99	
Flpb, ped/bikes		1.00			0.98			0.99			0.94	
Frt		0.96			0.94			0.98			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1595			1407			1639			1698	
Flt Permitted		0.99			0.97			0.92			0.90	
Satd. Flow (perm)		1585			1370			1526			1548	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	29	15	17	57	54	38	139	33	36	120	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	46	0	0	128	0	0	210	0	0	166	0
Confl. Peds. (#/hr)	44		125	81		229	44		266	185		88
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			27.5			27.5	
Effective Green, g (s)		29.0			29.0			29.0			29.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		656			567			632			641	
v/s Ratio Prot												
v/s Ratio Perm		0.03			c0.09			c0.14			0.11	
v/c Ratio		0.07			0.23			0.33			0.26	
Uniform Delay, d1		12.4			13.2			13.9			13.5	
Progression Factor		1.00			1.00			0.71			1.00	
Incremental Delay, d2		0.2			0.9			1.4			1.0	
Delay (s)		12.6			14.2			11.3			14.4	
Level of Service		B			B			B			B	
Approach Delay (s)		12.6			14.2			11.3			14.4	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.28										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		42.6%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (vph)	31	59	16	14	174	29	33	153	17	6	121	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.99			0.98	
Flpb, ped/bikes		0.98			1.00			0.98			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1711			1767			1771			1808	
Flt Permitted		0.88			0.98			0.94			0.99	
Satd. Flow (perm)		1520			1739			1676			1788	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	59	16	14	174	29	33	153	17	6	121	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	0	217	0	0	203	0	0	136	0
Confl. Peds. (#/hr)	44		76	24		78	52		58	34		96
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.5			26.5			28.5			28.5	
Effective Green, g (s)		28.0			28.0			30.0			30.0	
Actuated g/C Ratio		0.40			0.40			0.43			0.43	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		608			695			718			766	
v/s Ratio Prot												
v/s Ratio Perm		0.07			0.12			0.12			0.08	
v/c Ratio		0.17			0.31			0.28			0.18	
Uniform Delay, d1		13.5			14.4			13.0			12.4	
Progression Factor		0.89			1.00			1.00			0.49	
Incremental Delay, d2		0.6			1.2			1.0			0.5	
Delay (s)		12.6			15.6			14.0			6.5	
Level of Service		B			B			B			A	
Approach Delay (s)		12.6			15.6			14.0			6.5	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.8			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.30										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		48.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	134	44	117	402	62	18	117	16	15	116	38
Future Volume (vph)	29	134	44	117	402	62	18	117	16	15	116	38
Ideal Flow (vphpl)	1900	1000	1900	1000	1000	2000	1900	1000	1900	1900	2500	1900
Total Lost time (s)		6.0		6.0	6.0	6.0		6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.95		1.00	1.00	0.81		0.99			0.94	
Flpb, ped/bikes		0.99		0.96	1.00	1.00		0.98			0.99	
Frt		0.97		1.00	1.00	0.85		0.99			0.97	
Flt Protected		0.99		0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)		897		890	980	1358		930			2218	
Flt Permitted		0.92		0.63	1.00	1.00		0.94			0.96	
Satd. Flow (perm)		828		588	980	1358		880			2134	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	134	44	117	402	62	18	117	16	15	116	38
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	0	0	0	0
Lane Group Flow (vph)	0	207	0	117	402	33	0	151	0	0	169	0
Confl. Peds. (#/hr)	46		121	37		96	121		50	50		130
Confl. Bikes (#/hr)			4			6			9			1
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		28.0		28.0	28.0	28.0		12.0			12.0	
Effective Green, g (s)		29.5		29.5	29.5	29.5		13.5			13.5	
Actuated g/C Ratio		0.54		0.54	0.54	0.54		0.25			0.25	
Clearance Time (s)		7.5		7.5	7.5	7.5		7.5			7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		444		315	525	728		216			523	
v/s Ratio Prot				c0.41								
v/s Ratio Perm		0.25		0.20		0.02		c0.17			0.08	
v/c Ratio		0.47		0.37	0.77	0.05		0.70			0.32	
Uniform Delay, d1		7.9		7.4	10.0	6.1		18.9			17.0	
Progression Factor		1.00		1.00	1.00	1.00		1.33			1.00	
Incremental Delay, d2		3.5		3.3	10.2	0.1		14.9			1.6	
Delay (s)		11.4		10.7	20.2	6.2		40.1			18.6	
Level of Service		B		B	C	A		D			B	
Approach Delay (s)		11.4			16.8			40.1			18.6	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM 2000 Control Delay			19.2				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			55.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			100.7%				ICU Level of Service				G	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	455	20	7	114	7	32	107	83	68	106	66
Future Volume (vph)	21	455	20	7	114	7	32	107	83	68	106	66
Ideal Flow (vphpl)	1900	1200	1900	1900	1000	1900	1900	1000	1900	1900	1200	1900
Total Lost time (s)		3.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2207			965			902			1084	
Flt Permitted		0.94			0.97			0.92			0.85	
Satd. Flow (perm)		2087			934			838			936	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	21	455	20	7	114	7	32	107	83	68	106	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	496	0	0	128	0	0	222	0	0	240	0
Confl. Peds. (#/hr)	19		41	13		46	28		40	27		47
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		25.2			22.2			17.8			17.8	
Effective Green, g (s)		26.7			23.7			19.3			19.3	
Actuated g/C Ratio		0.49			0.43			0.35			0.35	
Clearance Time (s)		4.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1013			402			294			328	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.14			c0.27			0.26	
v/c Ratio		0.49			0.32			0.76			0.73	
Uniform Delay, d1		9.6			10.3			15.8			15.6	
Progression Factor		1.00			1.00			1.00			0.87	
Incremental Delay, d2		1.7			2.1			10.5			7.8	
Delay (s)		11.2			12.4			26.3			21.4	
Level of Service		B			B			C			C	
Approach Delay (s)		11.2			12.4			26.3			21.4	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		16.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.64										
Actuated Cycle Length (s)		55.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		75.3%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	262	69	44	241	22	33	233	56	13	230	33
Future Volume (vph)	29	262	69	44	241	22	33	233	56	13	230	33
Ideal Flow (vphpl)	1900	2500	1900	1900	1200	1900	1900	2500	1900	1900	1600	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		2343			1148			2345			1528	
Flt Permitted		0.96			0.91			0.94			0.98	
Satd. Flow (perm)		2247			1048			2220			1495	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	262	69	44	241	22	33	233	56	13	230	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	360	0	0	307	0	0	322	0	0	276	0
Confl. Peds. (#/hr)	11		25	14		23	11		26	12		22
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5			24.5	
Effective Green, g (s)		32.0			32.0			26.0			26.0	
Actuated g/C Ratio		0.46			0.46			0.37			0.37	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1027			479			824			555	
v/s Ratio Prot												
v/s Ratio Perm		0.16			0.29			0.15			0.18	
v/c Ratio		0.35			0.64			0.39			0.50	
Uniform Delay, d1		12.3			14.6			16.2			17.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			6.4			1.4			3.2	
Delay (s)		13.2			21.0			17.6			20.1	
Level of Service		B			C			B			C	
Approach Delay (s)		13.2			21.0			17.6			20.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay		17.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		73.4%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (vph)	88	85	26	7	155	51	13	99	15	12	173	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.95			0.98			0.95	
Flpb, ped/bikes		0.96			1.00			1.00			1.00	
Frt		0.98			0.97			0.98			0.96	
Flt Protected		0.98			1.00			0.99			1.00	
Satd. Flow (prot)		1689			1708			1777			1689	
Flt Permitted		0.79			0.99			0.96			0.99	
Satd. Flow (perm)		1362			1693			1715			1669	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	85	26	7	155	51	13	99	15	12	173	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	199	0	0	213	0	0	127	0	0	251	0
Confl. Peds. (#/hr)	64		75	40		102	35		78	38		99
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.5			26.5			28.5			28.5	
Effective Green, g (s)		28.0			28.0			30.0			30.0	
Actuated g/C Ratio		0.40			0.40			0.43			0.43	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		544			677			735			715	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.13			0.07			c0.15	
v/c Ratio		0.37			0.31			0.17			0.35	
Uniform Delay, d1		14.8			14.4			12.3			13.5	
Progression Factor		1.28			0.44			1.00			1.00	
Incremental Delay, d2		1.8			1.2			0.5			1.4	
Delay (s)		20.8			7.5			12.9			14.8	
Level of Service		C			A			B			B	
Approach Delay (s)		20.8			7.5			12.9			14.8	
Approach LOS		C			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		14.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.36										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		63.1%			ICU Level of Service			B				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

35: Ellsworth Ave/Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (vph)	30	104	19	12	255	43	3	48	8	8	151	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.98			0.98			0.98			0.98	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1790			1805			1809			1793	
Flt Permitted		0.88			0.98			0.97			0.98	
Satd. Flow (perm)		1582			1778			1758			1764	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	104	19	12	255	43	3	48	8	8	151	35
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	153	0	0	310	0	0	59	0	0	194	0
Confl. Peds. (#/hr)	58		37	37		58	41		23	23		41
Confl. Bikes (#/hr)			1			3			2			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.4			12.4			7.5			7.5	
Effective Green, g (s)		13.9			13.9			9.0			9.0	
Actuated g/C Ratio		0.40			0.40			0.26			0.26	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		630			708			453			454	
v/s Ratio Prot												
v/s Ratio Perm		0.10			0.17			0.03			0.11	
v/c Ratio		0.24			0.44			0.13			0.43	
Uniform Delay, d1		7.0			7.7			9.9			10.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.4			0.1			0.6	
Delay (s)		7.2			8.1			10.1			11.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.2			8.1			10.1			11.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		34.9			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		45.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (vph)	29	270	21	78	267	236	8	381	230	149	462	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.94		1.00	0.92		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.99	
Satd. Flow (prot)	1761	1863	1528	1757	1863	1484		3535	1459		3435	
Flt Permitted	0.53	1.00	1.00	0.53	1.00	1.00		0.94	1.00		0.75	
Satd. Flow (perm)	985	1863	1528	978	1863	1484		3337	1459		2592	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	270	21	78	267	236	8	381	230	149	462	38
RTOR Reduction (vph)	0	0	11	0	0	121	0	0	129	0	0	0
Lane Group Flow (vph)	29	270	10	78	267	115	0	389	101	0	649	0
Confl. Peds. (#/hr)	6		16	9		38	7		41	32		13
Confl. Bikes (#/hr)			5			3			5			5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	37.5	37.5	37.5	37.5	37.5	37.5		33.5	33.5		33.5	
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	39.0		35.0	35.0		35.0	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Grp Cap (vph)	480	908	744	476	908	723		1459	638		1134	
v/s Ratio Prot		c0.14			0.14							
v/s Ratio Perm	0.03		0.01	0.08		0.08		0.12	0.07		c0.25	
v/c Ratio	0.06	0.30	0.01	0.16	0.29	0.16		0.27	0.16		0.57	
Uniform Delay, d1	10.8	12.3	10.6	11.4	12.3	11.4		14.3	13.6		16.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.8	0.0	0.7	0.8	0.5		0.4	0.5		2.1	
Delay (s)	11.1	13.1	10.6	12.2	13.1	11.9		14.8	14.1		19.0	
Level of Service	B	B	B	B	B	B		B	B		B	
Approach Delay (s)		12.8			12.5			14.5			19.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			6.0		
Intersection Capacity Utilization			63.5%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (vph)	54	342	56	93	260	52	31	526	58	86	463	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		3429			1796			3467			3468	
Flt Permitted		0.88			0.83			0.91			0.76	
Satd. Flow (perm)		3034			1503			3165			2650	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	342	56	93	260	52	31	526	58	86	463	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	452	0	0	405	0	0	615	0	0	578	0
Confl. Peds. (#/hr)	29		35	18		35	17		24	6		46
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.6			29.6			17.9			17.9	
Effective Green, g (s)		31.1			31.1			19.4			19.4	
Actuated g/C Ratio		0.55			0.55			0.34			0.34	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1670			827			1086			909	
v/s Ratio Prot												
v/s Ratio Perm		0.15			0.27			0.19			0.22	
v/c Ratio		0.27			0.49			0.57			0.64	
Uniform Delay, d1		6.7			7.8			15.1			15.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.5			0.7			1.5	
Delay (s)		6.8			8.3			15.8			17.0	
Level of Service		A			A			B			B	
Approach Delay (s)		6.8			8.3			15.8			17.0	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		12.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		56.5			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		84.1%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (vph)	265	207	34	9	145	75	13	177	22	29	251	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			0.97			0.99		1.00	0.96	
Flpb, ped/bikes	0.98	1.00			1.00			1.00		0.96	1.00	
Frt	1.00	0.98			0.96			0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1727	1801			1723			1809		1702	1699	
Flt Permitted	0.62	1.00			0.99			0.97		0.65	1.00	
Satd. Flow (perm)	1136	1801			1701			1756		1161	1699	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	265	207	34	9	145	75	13	177	22	29	251	132
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	265	241	0	0	229	0	0	212	0	29	383	0
Confl. Peds. (#/hr)	27		36	15		55	21		43	28		48
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0			27.0			28.0		28.0	28.0	
Effective Green, g (s)	28.5	28.5			28.5			29.5		29.5	29.5	
Actuated g/C Ratio	0.41	0.41			0.41			0.42		0.42	0.42	
Clearance Time (s)	7.5	7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)	462	733			692			740		489	716	
v/s Ratio Prot		0.13									c0.23	
v/s Ratio Perm	c0.23				0.13			0.12		0.02		
v/c Ratio	0.57	0.33			0.33			0.29		0.06	0.53	
Uniform Delay, d1	16.1	14.2			14.2			13.3		12.0	15.1	
Progression Factor	1.00	1.00			0.98			0.86		1.00	1.00	
Incremental Delay, d2	5.1	1.2			1.2			1.0		0.2	2.9	
Delay (s)	21.2	15.4			15.1			12.4		12.2	18.0	
Level of Service	C	B			B			B		B	B	
Approach Delay (s)		18.4			15.1			12.4			17.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		75.9%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (vph)	50	137	37	27	228	47	6	116	17	16	223	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.98			0.98			0.99		1.00	0.97	
Flpb, ped/bikes		0.99			1.00			1.00		0.98	1.00	
Frt		0.98			0.98			0.98		1.00	0.98	
Flt Protected		0.99			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1744			1777			1805		1735	1774	
Flt Permitted		0.87			0.96			0.98		0.73	1.00	
Satd. Flow (perm)		1537			1713			1779		1338	1774	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	137	37	27	228	47	6	116	17	16	223	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	224	0	0	302	0	0	139	0	16	264	0
Confl. Peds. (#/hr)	39		49	22		50	27		33	11		66
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5		24.5	24.5	
Effective Green, g (s)		32.0			32.0			26.0		26.0	26.0	
Actuated g/C Ratio		0.46			0.46			0.37		0.37	0.37	
Clearance Time (s)		7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)		702			783			660		496	658	
v/s Ratio Prot											c0.15	
v/s Ratio Perm		0.15			c0.18			0.08		0.01		
v/c Ratio		0.32			0.39			0.21		0.03	0.40	
Uniform Delay, d1		12.1			12.5			15.0		14.0	16.3	
Progression Factor		1.00			1.00			1.00		0.77	0.64	
Incremental Delay, d2		1.2			1.4			0.7		0.1	1.6	
Delay (s)		13.3			14.0			15.7		10.9	12.0	
Level of Service		B			B			B		B	B	
Approach Delay (s)		13.3			14.0			15.7			11.9	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.39										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		49.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

40: San Mateo Dr & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (vph)	40	258	38	14	138	17	8	99	13	75	132	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			0.97	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3358			3429			1812			1750	
Flt Permitted		0.90			0.91			0.98			0.88	
Satd. Flow (perm)		3031			3144			1778			1562	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	258	38	14	138	17	8	99	13	75	132	52
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	336	0	0	169	0	0	120	0	0	259	0
Confl. Peds. (#/hr)	20		56	32		35	24		47	15		44
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			37.5			37.5	
Effective Green, g (s)		29.0			29.0			39.0			39.0	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		1098			1139			866			761	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.05			0.07			c0.17	
v/c Ratio		0.31			0.15			0.14			0.34	
Uniform Delay, d1		18.3			17.2			11.3			12.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.3			0.3			1.2	
Delay (s)		19.0			17.5			11.6			13.8	
Level of Service		B			B			B			B	
Approach Delay (s)		19.0			17.5			11.6			13.8	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.2			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.33										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		51.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	99	290	238	80	107	92
Future Volume (vph)	99	290	238	80	107	92
Ideal Flow (vphpl)	1000	1900	2500	1900	1900	2500
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98		1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	923	1863	2332		1770	1973
Flt Permitted	0.56	1.00	1.00		0.95	1.00
Satd. Flow (perm)	541	1863	2332		1770	1973
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	99	290	238	80	107	92
RTOR Reduction (vph)	0	0	0	0	0	64
Lane Group Flow (vph)	99	290	318	0	107	28
Confl. Peds. (#/hr)	6			18	12	15
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	30.5	30.5	30.5		17.5	17.5
Effective Green, g (s)	32.0	32.0	32.0		19.0	19.0
Actuated g/C Ratio	0.51	0.51	0.51		0.30	0.30
Clearance Time (s)	7.5	7.5	7.5		7.5	7.5
Lane Grp Cap (vph)	274	946	1184		533	595
v/s Ratio Prot		0.16	0.14		c0.06	
v/s Ratio Perm	c0.18					0.01
v/c Ratio	0.36	0.31	0.27		0.20	0.05
Uniform Delay, d1	9.3	9.0	8.8		16.4	15.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.7	0.8	0.6		0.8	0.1
Delay (s)	13.0	9.9	9.4		17.2	15.7
Level of Service	B	A	A		B	B
Approach Delay (s)		10.7	9.4		16.5	
Approach LOS		B	A		B	
Intersection Summary						
HCM 2000 Control Delay			11.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.30			
Actuated Cycle Length (s)			63.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			50.7%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

42: El Camino Real & Peninsula Ave & Pard Rd

06/12/2020

											
Movement	WBL	WBR	WBR2	NBT	NBR	NBR2	SBL	SBT	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	142	101	10	778	171	161	69	974	11	70	3
Future Volume (vph)	142	101	10	778	171	161	69	974	11	70	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0				3.0		3.0	
Lane Util. Factor	1.00			0.95				0.95		0.97	
Frpb, ped/bikes	0.96			0.98				1.00		1.00	
Flpb, ped/bikes	1.00			1.00				1.00		1.00	
Frt	0.94			0.96				1.00		0.99	
Flt Protected	0.97			1.00				1.00		0.95	
Satd. Flow (prot)	1643			3311				3528		3425	
Flt Permitted	0.97			1.00				0.77		0.95	
Satd. Flow (perm)	1643			3311				2729		3425	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	142	101	10	778	171	161	69	974	11	70	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	253	0	0	1110	0	0	0	1043	0	84	0
Confl. Peds. (#/hr)		18	14		27	27					7
Turn Type	Prot			NA			Perm	NA	Perm	Prot	
Protected Phases	3			2				6		4	
Permitted Phases							6		4		
Actuated Green, G (s)	16.4			39.1				39.1		5.8	
Effective Green, g (s)	17.9			40.6				40.6		7.3	
Actuated g/C Ratio	0.24			0.54				0.54		0.10	
Clearance Time (s)	4.5			4.5				4.5		4.5	
Vehicle Extension (s)	3.0			3.0				3.0		3.0	
Lane Grp Cap (vph)	393			1797				1481		334	
v/s Ratio Prot	c0.15			0.34							
v/s Ratio Perm								c0.38		0.02	
v/c Ratio	0.64			0.62				0.70		0.25	
Uniform Delay, d1	25.6			11.8				12.7		31.2	
Progression Factor	1.00			1.00				1.00		1.00	
Incremental Delay, d2	3.6			0.6				1.5		0.4	
Delay (s)	29.2			12.4				14.2		31.6	
Level of Service	C			B				B		C	
Approach Delay (s)	29.2			12.4				14.2		31.6	
Approach LOS	C			B				B		C	
Intersection Summary											
HCM 2000 Control Delay			15.5								
HCM 2000 Volume to Capacity ratio			0.64								
Actuated Cycle Length (s)			74.8								
Intersection Capacity Utilization			97.2%								
Analysis Period (min)			15								
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (vph)	22	116	70	171	77	79	79	1085	178	121	1098	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.95		1.00	0.92		1.00	0.98		1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1743		1743	1690		1770	3422		1770	3535	
Flt Permitted		0.96		0.47	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1686		869	1690		1770	3422		1770	3535	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	116	70	171	77	79	79	1085	178	121	1098	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	208	0	171	156	0	79	1263	0	121	1105	0
Confl. Peds. (#/hr)	18		22	22		18			24			15
Confl. Bikes (#/hr)			1						1			1
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		27.0		27.0	27.0		7.9	51.8		13.2	57.1	
Effective Green, g (s)		28.5		28.5	28.5		9.4	53.3		14.7	58.6	
Actuated g/C Ratio		0.27		0.27	0.27		0.09	0.51		0.14	0.56	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		455		234	456		157	1728		246	1963	
v/s Ratio Prot					0.09		0.04	c0.37		c0.07	0.31	
v/s Ratio Perm		0.12		c0.20								
v/c Ratio		0.46		0.73	0.34		0.50	0.73		0.49	0.56	
Uniform Delay, d1		32.1		35.0	31.0		45.8	20.5		41.9	15.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7		11.1	0.5		2.5	1.6		1.5	0.4	
Delay (s)		32.8		46.1	31.4		48.3	22.1		43.5	15.5	
Level of Service		C		D	C		D	C		D	B	
Approach Delay (s)		32.8			39.1			23.6			18.3	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		23.8										
HCM 2000 Volume to Capacity ratio		0.69										
Actuated Cycle Length (s)		105.5										
Intersection Capacity Utilization		88.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (vph)	77	81	54	112	86	50	26	1263	108	34	1197	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.97			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1749			1756			3485			3514	
Flt Permitted		0.83			0.77			0.92			0.89	
Satd. Flow (perm)		1470			1390			3198			3121	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	77	81	54	112	86	50	26	1263	108	34	1197	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	212	0	0	248	0	0	1397	0	0	1268	0
Confl. Peds. (#/hr)	21		11	11		21	13		7	7		13
Confl. Bikes (#/hr)			3									
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.7			16.7			35.7			35.7	
Effective Green, g (s)		18.2			18.2			37.2			37.2	
Actuated g/C Ratio		0.30			0.30			0.61			0.61	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		435			412			1937			1890	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.18			0.44			0.41	
v/c Ratio		0.49			0.60			0.72			0.67	
Uniform Delay, d1		17.8			18.5			8.5			8.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.5			1.4			0.9	
Delay (s)		18.6			21.0			9.8			9.0	
Level of Service		B			C			A			A	
Approach Delay (s)		18.6			21.0			9.8			9.0	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		11.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		61.4			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		85.6%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

45: El Camino Real & Crystal Springs Rd

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	273	37	73	1105	1334	192
Future Volume (vph)	273	37	73	1105	1334	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1747		1770	3539	3447	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1747		1770	3539	3447	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	273	37	73	1105	1334	192
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	310	0	73	1105	1526	0
Confl. Peds. (#/hr)		23				13
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.2		4.7	51.5	42.3	
Effective Green, g (s)	19.7		6.2	53.0	43.8	
Actuated g/C Ratio	0.25		0.08	0.67	0.56	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	437		139	2383	1918	
v/s Ratio Prot	c0.18		c0.04	0.31	c0.44	
v/s Ratio Perm						
v/c Ratio	0.71		0.53	0.46	0.80	
Uniform Delay, d1	26.9		34.8	6.1	13.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.2		3.6	0.1	2.4	
Delay (s)	32.1		38.4	6.2	16.3	
Level of Service	C		D	A	B	
Approach Delay (s)	32.1			8.2	16.3	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			78.7		Sum of lost time (s)	9.0
Intersection Capacity Utilization			75.0%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: El Camino Real & 2nd Ave

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	184	91	1307	436	81	1225
Future Volume (vph)	184	91	1307	436	81	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	0.96	1.00	0.92	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1520	3539	1460	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1520	3539	1460	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	184	91	1307	436	81	1225
RTOR Reduction (vph)	0	71	0	202	0	0
Lane Group Flow (vph)	184	20	1307	234	81	1225
Confl. Peds. (#/hr)		42		38		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3		2		
Actuated Green, G (s)	11.7	11.7	30.1	30.1	3.7	38.3
Effective Green, g (s)	13.2	13.2	31.6	31.6	5.2	39.8
Actuated g/C Ratio	0.22	0.22	0.54	0.54	0.09	0.67
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	396	340	1895	781	156	2387
v/s Ratio Prot	c0.10		c0.37		0.05	c0.35
v/s Ratio Perm		0.01		0.16		
v/c Ratio	0.46	0.06	0.69	0.30	0.52	0.51
Uniform Delay, d1	19.8	18.0	10.1	7.6	25.7	4.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	1.1	0.2	2.9	0.2
Delay (s)	20.7	18.1	11.2	7.8	28.6	5.0
Level of Service	C	B	B	A	C	A
Approach Delay (s)	19.8		10.3			6.4
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			9.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.62			
Actuated Cycle Length (s)			59.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			69.5%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	140	162	183	140	48	64	1403	175	57	1504	85
Future Volume (vph)	173	140	162	183	140	48	64	1403	175	57	1504	85
Ideal Flow (vphpl)	1900	2500	1900	1000	1900	1900	1000	2500	1900	1800	2500	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1741	2451	1504	918	1863	1497	931	6497		1676	6601	
Flt Permitted	0.62	1.00	1.00	0.62	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1136	2451	1504	599	1863	1497	931	6497		1676	6601	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	173	140	162	183	140	48	64	1403	175	57	1504	85
RTOR Reduction (vph)	0	0	107	0	0	32	0	0	0	0	0	0
Lane Group Flow (vph)	173	140	55	183	140	16	64	1578	0	57	1589	0
Confl. Peds. (#/hr)	21		37	19		43			41			39
Confl. Bikes (#/hr)			4			2			4			1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	30.7	30.7	30.7	30.7	30.7	30.7	8.2	43.5		7.3	42.6	
Effective Green, g (s)	32.2	32.2	32.2	32.2	32.2	32.2	9.7	45.0		8.8	44.1	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.34	0.10	0.47		0.09	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	385	830	509	203	631	507	95	3077		155	3064	
v/s Ratio Prot		0.06			0.08		c0.07	c0.24		0.03	0.24	
v/s Ratio Perm	0.15		0.04	c0.31		0.01						
v/c Ratio	0.45	0.17	0.11	0.90	0.22	0.03	0.67	0.51		0.37	0.52	
Uniform Delay, d1	24.5	22.0	21.5	29.9	22.4	21.0	41.1	17.4		40.5	18.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1	0.1	37.1	0.2	0.0	17.2	0.6		1.5	0.6	
Delay (s)	25.3	22.1	21.6	67.0	22.6	21.0	58.3	18.0		42.0	18.6	
Level of Service	C	C	C	E	C	C	E	B		D	B	
Approach Delay (s)		23.1			44.3			19.6			19.4	
Approach LOS		C			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			22.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			95.0				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			81.8%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	63	114	19	116	61	59	48	1617	154	135	1538	34
Future Volume (vph)	63	114	19	116	61	59	48	1617	154	135	1538	34
Ideal Flow (vphpl)	1900	1000	1900	1900	1900	1900	1000	2500	1900	2200	2500	1900
Total Lost time (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	*1.00		1.00	*1.00	
Frpb, ped/bikes		1.00	0.93	1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	0.97	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.93		1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		959	1465	1716	1691		931	7212		2049	7308	
Flt Permitted		0.86	1.00	0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		839	1465	936	1691		931	7212		2049	7308	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	114	19	116	61	59	48	1617	154	135	1538	34
RTOR Reduction (vph)	0	0	14	0	37	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	177	5	116	83	0	48	1771	0	135	1572	0
Confl. Peds. (#/hr)	15		62	41		26			52			37
Confl. Bikes (#/hr)						2			2			
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		24.3	24.3	24.3	24.3		6.5	51.6		10.6	55.7	
Effective Green, g (s)		25.8	25.8	25.8	25.8		8.0	53.1		12.1	57.2	
Actuated g/C Ratio		0.26	0.26	0.26	0.26		0.08	0.53		0.12	0.57	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		216	377	241	436		74	3829		247	4180	
v/s Ratio Prot					0.05		c0.05	c0.25		c0.07	0.22	
v/s Ratio Perm		c0.21	0.00	0.12								
v/c Ratio		0.82	0.01	0.48	0.19		0.65	0.46		0.55	0.38	
Uniform Delay, d1		34.9	27.6	31.4	28.9		44.6	14.6		41.4	11.7	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.9	0.0	1.5	0.2		17.9	0.4		2.5	0.3	
Delay (s)		55.8	27.6	32.9	29.2		62.5	15.0		43.8	11.9	
Level of Service		E	C	C	C		E	B		D	B	
Approach Delay (s)		53.1			31.0			16.2			14.5	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.2			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			72.4%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

49: El Camino Real & Barneson Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	187	74	59	1697	1479	154
Future Volume (vph)	187	74	59	1697	1479	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.96			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1717			5077	4994	
Flt Permitted	0.97			0.82	1.00	
Satd. Flow (perm)	1717			4146	4994	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	187	74	59	1697	1479	154
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	261	0	0	1756	1633	0
Confl. Peds. (#/hr)		17	10			10
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	16.3			41.1	41.1	
Effective Green, g (s)	17.8			42.6	42.6	
Actuated g/C Ratio	0.27			0.64	0.64	
Clearance Time (s)	4.5			4.5	4.5	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	460			2659	3203	
v/s Ratio Prot	c0.15				0.33	
v/s Ratio Perm				c0.42		
v/c Ratio	0.57			0.66	0.51	
Uniform Delay, d1	21.0			7.4	6.3	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.6			0.6	0.1	
Delay (s)	22.6			8.0	6.5	
Level of Service	C			A	A	
Approach Delay (s)	22.6			8.0	6.5	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			8.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.63			
Actuated Cycle Length (s)			66.4		Sum of lost time (s)	6.0
Intersection Capacity Utilization			94.2%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	86	302	236	84	23	270	1673	194	49	1471	39
Future Volume (vph)	45	86	302	236	84	23	270	1673	194	49	1471	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	1863	1508	1733	1785		1770	4976		1770	5062	
Flt Permitted	0.66	1.00	1.00	0.69	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1199	1863	1508	1267	1785		1770	4976		1770	5062	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	86	302	236	84	23	270	1673	194	49	1471	39
RTOR Reduction (vph)	0	0	223	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	45	86	79	236	107	0	270	1867	0	49	1510	0
Confl. Peds. (#/hr)	27		43	28		41			14			15
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	21.2	21.2	21.2	21.2	21.2		16.9	48.9		3.0	35.0	
Effective Green, g (s)	22.7	22.7	22.7	22.7	22.7		18.4	50.4		4.5	36.5	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.21	0.58		0.05	0.42	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	314	488	395	332	467		376	2895		91	2133	
v/s Ratio Prot		0.05			0.06		c0.15	0.38		0.03	c0.30	
v/s Ratio Perm	0.04		0.05	c0.19								
v/c Ratio	0.14	0.18	0.20	0.71	0.23		0.72	0.64		0.54	0.71	
Uniform Delay, d1	24.5	24.7	24.9	29.0	25.1		31.7	12.1		40.0	20.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2	0.3	7.0	0.3		6.4	0.5		6.0	1.1	
Delay (s)	24.7	24.9	25.1	36.0	25.3		38.1	12.6		46.0	21.8	
Level of Service	C	C	C	D	C		D	B		D	C	
Approach Delay (s)		25.0			32.7			15.8			22.5	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			86.6			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			77.9%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (vph)	335	53	102	82	87	105	102	1180	38	119	1144	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99			1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1606			1819	1535	1770	5052		1770	4922	
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1606			1819	1535	1770	5052		1770	4922	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	335	53	102	82	87	105	102	1180	38	119	1144	206
RTOR Reduction (vph)	0	0	0	0	0	88	0	0	0	0	0	0
Lane Group Flow (vph)	251	239	0	0	169	17	102	1218	0	119	1350	0
Confl. Peds. (#/hr)			13			15			13			15
Confl. Bikes (#/hr)			4			1			5			
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	24.5	24.5			17.3	17.3	12.5	39.7		16.0	43.2	
Effective Green, g (s)	26.0	26.0			18.8	18.8	14.0	41.2		17.5	44.7	
Actuated g/C Ratio	0.23	0.23			0.16	0.16	0.12	0.36		0.15	0.39	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	378	361			296	249	214	1802		268	1904	
v/s Ratio Prot	c0.15	0.15			c0.09		0.06	c0.24		0.07	c0.27	
v/s Ratio Perm						0.01						
v/c Ratio	0.66	0.66			0.57	0.07	0.48	0.68		0.44	0.71	
Uniform Delay, d1	40.8	40.7			44.6	40.9	47.3	31.5		44.6	29.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	4.5			2.7	0.1	1.7	1.0		1.2	1.2	
Delay (s)	45.1	45.3			47.3	41.1	49.0	32.5		45.7	31.1	
Level of Service	D	D			D	D	D	C		D	C	
Approach Delay (s)		45.2			44.9			33.8			32.3	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.6									HCM 2000 Level of Service D
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			115.5									Sum of lost time (s) 12.0
Intersection Capacity Utilization			78.9%									ICU Level of Service D
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (vph)	156	212	34	277	138	105	48	1059	324	160	996	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.95	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1763	1534	1681	1740	1503	1770	4876		1770	5031	
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1763	1534	1681	1740	1503	1770	4876		1770	5031	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	156	212	34	277	138	105	48	1059	324	160	996	46
RTOR Reduction (vph)	0	0	28	0	0	85	0	0	0	0	0	0
Lane Group Flow (vph)	140	228	6	205	210	20	48	1383	0	160	1042	0
Confl. Peds. (#/hr)			9			32			8			33
Confl. Bikes (#/hr)			4			1			4			1
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	21.1	21.1	21.1	21.9	21.9	21.9	20.6	48.3		15.1	42.8	
Effective Green, g (s)	22.6	22.6	22.6	23.4	23.4	23.4	22.1	49.8		16.6	44.3	
Actuated g/C Ratio	0.18	0.18	0.18	0.19	0.19	0.19	0.18	0.40		0.13	0.36	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	305	320	278	316	327	282	314	1951		236	1791	
v/s Ratio Prot	0.08	c0.13		c0.12	0.12		0.03	c0.28		c0.09	0.21	
v/s Ratio Perm			0.00			0.01						
v/c Ratio	0.46	0.71	0.02	0.65	0.64	0.07	0.15	0.71		0.68	0.58	
Uniform Delay, d1	45.4	47.8	41.8	46.7	46.6	41.5	43.2	31.2		51.4	32.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	7.3	0.0	4.5	4.3	0.1	0.2	1.2		7.5	0.5	
Delay (s)	46.5	55.2	41.9	51.2	50.9	41.7	43.5	32.4		58.9	33.0	
Level of Service	D	E	D	D	D	D	D	C		E	C	
Approach Delay (s)		51.0			49.2			32.8			36.5	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			38.5				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			124.4				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			82.1%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (vph)	145	0	145	1	0	3	123	1225	2	19	1306	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		0.98			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.90		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3141			1617		1770	5084		1770	5016	
Flt Permitted		0.82			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2645			1502		1770	5084		1770	5016	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	145	0	145	1	0	3	123	1225	2	19	1306	104
RTOR Reduction (vph)	0	121	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	169	0	0	4	0	123	1227	0	19	1410	0
Confl. Peds. (#/hr)			30	22		8			30			8
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.0			10.0		10.7	42.7		3.0	35.0	
Effective Green, g (s)		11.5			11.5		12.2	44.2		4.5	36.5	
Actuated g/C Ratio		0.17			0.17		0.18	0.64		0.07	0.53	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		439			249		312	3247		115	2645	
v/s Ratio Prot							c0.07	0.24		0.01	c0.28	
v/s Ratio Perm		c0.06			0.00							
v/c Ratio		0.39			0.02		0.39	0.38		0.17	0.53	
Uniform Delay, d1		25.7			24.1		25.2	6.0		30.6	10.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.0		0.8	0.1		0.7	0.2	
Delay (s)		26.3			24.1		26.1	6.0		31.3	11.0	
Level of Service		C			C		C	A		C	B	
Approach Delay (s)		26.3			24.1			7.9			11.2	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			11.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			69.2				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			65.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	NWR
Lane Configurations												
Traffic Volume (vph)	80	30	176	53	83	19	28	754	82	1349	130	502
Future Volume (vph)	80	30	176	53	83	19	28	754	82	1349	130	502
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.91	1.00	0.86		1.00
Frpb, ped/bikes	1.00	1.00	0.89		1.00		1.00	1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85		0.98		1.00	1.00	1.00	0.99		1.00
Flt Protected	0.95	0.98	1.00		0.98		0.95	1.00	0.95	1.00		1.00
Satd. Flow (prot)	1513	1557	1274		3062		1593	4577	1593	5675		1676
Flt Permitted	0.95	0.98	1.00		0.84		0.95	1.00	0.95	1.00		1.00
Satd. Flow (perm)	1513	1557	1274		2619		1593	4577	1593	5675		1676
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	30	176	53	83	19	28	754	82	1349	130	502
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	54	56	176	0	155	0	28	754	82	1479	0	502
Confl. Peds. (#/hr)			44			19					25	
Confl. Bikes (#/hr)			17									
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA	Prot	NA		Prot
Protected Phases	3	3			4		5	2!	1	6		2!
Permitted Phases			3	4								
Actuated Green, G (s)	22.4	22.4	22.4		13.0		9.1	45.1	9.1	45.1		45.1
Effective Green, g (s)	23.9	23.9	23.9		14.5		10.6	46.6	10.6	46.6		46.6
Actuated g/C Ratio	0.22	0.22	0.22		0.13		0.10	0.43	0.10	0.43		0.43
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	336	345	282		352		156	1982	156	2457		725
v/s Ratio Prot	0.04	0.04					0.02	0.16	0.05	c0.26		c0.30
v/s Ratio Perm			c0.14		c0.06							
v/c Ratio	0.16	0.16	0.62		0.44		0.18	0.38	0.53	0.60		0.69
Uniform Delay, d1	33.8	33.8	37.8		42.8		44.5	20.7	46.1	23.4		24.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.2	4.3		0.9		0.6	0.1	3.2	0.4		2.9
Delay (s)	34.0	34.0	42.1		43.7		45.1	20.8	49.3	23.8		27.6
Level of Service	C	C	D		D		D	C	D	C		C
Approach Delay (s)		39.0			43.7			21.7		25.1		
Approach LOS		D			D			C		C		
Intersection Summary												
HCM 2000 Control Delay			26.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			107.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			88.0%				ICU Level of Service			E		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020



Movement	NWR2
Lane Configurations	
Traffic Volume (vph)	137
Future Volume (vph)	137
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1425
Flt Permitted	1.00
Satd. Flow (perm)	1425
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	137
RTOR Reduction (vph)	60
Lane Group Flow (vph)	77
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	45.1
Effective Green, g (s)	46.6
Actuated g/C Ratio	0.43
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	617
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.13
Uniform Delay, d1	18.3
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	18.4
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

55: El Camino Real NB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑	↑	↑	↑	↑			
Traffic Volume (vph)	119	601	0	0	619	376	29	20	447	0	0	0
Future Volume (vph)	119	601	0	0	619	376	29	20	447	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Util. Factor		0.91			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes		1.00			1.00	0.93	1.00	1.00	0.91			
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00			
Frt		1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected		0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)		5044			3539	1465	1681	1752	1439			
Flt Permitted		0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)		5044			3539	1465	1681	1752	1439			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	119	601	0	0	619	376	29	20	447	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	279	0	0	405	0	0	0
Lane Group Flow (vph)	0	720	0	0	619	97	24	25	42	0	0	0
Confl. Peds. (#/hr)			13			15			25			
Confl. Bikes (#/hr)			2			4			1			
Turn Type	Split	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	5			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)		67.1			29.5	29.5	9.9	9.9	9.9			
Effective Green, g (s)		68.6			31.0	31.0	11.4	11.4	11.4			
Actuated g/C Ratio		0.57			0.26	0.26	0.10	0.10	0.10			
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		2883			914	378	159	166	136			
v/s Ratio Prot		c0.14			c0.17		0.01	0.01				
v/s Ratio Perm						0.07			c0.03			
v/c Ratio		0.25			0.68	0.26	0.15	0.15	0.31			
Uniform Delay, d1		12.8			40.0	35.4	49.9	49.9	50.6			
Progression Factor		0.06			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		0.2			2.0	0.4	0.4	0.4	1.3			
Delay (s)		0.9			42.0	35.7	50.3	50.3	52.0			
Level of Service		A			D	D	D	D	D			
Approach Delay (s)		0.9			39.6			51.8			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		29.7			HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio		0.39										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)				13.5			
Intersection Capacity Utilization		53.0%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

56: El Camino Real SB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	498	103	288	382	0	0	0	0	208	45	105
Future Volume (vph)	0	498	103	288	382	0	0	0	0	208	45	105
Ideal Flow (vphpl)	1900	1300	1900	1100	1100	1900	1900	1900	1900	1100	1900	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.87		1.00					1.00	1.00	0.84
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98					0.95	0.97	1.00
Satd. Flow (prot)		3479	1371		2882					973	1714	1332
Flt Permitted		1.00	1.00		0.98					0.95	0.97	1.00
Satd. Flow (perm)		3479	1371		2882					973	1714	1332
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	498	103	288	382	0	0	0	0	208	45	105
RTOR Reduction (vph)	0	0	75	0	0	0	0	0	0	0	0	79
Lane Group Flow (vph)	0	498	28	0	670	0	0	0	0	125	128	26
Confl. Peds. (#/hr)			52			82						103
Confl. Bikes (#/hr)												2
Turn Type		NA	Perm	Split	NA					Split	NA	Perm
Protected Phases		2		1	1					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		23.5	23.5		54.5					28.5	28.5	28.5
Effective Green, g (s)		25.0	25.0		56.0					30.0	30.0	30.0
Actuated g/C Ratio		0.21	0.21		0.47					0.25	0.25	0.25
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		724	285		1344					243	428	333
v/s Ratio Prot		c0.14			c0.23					c0.13	0.07	
v/s Ratio Perm			0.02									0.02
v/c Ratio		0.69	0.10		0.50					0.51	0.30	0.08
Uniform Delay, d1		43.9	38.4		22.2					38.7	36.5	34.4
Progression Factor		1.00	1.00		0.19					1.00	1.00	1.00
Incremental Delay, d2		5.3	0.7		1.2					1.8	0.4	0.1
Delay (s)		49.2	39.1		5.3					40.6	36.9	34.5
Level of Service		D	D		A					D	D	C
Approach Delay (s)		47.4			5.3			0.0			37.5	
Approach LOS		D			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			27.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			72.1%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

57: El Camino Real & 41st Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		WT	TT	TTT	RT
Traffic Volume (vph)	152	55	6	1073	1177	56
Future Volume (vph)	152	55	6	1073	1177	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00	0.95	0.91	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.96		1.00	1.00	0.99	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	3332		1770	3539	5044	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	3332		1770	3539	5044	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	55	6	1073	1177	56
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	207	0	6	1073	1233	0
Confl. Peds. (#/hr)		9				9
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	8.8		0.8	31.3	26.0	
Effective Green, g (s)	10.3		2.3	32.8	27.5	
Actuated g/C Ratio	0.21		0.05	0.67	0.56	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	698		82	2364	2825	
v/s Ratio Prot	c0.06		0.00	c0.30	0.24	
v/s Ratio Perm						
v/c Ratio	0.30		0.07	0.45	0.44	
Uniform Delay, d1	16.3		22.4	3.9	6.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		0.4	0.1	0.1	
Delay (s)	16.6		22.8	4.0	6.4	
Level of Service	B		C	A	A	
Approach Delay (s)	16.6			4.1	6.4	
Approach LOS	B			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			49.1		Sum of lost time (s)	9.0
Intersection Capacity Utilization			47.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (vph)	54	167	40	100	115	210	13	846	140	232	982	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1767	1542	1681	1763	1555	1770	3539	1555	1770	5046	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1767	1542	1681	1763	1555	1770	3539	1555	1770	5046	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	167	40	100	115	210	13	846	140	232	982	42
RTOR Reduction (vph)	0	0	33	0	0	179	0	0	93	0	0	0
Lane Group Flow (vph)	49	172	7	90	125	31	13	846	47	232	1024	0
Confl. Peds. (#/hr)			8			6			6			8
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.2	15.2	15.2	13.5	13.5	13.5	2.5	32.2	32.2	21.4	51.1	
Effective Green, g (s)	16.7	16.7	16.7	15.0	15.0	15.0	4.0	33.7	33.7	22.9	52.6	
Actuated g/C Ratio	0.17	0.17	0.17	0.15	0.15	0.15	0.04	0.34	0.34	0.23	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	279	294	256	251	263	232	70	1189	522	404	2646	
v/s Ratio Prot	0.03	c0.10		0.05	c0.07		0.01	c0.24		c0.13	0.20	
v/s Ratio Perm			0.00			0.02			0.03			
v/c Ratio	0.18	0.59	0.03	0.36	0.48	0.14	0.19	0.71	0.09	0.57	0.39	
Uniform Delay, d1	35.9	38.6	35.0	38.3	39.0	37.0	46.6	29.1	22.8	34.4	14.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	3.0	0.0	0.9	1.4	0.3	1.3	2.0	0.1	2.0	0.1	
Delay (s)	36.2	41.6	35.0	39.2	40.4	37.3	47.9	31.1	22.9	36.3	14.3	
Level of Service	D	D	D	D	D	D	D	C	C	D	B	
Approach Delay (s)		39.6			38.6			30.2			18.4	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			27.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			100.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			67.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (vph)	135	8	383	3	3	3	311	313	9	6	193	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97		0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.94	
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1694	1540		1707		1770	1850		1770	1733	
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1694	1540		1735		1770	1850		1770	1733	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	8	383	3	3	3	311	313	9	6	193	122
RTOR Reduction (vph)	0	0	322	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	72	71	61	0	9	0	311	322	0	6	315	0
Confl. Peds. (#/hr)			4			56			34			26
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	9.8	9.8	9.8		1.0		16.7	41.2		0.9	25.4	
Effective Green, g (s)	11.3	11.3	11.3		2.5		18.2	42.7		2.4	26.9	
Actuated g/C Ratio	0.16	0.16	0.16		0.04		0.26	0.60		0.03	0.38	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	267	269	245		61		454	1114		59	657	
v/s Ratio Prot	c0.04	0.04					c0.18	0.17		0.00	c0.18	
v/s Ratio Perm			0.04		c0.01							
v/c Ratio	0.27	0.26	0.25		0.15		0.69	0.29		0.10	0.48	
Uniform Delay, d1	26.2	26.2	26.1		33.2		23.8	6.8		33.2	16.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.5	0.5		1.1		4.3	0.1		0.8	0.6	
Delay (s)	26.7	26.7	26.6		34.3		28.0	6.9		34.0	17.2	
Level of Service	C	C	C		C		C	A		C	B	
Approach Delay (s)		26.6			34.3			17.3			17.6	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.9				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			66.7%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

60: Alameda De Las Pulgas & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (vph)	16	9	3	46	20	171	34	688	92	438	564	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1550		1800	1550	1770	3467		1770	3451	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1550		1800	1550	1770	3467		1770	3451	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	9	3	46	20	171	34	688	92	438	564	88
RTOR Reduction (vph)	0	0	3	0	0	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	25	0	0	66	20	34	780	0	438	652	0
Confl. Peds. (#/hr)			9			9			11			7
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)		2.8	2.8		8.5	8.5	2.9	27.2		28.1	52.4	
Effective Green, g (s)		4.3	4.3		10.0	10.0	4.4	28.7		29.6	53.9	
Actuated g/C Ratio		0.05	0.05		0.12	0.12	0.05	0.34		0.35	0.64	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	78		212	183	92	1176		619	2198	
v/s Ratio Prot		c0.01			c0.04		0.02	c0.22		c0.25	0.19	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.27	0.00		0.31	0.11	0.37	0.66		0.71	0.30	
Uniform Delay, d1		38.6	38.1		34.1	33.3	38.8	23.8		23.8	6.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.0		0.8	0.3	2.5	1.4		3.7	0.1	
Delay (s)		40.3	38.1		35.0	33.6	41.3	25.3		27.5	6.9	
Level of Service		D	D		C	C	D	C		C	A	
Approach Delay (s)		40.1			34.0			25.9			15.2	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			84.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			69.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑	↑↑		↔	↔↔
Traffic Volume (vph)	332	573	795	49	22	145
Future Volume (vph)	332	573	795	49	22	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	2.5	2.5		2.5	2.5
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	3508		1770	2787
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	3508		1770	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	332	573	795	49	22	145
RTOR Reduction (vph)	0	0	0	0	0	126
Lane Group Flow (vph)	332	573	844	0	22	19
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	10.9	35.6	20.2		4.8	4.8
Effective Green, g (s)	12.4	37.1	21.7		6.3	6.3
Actuated g/C Ratio	0.26	0.77	0.45		0.13	0.13
Clearance Time (s)	4.5	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	879	2712	1572		230	362
v/s Ratio Prot	c0.10	0.16	c0.24		c0.01	
v/s Ratio Perm						0.01
v/c Ratio	0.38	0.21	0.54		0.10	0.05
Uniform Delay, d1	14.8	1.6	9.7		18.5	18.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.0	0.4		0.2	0.1
Delay (s)	15.1	1.6	10.1		18.7	18.5
Level of Service	B	A	B		B	B
Approach Delay (s)		6.6	10.1		18.5	
Approach LOS		A	B		B	

Intersection Summary

HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

62: Bayshore Blvd & Peninsula Ave

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (vph)	966	180	45	726	232	173
Future Volume (vph)	966	180	45	726	232	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3441		1770	3539	1770	1552
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3441		1770	3539	1770	1552
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	966	180	45	726	232	173
RTOR Reduction (vph)	0	0	0	0	0	127
Lane Group Flow (vph)	1146	0	45	726	232	46
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)		8				9
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	28.9		2.7	36.1	14.3	14.3
Effective Green, g (s)	30.4		4.2	37.6	15.8	15.8
Actuated g/C Ratio	0.51		0.07	0.63	0.27	0.27
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1761		125	2240	470	412
v/s Ratio Prot	c0.33		0.03	c0.21	c0.13	
v/s Ratio Perm						0.03
v/c Ratio	0.65		0.36	0.32	0.49	0.11
Uniform Delay, d1	10.6		26.3	5.0	18.4	16.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		1.8	0.1	0.8	0.1
Delay (s)	11.5		28.1	5.1	19.2	16.6
Level of Service	B		C	A	B	B
Approach Delay (s)	11.5			6.5	18.1	
Approach LOS	B			A	B	
Intersection Summary						
HCM 2000 Control Delay			11.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			59.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			56.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

63: Peninsula Ave/Coyote Point Dr & Airport Blvd

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1107	51	16	12	45	761
Future Volume (vph)	1107	51	16	12	45	761
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1863	1863	1547	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1863	1863	1547	1770	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1107	51	16	12	45	761
RTOR Reduction (vph)	0	0	0	11	0	0
Lane Group Flow (vph)	1107	51	16	1	45	761
Confl. Peds. (#/hr)				18		20
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases				8		
Actuated Green, G (s)	24.2	30.7	2.0	2.0	13.7	42.4
Effective Green, g (s)	25.7	32.2	3.5	3.5	15.2	43.9
Actuated g/C Ratio	0.48	0.60	0.07	0.07	0.28	0.82
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1652	1123	122	101	503	1301
v/s Ratio Prot	c0.32	0.03	c0.01		0.03	c0.48
v/s Ratio Perm				0.00		
v/c Ratio	0.67	0.05	0.13	0.01	0.09	0.58
Uniform Delay, d1	10.6	4.3	23.5	23.3	14.0	1.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.0	0.5	0.0	0.1	0.7
Delay (s)	11.7	4.3	24.0	23.4	14.1	2.3
Level of Service	B	A	C	C	B	A
Approach Delay (s)		11.4	23.7		3.0	
Approach LOS		B	C		A	
Intersection Summary						
HCM 2000 Control Delay			8.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			53.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			67.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

64: Airport Blvd & US 101 NB

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	204	632	936	167	133	15
Future Volume (vph)	204	632	936	167	133	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (prot)	1770	1583	1681	1710	3480	
Flt Permitted	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (perm)	1770	1583	1681	1710	3480	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	204	632	936	167	133	15
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	204	632	543	560	148	0
Confl. Bikes (#/hr)		2				2
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	1 4	1	1	2	
Permitted Phases						
Actuated Green, G (s)	15.4	54.1	34.2	34.2	8.7	
Effective Green, g (s)	16.9	55.6	35.7	35.7	10.2	
Actuated g/C Ratio	0.24	0.77	0.50	0.50	0.14	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	416	1225	835	850	494	
v/s Ratio Prot	0.12	c0.40	0.32	c0.33	c0.04	
v/s Ratio Perm						
v/c Ratio	0.49	0.52	0.65	0.66	0.30	
Uniform Delay, d1	23.7	3.0	13.4	13.5	27.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.4	1.8	1.9	0.3	
Delay (s)	24.6	3.4	15.2	15.4	27.9	
Level of Service	C	A	B	B	C	
Approach Delay (s)	8.6			15.3	27.9	
Approach LOS	A			B	C	

Intersection Summary

HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		25.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		0.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

66: Claremont St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	64	318	94	30	361	36	91	92	29	15	65	51
Future Volume (vph)	64	318	94	30	361	36	91	92	29	15	65	51
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	64	318	94	30	361	36	91	92	29	15	65	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	476	427	212	131								
Volume Left (vph)	64	30	91	15								
Volume Right (vph)	94	36	29	51								
Hadj (s)	-0.06	0.00	0.04	-0.18								
Departure Headway (s)	5.9	6.1	7.0	7.1								
Degree Utilization, x	0.78	0.72	0.41	0.26								
Capacity (veh/h)	586	564	458	433								
Control Delay (s)	27.0	23.0	14.8	12.5								
Approach Delay (s)	27.0	23.0	14.8	12.5								
Approach LOS	D	C	B	B								
Intersection Summary												
Delay				22.1								
Level of Service				C								
Intersection Capacity Utilization				67.9%	ICU Level of Service	C						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1077	12	0	0	0	0	78	121	243	183	0
Future Volume (vph)	19	1077	12	0	0	0	0	78	121	243	183	0
Ideal Flow (vphpl)	1900	1300	1900	1900	1900	1900	1900	1600	1900	1900	1450	1900
Total Lost time (s)		3.0						3.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.92			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		2413						1420			1382	
Flt Permitted		1.00						1.00			0.66	
Satd. Flow (perm)		2413						1420			938	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	1077	12	0	0	0	0	78	121	243	183	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	42	0	0	0	0
Lane Group Flow (vph)	0	1107	0	0	0	0	0	157	0	0	426	0
Confl. Peds. (#/hr)	7		22						9			
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4								6			
Actuated Green, G (s)		30.5						20.5			20.5	
Effective Green, g (s)		32.0						22.0			22.0	
Actuated g/C Ratio		0.53						0.37			0.37	
Clearance Time (s)		4.5						4.5			4.5	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1286						520			343	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.46									c0.45	
v/c Ratio		0.86						0.30			1.24	
Uniform Delay, d1		12.1						13.5			19.0	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		7.7						0.3			131.2	
Delay (s)		19.8						13.9			150.2	
Level of Service		B						B			F	
Approach Delay (s)		19.8			0.0			13.9			150.2	
Approach LOS		B			A			B			F	
Intersection Summary												
HCM 2000 Control Delay		51.2						HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio		1.01										
Actuated Cycle Length (s)		60.0						Sum of lost time (s)		6.0		
Intersection Capacity Utilization		99.4%						ICU Level of Service		F		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	383	11	157	383	99	10	161	256	114	118	38
Future Volume (vph)	36	383	11	157	383	99	10	161	256	114	118	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt		1.00		1.00	0.97		1.00	0.91		1.00	0.96	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846		1763	1788		1753	1649		1760	1776	
Flt Permitted		0.94		0.48	1.00		0.66	1.00		0.36	1.00	
Satd. Flow (perm)		1749		896	1788		1215	1649		672	1776	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	383	11	157	383	99	10	161	256	114	118	38
RTOR Reduction (vph)	0	2	0	0	15	0	0	94	0	0	19	0
Lane Group Flow (vph)	0	428	0	157	467	0	10	323	0	114	137	0
Confl. Peds. (#/hr)	10		15	6		19	9		15	9		19
Confl. Bikes (#/hr)			3			4			2			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		17.6		17.6	17.6		13.7	13.7		13.7	13.7	
Effective Green, g (s)		19.1		19.1	19.1		15.2	15.2		15.2	15.2	
Actuated g/C Ratio		0.47		0.47	0.47		0.38	0.38		0.38	0.38	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		828		424	847		458	621		253	669	
v/s Ratio Prot					c0.26			c0.20				0.08
v/s Ratio Perm		0.24		0.18			0.01			0.17		
v/c Ratio		0.52		0.37	0.55		0.02	0.52		0.45	0.20	
Uniform Delay, d1		7.4		6.8	7.6		7.9	9.7		9.4	8.5	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5		0.5	0.8		0.0	0.8		1.3	0.2	
Delay (s)		7.9		7.3	8.3		7.9	10.5		10.7	8.6	
Level of Service		A		A	A		A	B		B	A	
Approach Delay (s)		7.9			8.1			10.5			9.5	
Approach LOS		A			A			B			A	
Intersection Summary												
HCM 2000 Control Delay		8.8										
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		40.3										
Intersection Capacity Utilization		94.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑↑	↔		↑↑↑	
Traffic Volume (vph)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (vph)	0	0	0	400	0	670	0	1431	192	0	1702	488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.0		3.0		3.0	3.0		3.0	
Lane Util. Factor				0.97		0.88		0.91	1.00		0.91	
Frpb, ped/bikes				1.00		0.99		1.00	0.98		0.99	
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	
Frt				1.00		0.85		1.00	0.85		0.97	
Flt Protected				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (prot)				3433		2745		5085	1544		4864	
Flt Permitted				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (perm)				3433		2745		5085	1544		4864	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	400	0	670	0	1431	192	0	1702	488
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	72	0	46	0
Lane Group Flow (vph)	0	0	0	400	0	670	0	1431	120	0	2144	0
Confl. Peds. (#/hr)						3			3			6
Turn Type				Prot		Perm		NA	Perm		NA	
Protected Phases				3				2			6	
Permitted Phases						3			2			
Actuated Green, G (s)				30.1		30.1		60.9	60.9		60.9	
Effective Green, g (s)				31.6		31.6		62.4	62.4		62.4	
Actuated g/C Ratio				0.32		0.32		0.62	0.62		0.62	
Clearance Time (s)				4.5		4.5		4.5	4.5		4.5	
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)				1084		867		3173	963		3035	
v/s Ratio Prot				0.12				0.28			c0.44	
v/s Ratio Perm						c0.24			0.08			
v/c Ratio				0.37		0.77		0.45	0.12		0.71	
Uniform Delay, d1				26.5		31.0		9.8	7.7		12.6	
Progression Factor				1.00		1.00		1.00	1.00		1.00	
Incremental Delay, d2				0.2		4.3		0.5	0.3		1.4	
Delay (s)				26.7		35.3		10.3	7.9		14.1	
Level of Service				C		D		B	A		B	
Approach Delay (s)		0.0			32.1			10.0			14.1	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			16.7				HCM 2000 Level of Service		B			
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)		6.0			
Intersection Capacity Utilization			62.0%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (vph)	404	0	210	0	0	0	0	1227	411	0	1327	784
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0			3.0	3.0
Lane Util. Factor	0.97		0.88					0.91			0.91	1.00
Flpb, ped/bikes	1.00		0.98					0.99			1.00	0.97
Flpb, ped/bikes	1.00		1.00					1.00			1.00	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		2726					4860			5085	1536
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		2726					4860			5085	1536
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	404	0	210	0	0	0	0	1227	411	0	1327	784
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	185
Lane Group Flow (vph)	404	0	210	0	0	0	0	1638	0	0	1327	599
Confl. Peds. (#/hr)			6						2			6
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			7									6
Actuated Green, G (s)	18.4		18.4					82.6			82.6	82.6
Effective Green, g (s)	19.9		19.9					84.1			84.1	84.1
Actuated g/C Ratio	0.18		0.18					0.76			0.76	0.76
Clearance Time (s)	4.5		4.5					4.5			4.5	4.5
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	621		493					3715			3887	1174
v/s Ratio Prot	c0.12							0.34			0.26	
v/s Ratio Perm			0.08									c0.39
v/c Ratio	0.65		0.43					0.44			0.34	0.51
Uniform Delay, d1	41.8		40.0					4.6			4.1	5.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	2.4		0.6					0.4			0.2	1.6
Delay (s)	44.3		40.6					5.0			4.4	6.6
Level of Service	D		D					A			A	A
Approach Delay (s)		43.0			0.0			5.0			5.2	
Approach LOS		D			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.4					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			110.0					Sum of lost time (s)			6.0	
Intersection Capacity Utilization			52.5%					ICU Level of Service			A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

72: Delaware St & Sunnybrae Blvd

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	20	420	65	13	400
Future Volume (Veh/h)	50	20	420	65	13	400
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	50	20	420	65	13	400
Pedestrians	9		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	888	462			494	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	462			494	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	97			99	
cM capacity (veh/h)	307	595			1060	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	50	20	485	413		
Volume Left	50	0	0	13		
Volume Right	0	20	65	0		
cSH	307	595	1700	1060		
Volume to Capacity	0.16	0.03	0.29	0.01		
Queue Length 95th (ft)	14	3	0	1		
Control Delay (s)	19.0	11.3	0.0	0.4		
Lane LOS	C	B		A		
Approach Delay (s)	16.8		0.0	0.4		
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

73: Delaware St & 16th Ave

06/12/2020

																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations																	
Sign Control	Stop			Stop			Stop			Stop							
Traffic Volume (vph)	14	38	208	45	28	14	164	457	18	15	418	20					
Future Volume (vph)	14	38	208	45	28	14	164	457	18	15	418	20					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Hourly flow rate (vph)	14	38	208	45	28	14	164	457	18	15	418	20					
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2										
Volume Total (vph)	14	246	87	164	475	15	438										
Volume Left (vph)	14	0	45	164	0	15	0										
Volume Right (vph)	0	208	14	0	18	0	20										
Hadj (s)	0.53	-0.56	0.04	0.53	0.01	0.53	0.00										
Departure Headway (s)	8.3	7.2	8.2	7.2	6.7	7.4	6.9										
Degree Utilization, x	0.03	0.49	0.20	0.33	0.88	0.03	0.84										
Capacity (veh/h)	413	480	396	487	533	464	512										
Control Delay (s)	10.3	15.6	13.2	12.4	39.1	9.5	34.7										
Approach Delay (s)	15.3		13.2	32.2		33.9											
Approach LOS	C		B	D		D											
Intersection Summary																	
Delay	28.5																
Level of Service	D																
Intersection Capacity Utilization	71.0%			ICU Level of Service			C										
Analysis Period (min)	15																

HCM Signalized Intersection Capacity Analysis

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (vph)	6	1	12	75	0	34	4	519	37	9	692	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.90			0.97		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes		0.99			1.00		0.98	1.00	1.00	0.99	1.00	
Frt		0.91			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1497			1679		1737	1863	1517	1753	1862	
Flt Permitted		0.94			0.80		0.36	1.00	1.00	0.44	1.00	
Satd. Flow (perm)		1428			1382		656	1863	1517	819	1862	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	1	12	75	0	34	4	519	37	9	692	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	19	0	0	109	0	4	519	37	9	693	0
Confl. Peds. (#/hr)	11		18			19	18		8	8		29
Confl. Bikes (#/hr)			8			2			1			8
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		15.5			15.5		105.5	105.5	105.5	105.5	105.5	
Effective Green, g (s)		17.0			17.0		107.0	107.0	107.0	107.0	107.0	
Actuated g/C Ratio		0.13			0.13		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		186			180		539	1533	1248	674	1532	
v/s Ratio Prot								0.28			c0.37	
v/s Ratio Perm		0.01			c0.08		0.01		0.02	0.01		
v/c Ratio		0.10			0.61		0.01	0.34	0.03	0.01	0.45	
Uniform Delay, d1		49.8			53.3		2.0	2.8	2.1	2.1	3.2	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.2			5.7		0.0	0.6	0.0	0.0	1.0	
Delay (s)		50.0			59.0		2.1	3.4	2.1	2.1	4.2	
Level of Service		D			E		A	A	A	A	A	
Approach Delay (s)		50.0			59.0			3.3			4.2	
Approach LOS		D			E			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.8										
HCM 2000 Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		130.0										
Intersection Capacity Utilization		57.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (vph)	19	7	4	328	3	94	1	542	285	37	753	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0			3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		0.99			1.00	0.94		0.97			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.98			1.00	0.85		0.95			1.00	
Flt Protected		0.97			0.95	1.00		1.00			1.00	
Satd. Flow (prot)		1757			1775	1482		3271			3517	
Flt Permitted		0.97			0.95	1.00		0.95			0.89	
Satd. Flow (perm)		1757			1775	1482		3122			3137	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	7	4	328	3	94	1	542	285	37	753	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	30	0	0	331	94	0	828	0	0	798	0
Confl. Peds. (#/hr)			38			10	24		24	10		24
Confl. Bikes (#/hr)			5			7			11			5
Turn Type	Split	NA		Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		3.3			20.5	20.5		42.7			42.7	
Effective Green, g (s)		4.8			22.0	22.0		44.2			44.2	
Actuated g/C Ratio		0.06			0.28	0.28		0.55			0.55	
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		105			488	407		1724			1733	
v/s Ratio Prot		c0.02			c0.19							
v/s Ratio Perm						0.06		c0.27			0.25	
v/c Ratio		0.29			0.68	0.23		0.48			0.46	
Uniform Delay, d1		36.0			25.8	22.5		10.9			10.7	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		1.5			3.7	0.3		1.0			0.9	
Delay (s)		37.5			29.6	22.7		11.9			11.6	
Level of Service		D			C	C		B			B	
Approach Delay (s)		37.5			28.1			11.9			11.6	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		15.5										
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		80.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

76: Ginnever St & Bermuda Dr

06/12/2020

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Sign Control	Stop			Stop			Stop			Stop								
Traffic Volume (vph)	171	128	1	0	114	223	16	48	0	162	23	270						
Future Volume (vph)	171	128	1	0	114	223	16	48	0	162	23	270						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Hourly flow rate (vph)	171	128	1	0	114	223	16	48	0	162	23	270						
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2												
Volume Total (vph)	300	114	223	64	185	270												
Volume Left (vph)	171	0	0	16	162	0												
Volume Right (vph)	1	0	223	0	0	270												
Hadj (s)	0.15	0.03	-0.67	0.08	0.47	-0.67												
Departure Headway (s)	6.6	6.6	5.9	7.4	7.0	5.8												
Degree Utilization, x	0.55	0.21	0.37	0.13	0.36	0.44												
Capacity (veh/h)	519	512	575	425	488	586												
Control Delay (s)	17.6	10.2	11.1	11.5	12.7	12.1												
Approach Delay (s)	17.6	10.8		11.5	12.3													
Approach LOS	C	B		B	B													
Intersection Summary																		
Delay	13.2																	
Level of Service	B																	
Intersection Capacity Utilization	51.7%			ICU Level of Service			A											
Analysis Period (min)	15																	

HCM Signalized Intersection Capacity Analysis

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (vph)	18	741	73	88	653	113	57	5	61	34	5	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.94		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1770	1832		1767	1815			1775	1487		1770	
Flt Permitted	0.20	1.00		0.17	1.00			0.78	1.00		0.82	
Satd. Flow (perm)	372	1832		313	1815			1456	1487		1514	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	741	73	88	653	113	57	5	61	34	5	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	814	0	88	766	0	0	62	61	0	42	0
Confl. Peds. (#/hr)			9	6			3		6			3
Confl. Bikes (#/hr)			7			4			5			2
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	32.8	32.8		32.8	32.8			18.2	18.2		18.2	
Effective Green, g (s)	34.3	34.3		34.3	34.3			19.7	19.7		19.7	
Actuated g/C Ratio	0.57	0.57		0.57	0.57			0.33	0.33		0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	212	1047		178	1037			478	488		497	
v/s Ratio Prot		c0.44			0.42							
v/s Ratio Perm	0.05			0.28				c0.04	0.04		0.03	
v/c Ratio	0.08	0.78		0.49	0.74			0.13	0.12		0.08	
Uniform Delay, d1	5.8	9.9		7.7	9.5			14.1	14.1		13.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.2	3.7		2.2	2.8			0.6	0.5		0.3	
Delay (s)	6.0	13.6		9.8	12.3			14.7	14.6		14.3	
Level of Service	A	B		A	B			B	B		B	
Approach Delay (s)		13.4			12.1			14.7			14.3	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		12.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		76.7%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

88: Humboldt St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	153	35	7	0	35	18	8	30	1	8	35	198
Future Volume (vph)	153	35	7	0	35	18	8	30	1	8	35	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	153	35	7	0	35	18	8	30	1	8	35	198
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	195	53	39	241								
Volume Left (vph)	153	0	8	8								
Volume Right (vph)	7	18	1	198								
Hadj (s)	0.17	-0.17	0.06	-0.45								
Departure Headway (s)	4.8	4.6	4.8	4.1								
Degree Utilization, x	0.26	0.07	0.05	0.28								
Capacity (veh/h)	712	719	689	824								
Control Delay (s)	9.4	7.9	8.1	8.7								
Approach Delay (s)	9.4	7.9	8.1	8.7								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			8.8									
Level of Service			A									
Intersection Capacity Utilization			39.5%		ICU Level of Service				A			
Analysis Period (min)			15									

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	73	1072	391	16	81	0	0	297	44
Future Volume (vph)	0	0	0	73	1072	391	16	81	0	0	297	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1500	1900	1900	1000	1900	1900	2300	1900
Total Lost time (s)					3.0	3.0		3.0			3.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.95		1.00			0.99	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.98	
Flt Protected					1.00	1.00		0.99			1.00	
Satd. Flow (prot)					2777	1509		971			2203	
Flt Permitted					1.00	1.00		0.92			1.00	
Satd. Flow (perm)					2777	1509		903			2203	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	73	1072	391	16	81	0	0	297	44
RTOR Reduction (vph)	0	0	0	0	0	156	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	0	0	1145	235	0	97	0	0	332	0
Confl. Peds. (#/hr)				29		16	22					31
Confl. Bikes (#/hr)						1						1
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					30.6	30.6		13.7			13.7	
Effective Green, g (s)					32.1	32.1		15.2			15.2	
Actuated g/C Ratio					0.60	0.60		0.29			0.29	
Clearance Time (s)					4.5	4.5		4.5			4.5	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1672	908		257			628	
v/s Ratio Prot											c0.15	
v/s Ratio Perm					0.41	0.16		0.11				
v/c Ratio					0.68	0.26		0.38			0.53	
Uniform Delay, d1					7.2	5.0		15.3			16.0	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					1.2	0.2		0.9			0.8	
Delay (s)					8.4	5.1		16.2			16.8	
Level of Service					A	A		B			B	
Approach Delay (s)		0.0			7.5			16.2			16.8	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			9.6		HCM 2000 Level of Service						A	
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			53.3		Sum of lost time (s)						6.0	
Intersection Capacity Utilization			75.5%		ICU Level of Service						D	
Analysis Period (min)			15									
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

121: El Camino Real & El Camino Real SB Ramp

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations				↑↑↑↑	↑↑↑↑	↑	
Traffic Volume (veh/h)	0	0	0	0	0	0	
Future Volume (Veh/h)	0	0	0	0	0	0	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	0	0	0	0	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh							
Upstream signal (ft)					279		
pX, platoon unblocked							
vC, conflicting volume	0	0	0				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	0	0	0				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	100	100	100				
cM capacity (veh/h)	1023	1084	1622				
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS							
Approach Delay (s)	0.0			0.0			
Approach LOS							
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			0.0%	ICU Level of Service		A	
Analysis Period (min)			15				

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

137: Curtiss St/Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (vph)	10	1058	66	21	912	17	81	9	111	27	7	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			0.99	1.00		0.99	
Frt		0.99			1.00			1.00	0.85		0.93	
Flt Protected		1.00			1.00			0.96	1.00		0.98	
Satd. Flow (prot)		3500			3523			1757	1532		1670	
Flt Permitted		0.95			0.92			0.79	1.00		0.87	
Satd. Flow (perm)		3317			3253			1458	1533		1476	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	1058	66	21	912	17	81	9	111	27	7	32
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	26	0	26	0
Lane Group Flow (vph)	0	1130	0	0	949	0	0	90	85	0	40	0
Confl. Peds. (#/hr)	15		13	13		15	23		25	25		23
Confl. Bikes (#/hr)			2			4			1			
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		41.8			41.8			9.2	9.2		9.2	
Effective Green, g (s)		43.3			43.3			10.7	10.7		10.7	
Actuated g/C Ratio		0.72			0.72			0.18	0.18		0.18	
Clearance Time (s)		4.5			4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		2393			2347			260	273		263	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.29			c0.06	0.06		0.03	
v/c Ratio		0.47			0.40			0.35	0.31		0.15	
Uniform Delay, d1		3.5			3.3			21.6	21.4		20.8	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.7			0.5			0.8	0.7		0.3	
Delay (s)		4.2			3.8			22.4	22.1		21.1	
Level of Service		A			A			C	C		C	
Approach Delay (s)		4.2			3.8			22.2			21.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay		6.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.45										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		69.1%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

188: Hillsdale EB Off-Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	888			317		
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1622		1023	1084
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	94	31	129	590	40	13	75	18	43	95	25
Future Volume (vph)	4	94	31	129	590	40	13	75	18	43	95	25
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1900	2500	1900	1900	1000	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		933			4545			2346			934	
Flt Permitted		0.97			0.87			0.94			0.88	
Satd. Flow (perm)		907			3974			2230			835	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	94	31	129	590	40	13	75	18	43	95	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	129	0	0	759	0	0	106	0	0	163	0
Confl. Peds. (#/hr)	21		29	17		47	12		43	26		33
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		18.3			18.3			12.2			12.2	
Effective Green, g (s)		19.8			19.8			13.7			13.7	
Actuated g/C Ratio		0.44			0.44			0.30			0.30	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		394			1729			671			251	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.19			0.05			c0.20	
v/c Ratio		0.33			0.44			0.16			0.65	
Uniform Delay, d1		8.5			9.0			11.7			13.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.2			0.1			5.7	
Delay (s)		9.0			9.2			11.8			19.5	
Level of Service		A			A			B			B	
Approach Delay (s)		9.0			9.2			11.8			19.5	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			10.8									
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			45.5									
Intersection Capacity Utilization			69.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: Saratoga Dr & Hillsdale EB Off-Ramp

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	20	20	14	0	89	0	442	1	28	192	0
Future Volume (vph)	20	20	20	14	0	89	0	442	1	28	192	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	2200	1900
Total Lost time (s)		3.3	3.3	3.3		3.3		3.2			3.3	
Lane Util. Factor		1.00	1.00	1.00		1.00		*1.00			*1.00	
Frpb, ped/bikes		1.00	0.96	1.00		0.98		1.00			1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00			1.00	
Frt		1.00	0.85	1.00		0.85		1.00			1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00			0.99	
Satd. Flow (prot)		1817	1519	1770		1555		4312			4286	
Flt Permitted		0.98	1.00	0.73		1.00		1.00			0.59	
Satd. Flow (perm)		1817	1519	1362		1555		4312			2540	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	20	20	14	0	89	0	442	1	28	192	0
RTOR Reduction (vph)	0	0	11	0	0	49	0	0	0	0	0	0
Lane Group Flow (vph)	0	40	9	14	0	40	0	443	0	0	220	0
Confl. Peds. (#/hr)			8			4			15			
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		2						8			4 1	
Permitted Phases	2		2	2		2			4 1			
Actuated Green, G (s)		61.6	61.6	61.6		61.6		27.0			33.1	
Effective Green, g (s)		63.1	63.1	63.1		63.1		28.5			36.1	
Actuated g/C Ratio		0.45	0.45	0.45		0.45		0.20			0.26	
Clearance Time (s)		4.8	4.8	4.8		4.8		4.7				
Vehicle Extension (s)		6.0	6.0	6.0		6.0		4.0				
Lane Grp Cap (vph)		818	684	613		700		877			654	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		0.02	0.01	0.01		c0.03					c0.09	
v/c Ratio		0.05	0.01	0.02		0.06		0.51			0.34	
Uniform Delay, d1		21.6	21.2	21.3		21.7		49.5			42.2	
Progression Factor		1.00	1.00	1.00		1.00		1.00			0.21	
Incremental Delay, d2		0.1	0.0	0.1		0.2		0.6			0.8	
Delay (s)		21.7	21.3	21.4		21.8		50.1			9.9	
Level of Service		C	C	C		C		D			A	
Approach Delay (s)		21.6			21.8			50.1			9.9	
Approach LOS		C			C			D			A	
Intersection Summary												
HCM 2000 Control Delay			33.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.24									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			16.6		
Intersection Capacity Utilization			71.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	164	102	155	113	51	61	1667	133	46	1684	39
Future Volume (vph)	79	164	102	155	113	51	61	1667	133	46	1684	39
Ideal Flow (vphpl)	1200	1900	1900	1300	1900	1900	1200	1800	1900	1500	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1097	1716		1175	1752		1118	4709		1397	5058	
Flt Permitted	0.57	1.00		0.41	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	655	1716		509	1752		1118	4709		1397	5058	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	164	102	155	113	51	61	1667	133	46	1684	39
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	79	243	0	155	164	0	61	1800	0	46	1723	0
Confl. Peds. (#/hr)	27		46	51		32			51			27
Confl. Bikes (#/hr)			2			4			2			4
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	25.6	25.6		25.6	25.6		8.5	48.7		4.9	45.1	
Effective Green, g (s)	27.1	27.1		27.1	27.1		10.0	50.2		6.4	46.6	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.11	0.54		0.07	0.50	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	191	501		148	512		120	2550		96	2542	
v/s Ratio Prot		0.14			0.09		c0.05	c0.38		0.03	0.34	
v/s Ratio Perm	0.12			c0.30								
v/c Ratio	0.41	0.48		1.05	0.32		0.51	0.71		0.48	0.68	
Uniform Delay, d1	26.4	27.0		32.8	25.6		39.0	15.8		41.5	17.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.5	0.7		87.1	0.4		14.6	1.7		3.7	0.7	
Delay (s)	27.9	27.8		119.9	26.0		53.6	17.4		45.3	18.1	
Level of Service	C	C		F	C		D	B		D	B	
Approach Delay (s)		27.8			71.6			18.6			18.8	
Approach LOS		C			E			B			B	
Intersection Summary												
HCM 2000 Control Delay		23.4					HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio		0.81										
Actuated Cycle Length (s)		92.7					Sum of lost time (s)		9.0			
Intersection Capacity Utilization		89.3%					ICU Level of Service		E			
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	9	531	18	14	90	17	2	104	70	57	99	4
Future Volume (vph)	9	531	18	14	90	17	2	104	70	57	99	4
Ideal Flow (vphpl)	1900	1000	1900	1900	1900	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.97			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		1.00			0.98			0.95			1.00	
Flt Protected		1.00			0.99			1.00			0.98	
Satd. Flow (prot)		1848			1792			899			952	
Flt Permitted		0.95			0.93			1.00			0.83	
Satd. Flow (perm)		1760			1672			896			802	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	9	531	18	14	90	17	2	104	70	57	99	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	558	0	0	121	0	0	176	0	0	160	0
Confl. Peds. (#/hr)			20	20		24			44	24		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		45.5			45.5			19.5			19.5	
Effective Green, g (s)		47.0			47.0			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.26			0.26	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1034			982			235			210	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.07			0.20			c0.20	
v/c Ratio		0.54			0.12			0.75			0.76	
Uniform Delay, d1		10.0			7.3			27.1			27.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			0.1			19.5			22.6	
Delay (s)		12.0			7.4			46.6			49.8	
Level of Service		B			A			D			D	
Approach Delay (s)		12.0			7.4			46.6			49.8	
Approach LOS		B			A			D			D	
Intersection Summary												
HCM 2000 Control Delay			23.4									
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			80.0									
Intersection Capacity Utilization			81.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

217: Claremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	67	200	47	99	276	14	32	94	38	7	110	14
Future Volume (vph)	67	200	47	99	276	14	32	94	38	7	110	14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	67	200	47	99	276	14	32	94	38	7	110	14
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	314	389	164	131								
Volume Left (vph)	67	99	32	7								
Volume Right (vph)	47	14	38	14								
Hadj (s)	-0.01	0.06	-0.07	-0.02								
Departure Headway (s)	5.4	5.4	6.0	6.2								
Degree Utilization, x	0.47	0.58	0.27	0.22								
Capacity (veh/h)	620	636	521	492								
Control Delay (s)	13.3	15.7	11.3	10.9								
Approach Delay (s)	13.3	15.7	11.3	10.9								
Approach LOS	B	C	B	B								
Intersection Summary												
Delay				13.6								
Level of Service				B								
Intersection Capacity Utilization				56.5%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

219: Humboldt St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	134	24	3	2	16	61	15	218	7	31	220	85
Future Volume (vph)	134	24	3	2	16	61	15	218	7	31	220	85
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	134	24	3	2	16	61	15	218	7	31	220	85
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	161	79	240	336								
Volume Left (vph)	134	2	15	31								
Volume Right (vph)	3	61	7	85								
Hadj (s)	0.19	-0.42	0.03	-0.10								
Departure Headway (s)	5.7	5.2	5.1	4.8								
Degree Utilization, x	0.25	0.11	0.34	0.45								
Capacity (veh/h)	576	594	669	710								
Control Delay (s)	10.6	8.9	10.7	11.7								
Approach Delay (s)	10.6	8.9	10.7	11.7								
Approach LOS	B	A	B	B								
Intersection Summary												
Delay				10.9								
Level of Service				B								
Intersection Capacity Utilization				49.1%	ICU Level of Service	A						
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

223: Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	3	3	0	7	40	11	395	0	15	167	38
Future Volume (Veh/h)	16	3	3	0	7	40	11	395	0	15	167	38
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	3	3	0	7	40	11	395	0	15	167	38
Pedestrians		9			14			8			12	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			1			1			1	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											297	
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94		0.94					
vC, conflicting volume	500	656	203	660	675	224	214			409		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	440	605	125	609	625	224	137			409		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	96	99	100	100	98	95	99			99		
cM capacity (veh/h)	418	371	837	335	361	761	1351			1131		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	22	47	208	198	220							
Volume Left	16	0	11	0	15							
Volume Right	3	40	0	0	38							
cSH	440	653	1351	1700	1131							
Volume to Capacity	0.05	0.07	0.01	0.12	0.01							
Queue Length 95th (ft)	4	6	1	0	1							
Control Delay (s)	13.6	10.9	0.5	0.0	0.7							
Lane LOS	B	B	A		A							
Approach Delay (s)	13.6	10.9	0.2		0.7							
Approach LOS	B	B										
Intersection Summary												
Average Delay			1.5									
Intersection Capacity Utilization			39.8%	ICU Level of Service					A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

226: El Camino Real & 9th Ave

06/12/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	178	94	1712	129	138	1721
Future Volume (vph)	178	94	1712	129	138	1721
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	0.97	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1537	5009		1770	5085
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1537	5009		1770	5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	178	94	1712	129	138	1721
RTOR Reduction (vph)	0	75	7	0	0	0
Lane Group Flow (vph)	178	19	1834	0	138	1721
Confl. Peds. (#/hr)	17	12		23		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	11.8	11.8	30.4		8.7	43.6
Effective Green, g (s)	13.3	13.3	31.9		10.2	45.1
Actuated g/C Ratio	0.21	0.21	0.50		0.16	0.70
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	365	317	2481		280	3561
v/s Ratio Prot	c0.10		c0.37		0.08	c0.34
v/s Ratio Perm		0.01				
v/c Ratio	0.49	0.06	0.74		0.49	0.48
Uniform Delay, d1	22.5	20.5	12.9		24.7	4.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.1	1.2		1.4	0.1
Delay (s)	23.6	20.6	14.1		26.1	4.5
Level of Service	C	C	B		C	A
Approach Delay (s)	22.5		14.1			6.1
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			10.9		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			64.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			63.6%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

228: 5th Ave & Ellsworth Ave

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	299	292	11	23	70
Future Volume (Veh/h)	40	299	292	11	23	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	40	299	292	11	23	70
Pedestrians		32	21		32	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	2		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		366	310			
pX, platoon unblocked					0.94	
vC, conflicting volume	335				730	362
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335				684	362
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				94	89
cM capacity (veh/h)	1187				359	642
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	339	303	93			
Volume Left	40	0	23			
Volume Right	0	11	70			
cSH	1187	1700	537			
Volume to Capacity	0.03	0.18	0.17			
Queue Length 95th (ft)	3	0	16			
Control Delay (s)	1.3	0.0	13.1			
Lane LOS	A		B			
Approach Delay (s)	1.3	0.0	13.1			
Approach LOS			B			
Intersection Summary						
Average Delay			2.2			
Intersection Capacity Utilization			55.5%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

229: 5th Ave & Idaho St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				0.0%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

231: Fremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	75	86	2	4	140	29	12	87	6	17	97	74
Future Volume (vph)	75	86	2	4	140	29	12	87	6	17	97	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	75	86	2	4	140	29	12	87	6	17	97	74
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	163	173	105	188								
Volume Left (vph)	75	4	12	17								
Volume Right (vph)	2	29	6	74								
Hadj (s)	0.12	-0.06	0.02	-0.18								
Departure Headway (s)	5.0	4.8	5.0	4.7								
Degree Utilization, x	0.23	0.23	0.15	0.25								
Capacity (veh/h)	671	698	657	708								
Control Delay (s)	9.4	9.2	8.9	9.2								
Approach Delay (s)	9.4	9.2	8.9	9.2								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.2									
Level of Service			A									
Intersection Capacity Utilization			46.3%	ICU Level of Service					A			
Analysis Period (min)			15									

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

237: US 101 SB Off Diag & Idaho St

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↰			↱
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		382				
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	WB 1	SB 1				
Volume Total	0	0				
Volume Left	0	0				
Volume Right	0	0				
cSH	1700	1700				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS		A				
Approach Delay (s)	0.0	0.0				
Approach LOS		A				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

Intersection has too many legs for HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

254:

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↰			↰	
Traffic Volume (vph)	0	598	0	0	819	0
Future Volume (vph)	0	598	0	0	819	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	
Lane Util. Factor		1.00			1.00	
Frt		0.86			1.00	
Flt Protected		1.00			1.00	
Satd. Flow (prot)		1611			1863	
Flt Permitted		1.00			1.00	
Satd. Flow (perm)		1611			1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	598	0	0	819	0
RTOR Reduction (vph)	0	50	0	0	0	0
Lane Group Flow (vph)	0	548	0	0	819	0
Turn Type		Perm			NA	
Protected Phases					6	
Permitted Phases		4				
Actuated Green, G (s)		15.0			16.0	
Effective Green, g (s)		16.5			17.5	
Actuated g/C Ratio		0.41			0.44	
Clearance Time (s)		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		664			815	
v/s Ratio Prot					c0.44	
v/s Ratio Perm		c0.34				
v/c Ratio		0.83			1.00	
Uniform Delay, d1		10.5			11.2	
Progression Factor		1.00			1.00	
Incremental Delay, d2		8.3			32.7	
Delay (s)		18.7			44.0	
Level of Service		B			D	
Approach Delay (s)	18.7			0.0	44.0	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay		33.3		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.96				
Actuated Cycle Length (s)		40.0		Sum of lost time (s)		7.5
Intersection Capacity Utilization		86.8%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

255: Norfolk St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	4	142	76	49	2	68	158	39	1	206	18
Future Volume (vph)	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	4	142	76	49	2	68	158	39	1	206	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	148	127	265	225								
Volume Left (vph)	2	76	68	1								
Volume Right (vph)	142	2	39	18								
Hadj (s)	-0.54	0.14	0.00	-0.01								
Departure Headway (s)	4.8	5.5	4.9	5.0								
Degree Utilization, x	0.20	0.19	0.36	0.31								
Capacity (veh/h)	667	587	689	673								
Control Delay (s)	9.0	9.8	10.7	10.2								
Approach Delay (s)	9.0	9.8	10.7	10.2								
Approach LOS	A	A	B	B								
Intersection Summary												
Delay				10.1								
Level of Service				B								
Intersection Capacity Utilization				59.0%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	741	147	8	726	7	354	0	7	1	5	0
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1435	642	83	1461	14	755	0	335	14	68	0
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.21	0.00	0.21	0.04	0.04	0.00
Sat Flow, veh/h	1774	3539	1582	1774	3592	35	3548	0	1574	308	1539	0
Grp Volume(v), veh/h	7	741	147	8	358	375	354	0	7	6	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1857	1774	0	1574	1847	0	0
Q Serve(g_s), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		0.00
Lane Grp Cap(c), veh/h	81	1435	642	83	720	755	755	0	335	82	0	0
V/C Ratio(X)	0.09	0.52	0.23	0.10	0.50	0.50	0.47	0.00	0.02	0.07	0.00	0.00
Avail Cap(c_a), veh/h	279	3597	1608	279	1799	1887	2833	0	1257	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	9.2	8.0	18.9	9.1	9.1	14.2	0.0	12.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	1.1	0.1	3.1	3.2	1.8	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.5	8.2	19.3	9.6	9.6	14.7	0.0	12.9	19.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B		B	B		
Approach Vol, veh/h		895			741			361			6	
Approach Delay, s/veh		9.4			9.7			14.6			19.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	4.9	19.8		4.8	4.9	19.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.5	5.0	40.5		5.0	5.0	40.5				
Max Q Clear Time (g_c+I1), s		5.6	2.2	8.5		2.1	2.2	8.2				
Green Ext Time (p_c), s		1.3	0.0	6.5		0.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	395	127	172	212	6	310	42	43	2	28	16
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	927	391	417	1034	29	521	247	253	170	215	112
Arrive On Green	0.08	0.25	0.25	0.12	0.29	0.29	0.29	0.29	0.29	0.10	0.10	0.10
Sat Flow, veh/h	1774	3725	1570	3442	3515	99	1774	841	861	1774	2239	1167
Grp Volume(v), veh/h	44	395	127	172	106	112	310	0	85	2	22	22
Grp Sat Flow(s),veh/h/ln	1774	1863	1570	1721	1770	1845	1774	0	1702	1774	1770	1636
Q Serve(g_s), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Cycle Q Clear(g_c), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	135	927	391	417	520	542	521	0	500	170	170	157
V/C Ratio(X)	0.33	0.43	0.33	0.41	0.20	0.21	0.59	0.00	0.17	0.01	0.13	0.14
Avail Cap(c_a), veh/h	818	2763	1164	1587	1313	1368	1316	0	1263	1102	1100	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.3	20.3	13.2	13.2	15.1	0.0	13.1	20.4	20.6	20.7
Incr Delay (d2), s/veh	1.4	0.3	0.5	0.7	0.2	0.2	1.1	0.0	0.2	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.5	1.1	1.1	1.2	3.8	0.0	0.9	0.0	0.3	0.3
LnGrp Delay(d),s/veh	23.2	16.1	15.8	20.9	13.4	13.4	16.2	0.0	13.3	20.4	21.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		B	C	C	C
Approach Vol, veh/h		566			390			395			46	
Approach Delay, s/veh		16.6			16.7			15.5			21.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.7	9.0	15.4		7.8	6.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		9.5	4.3	6.4		2.6	3.2	4.3				
Green Ext Time (p_c), s		2.5	0.5	3.2		0.2	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	228	56	60	461	21	272	526	252	41	105	28
Adj No. of Lanes	1	2	1	2	2	0	1	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1065	468	278	961	44	381	1252	528	122	527	136
Arrive On Green	0.10	0.30	0.30	0.08	0.28	0.28	0.22	0.34	0.34	0.07	0.19	0.19
Sat Flow, veh/h	1774	3539	1557	3442	3447	157	1774	3725	1569	1774	2777	714
Grp Volume(v), veh/h	104	228	56	60	236	246	272	526	252	41	65	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1557	1721	1770	1834	1774	1863	1569	1774	1770	1721
Q Serve(g_s), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Cycle Q Clear(g_c), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	182	1065	468	278	494	511	381	1252	528	122	336	327
V/C Ratio(X)	0.57	0.21	0.12	0.22	0.48	0.48	0.71	0.42	0.48	0.34	0.19	0.21
Avail Cap(c_a), veh/h	662	2920	1284	404	1007	1044	978	3868	1629	208	1070	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.3	24.2	16.9	16.9	20.5	14.4	14.8	25.0	19.2	19.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.4	0.7	0.7	2.5	0.2	0.7	1.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	0.6	0.4	3.1	3.2	4.2	3.2	3.1	0.7	0.9	0.9
LnGrp Delay(d),s/veh	26.8	14.8	14.4	24.6	17.6	17.6	23.0	14.7	15.4	26.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		388			542			1050			174	
Approach Delay, s/veh		18.0			18.4			17.0			21.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	21.9	7.5	19.9	15.1	13.7	8.8	18.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	56.9	5.1	44.9	29.5	32.5	19.5	30.5					
Max Q Clear Time (g_c+I13), s	9.1	2.9	4.7	10.0	3.9	5.1	8.3					
Green Ext Time (p_c), s	0.0	5.1	0.0	1.8	0.8	0.7	0.2	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	740	438	77	1220	89	651	155	86	131	196	137
Future Volume (veh/h)	190	740	438	77	1220	89	651	155	86	131	196	137
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1275	1471	1863	980	1520	1900	1716	1569	1600	1900	1569	1569
Adj Flow Rate, veh/h	190	740	343	77	1220	89	651	155	86	131	196	32
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	981	898	86	1151	84	732	217	121	139	208	279
Arrive On Green	0.15	0.35	0.35	0.09	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1214	2794	1516	934	3935	287	3170	941	522	616	922	1238
Grp Volume(v), veh/h	190	740	343	77	857	452	651	0	241	327	0	32
Grp Sat Flow(s),veh/h/ln	1214	1397	1516	934	1383	1456	1585	0	1463	1538	0	1238
Q Serve(g_s), s	18.0	28.0	14.6	9.8	35.0	35.0	23.8	0.0	18.1	25.0	0.0	2.5
Cycle Q Clear(g_c), s	18.0	28.0	14.6	9.8	35.0	35.0	23.8	0.0	18.1	25.0	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.36	0.40		1.00
Lane Grp Cap(c), veh/h	183	981	898	86	809	426	732	0	338	347	0	279
V/C Ratio(X)	1.04	0.75	0.38	0.90	1.06	1.06	0.89	0.00	0.71	0.94	0.00	0.11
Avail Cap(c_a), veh/h	183	981	898	86	809	426	742	0	342	347	0	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.8	34.3	13.5	53.8	42.3	42.3	44.5	0.0	42.4	45.5	0.0	36.8
Incr Delay (d2), s/veh	77.6	3.4	0.3	64.2	48.6	60.4	12.7	0.0	6.8	33.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	11.2	9.6	4.1	18.7	21.1	11.7	0.0	7.9	13.9	0.0	0.9
LnGrp Delay(d),s/veh	128.5	37.6	13.8	117.9	90.9	102.7	57.2	0.0	49.1	79.1	0.0	37.0
LnGrp LOS	F	D	B	F	F	F	E		D	E		D
Approach Vol, veh/h	1273			1386			892			359		
Approach Delay, s/veh	44.8			96.3			55.0			75.3		
Approach LOS	D			F			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	14.0	45.0		30.0	21.0	38.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	9.5	40.5		25.5	16.5	33.5				
Max Q Clear Time (g_c+I1), s		25.8	11.8	30.0		27.0	20.0	37.0				
Green Ext Time (p_c), s		0.4	0.0	4.7		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	68.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	158	241	62	94	511	0	213	224	132	202	261	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	688	558	153	616	524	278	539	302	271	461	392
Arrive On Green	0.12	0.11	0.11	0.02	0.10	0.00	0.16	0.25	0.25	0.15	0.25	0.00
Sat Flow, veh/h	1774	1863	1511	1774	1863	1583	1774	2150	1204	1774	1863	1583
Grp Volume(v), veh/h	158	241	62	94	511	0	213	182	174	202	261	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1511	1774	1863	1583	1774	1770	1585	1774	1863	1583
Q Serve(g_s), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Cycle Q Clear(g_c), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	221	688	558	153	616	524	278	444	398	271	461	392
V/C Ratio(X)	0.71	0.35	0.11	0.61	0.83	0.00	0.77	0.41	0.44	0.74	0.57	0.00
Avail Cap(c_a), veh/h	250	712	578	258	721	612	312	656	587	445	830	705
HCM Platoon Ratio	1.00	0.30	0.30	0.20	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	28.5	25.3	40.5	36.0	0.0	34.5	26.7	26.9	34.5	28.1	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.1	4.0	7.0	0.0	9.8	0.6	0.8	4.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.3	1.3	2.4	13.1	0.0	5.6	3.7	3.5	4.8	5.5	0.0
LnGrp Delay(d),s/veh	44.0	28.8	25.4	44.5	43.1	0.0	44.3	27.3	27.6	38.6	29.2	0.0
LnGrp LOS	D	C	C	D	D		D	C	C	D	C	
Approach Vol, veh/h		461			605			569			463	
Approach Delay, s/veh		33.5			43.3			33.8			33.3	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	24.4	10.4	34.5	16.3	24.1	13.6	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.9	30.1	10.9	31.1	13.5	36.5	10.5	31.5				
Max Q Clear Time (g_c+I1), s	11.3	9.9	6.5	12.2	11.8	12.5	9.3	25.0				
Green Ext Time (p_c), s	0.4	2.1	0.1	1.5	0.1	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			36.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	10	30	0	0	0	0	30	27	13
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	2157	2157	1765	2157	2200	1863	2141	2100	1863	1863	2157
Adj Flow Rate, veh/h	308	1041	178	50	1960	84	406	132	59	51	262	210
Adj No. of Lanes	2	3	1	1	3	0	2	1	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	3494	975	104	2611	100	545	220	98	295	314	297
Arrive On Green	0.15	0.56	0.56	0.05	0.45	0.45	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3361	6471	1805	1681	5784	247	3442	1390	621	1774	1863	1783
Grp Volume(v), veh/h	308	1041	178	50	1329	715	406	0	191	51	262	210
Grp Sat Flow(s),veh/h/ln	1681	2157	1805	1681	1963	2106	1721	0	2012	1774	1863	1783
Q Serve(g_s), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Cycle Q Clear(g_c), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	510	3494	975	104	1762	947	545	0	318	295	314	297
V/C Ratio(X)	0.60	0.30	0.18	0.48	0.75	0.76	0.75	0.00	0.60	0.17	0.83	0.71
Avail Cap(c_a), veh/h	519	3600	1004	126	1762	945	663	0	387	299	314	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	20.2	18.8	74.4	38.1	38.0	64.3	0.0	62.6	61.9	66.5	65.2
Incr Delay (d2), s/veh	1.9	0.2	0.4	3.5	3.1	5.6	3.7	0.0	1.8	0.3	17.2	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	130.0	3.8	3.3	0.0	0.0	0.0	90.3	234.3	47.0
%ile BackOfQ(50%),veh/ln	6.5	8.4	4.1	7.8	28.7	31.4	8.8	0.0	8.0	14.8	35.8	15.9
LnGrp Delay(d),s/veh	65.3	20.4	19.2	207.9	44.9	46.9	67.9	0.0	64.4	152.5	318.0	119.5
LnGrp LOS	E	C	B	F	D	D	E		E	F	F	F
Approach Vol, veh/h	1527			2094			597			523		
Approach Delay, s/veh	29.3			49.5			66.8			222.2		
Approach LOS	C			D			E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		28.3	10.5	92.0		29.2	27.7	74.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		29.3	10.5	76.7		25.5	16.8	70.3				
Max Q Clear Time (g_c+I1), s		20.0	6.7	15.6		23.9	15.6	47.4				
Green Ext Time (p_c), s		1.9	0.0	9.8		0.4	0.1	15.3				
Intersection Summary												
HCM 2010 Ctrl Delay	64.2											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	818	129	183	656	118	69	56	140	83	153	7
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1247	197	285	998	818	170	111	216	209	297	12
Arrive On Green	0.03	0.41	0.41	0.16	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3041	480	1774	1863	1526	320	437	849	451	1167	48
Grp Volume(v), veh/h	4	476	471	183	656	118	265	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1863	1526	1607	0	0	1666	0	0
Q Serve(g_s), s	0.1	11.1	11.1	5.0	12.9	2.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.1	11.1	5.0	12.9	2.0	7.0	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.26		0.53	0.34		0.03
Lane Grp Cap(c), veh/h	61	725	718	285	998	818	497	0	0	517	0	0
V/C Ratio(X)	0.07	0.66	0.66	0.64	0.66	0.14	0.53	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	228	1210	1198	615	1681	1377	931	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	12.2	12.2	20.2	8.5	6.0	16.9	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	2.4	0.7	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.6	5.6	2.6	6.8	0.8	3.4	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	24.4	13.2	13.2	22.6	9.3	6.1	17.8	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h		951			957			265			243	
Approach Delay, s/veh		13.3			11.4			17.8			17.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.2	24.0		16.0	4.8	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.6	16.3	33.6		26.6	5.1	44.8				
Max Q Clear Time (g_c+l1), s		9.0	7.0	13.1		8.1	2.1	14.9				
Green Ext Time (p_c), s		1.6	0.3	6.4		1.4	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay				13.4								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Future Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110	
Number	7	4	14	3	8	18	5	2	12	1	6	16	
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0	
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.95	0.99		0.94	0.99		0.94	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900	
Adj Flow Rate, veh/h	48	291	81	85	277	53	87	254	19	205	230	110	
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2	
Cap, veh/h	443	645	180	412	696	133	416	788	59	475	539	258	
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	
Sat Flow, veh/h	1035	1395	388	1003	1505	288	988	1704	127	1045	1166	558	
Grp Volume(v), veh/h	48	0	372	85	0	330	87	0	273	205	0	340	
Grp Sat Flow(s),veh/h/ln	1035	0	1784	1003	0	1793	988	0	1831	1045	0	1724	
Q Serve(g_s), s	2.6	0.0	11.3	5.0	0.0	9.7	5.2	0.0	7.5	12.3	0.0	10.6	
Cycle Q Clear(g_c), s	12.3	0.0	11.3	16.4	0.0	9.7	15.7	0.0	7.5	19.9	0.0	10.6	
Prop In Lane	1.00		0.22	1.00		0.16	1.00		0.07	1.00		0.32	
Lane Grp Cap(c), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
V/C Ratio(X)	0.11	0.00	0.45	0.21	0.00	0.40	0.21	0.00	0.32	0.43	0.00	0.43	
Avail Cap(c_a), veh/h	443	0	825	412	0	829	416	0	847	475	0	797	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	
Uniform Delay (d), s/veh	18.2	0.0	14.6	20.2	0.0	14.2	19.7	0.0	13.6	19.9	0.0	14.4	
Incr Delay (d2), s/veh	0.5	0.0	1.8	1.1	0.0	1.4	1.1	0.0	1.0	2.9	0.0	1.7	
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.0	1.5	0.0	5.1	1.5	0.0	4.0	3.9	0.0	5.4	
LnGrp Delay(d),s/veh	18.7	0.0	16.4	21.3	0.0	15.6	20.8	0.0	14.6	22.7	0.0	16.1	
LnGrp LOS	B		B	C		B	C		B	C		B	
Approach Vol, veh/h	420				415				360				545
Approach Delay, s/veh	16.6				16.8				16.1				18.6
Approach LOS	B				B				B				B
Timer	1	2	3	4	5	6	7	8					
Assigned Phs	2		4		6		8						
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0						
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5						
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5						
Max Q Clear Time (g_c+l1), s	17.7		14.3		21.9		18.4						
Green Ext Time (p_c), s	2.0		2.5		2.7		2.2						
Intersection Summary													
HCM 2010 Ctrl Delay	17.2												
HCM 2010 LOS	B												

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰ ↱ ↲							↰ ↱ ↲			↰ ↱	
Traffic Volume (veh/h)	20	1292	14	0	0	0	0	57	508	377	369	0
Future Volume (veh/h)	20	1292	14	0	0	0	0	57	508	377	369	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1569	1700				0	1667	1078	1569	1471	0
Adj Flow Rate, veh/h	20	1292	14				0	0	406	373	375	0
Adj No. of Lanes	1	3	0				0	1	2	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	474	1303	14				0	453	491	442	435	0
Arrive On Green	0.30	0.30	0.30				0.00	0.00	0.27	0.30	0.30	0.00
Sat Flow, veh/h	1587	4367	47				0	1667	1807	1494	1471	0
Grp Volume(v), veh/h	20	845	461				0	0	406	373	375	0
Grp Sat Flow(s),veh/h/ln	1587	1427	1559				0	1667	904	1494	1471	0
Q Serve(g_s), s	0.6	19.8	19.8				0.0	0.0	14.1	15.7	16.2	0.0
Cycle Q Clear(g_c), s	0.6	19.8	19.8				0.0	0.0	14.1	15.7	16.2	0.0
Prop In Lane	1.00		0.03				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	474	852	465				0	453	491	442	435	0
V/C Ratio(X)	0.04	0.99	0.99				0.00	0.00	0.83	0.84	0.86	0.00
Avail Cap(c_a), veh/h	474	852	465				0	522	566	446	439	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.7	23.4	23.4				0.0	0.0	22.9	22.2	22.3	0.0
Incr Delay (d2), s/veh	0.0	28.7	39.4				0.0	0.0	8.7	13.8	16.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.1	13.6				0.0	0.0	4.1	8.1	8.5	0.0
LnGrp Delay(d),s/veh	16.7	52.1	62.9				0.0	0.0	31.7	36.0	38.3	0.0
LnGrp LOS	B	D	E						C	D	D	
Approach Vol, veh/h		1326						406			748	
Approach Delay, s/veh		55.3						31.7			37.1	
Approach LOS		E						C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.2		23.0		22.8						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		19.5		18.5		18.5						
Max Q Clear Time (g_c+I1), s		16.1		21.8		18.2						
Green Ext Time (p_c), s		0.6		0.0		0.1						
Intersection Summary												
HCM 2010 Ctrl Delay			46.0									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.94	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	331	197	66	78	11	182	206	41	53	224	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	612	355	134	914	126	389	408	328	420	335	87
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.29	0.22	0.22	0.22	0.24	0.24	0.24
Sat Flow, veh/h	1774	2123	1231	1774	3102	426	1774	1863	1497	1774	1416	367
Grp Volume(v), veh/h	52	274	254	66	44	45	182	206	41	53	0	282
Grp Sat Flow(s),veh/h/ln	1774	1770	1584	1774	1770	1758	1774	1863	1497	1774	0	1783
Q Serve(g_s), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Cycle Q Clear(g_c), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Prop In Lane	1.00		0.78	1.00		0.24	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	510	457	134	522	518	389	408	328	420	0	422
V/C Ratio(X)	0.42	0.54	0.56	0.49	0.08	0.09	0.47	0.50	0.12	0.13	0.00	0.67
Avail Cap(c_a), veh/h	189	706	632	187	703	698	667	701	563	654	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	19.9	20.0	29.5	16.9	17.0	22.6	22.8	20.8	20.0	0.0	23.0
Incr Delay (d2), s/veh	2.3	0.9	1.1	2.8	0.1	0.1	0.9	1.0	0.2	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.1	1.3	0.6	0.6	3.0	3.4	0.6	0.8	0.0	4.9
LnGrp Delay(d),s/veh	32.0	20.8	21.1	32.3	17.0	17.0	23.5	23.7	21.0	20.1	0.0	24.8
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h	580					155	429			335		
Approach Delay, s/veh	21.9					23.5	23.4			24.1		
Approach LOS	C					C	C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6			7	8			
Phs Duration (G+Y+Rc), s	17.6		8.0	22.2	18.7			7.6	22.6			
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5			4.5	4.5			
Max Green Setting (Gmax), s	23.5		5.5	25.0	23.0			5.6	24.9			
Max Q Clear Time (g_c+I1), s	8.5		4.4	11.0	11.5			3.9	3.2			
Green Ext Time (p_c), s	1.6		0.0	3.0	1.4			0.0	0.4			
Intersection Summary												
HCM 2010 Ctrl Delay	23.0											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	528	219	486	556	0				134	162	228
Adj No. of Lanes	0	1	1	1	1	0				1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	581	469	535	1202	0				517	543	447
Arrive On Green	0.00	0.31	0.31	0.30	0.65	0.00				0.29	0.29	0.29
Sat Flow, veh/h	0	1863	1503	1774	1863	0				1774	1863	1532
Grp Volume(v), veh/h	0	528	219	486	556	0				134	162	228
Grp Sat Flow(s),veh/h/ln	0	1863	1503	1774	1863	0				1774	1863	1532
Q Serve(g_s), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Cycle Q Clear(g_c), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	581	469	535	1202	0				517	543	447
V/C Ratio(X)	0.00	0.91	0.47	0.91	0.46	0.00				0.26	0.30	0.51
Avail Cap(c_a), veh/h	0	588	475	542	1216	0				517	543	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.61	0.61	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	26.3	31.9	8.5	0.0				25.8	26.1	28.0
Incr Delay (d2), s/veh	0.0	12.1	0.4	19.2	0.3	0.0				1.2	1.4	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	4.7	15.1	7.4	0.0				2.9	3.5	5.5
LnGrp Delay(d),s/veh	0.0	43.4	26.7	51.1	8.8	0.0				27.0	27.5	32.1
LnGrp LOS		D	C	D	A					C	C	C
Approach Vol, veh/h		747			1042						524	
Approach Delay, s/veh		38.5			28.5						29.4	
Approach LOS		D			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			31.6	32.7		30.7		64.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			27.5	28.5		25.5		60.5				
Max Q Clear Time (g_c+I1), s			27.0	27.8		13.8		16.3				
Green Ext Time (p_c), s			0.1	0.3		1.7		4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	980	0				1863	1863	0
Adj Flow Rate, veh/h	0	1270	314	0	1459	0				53	229	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	2358	686	0	1489	0				279	287	0
Arrive On Green	0.00	0.84	0.84	0.00	1.00	0.00				0.08	0.08	0.00
Sat Flow, veh/h	0	2843	812	0	1961	0				3442	3632	0
Grp Volume(v), veh/h	0	1270	314	0	1459	0				53	229	0
Grp Sat Flow(s),veh/h/ln	0	931	812	0	882	0				1721	1770	0
Q Serve(g_s), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Cycle Q Clear(g_c), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	2358	686	0	1489	0				279	287	0
V/C Ratio(X)	0.00	0.54	0.46	0.00	0.98	0.00				0.19	0.80	0.00
Avail Cap(c_a), veh/h	0	2358	686	0	1489	0				1506	1548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	1.8	1.6	0.0	0.0	0.0				34.3	36.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	19.0	0.0				0.3	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.9	0.0	3.9	0.0				0.6	2.7	0.0
LnGrp Delay(d),s/veh	0.0	2.3	2.8	0.0	19.0	0.0				34.6	41.2	0.0
LnGrp LOS		A	A		B					C	D	
Approach Vol, veh/h		1584			1459						282	
Approach Delay, s/veh		2.4			19.0						39.9	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				70.5		9.5		70.5				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s				12.4		3.1		2.0				
Green Ext Time (p_c), s				11.2		0.0		14.0				
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.97		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	612	107	118	541	28	144	79	133	51	105	15
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1463	255	458	856	44	457	217	528	235	410	49
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	832	2995	522	722	1753	91	847	630	1534	304	1190	144
Grp Volume(v), veh/h	7	361	358	118	0	569	223	0	133	171	0	0
Grp Sat Flow(s),veh/h/ln	832	1770	1748	722	0	1843	1476	0	1534	1638	0	0
Q Serve(g_s), s	0.2	4.7	4.7	4.5	0.0	8.2	1.2	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	4.7	4.7	9.2	0.0	8.2	3.6	0.0	2.2	2.4	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.05	0.65		1.00	0.30		0.09
Lane Grp Cap(c), veh/h	417	864	854	458	0	900	673	0	528	694	0	0
V/C Ratio(X)	0.02	0.42	0.42	0.26	0.00	0.63	0.33	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	707	1482	1463	710	0	1543	1128	0	1027	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.9	5.9	8.9	0.0	6.8	8.8	0.0	8.4	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.0	0.7	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.3	0.9	0.0	4.3	1.7	0.0	1.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	9.9	6.2	6.2	9.2	0.0	7.5	9.1	0.0	8.7	8.7	0.0	0.0
LnGrp LOS	A	A	A	A		A	A		A	A		
Approach Vol, veh/h		726			687			356			171	
Approach Delay, s/veh		6.3			7.8			8.9			8.7	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		20.5		15.3		20.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.6		10.4		4.4		11.2				
Green Ext Time (p_c), s		1.7		4.4		0.9		4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.89	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	57	19	138	168	117	61	277	73	113	196	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	319	106	223	309	215	144	432	114	192	500	107
Arrive On Green	0.05	0.24	0.24	0.13	0.31	0.31	0.08	0.31	0.31	0.11	0.34	0.34
Sat Flow, veh/h	1774	1325	442	1774	991	690	1774	1383	365	1774	1473	316
Grp Volume(v), veh/h	24	0	76	138	0	285	61	0	350	113	0	238
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	0	1681	1774	0	1748	1774	0	1789
Q Serve(g_s), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Cycle Q Clear(g_c), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Prop In Lane	1.00		0.25	1.00		0.41	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	97	0	425	223	0	525	144	0	545	192	0	607
V/C Ratio(X)	0.25	0.00	0.18	0.62	0.00	0.54	0.42	0.00	0.64	0.59	0.00	0.39
Avail Cap(c_a), veh/h	441	0	941	441	0	896	441	0	931	441	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	17.0	23.3	0.0	16.0	24.6	0.0	16.7	23.9	0.0	14.2
Incr Delay (d2), s/veh	1.3	0.0	0.2	2.8	0.0	0.9	2.0	0.0	1.3	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	2.2	0.0	3.8	1.0	0.0	4.9	1.8	0.0	2.8
LnGrp Delay(d),s/veh	26.8	0.0	17.2	26.1	0.0	16.9	26.6	0.0	17.9	26.7	0.0	14.6
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	100				423				411		351	
Approach Delay, s/veh	19.5				19.9				19.2		18.5	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	20.6	10.1	16.5	7.6	22.1	6.1	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+1.5), s	11.7	11.7	6.2	3.9	3.8	7.7	2.7	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.2	0.3	0.1	1.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay			19.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	0	192	299	617	89	46	276	0	0	529	49
Future Volume (veh/h)	61	0	192	299	617	89	46	276	0	0	529	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	1471	980	0	0	1078	1900
Adj Flow Rate, veh/h	61	0	92	299	617	89	46	276	0	0	529	49
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	589	1019	147	81	936	0	0	625	58
Arrive On Green	0.02	0.00	0.02	0.33	0.33	0.33	0.06	0.50	0.00	0.00	0.33	0.33
Sat Flow, veh/h		0		1774	3072	442	1401	1912	0	0	1942	174
Grp Volume(v), veh/h		0.0		299	355	351	46	276	0	0	286	292
Grp Sat Flow(s),veh/h/ln				1774	1770	1745	1401	931	0	0	1025	1038
Q Serve(g_s), s				9.0	11.1	11.2	2.1	5.7	0.0	0.0	17.2	17.3
Cycle Q Clear(g_c), s				9.0	11.1	11.2	2.1	5.7	0.0	0.0	17.2	17.3
Prop In Lane				1.00		0.25	1.00		0.00	0.00		0.17
Lane Grp Cap(c), veh/h				589	587	579	81	936	0	0	339	344
V/C Ratio(X)				0.51	0.60	0.61	0.56	0.29	0.00	0.00	0.84	0.85
Avail Cap(c_a), veh/h				589	587	579	116	936	0	0	371	376
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				17.8	18.5	18.5	30.4	9.6	0.0	0.0	20.6	20.6
Incr Delay (d2), s/veh				3.1	4.6	4.7	6.0	0.2	0.0	0.0	15.1	15.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	6.2	6.1	1.0	1.5	0.0	0.0	6.3	6.4
LnGrp Delay(d),s/veh				20.9	23.1	23.2	36.4	9.8	0.0	0.0	35.7	36.2
LnGrp LOS				C	C	C	D	A			D	D
Approach Vol, veh/h					1005			322			578	
Approach Delay, s/veh					22.5			13.6			36.0	
Approach LOS					C			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		41.3			11.4	30.0		25.0				
Change Period (Y+Rc), s		9.5			9.0	* 9.5		4.5				
Max Green Setting (Gmax), s		30.5			4.0	* 23		20.5				
Max Q Clear Time (g_c+I1), s		7.7			4.1	19.3		13.2				
Green Ext Time (p_c), s		1.8			0.0	1.1		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT					NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	20	568	17	0	0	0	20	288	174	321	594	72
Future Volume (veh/h)	20	568	17	0	0	0	20	288	174	321	594	72
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900				1863	2451	1900	1078	2451	1900
Adj Flow Rate, veh/h	20	568	17				20	288	174	321	594	72
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	65	1941	61				56	379	219	334	1791	216
Arrive On Green	0.43	0.43	0.43				0.03	0.14	0.14	0.32	0.43	0.43
Sat Flow, veh/h	154	4567	143				1774	2754	1596	1027	4157	502
Grp Volume(v), veh/h	318	0	287				20	242	220	321	332	334
Grp Sat Flow(s), veh/h/ln	2443	0	2421				1774	2328	2021	1027	2328	2331
Q Serve(g_s), s	6.9	0.0	6.2				0.9	8.0	8.4	24.5	7.6	7.6
Cycle Q Clear(g_c), s	6.9	0.0	6.2				0.9	8.0	8.4	24.5	7.6	7.6
Prop In Lane	0.06		0.06				1.00		0.79	1.00		0.22
Lane Grp Cap(c), veh/h	1038	0	1029				56	320	278	334	1003	1004
V/C Ratio(X)	0.31	0.00	0.28				0.36	0.75	0.79	0.96	0.33	0.33
Avail Cap(c_a), veh/h	1038	0	1029				399	320	278	334	1003	1004
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	15.0				37.9	33.2	33.4	26.5	15.1	15.1
Incr Delay (d2), s/veh	0.8	0.0	0.7				3.8	9.8	14.5	40.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	0.0	4.3				0.5	6.0	5.8	10.7	4.9	5.0
LnGrp Delay(d),s/veh	16.0	0.0	15.7				41.7	43.0	47.9	67.0	15.3	15.3
LnGrp LOS	B		B				D	D	D	E	B	B
Approach Vol, veh/h		605						482			987	
Approach Delay, s/veh		15.8						45.2			32.1	
Approach LOS		B						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	29.0	14.0		37.0	5.5	37.5						
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5						
Max Green Setting (Gmax), s	24.5	9.5		32.5	16.5	17.5						
Max Q Clear Time (g_c+20), s	20.5	10.4		8.9	2.9	9.6						
Green Ext Time (p_c), s	0.0	0.0		3.8	0.0	2.7						
Intersection Summary												
HCM 2010 Ctrl Delay			30.4									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	152	43	22	216	44	36	363	13	4	319	153
Future Volume (veh/h)	56	152	43	22	216	44	36	363	13	4	319	153
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	1900	1900	980	1900	1900	980	1900	1900	980	980
Adj Flow Rate, veh/h	56	152	43	22	216	44	36	363	13	4	319	79
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	152	38	59	218	42	74	471	16	47	537	452
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	103	508	126	37	727	141	46	856	29	3	976	821
Grp Volume(v), veh/h	251	0	0	282	0	0	412	0	0	323	0	79
Grp Sat Flow(s),veh/h/ln	738	0	0	905	0	0	932	0	0	978	0	821
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	9.5	0.0	0.0	0.0	0.0	3.8
Cycle Q Clear(g_c), s	24.0	0.0	0.0	24.0	0.0	0.0	27.6	0.0	0.0	17.7	0.0	3.8
Prop In Lane	0.22		0.17	0.08		0.16	0.09		0.03	0.01		1.00
Lane Grp Cap(c), veh/h	276	0	0	320	0	0	562	0	0	584	0	452
V/C Ratio(X)	0.91	0.00	0.00	0.88	0.00	0.00	0.73	0.00	0.00	0.55	0.00	0.17
Avail Cap(c_a), veh/h	276	0	0	320	0	0	562	0	0	584	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	28.3	0.0	0.0	28.2	0.0	0.0	14.1	0.0	0.0	12.1	0.0	9.0
Incr Delay (d2), s/veh	31.4	0.0	0.0	23.6	0.0	0.0	8.2	0.0	0.0	3.8	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.9	0.0	0.0	8.3	0.0	0.0	8.4	0.0	0.0	5.4	0.0	1.0
LnGrp Delay(d),s/veh	59.7	0.0	0.0	51.8	0.0	0.0	22.4	0.0	0.0	15.8	0.0	9.8
LnGrp LOS	E			D			C			B		A
Approach Vol, veh/h	251				282		412				402	
Approach Delay, s/veh	59.7				51.8		22.4				14.6	
Approach LOS	E				D		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		30.0		50.0		30.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	42.5		22.5		42.5		22.5					
Max Q Clear Time (g_c+I1), s	29.6		26.0		19.7		26.0					
Green Ext Time (p_c), s	2.2		0.0		2.3		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	33.2											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	194	76	89	235	16	83	290	60	9	363	107
Future Volume (veh/h)	64	194	76	89	235	16	83	290	60	9	363	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	64	194	76	89	235	16	83	290	60	9	363	107
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	392	138	261	468	29	231	537	102	122	598	174
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	213	1064	376	319	1271	79	214	1214	230	13	1352	393
Grp Volume(v), veh/h	334	0	0	340	0	0	433	0	0	479	0	0
Grp Sat Flow(s),veh/h/ln	1654	0	0	1668	0	0	1658	0	0	1758	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	0.0	4.5	0.0	0.0	5.5	0.0	0.0	6.6	0.0	0.0
Prop In Lane	0.19		0.23	0.26		0.05	0.19		0.14	0.02		0.22
Lane Grp Cap(c), veh/h	744	0	0	757	0	0	869	0	0	893	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.45	0.00	0.00	0.50	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	1508	0	0	1514	0	0	1493	0	0	1611	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.8	0.0	0.0	7.7	0.0	0.0	6.5	0.0	0.0	6.7	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	2.4	0.0	0.0	2.8	0.0	0.0	3.2	0.0	0.0
LnGrp Delay(d),s/veh	8.2	0.0	0.0	8.2	0.0	0.0	6.9	0.0	0.0	7.2	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	334				340				433		479	
Approach Delay, s/veh	8.2				8.2				6.9		7.2	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.0		14.6		17.0		14.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	7.5		6.6		8.6		6.5					
Green Ext Time (p_c), s	3.0		2.2		3.1		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay			7.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	219	260	128	86	288	81	181	391	136	110	439	185
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1287	543	143	758	208	328	783	268	173	734	305
Arrive On Green	0.17	0.36	0.36	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	1774	3539	1493	1774	2721	749	3442	2558	876	1774	2380	989
Grp Volume(v), veh/h	219	260	128	86	185	184	181	269	258	110	325	299
Grp Sat Flow(s),veh/h/ln	1774	1770	1493	1774	1770	1700	1721	1770	1664	1774	1770	1600
Q Serve(g_s), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Cycle Q Clear(g_c), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.53	1.00		0.62
Lane Grp Cap(c), veh/h	295	1287	543	143	493	473	328	542	510	173	546	494
V/C Ratio(X)	0.74	0.20	0.24	0.60	0.38	0.39	0.55	0.50	0.51	0.64	0.59	0.61
Avail Cap(c_a), veh/h	538	1833	773	269	648	623	478	693	652	314	760	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.3	17.5	35.2	23.0	23.1	34.2	22.5	22.6	34.4	23.2	23.3
Incr Delay (d2), s/veh	3.7	0.1	0.2	4.0	0.5	0.5	1.5	0.7	0.8	3.8	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.0	2.0	2.0	3.3	3.3	2.0	4.9	4.7	2.5	6.1	5.7
LnGrp Delay(d),s/veh	35.1	17.4	17.7	39.1	23.5	23.6	35.7	23.2	23.3	38.2	24.2	24.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		607			455			708			734	
Approach Delay, s/veh		23.8			26.5			26.4			26.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.7	27.3	9.4	31.8	10.5	27.4	16.2	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	29.5	10.5	39.5	9.5	32.5	22.5	27.5				
Max Q Clear Time (g_c+10), s	12.1	12.1	5.7	6.7	6.0	14.6	11.3	8.9				
Green Ext Time (p_c), s	0.1	3.1	0.1	2.2	0.2	3.8	0.5	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				25.8								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	23	67	665	0	0	63	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	58	169	1219	0	544	386	0	606	0	6	0
Arrive On Green	0.00	0.14	0.14	0.34	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	421	1226	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	90	665	0	0	63	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1646	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.74	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	228	1219	0	544	386	0	606	0	6	0
V/C Ratio(X)	0.00	0.00	0.40	0.55	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1074	2610	0	1165	1157	0	1817	0	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.7	7.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	2.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.9	8.3	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			A					
Approach Vol, veh/h		90			665			63			0	
Approach Delay, s/veh		12.9			8.3			9.7			0.0	
Approach LOS		B			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		7.1		0.0		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		15.5		20.5				
Max Q Clear Time (g_c+I1), s		2.9		3.5		0.0		6.5				
Green Ext Time (p_c), s		0.2		0.3		0.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱	↰		↱		↰		↱	↰	↱
Traffic Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	117	234	35	270	0	392	0	197	248	261	158	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	210	421	507	0	0	0	0	517	448	541	965	0
Arrive On Green	0.34	0.34	0.34	0.03	0.00	0.03	0.00	0.29	0.29	0.16	0.52	0.00
Sat Flow, veh/h	611	1221	1472		0		0	1863	1533	3442	1863	0
Grp Volume(v), veh/h	351	0	35		0.0		0	197	248	261	158	0
Grp Sat Flow(s),veh/h/ln	1832	0	1472				0	1770	1533	1721	1863	0
Q Serve(g_s), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Prop In Lane	0.33		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	507				0	517	448	541	965	0
V/C Ratio(X)	0.56	0.00	0.07				0.00	0.38	0.55	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1468	0	1180				0	1086	940	1198	1919	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	9.6				0.0	12.3	13.0	16.8	5.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.1				0.0	0.5	1.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.3				0.0	1.9	2.6	1.5	1.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	9.7				0.0	12.8	14.1	17.5	5.6	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		386						445			419	
Approach Delay, s/veh		12.1						13.5			13.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	15.8		18.1		25.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	3.7	25.3		33.5		43.5						
Max Q Clear Time (g_c+1.0), s	15.0	8.0		8.8		4.0						
Green Ext Time (p_c), s	0.6	2.6		2.3		0.9						
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	238	352	84				0	436	212	276	579	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	536	563	464				0	1028	424	462	970	0
Arrive On Green	0.30	0.30	0.30				0.00	0.28	0.28	0.26	0.26	0.00
Sat Flow, veh/h	1774	1863	1535				0	3725	1535	1774	3725	0
Grp Volume(v), veh/h	238	352	84				0	436	212	276	579	0
Grp Sat Flow(s), veh/h/ln	1774	1863	1535				0	1863	1535	1774	1863	0
Q Serve(g_s), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Cycle Q Clear(g_c), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	536	563	464				0	1028	424	462	970	0
V/C Ratio(X)	0.44	0.63	0.18				0.00	0.42	0.50	0.60	0.60	0.00
Avail Cap(c_a), veh/h	923	969	798				0	2072	854	668	1404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	16.7	14.4				0.0	16.5	17.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.6	1.1	0.2				0.0	0.3	0.9	1.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.8	1.0				0.0	2.8	2.8	3.8	3.9	0.0
LnGrp Delay(d),s/veh	16.3	17.9	14.5				0.0	16.8	17.9	19.3	18.6	0.0
LnGrp LOS	B	B	B					B	B	B	B	
Approach Vol, veh/h		674						648			855	
Approach Delay, s/veh		16.9						17.2			18.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		19.8		17.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.5		27.5		19.5						
Max Q Clear Time (g_c+I1), s		8.5		11.1		9.6						
Green Ext Time (p_c), s		3.6		2.9		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.97		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	1	82	0	59	0	518	37	451	608	3
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	159	59	402	0	281	0	1060	458	586	2499	12
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.00	0.30	0.30	0.33	0.69	0.69
Sat Flow, veh/h	431	863	323	1376	0	1528	0	3632	1530	1774	3611	18
Grp Volume(v), veh/h	5	0	0	82	0	59	0	518	37	451	298	313
Grp Sat Flow(s),veh/h/ln1617	0	0	0	1376	0	1528	0	1770	1530	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Prop In Lane	0.40		0.20	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	401	0	0	402	0	281	0	1060	458	586	1225	1287
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.21	0.00	0.49	0.08	0.77	0.24	0.24
Avail Cap(c_a), veh/h	1045	0	0	973	0	918	0	2052	887	1616	2748	2887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	17.1	0.0	16.7	0.0	13.9	12.1	14.5	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.1	2.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.1	0.0	0.0	0.0	1.0	0.0	0.7	0.0	2.9	0.4	5.7	1.4	1.5
LnGrp Delay(d),s/veh	16.2	0.0	0.0	17.3	0.0	17.1	0.0	14.2	12.2	16.7	2.9	2.9
LnGrp LOS	B			B		B		B	B	B	A	A
Approach Vol, veh/h		5			141			555			1062	
Approach Delay, s/veh		16.2			17.2			14.1			8.7	
Approach LOS		B			B			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	9.0	17.5		11.9		36.4		11.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	42.5	26.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+113, s)	113.0	7.8		2.1		5.0		4.5				
Green Ext Time (p_c), s	1.5	3.5		0.0		4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay				11.1								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	448	240	100	197	286	428		
Future Volume (veh/h)	448	240	100	197	286	428		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	448	240	100	197	286	180		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1235	568	450	813	716	1027		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	511	2202	1863	2674		
Grp Volume(v), veh/h	448	240	155	142	286	180		
Grp Sat Flow(s),veh/h/ln	1721	1583	1018	1610	1863	1337		
Q Serve(g_s), s	2.2	2.7	0.6	1.4	2.6	1.0		
Cycle Q Clear(g_c), s	2.2	2.7	3.2	1.4	2.6	1.0		
Prop In Lane	1.00	1.00	0.65			1.00		
Lane Grp Cap(c), veh/h	1235	568	645	619	716	1027		
V/C Ratio(X)	0.36	0.42	0.24	0.23	0.40	0.18		
Avail Cap(c_a), veh/h	3170	1458	1293	1552	1796	2578		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.7	5.1	4.9	5.2	4.7		
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.2	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.8	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	5.7	6.2	5.3	5.0	5.6	4.8		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	688			297	466			
Approach Delay, s/veh	5.9			5.2	5.3			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		12.0		11.4		12.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+l1), s		5.2		4.7		4.6		
Green Ext Time (p_c), s		1.7		2.3		2.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.92	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	34	84	7	189	41	8	184	441	99	122	194	25
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	174	254	316	402	75	245	1661	370	181	1714	218
Arrive On Green	0.05	0.09	0.09	0.09	0.14	0.14	0.14	0.58	0.58	0.10	0.54	0.54
Sat Flow, veh/h	1774	1863	2716	3442	2933	547	1774	2867	638	1774	3156	401
Grp Volume(v), veh/h	34	84	7	189	24	25	184	271	269	122	108	111
Grp Sat Flow(s),veh/h/ln	1774	1863	1358	1721	1770	1710	1774	1770	1735	1774	1770	1788
Q Serve(g_s), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Cycle Q Clear(g_c), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	86	174	254	316	242	234	245	1025	1005	181	961	971
V/C Ratio(X)	0.40	0.48	0.03	0.60	0.10	0.11	0.75	0.26	0.27	0.68	0.11	0.11
Avail Cap(c_a), veh/h	138	503	733	371	531	513	276	1025	1005	250	961	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	37.1	39.3	34.0	34.0	37.3	9.4	9.4	39.0	10.0	10.0
Incr Delay (d2), s/veh	2.9	2.1	0.0	1.9	0.2	0.2	7.6	0.5	0.5	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.1	2.3	0.5	0.6	4.9	3.4	3.4	3.1	1.3	1.4
LnGrp Delay(d),s/veh	44.5	40.8	37.1	41.2	34.1	34.2	44.9	9.9	9.9	43.3	10.2	10.3
LnGrp LOS	D	D	D	D	C	C	D	A	A	D	B	B
Approach Vol, veh/h		125			238			724			341	
Approach Delay, s/veh		41.6			39.7			18.8			22.1	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	2.2	55.1	11.3	11.4	15.4	51.9	7.4	15.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	1.2	29.8	8.2	22.8	12.5	28.5	5.5	25.5				
Max Q Clear Time (g_c+1/3), s	1.0	9.0	6.7	5.9	11.0	4.7	3.7	3.2				
Green Ext Time (p_c), s	0.1	3.3	0.1	0.3	0.1	1.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.85	0.87		0.72	0.85		0.72	0.80		0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	29	15	17	57	54	38	139	33	36	120	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	450	222	105	294	249	140	465	102	166	514	40
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.83	0.83	0.83	0.41	0.41	0.41
Sat Flow, veh/h	19	1086	535	112	710	600	192	1123	245	249	1240	95
Grp Volume(v), veh/h	46	0	0	128	0	0	210	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1641	0	0	1422	0	0	1561	0	0	1584	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.33	0.13		0.42	0.18		0.16	0.22		0.06
Lane Grp Cap(c), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
V/C Ratio(X)	0.06	0.00	0.00	0.20	0.00	0.00	0.30	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.1	0.0	0.0	3.7	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	13.8	0.0	0.0	4.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	46				128				210			
Approach Delay, s/veh	12.5				13.8				4.8		14.0	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	4.0		3.2		6.1		5.9					
Green Ext Time (p_c), s	1.4		0.2		1.0		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.90	0.93		0.90	0.91		0.93	0.97		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	59	16	14	174	29	33	153	17	6	121	9
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	384	94	74	593	94	138	593	61	64	714	51
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.86	0.86	0.86
Sat Flow, veh/h	368	960	236	47	1483	236	183	1384	143	24	1666	120
Grp Volume(v), veh/h	106	0	0	217	0	0	203	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1766	0	0	1710	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	0.29		0.15	0.06		0.13	0.16		0.08	0.04		0.07
Lane Grp Cap(c), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.29	0.00	0.00	0.26	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.3	0.0	0.0	12.9	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.0	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.3	0.0	0.0	13.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	106				217				203		136	
Approach Delay, s/veh	13.9				15.3				13.6		3.3	
Approach LOS	B				B				B		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	7.0		4.7		2.9		7.8					
Green Ext Time (p_c), s	1.2		0.6		0.8		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	134	44	117	402	62	18	117	16	15	116	38
Future Volume (veh/h)	29	134	44	117	402	62	18	117	16	15	116	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.88	0.84		0.75	0.87		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	980	980	1961	1900	980	1900	1900	2451	1900
Adj Flow Rate, veh/h	29	134	44	117	402	33	18	117	16	15	116	38
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	228	67	296	499	750	88	202	26	96	422	130
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.55	0.55	0.55	0.27	0.27	0.27
Sat Flow, veh/h	37	449	131	632	980	1473	52	739	94	90	1547	475
Grp Volume(v), veh/h	207	0	0	117	402	33	151	0	0	169	0	0
Grp Sat Flow(s),veh/h/ln	617	0	0	632	980	1473	885	0	0	2112	0	0
Q Serve(g_s), s	2.7	0.0	0.0	1.4	18.8	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.5	0.0	0.0	22.9	18.8	0.6	6.1	0.0	0.0	3.4	0.0	0.0
Prop In Lane	0.14		0.21	1.00		1.00	0.12		0.11	0.09		0.22
Lane Grp Cap(c), veh/h	389	0	0	296	499	750	315	0	0	647	0	0
V/C Ratio(X)	0.53	0.00	0.00	0.40	0.81	0.04	0.48	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	389	0	0	296	499	750	315	0	0	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.00	0.93	0.93	0.93	0.57	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d), s/veh	9.4	0.0	0.0	13.2	11.2	6.8	10.5	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	5.0	0.0	0.0	3.7	12.2	0.1	3.0	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	1.9	6.7	0.3	1.7	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	14.4	0.0	0.0	16.8	23.5	6.9	13.4	0.0	0.0	16.7	0.0	0.0
LnGrp LOS	B			B	C	A	B			B		
Approach Vol, veh/h	207			552			151			169		
Approach Delay, s/veh	14.4			21.1			13.4			16.7		
Approach LOS	B			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	21.0		34.0		21.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	13.5		26.5		13.5		26.5					
Max Q Clear Time (g_c+I1), s	8.1		23.5		5.4		24.9					
Green Ext Time (p_c), s	0.3		0.3		0.6		0.6					
Intersection Summary												
HCM 2010 Ctrl Delay	18.0											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	455	20	7	114	7	32	107	83	68	106	66
Future Volume (veh/h)	21	455	20	7	114	7	32	107	83	68	106	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.99		0.95	0.96		0.96	0.99		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900	1900	980	1900	1900	980	1900	1900	1176	1900
Adj Flow Rate, veh/h	21	455	20	7	114	7	32	107	83	68	106	66
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	959	41	76	408	24	98	154	106	146	165	86
Arrive On Green	0.46	0.46	0.43	0.46	0.46	0.43	0.32	0.32	0.29	0.53	0.53	0.49
Sat Flow, veh/h	40	2076	89	16	883	52	74	481	331	195	514	269
Grp Volume(v), veh/h	261	0	235	128	0	0	222	0	0	240	0	0
Grp Sat Flow(s),veh/h/ln	156	0	1050	951	0	0	887	0	0	979	0	0
Q Serve(g_s), s	0.0	0.0	8.6	0.0	0.0	0.0	1.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	0.0	8.6	4.5	0.0	0.0	12.1	0.0	0.0	10.3	0.0	0.0
Prop In Lane	0.08		0.09	0.05		0.05	0.14		0.37	0.28		0.27
Lane Grp Cap(c), veh/h	604	0	485	508	0	0	359	0	0	397	0	0
V/C Ratio(X)	0.43	0.00	0.48	0.25	0.00	0.00	0.62	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	604	0	485	508	0	0	441	0	0	490	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.93	0.00	0.00	0.95	0.00	0.00
Uniform Delay (d), s/veh	10.2	0.0	10.3	9.2	0.0	0.0	17.1	0.0	0.0	11.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.4	1.2	0.0	0.0	1.7	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	2.9	1.3	0.0	0.0	3.2	0.0	0.0	2.9	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	13.7	10.4	0.0	0.0	18.7	0.0	0.0	12.7	0.0	0.0
LnGrp LOS	B		B	B			B			B		
Approach Vol, veh/h	496				128				222			
Approach Delay, s/veh	13.1				10.4				18.7			
Approach LOS	B				B				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	23.6		31.4		23.6		31.4					
Change Period (Y+Rc), s	7.5		* 7.5		7.5		7.5					
Max Green Setting (Gmax), s	21.5		* 22		21.5		18.5					
Max Q Clear Time (g_c+I1), s	14.1		10.6		12.3		6.5					
Green Ext Time (p_c), s	0.7		2.2		1.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay			13.8									
HCM 2010 LOS			B									
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	262	69	44	241	22	33	233	56	13	230	33
Future Volume (veh/h)	29	262	69	44	241	22	33	233	56	13	230	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.99		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900	1900	1176	1900	1900	2451	1900	1900	1569	1900
Adj Flow Rate, veh/h	29	262	69	44	241	22	33	233	56	13	230	33
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	803	201	104	414	35	106	648	147	65	482	67
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	97	1756	439	98	906	78	133	1745	395	29	1299	180
Grp Volume(v), veh/h	360	0	0	307	0	0	322	0	0	276	0	0
Grp Sat Flow(s),veh/h/ln	2293	0	0	1082	0	0	2272	0	0	1509	0	0
Q Serve(g_s), s	0.0	0.0	0.0	3.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	0.0	14.1	0.0	0.0	6.9	0.0	0.0	9.7	0.0	0.0
Prop In Lane	0.08		0.19	0.14		0.07	0.10		0.17	0.05		0.12
Lane Grp Cap(c), veh/h	1104	0	0	553	0	0	901	0	0	614	0	0
V/C Ratio(X)	0.33	0.00	0.00	0.55	0.00	0.00	0.36	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	1104	0	0	553	0	0	901	0	0	614	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.2	0.0	0.0	14.1	0.0	0.0	16.0	0.0	0.0	16.9	0.0	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	4.0	0.0	0.0	1.1	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.0	0.0	5.0	0.0	0.0	4.7	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	13.0	0.0	0.0	18.0	0.0	0.0	17.1	0.0	0.0	19.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	360				307				322		276	
Approach Delay, s/veh	13.0				18.0				17.1		19.2	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	8.9		8.9		11.7		16.1					
Green Ext Time (p_c), s	1.8		2.4		1.3		1.7					
Intersection Summary												
HCM 2010 Ctrl Delay	16.6											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.91	0.93		0.87	0.95		0.91	0.94		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	85	26	7	155	51	13	99	15	12	173	66
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	268	73	60	513	164	96	617	88	67	523	191
Arrive On Green	0.67	0.67	0.67	0.80	0.80	0.80	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	549	670	183	18	1282	409	91	1439	205	31	1220	446
Grp Volume(v), veh/h	199	0	0	213	0	0	127	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1402	0	0	1710	0	0	1736	0	0	1698	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.44		0.13	0.03		0.24	0.10		0.12	0.05		0.26
Lane Grp Cap(c), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	0.0	4.4	0.0	0.0	12.3	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	0.0	0.0	1.6	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.4	0.0	0.0	12.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	199				213				127		251	
Approach Delay, s/veh	8.8				5.4				12.7		14.5	
Approach LOS	A				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	5.0		5.4		8.9		4.3					
Green Ext Time (p_c), s	0.7		1.3		1.5		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay			10.3									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave/Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	0.94		0.91	0.95		0.91	0.94		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	104	19	12	255	43	3	48	8	8	151	35
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	514	83	104	604	99	104	448	72	103	423	95
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	177	1276	206	28	1500	246	33	1498	240	32	1414	318
Grp Volume(v), veh/h	153	0	0	310	0	0	59	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1660	0	0	1774	0	0	1772	0	0	1764	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.0	0.0	0.0	1.0	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.20		0.12	0.04		0.14	0.05		0.14	0.04		0.18
Lane Grp Cap(c), veh/h	775	0	0	807	0	0	624	0	0	621	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.00	0.00	0.09	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1233	0	0	1321	0	0	1184	0	0	1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.7	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	10.3	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	153				310		59				194	
Approach Delay, s/veh	8.0				9.0		10.3				11.4	
Approach LOS	A				A		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.0		22.2		18.0		22.2					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.0		4.2		5.5		7.0					
Green Ext Time (p_c), s	0.2		0.8		1.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	270	10	78	267	115	8	381	101	149	462	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	908	753	527	908	744	56	1500	664	294	906	77
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	989	1863	1546	1090	1863	1526	22	3428	1517	516	2071	176
Grp Volume(v), veh/h	29	270	10	78	267	115	208	181	101	292	0	357
Grp Sat Flow(s),veh/h/ln	989	1863	1546	1090	1863	1526	1839	1610	1517	1112	0	1651
Q Serve(g_s), s	1.4	7.0	0.3	3.7	6.9	3.3	0.0	5.7	3.2	12.3	0.0	12.4
Cycle Q Clear(g_c), s	8.3	7.0	0.3	10.6	6.9	3.3	5.7	5.7	3.2	18.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.11
Lane Grp Cap(c), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
V/C Ratio(X)	0.06	0.30	0.01	0.15	0.29	0.15	0.24	0.26	0.15	0.53	0.00	0.49
Avail Cap(c_a), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	12.3	10.6	15.5	12.3	11.4	14.2	14.3	13.6	18.3	0.0	16.2
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.6	0.8	0.4	0.7	0.9	0.5	3.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	0.1	1.2	3.7	1.5	3.0	2.7	1.4	5.6	0.0	6.1
LnGrp Delay(d),s/veh	15.0	13.1	10.6	16.1	13.1	11.8	14.9	15.1	14.0	21.8	0.0	18.6
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		309			460			490			649	
Approach Delay, s/veh		13.2			13.3			14.8			20.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		7.7		10.3		20.0		12.6				
Green Ext Time (p_c), s		2.7		1.8		3.8		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.98		0.98	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	342	56	93	260	52	31	526	58	86	463	29
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1123	177	231	476	86	145	1228	133	245	1085	67
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	226	2665	420	254	1129	204	84	2992	323	279	2644	164
Grp Volume(v), veh/h	238	0	214	405	0	0	322	0	293	286	0	292
Grp Sat Flow(s),veh/h/ln	1703	0	1608	1587	0	0	1768	0	1631	1432	0	1655
Q Serve(g_s), s	0.0	0.0	3.2	2.5	0.0	0.0	0.0	0.0	4.6	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.0	0.0	3.2	6.5	0.0	0.0	4.4	0.0	4.6	4.8	0.0	4.5
Prop In Lane	0.23		0.26	0.23		0.13	0.10		0.20	0.30		0.10
Lane Grp Cap(c), veh/h	842	0	678	793	0	0	836	0	670	719	0	679
V/C Ratio(X)	0.28	0.00	0.32	0.51	0.00	0.00	0.39	0.00	0.44	0.40	0.00	0.43
Avail Cap(c_a), veh/h	1548	0	1395	1464	0	0	3347	0	3104	2732	0	3149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	6.9	7.7	0.0	0.0	7.5	0.0	7.6	7.3	0.0	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.4	3.0	0.0	0.0	2.3	0.0	2.1	2.0	0.0	2.1
LnGrp Delay(d),s/veh	7.0	0.0	7.2	8.3	0.0	0.0	7.8	0.0	8.0	7.7	0.0	8.0
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	452				405				615		578	
Approach Delay, s/veh	7.1				8.3				7.9		7.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.7		18.1		17.7		18.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		29.5		66.5		29.5					
Max Q Clear Time (g_c+I1), s	6.6		5.2		6.8		8.5					
Green Ext Time (p_c), s	4.5		2.9		4.5		2.8					
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.98		0.93	0.99		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	207	34	9	145	75	13	177	22	29	251	132
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	631	104	63	456	227	73	654	78	596	474	249
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.84	0.84	0.84	0.42	0.42	0.42
Sat Flow, veh/h	1106	1549	255	24	1120	557	43	1552	185	1137	1125	592
Grp Volume(v), veh/h	265	0	241	229	0	0	212	0	0	29	0	383
Grp Sat Flow(s),veh/h/ln	1106	0	1804	1701	0	0	1780	0	0	1137	0	1716
Q Serve(g_s), s	7.3	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Cycle Q Clear(g_c), s	13.7	0.0	6.4	6.4	0.0	0.0	1.7	0.0	0.0	0.7	0.0	11.6
Prop In Lane	1.00		0.14	0.04		0.33	0.06		0.10	1.00		0.34
Lane Grp Cap(c), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
V/C Ratio(X)	0.49	0.00	0.33	0.31	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.53
Avail Cap(c_a), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	14.2	14.2	0.0	0.0	3.3	0.0	0.0	11.9	0.0	15.1
Incr Delay (d2), s/veh	3.1	0.0	1.2	1.1	0.0	0.0	0.8	0.0	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.4	3.2	0.0	0.0	0.9	0.0	0.0	0.4	0.0	6.0
LnGrp Delay(d),s/veh	19.6	0.0	15.4	15.3	0.0	0.0	4.1	0.0	0.0	12.1	0.0	17.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	506				229				212		412	
Approach Delay, s/veh	17.6				15.3				4.1		17.4	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.5		34.5		35.5		34.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.0		27.0		28.0		27.0					
Max Q Clear Time (g_c+I1), s	3.7		15.7		13.6		8.4					
Green Ext Time (p_c), s	1.2		2.1		2.2		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	15.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	0.97		0.96	0.97		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	137	37	27	228	47	6	116	17	16	223	41
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	488	121	93	638	124	63	576	81	581	559	103
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	273	1068	265	80	1397	272	24	1550	219	1215	1505	277
Grp Volume(v), veh/h	224	0	0	302	0	0	139	0	0	16	0	264
Grp Sat Flow(s),veh/h/ln	1607	0	0	1749	0	0	1794	0	0	1215	0	1782
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	7.7	0.0	0.0	3.7	0.0	0.0	0.4	0.0	7.7
Prop In Lane	0.22		0.17	0.09		0.16	0.04		0.12	1.00		0.16
Lane Grp Cap(c), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.40
Avail Cap(c_a), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.4	0.0	0.0	15.0	0.0	0.0	14.0	0.0	16.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	4.1
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.5	0.0	0.0	15.6	0.0	0.0	14.0	0.0	18.0
LnGrp LOS	B			B			B			B		B
Approach Vol, veh/h	224				302				139		280	
Approach Delay, s/veh	12.7				13.5				15.6		17.8	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	5.7		7.4		9.7		9.7					
Green Ext Time (p_c), s	0.7		1.4		1.4		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay	14.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

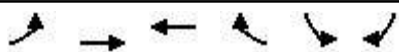
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.97		0.95	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	258	38	14	138	17	8	99	13	75	132	52
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	950	137	115	1025	124	75	751	95	252	429	157
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	289	2621	378	174	2828	341	55	1541	194	398	880	321
Grp Volume(v), veh/h	176	0	160	89	0	80	120	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1696	0	1591	1729	0	1614	1790	0	0	1600	0	0
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	5.7	2.5	0.0	2.7	2.9	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.23		0.24	0.16		0.21	0.07		0.11	0.29		0.20
Lane Grp Cap(c), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.13	0.00	0.14	0.13	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	18.1	17.1	0.0	17.1	11.2	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.4	0.0	0.5	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.7	1.4	0.0	1.3	1.5	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	18.9	0.0	19.3	17.5	0.0	17.6	11.5	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B		B	B		B	B			B		
Approach Vol, veh/h	336				169		120				259	
Approach Delay, s/veh	19.1				17.5		11.5				13.3	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	37.5		27.5		37.5		27.5					
Max Q Clear Time (g_c+I1), s	4.9		7.7		9.3		4.7					
Green Ext Time (p_c), s	0.7		2.0		1.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay			16.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	99	290	238	80	107	92		
Future Volume (veh/h)	99	290	238	80	107	92		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.99			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1863	2451	1900	1863	2451		
Adj Flow Rate, veh/h	99	290	238	80	107	28		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	352	946	888	298	535	628		
Arrive On Green	0.51	0.51	0.51	0.51	0.30	0.30		
Sat Flow, veh/h	552	1863	1747	587	1774	2083		
Grp Volume(v), veh/h	99	290	0	318	107	28		
Grp Sat Flow(s),veh/h/ln	552	1863	0	2335	1774	2083		
Q Serve(g_s), s	7.8	5.7	0.0	4.9	2.8	0.6		
Cycle Q Clear(g_c), s	12.7	5.7	0.0	4.9	2.8	0.6		
Prop In Lane	1.00			0.25	1.00	1.00		
Lane Grp Cap(c), veh/h	352	946	0	1186	535	628		
V/C Ratio(X)	0.28	0.31	0.00	0.27	0.20	0.04		
Avail Cap(c_a), veh/h	352	946	0	1186	535	628		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.5	9.0	0.0	8.8	16.4	15.6		
Incr Delay (d2), s/veh	2.0	0.8	0.0	0.6	0.8	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	3.1	0.0	3.3	1.5	0.4		
LnGrp Delay(d),s/veh	14.4	9.9	0.0	9.4	17.2	15.7		
LnGrp LOS	B	A		A	B	B		
Approach Vol, veh/h		389	318		135			
Approach Delay, s/veh		11.0	9.4		16.9			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				38.0		25.0		38.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				30.5		17.5		30.5
Max Q Clear Time (g_c+I1), s				14.7		4.8		6.9
Green Ext Time (p_c), s				2.6		0.3		2.1
Intersection Summary								
HCM 2010 Ctrl Delay		11.3						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.98		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	116	70	171	77	79	79	1085	178	121	1098	7
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	269	149	389	219	225	138	1520	249	192	1922	12
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.53	0.53
Sat Flow, veh/h	96	1021	567	1174	832	854	1774	3024	494	1774	3604	23
Grp Volume(v), veh/h	208	0	0	171	0	156	79	634	629	121	539	566
Grp Sat Flow(s),veh/h/ln	1684	0	0	1174	0	1686	1774	1770	1749	1774	1770	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	10.5	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Prop In Lane	0.11		0.34	1.00		0.51	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	499	0	0	389	0	444	138	890	879	192	943	990
V/C Ratio(X)	0.42	0.00	0.00	0.44	0.00	0.35	0.57	0.71	0.72	0.63	0.57	0.57
Avail Cap(c_a), veh/h	1147	0	0	851	0	1108	330	1855	1833	471	1996	2096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.5	0.0	21.4	31.8	13.8	13.8	30.5	11.2	11.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	0.5	3.7	1.1	1.1	3.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	3.1	0.0	2.6	1.7	9.8	9.9	2.5	7.2	7.5
LnGrp Delay(d),s/veh	22.6	0.0	0.0	24.3	0.0	21.9	35.5	14.8	14.9	33.9	11.8	11.7
LnGrp LOS	C			C		C	D	B	B	C	B	B
Approach Vol, veh/h	208			327			1342			1226		
Approach Delay, s/veh	22.6			23.1			16.1			13.9		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.7	39.0		21.8	8.6	41.1		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+10), s	10.5	22.0		9.2	5.1	16.6		12.5				
Green Ext Time (p_c), s	0.2	12.5		1.4	0.1	9.8		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	77	81	54	112	86	50	26	1263	108	34	1197	37
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	213	115	272	185	89	91	1879	159	101	1947	60
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	449	762	414	598	664	319	27	3132	265	41	3246	99
Grp Volume(v), veh/h	212	0	0	248	0	0	728	0	669	643	0	625
Grp Sat Flow(s),veh/h/ln	1624	0	0	1581	0	0	1779	0	1645	1710	0	1676
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	13.6	0.0	0.0	11.8
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.9	0.0	0.0	12.7	0.0	13.6	10.5	0.0	11.8
Prop In Lane	0.36		0.25	0.45		0.20	0.04		0.16	0.05		0.06
Lane Grp Cap(c), veh/h	552	0	0	546	0	0	1142	0	987	1102	0	1005
V/C Ratio(X)	0.38	0.00	0.00	0.45	0.00	0.00	0.64	0.00	0.68	0.58	0.00	0.62
Avail Cap(c_a), veh/h	907	0	0	892	0	0	1779	0	1612	1695	0	1643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.9	0.0	0.0	6.5	0.0	6.7	6.1	0.0	6.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.9	0.0	0.0	6.7	0.0	6.2	5.3	0.0	5.6
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.5	0.0	0.0	7.1	0.0	7.5	6.5	0.0	6.9
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	212				248				1397		1268	
Approach Delay, s/veh	15.1				15.5				7.3		6.7	
Approach LOS	B				B				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.7		16.8		32.7		16.8					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	15.6		6.8		13.8		7.9					
Green Ext Time (p_c), s	12.6		1.2		11.3		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay	8.3											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	273	37	73	1105	1334	192		
Future Volume (veh/h)	273	37	73	1105	1334	192		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	273	37	73	1105	1334	192		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	364	49	134	2394	1732	247		
Arrive On Green	0.24	0.24	0.08	0.68	0.56	0.56		
Sat Flow, veh/h	1530	207	1774	3632	3198	443		
Grp Volume(v), veh/h	311	0	73	1105	755	771		
Grp Sat Flow(s),veh/h/ln	1742	0	1774	1770	1770	1778		
Q Serve(g_s), s	11.6	0.0	2.8	10.3	23.1	23.7		
Cycle Q Clear(g_c), s	11.6	0.0	2.8	10.3	23.1	23.7		
Prop In Lane	0.88	0.12	1.00			0.25		
Lane Grp Cap(c), veh/h	414	0	134	2394	987	992		
V/C Ratio(X)	0.75	0.00	0.54	0.46	0.77	0.78		
Avail Cap(c_a), veh/h	572	0	203	3084	1264	1270		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.7	0.0	31.2	5.3	11.9	12.1		
Incr Delay (d2), s/veh	3.6	0.0	3.4	0.1	2.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.5	5.0	11.7	12.0		
LnGrp Delay(d),s/veh	28.3	0.0	34.6	5.5	14.1	14.4		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	311			1178	1526			
Approach Delay, s/veh	28.3			7.3	14.3			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.4		19.7	8.3	42.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	6.5	48.5		
Max Q Clear Time (g_c+I1), s		12.3		13.6	4.8	25.7		
Green Ext Time (p_c), s		10.2		0.6	0.0	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	184	91	1307	436	81	1225		
Future Volume (veh/h)	184	91	1307	436	81	1225		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	184	20	1307	234	81	1225		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	303	270	1921	829	177	2495		
Arrive On Green	0.17	0.17	0.54	0.54	0.10	0.70		
Sat Flow, veh/h	1774	1583	3632	1528	1774	3632		
Grp Volume(v), veh/h	184	20	1307	234	81	1225		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1528	1774	1770		
Q Serve(g_s), s	4.6	0.5	12.9	4.0	2.1	7.5		
Cycle Q Clear(g_c), s	4.6	0.5	12.9	4.0	2.1	7.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	303	270	1921	829	177	2495		
V/C Ratio(X)	0.61	0.07	0.68	0.28	0.46	0.49		
Avail Cap(c_a), veh/h	1123	1002	2497	1078	239	3195		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.5	16.8	8.0	5.9	20.5	3.2		
Incr Delay (d2), s/veh	2.0	0.1	0.5	0.2	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.3	1.7	1.1	3.6		
LnGrp Delay(d),s/veh	20.5	16.9	8.5	6.1	22.3	3.4		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	204		1541			1306		
Approach Delay, s/veh	20.1		8.1			4.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.8	29.2				37.0		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+I1), s	14.9	14.9				9.5		6.6
Green Ext Time (p_c), s	0.0	9.8				11.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	140	162	183	140	48	64	1403	175	57	1504	85
Future Volume (veh/h)	173	140	162	183	140	48	64	1403	175	57	1504	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.98		0.95	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	2451	1863	980	1863	1863	980	2451	1900	1765	2451	1900
Adj Flow Rate, veh/h	173	140	54	183	140	17	64	1403	175	57	1504	85
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	452	899	555	276	684	553	82	2869	358	98	2907	164
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.09	0.48	0.48	0.06	0.45	0.45
Sat Flow, veh/h	1194	2451	1514	610	1863	1508	934	5975	745	1681	6454	365
Grp Volume(v), veh/h	173	140	54	183	140	17	64	1047	531	57	1039	550
Grp Sat Flow(s),veh/h/ln	1194	2451	1514	610	1863	1508	934	2230	2259	1681	2230	2358
Q Serve(g_s), s	11.0	3.6	2.2	27.3	4.9	0.7	6.4	15.2	15.2	3.1	15.9	15.9
Cycle Q Clear(g_c), s	15.9	3.6	2.2	31.0	4.9	0.7	6.4	15.2	15.2	3.1	15.9	15.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.33	1.00		0.15
Lane Grp Cap(c), veh/h	452	899	555	276	684	553	82	2142	1085	98	2009	1062
V/C Ratio(X)	0.38	0.16	0.10	0.66	0.20	0.03	0.78	0.49	0.49	0.58	0.52	0.52
Avail Cap(c_a), veh/h	467	929	574	284	706	571	118	2142	1085	212	2009	1062
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.88	0.88	0.88	0.85	0.85	0.85
Uniform Delay (d), s/veh	26.0	20.2	19.7	30.6	20.6	19.3	42.4	16.8	16.8	43.6	18.7	18.7
Incr Delay (d2), s/veh	0.5	0.1	0.1	5.1	0.1	0.0	16.7	0.7	1.4	4.6	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.5	0.9	5.0	2.6	0.3	2.0	9.5	9.9	1.6	9.9	10.7
LnGrp Delay(d),s/veh	26.6	20.3	19.8	35.7	20.7	19.3	59.1	17.5	18.2	48.2	19.5	20.2
LnGrp LOS	C	C	B	D	C	B	E	B	B	D	B	C
Approach Vol, veh/h	367				340				1642		1646	
Approach Delay, s/veh	23.2				28.7				19.3		20.7	
Approach LOS	C				C				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	8.5	48.6			37.9	11.3	45.8	37.9				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	40.5	36.5			34.5	10.5	36.5	34.5				
Max Q Clear Time (g_c+1.5), s	17.2	17.2			17.9	8.4	17.9	33.0				
Green Ext Time (p_c), s	0.0	10.8			1.5	0.0	10.6	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			21.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	114	19	116	61	59	48	1617	154	135	1538	34
Future Volume (veh/h)	63	114	19	116	61	59	48	1617	154	135	1538	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	1863	1900	980	2451	1900	2157	2451	1900
Adj Flow Rate, veh/h	63	114	5	116	61	59	48	1617	154	135	1538	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	170	455	199	259	250	79	3323	316	204	3717	82
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.50	0.50	0.10	0.52	0.52
Sat Flow, veh/h	243	555	1487	1230	846	818	934	6584	626	2054	7160	158
Grp Volume(v), veh/h	177	0	5	116	0	120	48	1203	568	135	1053	519
Grp Sat Flow(s),veh/h/ln	798	0	1487	1230	0	1665	934	2451	2307	2054	2451	2416
Q Serve(g_s), s	14.9	0.0	0.2	9.3	0.0	5.4	5.0	16.1	16.2	6.3	13.2	13.2
Cycle Q Clear(g_c), s	20.3	0.0	0.2	29.6	0.0	5.4	5.0	16.1	16.2	6.3	13.2	13.2
Prop In Lane	0.36		1.00	1.00		0.49	1.00		0.27	1.00		0.07
Lane Grp Cap(c), veh/h	293	0	455	199	0	509	79	2474	1165	204	2545	1254
V/C Ratio(X)	0.60	0.00	0.01	0.58	0.00	0.24	0.61	0.49	0.49	0.66	0.41	0.41
Avail Cap(c_a), veh/h	293	0	455	199	0	509	116	2474	1165	271	2545	1254
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	0.68	0.68	0.68	0.84	0.84	0.84
Uniform Delay (d), s/veh	31.3	0.0	24.2	44.4	0.0	26.0	44.1	16.3	16.3	43.4	14.7	14.7
Incr Delay (d2), s/veh	3.5	0.0	0.0	4.3	0.0	0.2	5.0	0.5	1.0	3.1	0.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.1	3.4	0.0	2.5	1.4	11.0	10.6	3.8	8.9	8.9
LnGrp Delay(d),s/veh	34.8	0.0	24.2	48.7	0.0	26.2	49.1	16.7	17.3	46.5	15.1	15.6
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	182		236				1819			1707		
Approach Delay, s/veh	34.5		37.2				17.7			17.7		
Approach LOS	C		D				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.9	53.5		33.6	11.5	54.9		33.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	45.7			29.1	10.9	46.5		29.1				
Max Q Clear Time (g_c+I), s	18.2			22.3	7.0	15.2		31.6				
Green Ext Time (p_c), s	0.1	15.2		0.5	0.0	13.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	19.7											
HCM 2010 LOS	B											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	187	74	59	1697	1479	154		
Future Volume (veh/h)	187	74	59	1697	1479	154		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	187	74	59	1697	1479	154		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	301	119	124	2870	3009	313		
Arrive On Green	0.25	0.25	0.64	0.64	0.64	0.64		
Sat Flow, veh/h	1217	482	80	4613	4844	487		
Grp Volume(v), veh/h	262	0	569	1187	1072	561		
Grp Sat Flow(s),veh/h/ln	1705	0	1456	1543	1695	1772		
Q Serve(g_s), s	7.5	0.0	0.0	12.2	9.0	9.0		
Cycle Q Clear(g_c), s	7.5	0.0	8.6	12.2	9.0	9.0		
Prop In Lane	0.71	0.28	0.10			0.27		
Lane Grp Cap(c), veh/h	421	0	1009	1985	2182	1141		
V/C Ratio(X)	0.62	0.00	0.56	0.60	0.49	0.49		
Avail Cap(c_a), veh/h	933	0	1426	3039	3340	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	0.0	5.0	5.7	5.1	5.1		
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.4	5.2	4.2	4.5		
LnGrp Delay(d),s/veh	19.9	0.0	5.5	6.0	5.3	5.4		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	262			1756	1633			
Approach Delay, s/veh	19.9			5.8	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		38.3		16.5		38.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		52.5		28.5		52.5		
Max Q Clear Time (g_c+l1), s		14.2		9.5		11.0		
Green Ext Time (p_c), s		19.6		0.8		16.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39
Future Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	86	79	236	84	23	270	1673	194	49	1471	39
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	613	501	434	459	126	337	2349	271	102	1917	51
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.51	0.51	0.06	0.38	0.38
Sat Flow, veh/h	1243	1863	1521	1180	1396	382	1774	4616	534	1774	5092	135
Grp Volume(v), veh/h	45	86	79	236	0	107	270	1227	640	49	979	531
Grp Sat Flow(s),veh/h/ln	1243	1863	1521	1180	0	1778	1774	1695	1760	1774	1695	1837
Q Serve(g_s), s	2.3	2.8	3.2	15.1	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8
Cycle Q Clear(g_c), s	6.0	2.8	3.2	17.9	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.30	1.00		0.07
Lane Grp Cap(c), veh/h	439	613	501	434	0	585	337	1725	895	102	1276	691
V/C Ratio(X)	0.10	0.14	0.16	0.54	0.00	0.18	0.80	0.71	0.71	0.48	0.77	0.77
Avail Cap(c_a), veh/h	514	725	592	505	0	692	433	1990	1033	144	1438	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	20.3	20.4	26.6	0.0	20.6	33.3	16.3	16.3	39.3	23.5	23.5
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.0	0.1	8.1	1.0	2.0	3.5	2.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.4	5.0	0.0	1.8	6.9	11.3	12.0	1.2	10.6	11.8
LnGrp Delay(d),s/veh	22.8	20.4	20.6	27.7	0.0	20.8	41.4	17.3	18.3	42.8	25.8	27.7
LnGrp LOS	C	C	C	C		C	D	B	B	D	C	C
Approach Vol, veh/h		210			343			2137			1559	
Approach Delay, s/veh		21.0			25.5			20.6			27.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	46.8		31.3	19.3	35.4		31.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	49.0		32.0	19.5	35.0		32.0				
Max Q Clear Time (g_c+14), s	14.3	26.1		8.0	14.5	23.8		19.9				
Green Ext Time (p_c), s	0.0	14.4		0.8	0.4	7.1		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	245	179	102	82	87	17	102	1180	38	119	1144	206
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	255	145	149	158	257	158	1733	56	228	1653	297
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17	0.09	0.34	0.34	0.13	0.38	0.38
Sat Flow, veh/h	1774	1100	627	882	936	1521	1774	5053	163	1774	4320	778
Grp Volume(v), veh/h	245	0	281	169	0	17	102	792	426	119	898	452
Grp Sat Flow(s),veh/h/ln	1774	0	1727	1819	0	1521	1774	1695	1825	1774	1695	1707
Q Serve(g_s), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Cycle Q Clear(g_c), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Prop In Lane	1.00		0.36	0.49		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	410	0	400	308	0	257	158	1163	626	228	1297	653
V/C Ratio(X)	0.60	0.00	0.70	0.55	0.00	0.07	0.65	0.68	0.68	0.52	0.69	0.69
Avail Cap(c_a), veh/h	719	0	700	679	0	568	341	2025	1090	360	2061	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	35.7	0.0	32.7	41.3	26.4	26.4	38.2	24.3	24.3
Incr Delay (d2), s/veh	1.4	0.0	2.3	1.5	0.0	0.1	4.4	0.7	1.3	1.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	6.9	4.1	0.0	0.4	2.7	8.9	9.7	3.0	9.8	10.0
LnGrp Delay(d),s/veh	33.5	0.0	35.3	37.2	0.0	32.8	45.7	27.1	27.7	40.0	25.0	25.6
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h	526				186		1320				1469	
Approach Delay, s/veh	34.5				36.8		28.7				26.4	
Approach LOS	C				D		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	5.0	35.2			24.7	11.3	38.9	18.9				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	54.5			36.5	16.5	55.5	33.5				
Max Q Clear Time (g_c+I1),s	20.8				16.0	7.2	22.9	10.0				
Green Ext Time (p_c), s	0.2	9.9			2.5	0.1	11.5	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	29.0											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	212	6	208	235	20	48	1059	324	160	996	46
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	289	237	391	410	329	386	1493	457	215	1450	67
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.22	0.39	0.39	0.12	0.29	0.29
Sat Flow, veh/h	1774	1863	1529	1774	1863	1495	1774	3842	1175	1774	4962	229
Grp Volume(v), veh/h	156	212	6	208	235	20	48	934	449	160	680	362
Grp Sat Flow(s),veh/h/ln	1774	1863	1529	1774	1863	1495	1774	1695	1627	1774	1695	1800
Q Serve(g_s), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Cycle Q Clear(g_c), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.13
Lane Grp Cap(c), veh/h	275	289	237	391	410	329	386	1317	632	215	991	526
V/C Ratio(X)	0.57	0.73	0.03	0.53	0.57	0.06	0.12	0.71	0.71	0.75	0.69	0.69
Avail Cap(c_a), veh/h	459	481	395	628	660	530	386	2174	1043	289	2174	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	42.1	37.4	36.0	36.3	32.2	32.9	27.0	27.0	44.4	32.7	32.8
Incr Delay (d2), s/veh	1.8	3.6	0.0	1.1	1.3	0.1	0.1	0.7	1.5	7.0	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	0.1	5.4	6.2	0.5	1.1	11.4	11.1	4.9	8.8	9.5
LnGrp Delay(d),s/veh	42.7	45.6	37.5	37.1	37.6	32.3	33.0	27.7	28.5	51.3	33.6	34.4
LnGrp LOS	D	D	D	D	D	C	C	C	C	D	C	C
Approach Vol, veh/h	374				463				1431		1202	
Approach Delay, s/veh	44.3				37.1				28.1		36.2	
Approach LOS	D				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	43.6		19.2	25.7	33.5		26.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	65.5		25.5	15.5	65.5		35.5				
Max Q Clear Time (g_c+I1), s	26.3			13.3	4.3	20.6		13.8				
Green Ext Time (p_c), s	0.2	12.8		1.4	0.1	8.4		2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	33.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			WB		NB	NT		SB	ST	
Traffic Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	145	0	24	1	0	3	123	1225	2	19	1306	104
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	0	329	132	36	273	204	2226	4	325	2365	188
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.12	0.42	0.42	0.18	0.49	0.49
Sat Flow, veh/h	1372	0	1386	232	151	1147	1774	5243	9	1774	4800	382
Grp Volume(v), veh/h	145	0	24	4	0	0	123	792	435	19	922	488
Grp Sat Flow(s),veh/h/ln	1372	0	1386	1529	0	0	1774	1695	1861	1774	1695	1792
Q Serve(g_s), s	5.1	0.0	0.8	0.0	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	0.1	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	450	0	329	441	0	0	204	1440	790	325	1671	883
V/C Ratio(X)	0.32	0.00	0.07	0.01	0.00	0.00	0.60	0.55	0.55	0.06	0.55	0.55
Avail Cap(c_a), veh/h	876	0	761	902	0	0	518	5353	2939	518	5353	2829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	17.2	17.0	0.0	0.0	24.5	12.6	12.6	19.6	10.3	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	2.8	0.3	0.6	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.3	0.0	0.0	0.0	2.0	4.8	5.3	0.3	5.2	5.5
LnGrp Delay(d),s/veh	19.3	0.0	17.3	17.0	0.0	0.0	27.4	12.9	13.2	19.7	10.6	10.8
LnGrp LOS	B		B	B			C	B	B	B	B	B
Approach Vol, veh/h	169			4			1350			1429		
Approach Delay, s/veh	19.0			17.0			14.3			10.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.7	27.7		16.8	9.7	31.7		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	90.5		30.5	15.5	90.5		30.5				
Max Q Clear Time (g_c+1), s	12.5	12.2		7.2	5.8	13.0		2.1				
Green Ext Time (p_c), s	0.0	11.0		1.0	0.2	14.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	152	55	6	1073	1177	56		
Future Volume (veh/h)	152	55	6	1073	1177	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	104	107	6	1073	1177	56		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	289	264	88	2374	2677	127		
Arrive On Green	0.16	0.16	0.05	0.67	0.54	0.54		
Sat Flow, veh/h	1774	1615	1774	3632	5140	236		
Grp Volume(v), veh/h	104	107	6	1073	802	431		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1819		
Q Serve(g_s), s	1.9	2.1	0.1	5.2	5.2	5.2		
Cycle Q Clear(g_c), s	1.9	2.1	0.1	5.2	5.2	5.2		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	289	264	88	2374	1825	979		
V/C Ratio(X)	0.36	0.41	0.07	0.45	0.44	0.44		
Avail Cap(c_a), veh/h	1521	1385	343	5188	4032	2163		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	13.6	16.4	2.8	5.0	5.0		
Incr Delay (d2), s/veh	0.8	1.0	0.3	0.1	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.1	2.4	2.4	2.6		
LnGrp Delay(d),s/veh	14.2	14.6	16.7	2.9	5.2	5.4		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	211			1079	1233			
Approach Delay, s/veh	14.4			3.0	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.3		8.9	4.8	22.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		7.2		4.1	2.1	7.2		
Green Ext Time (p_c), s		10.3		0.6	0.0	10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	167	7	100	115	31	13	846	47	232	982	42
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	271	227	247	260	218	67	1277	568	318	2512	107
Arrive On Green	0.15	0.15	0.15	0.14	0.14	0.14	0.04	0.36	0.36	0.18	0.50	0.50
Sat Flow, veh/h	1774	1863	1557	1774	1863	1563	1774	3539	1575	1774	5000	214
Grp Volume(v), veh/h	54	167	7	100	115	31	13	846	47	232	665	359
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1563	1774	1770	1575	1774	1695	1823
Q Serve(g_s), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Cycle Q Clear(g_c), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	258	271	227	247	260	218	67	1277	568	318	1703	916
V/C Ratio(X)	0.21	0.62	0.03	0.40	0.44	0.14	0.19	0.66	0.08	0.73	0.39	0.39
Avail Cap(c_a), veh/h	569	597	499	827	868	729	310	2372	1056	594	2815	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	27.5	25.2	26.9	27.1	25.9	32.0	18.4	14.5	26.6	10.6	10.6
Incr Delay (d2), s/veh	0.4	2.3	0.1	1.1	1.2	0.3	1.4	0.6	0.1	3.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.1	1.8	2.1	0.5	0.3	6.8	0.6	4.4	3.9	4.3
LnGrp Delay(d),s/veh	26.2	29.8	25.2	28.0	28.3	26.2	33.4	19.0	14.5	29.8	10.7	10.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	228		246				906			1256		
Approach Delay, s/veh	28.8		27.9				19.0			14.3		
Approach LOS	C		C				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	5.3	27.8			13.0	5.6	37.5	12.6				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	21.5	44.5			20.5	10.5	55.5	30.5				
Max Q Clear Time (g_c+10), s	110.5	15.8			7.8	2.5	10.4	5.9				
Green Ext Time (p_c), s	0.5	6.6			0.8	0.0	8.2	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.89	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	0	61	3	3	3	311	313	9	6	193	122
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	0	192	87	87	87	429	830	24	63	269	170
Arrive On Green	0.12	0.00	0.12	0.16	0.16	0.16	0.24	0.46	0.46	0.04	0.26	0.26
Sat Flow, veh/h	3548	0	1558	553	553	553	1774	1800	52	1774	1054	666
Grp Volume(v), veh/h	141	0	61	9	0	0	311	0	322	6	0	315
Grp Sat Flow(s),veh/h/ln	1774	0	1558	1660	0	0	1774	0	1851	1774	0	1720
Q Serve(g_s), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Prop In Lane	1.00		1.00	0.33		0.33	1.00		0.03	1.00		0.39
Lane Grp Cap(c), veh/h	438	0	192	262	0	0	429	0	854	63	0	440
V/C Ratio(X)	0.32	0.00	0.32	0.03	0.00	0.00	0.73	0.00	0.38	0.09	0.00	0.72
Avail Cap(c_a), veh/h	1441	0	633	981	0	0	1539	0	1948	393	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	21.7	19.3	0.0	0.0	18.9	0.0	9.5	25.3	0.0	18.4
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.1	0.0	0.0	2.4	0.0	0.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	0.0	4.5	0.0	3.2	0.1	0.0	4.6
LnGrp Delay(d),s/veh	22.1	0.0	22.6	19.4	0.0	0.0	21.2	0.0	9.8	25.9	0.0	20.6
LnGrp LOS	C		C	B			C		A	C		C
Approach Vol, veh/h	202			9			633			321		
Approach Delay, s/veh	22.2			19.4			15.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	28.0		9.7	16.1	16.8		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	55.5		20.5	45.5	20.5		30.5				
Max Q Clear Time (g_c+I12), s	12.2	8.1		4.0	10.7	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.2		0.6	1.0	1.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

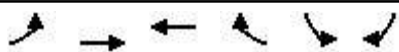
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	9	0	46	20	20	34	688	92	438	564	88
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	51	125	137	60	169	104	1013	135	534	1735	270
Arrive On Green	0.08	0.08	0.00	0.11	0.11	0.11	0.06	0.32	0.32	0.30	0.57	0.57
Sat Flow, veh/h	1155	650	1583	1255	545	1544	1774	3132	418	1774	3069	477
Grp Volume(v), veh/h	25	0	0	66	0	20	34	388	392	438	325	327
Grp Sat Flow(s),veh/h/ln	1805	0	1583	1800	0	1544	1774	1770	1780	1774	1770	1776
Q Serve(g_s), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Prop In Lane	0.64		1.00	0.70		1.00	1.00		0.23	1.00		0.27
Lane Grp Cap(c), veh/h	142	0	125	197	0	169	104	572	576	534	1001	1005
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.12	0.33	0.68	0.68	0.82	0.32	0.33
Avail Cap(c_a), veh/h	720	0	631	718	0	616	183	769	774	810	1395	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	26.3	0.0	25.7	28.9	18.8	18.8	20.7	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.0	0.0	0.3	1.8	1.5	1.5	4.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.1	0.0	0.3	0.6	6.2	6.2	7.8	3.0	3.1
LnGrp Delay(d),s/veh	28.1	0.0	0.0	27.3	0.0	26.0	30.7	20.2	20.3	24.8	7.6	7.6
LnGrp LOS	C			C		C	C	C	C	C	A	A
Approach Vol, veh/h	25				86		814				1090	
Approach Delay, s/veh	28.1				27.0		20.7				14.5	
Approach LOS	C				C		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	23.3	23.7			10.0	6.8	39.2	8.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.3	26.3			24.0	5.1	48.9	24.0				
Max Q Clear Time (g_c+11g), s	14.2	14.2			4.2	3.2	8.3	2.8				
Green Ext Time (p_c), s	1.1	3.9			0.3	0.0	4.6	0.1				
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020

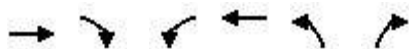


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↰↱	↑↑	↑↱		↰↱	↰↱		
Traffic Volume (veh/h)	332	573	795	49	22	145		
Future Volume (veh/h)	332	573	795	49	22	145		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	332	573	795	49	22	19		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	738	2705	1553	96	148	233		
Arrive On Green	0.21	0.76	0.46	0.46	0.08	0.08		
Sat Flow, veh/h	3442	3632	3480	209	1774	2787		
Grp Volume(v), veh/h	332	573	415	429	22	19		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1826	1774	1393		
Q Serve(g_s), s	2.8	1.5	5.5	5.5	0.4	0.2		
Cycle Q Clear(g_c), s	2.8	1.5	5.5	5.5	0.4	0.2		
Prop In Lane	1.00			0.11	1.00	1.00		
Lane Grp Cap(c), veh/h	738	2705	811	837	148	233		
V/C Ratio(X)	0.45	0.21	0.51	0.51	0.15	0.08		
Avail Cap(c_a), veh/h	2513	7159	2126	2194	998	1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	1.1	6.3	6.3	14.0	13.9		
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.5	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.7	2.7	0.2	0.2		
LnGrp Delay(d),s/veh	11.7	1.1	6.8	6.8	14.4	14.0		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		905	844		41			
Approach Delay, s/veh		5.0	6.8		14.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.6		5.2	10.1	17.6
Change Period (Y+Rc), s				4.0		4.0	4.5	4.0
Max Green Setting (Gmax), s				65.0		17.0	22.5	38.0
Max Q Clear Time (g_c+I1), s				3.5		2.4	4.8	7.5
Green Ext Time (p_c), s				4.5		0.1	1.1	6.1
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	966	180	45	726	232	173		
Future Volume (veh/h)	966	180	45	726	232	173		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	966	180	45	726	232	46		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1530	285	142	2342	368	329		
Arrive On Green	0.52	0.52	0.08	0.66	0.21	0.21		
Sat Flow, veh/h	3058	552	1774	3632	1774	1583		
Grp Volume(v), veh/h	576	570	45	726	232	46		
Grp Sat Flow(s),veh/h/ln	1770	1748	1774	1770	1774	1583		
Q Serve(g_s), s	10.7	10.7	1.1	4.0	5.5	1.1		
Cycle Q Clear(g_c), s	10.7	10.7	1.1	4.0	5.5	1.1		
Prop In Lane		0.32	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	913	902	142	2342	368	329		
V/C Ratio(X)	0.63	0.63	0.32	0.31	0.63	0.14		
Avail Cap(c_a), veh/h	1698	1677	271	4168	1161	1036		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	8.0	19.9	3.3	16.6	14.8		
Incr Delay (d2), s/veh	0.7	0.7	1.3	0.1	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.6	1.9	2.8	0.5		
LnGrp Delay(d),s/veh	8.7	8.7	21.2	3.4	18.3	15.0		
LnGrp LOS	A	A	C	A	B	B		
Approach Vol, veh/h	1146			771	278			
Approach Delay, s/veh	8.7			4.4	17.8			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.5	6.7	26.7				33.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		28.5	5.5	42.5				52.5
Max Q Clear Time (g_c+I1), s		7.5	3.1	12.7				6.0
Green Ext Time (p_c), s		0.8	0.0	9.4				6.0
Intersection Summary								
HCM 2010 Ctrl Delay			8.3					
HCM 2010 LOS			A					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-54020		0	0-55882		0	0-55882		0	0-55882		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	148300	627968		0	78052	966400		0	78052	966400		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	259526	12515840		1365926	8972544		1365926	8972544		1365926	8972544	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 21.8

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	318	94	30	361	36	91	92	29	15	65	51
Future Vol, veh/h	64	318	94	30	361	36	91	92	29	15	65	51
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	318	94	30	361	36	91	92	29	15	65	51
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	26.6	22.8	14.7	12.5
HCM LOS	D	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	13%	7%	11%
Vol Thru, %	43%	67%	85%	50%
Vol Right, %	14%	20%	8%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	476	427	131
LT Vol	91	64	30	15
Through Vol	92	318	361	65
RT Vol	29	94	36	51
Lane Flow Rate	212	476	427	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.408	0.778	0.714	0.255
Departure Headway (Hd)	6.926	5.887	6.019	7.004
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	517	614	598	511
Service Time	4.994	3.941	4.076	5.081
HCM Lane V/C Ratio	0.41	0.775	0.714	0.256
HCM Control Delay	14.7	26.6	22.8	12.5
HCM Lane LOS	B	D	C	B
HCM 95th-tile Q	2	7.3	5.9	1

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1077	12	0	0	0	0	78	121	243	183	0
Future Volume (veh/h)	19	1077	12	0	0	0	0	78	121	243	183	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900				0	1569	1900	1900	1422	0
Adj Flow Rate, veh/h	19	1077	12				0	78	121	243	183	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	22	1317	15				0	201	312	253	133	0
Arrive On Green	0.53	0.53	0.53				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	42	2470	29				0	548	850	433	364	0
Grp Volume(v), veh/h	581	0	527				0	0	199	426	0	0
Grp Sat Flow(s),veh/h/ln	1272	0	1268				0	0	1398	797	0	0
Q Serve(g_s), s	23.5	0.0	19.9				0.0	0.0	6.3	15.7	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	19.9				0.0	0.0	6.3	22.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.61	0.57		0.00
Lane Grp Cap(c), veh/h	679	0	676				0	0	513	387	0	0
V/C Ratio(X)	0.86	0.00	0.78				0.00	0.00	0.39	1.10	0.00	0.00
Avail Cap(c_a), veh/h	679	0	676				0	0	513	387	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.0	0.0	11.2				0.0	0.0	14.0	23.6	0.0	0.0
Incr Delay (d2), s/veh	13.1	0.0	8.6				0.0	0.0	0.5	76.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	8.5				0.0	0.0	2.5	14.5	0.0	0.0
LnGrp Delay(d),s/veh	25.2	0.0	19.8				0.0	0.0	14.5	99.7	0.0	0.0
LnGrp LOS	C		B						B	F		
Approach Vol, veh/h	1108						199			426		
Approach Delay, s/veh	22.6						14.5			99.7		
Approach LOS	C						B			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	25.0		35.0		25.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	20.5		30.5		20.5							
Max Q Clear Time (g_c+I1), s	8.3		25.5		24.0							
Green Ext Time (p_c), s	0.9		3.0		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay	40.6											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	383	11	157	383	99	10	161	256	114	118	38
Future Volume (veh/h)	36	383	11	157	383	99	10	161	256	114	118	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.98		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	383	11	157	383	99	10	161	256	114	118	38
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	644	18	558	593	153	632	269	428	405	571	184
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	69	1535	42	979	1413	365	1205	632	1005	958	1343	432
Grp Volume(v), veh/h	430	0	0	157	0	482	10	0	417	114	0	156
Grp Sat Flow(s),veh/h/ln	1646	0	0	979	0	1778	1205	0	1637	958	0	1775
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	8.4	0.2	0.0	7.6	4.0	0.0	2.1
Cycle Q Clear(g_c), s	8.8	0.0	0.0	5.4	0.0	8.4	2.4	0.0	7.6	11.6	0.0	2.1
Prop In Lane	0.08		0.03	1.00		0.21	1.00		0.61	1.00		0.24
Lane Grp Cap(c), veh/h	792	0	0	558	0	746	632	0	697	405	0	755
V/C Ratio(X)	0.54	0.00	0.00	0.28	0.00	0.65	0.02	0.00	0.60	0.28	0.00	0.21
Avail Cap(c_a), veh/h	1482	0	0	955	0	1468	959	0	1141	665	0	1236
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	8.1	0.0	8.9	7.8	0.0	8.6	13.1	0.0	7.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.3	0.0	0.9	0.0	0.0	0.8	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	1.2	0.0	4.2	0.1	0.0	3.5	1.1	0.0	1.1
LnGrp Delay(d),s/veh	9.1	0.0	0.0	8.4	0.0	9.9	7.8	0.0	9.4	13.4	0.0	7.1
LnGrp LOS	A			A		A	A		A	B		A
Approach Vol, veh/h	430				639				427		270	
Approach Delay, s/veh	9.1				9.5				9.4		9.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	19.5		19.3		19.5		19.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		30.5		25.5		30.5					
Max Q Clear Time (g_c+I1), s	9.6		10.8		13.6		10.4					
Green Ext Time (p_c), s	2.7		2.9		1.1		4.2					
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔		↔		↔			↔	
Traffic Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				400	0	670	0	1431	120	0	1702	442
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	817	0	3290	1022	0	2611	666
Arrive On Green				0.29	0.00	0.29	0.00	0.65	0.65	0.00	0.65	0.65
Sat Flow, veh/h				3442	0	2787	0	5253	1580	0	4204	1029
Grp Volume(v), veh/h				400	0	670	0	1431	120	0	1424	720
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1580	0	1695	1676
Q Serve(g_s), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Cycle Q Clear(g_c), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h				1009	0	817	0	3290	1022	0	2193	1084
V/C Ratio(X)				0.40	0.00	0.82	0.00	0.44	0.12	0.00	0.65	0.66
Avail Cap(c_a), veh/h				1239	0	1003	0	3290	1022	0	2193	1084
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.87	0.87	0.00	0.66	0.66
Uniform Delay (d), s/veh				28.3	0.0	32.9	0.0	8.7	6.7	0.0	10.8	10.9
Incr Delay (d2), s/veh				0.3	0.0	4.6	0.0	0.4	0.2	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.1	0.0	6.5	1.3	0.0	12.2	12.8
LnGrp Delay(d),s/veh				28.5	0.0	37.5	0.0	9.0	7.0	0.0	11.7	13.1
LnGrp LOS				C		D		A	A		B	B
Approach Vol, veh/h					1070			1551			2144	
Approach Delay, s/veh					34.1			8.9			12.2	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.7				67.7		32.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		15.8				28.6		24.4				
Green Ext Time (p_c), s		14.8				19.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	404	0	210				0	1227	411	0	1327	599
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	545	0	442				0	2966	992	0	4002	1241
Arrive On Green	0.16	0.00	0.16				0.00	0.79	0.79	0.00	0.79	0.79
Sat Flow, veh/h	3442	0	2787				0	3936	1260	0	5253	1577
Grp Volume(v), veh/h	404	0	210				0	1104	534	0	1327	599
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1638	0	1695	1577
Q Serve(g_s), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Cycle Q Clear(g_c), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Prop In Lane	1.00		1.00				0.00		0.77	0.00		1.00
Lane Grp Cap(c), veh/h	545	0	442				0	2668	1289	0	4002	1241
V/C Ratio(X)	0.74	0.00	0.48				0.00	0.41	0.41	0.00	0.33	0.48
Avail Cap(c_a), veh/h	751	0	608				0	2668	1289	0	4002	1241
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.71	0.71	0.00	0.70	0.70
Uniform Delay (d), s/veh	44.1	0.0	42.1				0.0	3.7	3.7	0.0	3.4	4.0
Incr Delay (d2), s/veh	2.5	0.0	0.8				0.0	0.3	0.7	0.0	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	3.0				0.0	5.3	5.3	0.0	3.9	22.4
LnGrp Delay(d),s/veh	46.7	0.0	42.9				0.0	4.0	4.4	0.0	3.5	5.0
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		614						1638			1926	
Approach Delay, s/veh		45.4						4.2			4.0	
Approach LOS		D						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		89.6		20.4		89.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		78.5		22.5		78.5						
Max Q Clear Time (g_c+I1), s		13.3		14.3		16.3						
Green Ext Time (p_c), s		18.9		1.6		19.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	420	65	13	400
Future Vol, veh/h	50	20	420	65	13	400
Conflicting Peds, #/hr	1	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	20	420	65	13	400

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	889	462	0
Stage 1	462	-	-
Stage 2	427	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	314	600	-
Stage 1	634	-	-
Stage 2	658	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	306	595	-
Mov Cap-2 Maneuver	306	-	-
Stage 1	628	-	-
Stage 2	647	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	595
HCM Lane V/C Ratio	-	-	0.163	0.034
HCM Control Delay (s)	-	-	19	11.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection	
Intersection Delay, s/veh	31.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Future Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	38	208	45	28	14	164	457	18	15	418	20
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16.9	14	35.3	36.9
HCM LOS	C	B	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	52%	100%	0%
Vol Thru, %	0%	96%	0%	15%	32%	0%	95%
Vol Right, %	0%	4%	0%	85%	16%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	475	14	246	87	15	438
LT Vol	164	0	14	0	45	15	0
Through Vol	0	457	0	38	28	0	418
RT Vol	0	18	0	208	14	0	20
Lane Flow Rate	164	475	14	246	87	15	438
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.332	0.891	0.033	0.499	0.209	0.031	0.849
Departure Headway (Hd)	7.292	6.753	8.428	7.304	8.634	7.527	6.982
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	537	424	492	414	475	517
Service Time	5.05	4.511	6.188	5.062	6.72	5.286	4.741
HCM Lane V/C Ratio	0.333	0.885	0.033	0.5	0.21	0.032	0.847
HCM Control Delay	13.7	42.7	11.5	17.2	14	10.5	37.8
HCM Lane LOS	B	E	B	C	B	B	E
HCM 95th-tile Q	1.4	10.2	0.1	2.7	0.8	0.1	8.8

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.90	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	1	12	75	0	34	4	519	37	9	692	1
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	27	131	167	8	58	590	1529	1259	692	1526	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	372	204	987	906	61	439	748	1863	1534	847	1859	3
Grp Volume(v), veh/h	19	0	0	109	0	0	4	519	37	9	0	693
Grp Sat Flow(s),veh/h/ln	1563	0	0	1407	0	0	748	1863	1534	847	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	9.0	0.6	0.3	0.0	13.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	9.3	0.0	0.0	14.0	9.0	0.6	9.3	0.0	13.8
Prop In Lane	0.32		0.63	0.69		0.31	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	0	0	234	0	0	590	1529	1259	692	0	1529
V/C Ratio(X)	0.08	0.00	0.00	0.47	0.00	0.00	0.01	0.34	0.03	0.01	0.00	0.45
Avail Cap(c_a), veh/h	362	0	0	348	0	0	590	1529	1259	692	0	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	52.8	0.0	0.0	5.3	2.9	2.1	4.0	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.8	0.0	0.0	0.0	4.7	0.2	0.1	0.0	7.3
LnGrp Delay(d),s/veh	49.6	0.0	0.0	54.2	0.0	0.0	5.3	3.4	2.2	4.1	0.0	4.3
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	19				109				560		702	
Approach Delay, s/veh	49.6				54.2				3.3		4.3	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	109.7		20.3		109.7		20.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	94.5		26.5		94.5		26.5					
Max Q Clear Time (g_c+I1), s	16.0		3.4		15.8		11.3					
Green Ext Time (p_c), s	4.1		0.1		6.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	7	4	328	3	94	1	542	285	37	753	8
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	56	32	395	4	344	45	1130	592	95	1712	18
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	405	232	1759	16	1533	1	2158	1129	88	3267	34
Grp Volume(v), veh/h	30	0	0	331	0	94	468	0	360	402	0	396
Grp Sat Flow(s),veh/h/ln	1737	0	0	1775	0	1533	1862	0	1426	1702	0	1687
Q Serve(g_s), s	1.2	0.0	0.0	14.2	0.0	4.1	0.0	0.0	12.9	0.0	0.0	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	14.2	0.0	4.1	12.8	0.0	12.9	10.5	0.0	11.7
Prop In Lane	0.63		0.13	0.99		1.00	0.00		0.79	0.09		0.02
Lane Grp Cap(c), veh/h	242	0	0	398	0	344	1021	0	747	941	0	884
V/C Ratio(X)	0.12	0.00	0.00	0.83	0.00	0.27	0.46	0.00	0.48	0.43	0.00	0.45
Avail Cap(c_a), veh/h	532	0	0	413	0	356	1021	0	747	941	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.83	0.00	0.83	0.82	0.00	0.82
Uniform Delay (d), s/veh	30.2	0.0	0.0	29.6	0.0	25.6	12.1	0.0	12.1	11.6	0.0	11.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	13.1	0.0	0.4	1.2	0.0	1.8	1.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	8.4	0.0	1.8	6.9	0.0	5.4	5.7	0.0	5.7
LnGrp Delay(d),s/veh	30.4	0.0	0.0	42.7	0.0	26.1	13.3	0.0	14.0	12.7	0.0	13.2
LnGrp LOS	C			D		C	B		B	B		B
Approach Vol, veh/h	30			425			828			798		
Approach Delay, s/veh	30.4			39.0			13.6			13.0		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	44.9		14.1		44.9		21.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	26.4		23.0		26.4		17.1					
Max Q Clear Time (g_c+I1), s	14.9		3.2		13.7		16.2					
Green Ext Time (p_c), s	4.3		0.1		4.3		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											

Intersection

Intersection Delay, s/veh 13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Future Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	128	1	0	114	223	16	48	0	162	23	270
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	17.8	11.8	11.6	13.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	57%	0%	0%	88%	0%
Vol Thru, %	75%	43%	100%	0%	12%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	300	114	223	185	270
LT Vol	16	171	0	0	162	0
Through Vol	48	128	114	0	23	0
RT Vol	0	1	0	223	0	270
Lane Flow Rate	64	300	114	223	185	270
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.555	0.209	0.365	0.359	0.437
Departure Headway (Hd)	7.475	6.661	6.6	5.886	6.988	5.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	540	540	607	512	613
Service Time	5.475	4.735	4.377	3.664	4.763	3.605
HCM Lane V/C Ratio	0.133	0.556	0.211	0.367	0.361	0.44
HCM Control Delay	11.6	17.8	11.1	12.1	13.7	13.1
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.8	1.7	1.6	2.2

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	741	73	88	653	113	57	5	61	34	5	3
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	832	82	186	770	133	644	52	613	533	76	38
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	699	1663	164	668	1540	266	1323	130	1533	1061	189	96
Grp Volume(v), veh/h	18	0	814	88	0	766	62	0	61	42	0	0
Grp Sat Flow(s),veh/h/ln	699	0	1827	668	0	1806	1453	0	1533	1347	0	0
Q Serve(g_s), s	1.4	0.0	24.1	5.9	0.0	22.1	0.0	0.0	1.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	24.1	30.0	0.0	22.1	1.3	0.0	1.5	1.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.15	0.92		1.00	0.81		0.07
Lane Grp Cap(c), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.47	0.00	0.85	0.09	0.00	0.10	0.06	0.00	0.00
Avail Cap(c_a), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	13.5	27.8	0.0	13.0	11.2	0.0	11.2	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	10.9	1.6	0.0	6.7	0.3	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.8	1.5	0.0	12.5	0.7	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	24.5	29.4	0.0	19.8	11.4	0.0	11.6	11.5	0.0	0.0
LnGrp LOS	C		C	C		B	B		B	B		
Approach Vol, veh/h		832			854			123			42	
Approach Delay, s/veh		24.4			20.8			11.5			11.5	
Approach LOS		C			C			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		27.0		33.0		27.0		33.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		3.5		26.1		3.8		32.0				
Green Ext Time (p_c), s		0.4		1.3		0.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.6									
HCM 2010 LOS			C									

Intersection

Intersection Delay, s/veh 8.8

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	153	35	7	0	35	18	8	30	1	8	35	198
Future Vol, veh/h	153	35	7	0	35	18	8	30	1	8	35	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	35	7	0	35	18	8	30	1	8	35	198
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	7.9	8.1	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	78%	0%	3%
Vol Thru, %	77%	18%	66%	15%
Vol Right, %	3%	4%	34%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	195	53	241
LT Vol	8	153	0	8
Through Vol	30	35	35	35
RT Vol	1	7	18	198
Lane Flow Rate	39	195	53	241
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.256	0.067	0.274
Departure Headway (Hd)	4.82	4.734	4.574	4.097
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	743	759	782	877
Service Time	2.853	2.766	2.611	2.118
HCM Lane V/C Ratio	0.052	0.257	0.068	0.275
HCM Control Delay	8.1	9.4	7.9	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1	0.2	1.1

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	73	1072	391	16	81	0	0	297	44
Future Volume (veh/h)	0	0	0	73	1072	391	16	81	0	0	297	44
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1471	1863	1900	980	0	0	2255	1900
Adj Flow Rate, veh/h				73	1072	236	16	81	0	0	297	44
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				100	1539	867	114	250	0	0	561	83
Arrive On Green				0.57	0.57	0.57	0.29	0.29	0.00	0.00	0.29	0.29
Sat Flow, veh/h				174	2685	1511	71	850	0	0	1907	283
Grp Volume(v), veh/h				613	532	236	97	0	0	0	0	341
Grp Sat Flow(s),veh/h/ln				1462	1397	1511	921	0	0	0	0	2190
Q Serve(g_s), s				13.9	11.9	3.6	0.0	0.0	0.0	0.0	0.0	5.9
Cycle Q Clear(g_c), s				13.9	11.9	3.6	3.5	0.0	0.0	0.0	0.0	5.9
Prop In Lane				0.12		1.00	0.16		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				838	801	867	364	0	0	0	0	644
V/C Ratio(X)				0.73	0.66	0.27	0.27	0.00	0.00	0.00	0.00	0.53
Avail Cap(c_a), veh/h				1162	1111	1202	739	0	0	0	0	1596
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.1	6.7	4.9	12.5	0.0	0.0	0.0	0.0	13.4
Incr Delay (d2), s/veh				1.5	1.0	0.2	0.4	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	4.6	1.5	1.0	0.0	0.0	0.0	0.0	3.6
LnGrp Delay(d),s/veh				8.6	7.6	5.1	12.9	0.0	0.0	0.0	0.0	14.0
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h					1381			97			341	
Approach Delay, s/veh					7.6			12.9			14.0	
Approach LOS					A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		16.3				16.3		29.0				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		31.5				31.5		34.5				
Max Q Clear Time (g_c+I1), s		5.5				7.9		15.9				
Green Ext Time (p_c), s		0.5				2.2		8.5				
Intersection Summary												
HCM 2010 Ctrl Delay					9.1							
HCM 2010 LOS					A							
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

137: Curtiss St/Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	1058	62	21	912	16	81	9	85	27	7	6
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2249	131	83	2303	40	395	38	329	263	67	41
Arrive On Green	0.68	0.07	0.68	0.68	0.07	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	9	3297	192	30	3376	58	1290	175	1509	747	307	186
Grp Volume(v), veh/h	596	0	534	489	0	460	90	0	85	40	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	1654	1782	0	1682	1465	0	1509	1240	0	0
Q Serve(g_s), s	0.0	0.0	17.9	0.0	0.0	15.5	0.0	0.0	2.8	0.2	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	17.9	14.8	0.0	15.5	2.6	0.0	2.8	2.7	0.0	0.0
Prop In Lane	0.02		0.12	0.04		0.03	0.90		1.00	0.67		0.15
Lane Grp Cap(c), veh/h	1319	0	1128	1278	0	1147	433	0	329	371	0	0
V/C Ratio(X)	0.45	0.00	0.47	0.38	0.00	0.40	0.21	0.00	0.26	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1319	0	1128	1278	0	1147	802	0	730	736	0	0
HCM Platoon Ratio	1.00	0.10	1.00	1.00	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	15.9	15.3	0.0	15.7	19.3	0.0	19.4	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.9	0.0	1.0	0.2	0.0	0.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	8.6	8.0	0.0	7.6	1.3	0.0	1.2	0.6	0.0	0.0
LnGrp Delay(d),s/veh	18.4	0.0	17.3	16.2	0.0	16.8	19.6	0.0	19.9	19.0	0.0	0.0
LnGrp LOS	B		B	B		B	B		B	B		
Approach Vol, veh/h	1130				949				175		40	
Approach Delay, s/veh	17.9				16.5				19.7		19.0	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.9		16.1		43.9		16.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.5		27.5		23.5		27.5					
Max Q Clear Time (g_c+I1), s	20.4		4.7		17.5		4.8					
Green Ext Time (p_c), s	2.0		0.1		3.0		0.7					
Intersection Summary												
HCM 2010 Ctrl Delay	17.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	94	31	129	590	40	13	75	18	43	95	25
Future Volume (veh/h)	4	94	31	129	590	40	13	75	18	43	95	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	15	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.97		0.94	0.98		0.93	0.94		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	4	94	31	129	590	40	13	75	18	43	95	25
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	253	81	334	1287	86	140	585	129	145	236	37
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	9	688	221	593	3521	235	129	1767	388	143	600	135
Grp Volume(v), veh/h	129	0	0	390	0	369	106	0	0	163	0	0
Grp Sat Flow(s),veh/h/ln	918	0	0	2179	0	2171	2284	0	0	877	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	5.0	0.0	0.0	0.0	1.4	0.0	0.0
Cycle Q Clear(g_c), s	3.9	0.0	0.0	4.8	0.0	5.0	1.3	0.0	0.0	5.8	0.0	0.0
Prop In Lane	0.03		0.24	0.33		0.11	0.12		0.17	0.26		0.15
Lane Grp Cap(c), veh/h	425	0	0	909	0	798	853	0	0	419	0	0
V/C Ratio(X)	0.30	0.00	0.00	0.43	0.00	0.46	0.12	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	801	0	0	1788	0	1696	2190	0	0	908	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.5	0.0	0.0	10.8	0.0	10.9	9.4	0.0	0.0	12.1	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.4	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.1	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	0.0	3.7	0.0	3.5	0.9	0.0	0.0	4.6	0.0	0.0
LnGrp Delay(d),s/veh	10.9	0.0	0.0	11.2	0.0	11.3	9.5	0.0	0.0	27.8	0.0	0.0
LnGrp LOS	B			B		B	A			C		
Approach Vol, veh/h	129				759		106				163	
Approach Delay, s/veh	10.9				11.2		9.5				27.8	
Approach LOS	B				B		A				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.5		21.1		18.5		21.1					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	3.3		5.9		7.8		7.0					
Green Ext Time (p_c), s	0.6		0.7		1.0		5.4					
Intersection Summary												
HCM 2010 Ctrl Delay			13.4									
HCM 2010 LOS			B									

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	164	102	155	113	51	61	1667	133	46	1684	39
Future Volume (veh/h)	79	164	102	155	113	51	61	1667	133	46	1684	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.98		0.94	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1176	1863	1900	1275	1863	1900	1176	1765	1900	1471	1863	1900
Adj Flow Rate, veh/h	79	164	102	155	113	51	61	1667	133	46	1684	39
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	248	315	196	206	357	161	125	2465	196	77	2494	58
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.11	0.54	0.54	0.05	0.49	0.49
Sat Flow, veh/h	742	1048	652	741	1188	536	1120	4522	360	1401	5107	118
Grp Volume(v), veh/h	79	0	266	155	0	164	61	1183	617	46	1118	605
Grp Sat Flow(s),veh/h/ln	742	0	1700	741	0	1725	1120	1606	1671	1401	1695	1835
Q Serve(g_s), s	8.3	0.0	11.7	15.3	0.0	6.6	4.6	23.9	24.0	2.9	22.6	22.6
Cycle Q Clear(g_c), s	14.9	0.0	11.7	27.0	0.0	6.6	4.6	23.9	24.0	2.9	22.6	22.6
Prop In Lane	1.00		0.38	1.00		0.31	1.00		0.22	1.00		0.06
Lane Grp Cap(c), veh/h	248	0	511	206	0	518	125	1750	910	77	1656	896
V/C Ratio(X)	0.32	0.00	0.52	0.75	0.00	0.32	0.49	0.68	0.68	0.60	0.68	0.68
Avail Cap(c_a), veh/h	248	0	511	206	0	518	125	1750	910	156	1848	1000
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	26.1	38.7	0.0	24.3	37.6	14.7	14.8	41.5	17.6	17.6
Incr Delay (d2), s/veh	0.7	0.0	1.0	14.2	0.0	0.3	13.1	2.1	4.0	7.3	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	5.6	4.6	0.0	3.2	1.9	11.0	12.0	1.3	10.8	11.8
LnGrp Delay(d),s/veh	30.8	0.0	27.0	52.9	0.0	24.7	50.7	16.8	18.8	48.9	18.4	19.1
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h		345			319			1861			1769	
Approach Delay, s/veh		27.9			38.4			18.6			19.5	
Approach LOS		C			D			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.9	52.0		30.0	13.0	46.9		30.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	8.5	47.5		25.5	8.5	47.5		25.5				
Max Q Clear Time (g_c+I14), s	14.9	26.0		16.9	6.6	24.6		29.0				
Green Ext Time (p_c), s	0.0	13.3		1.4	0.0	13.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			21.2									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	9	531	18	14	90	17	2	104	70	57	99	4
Future Volume (veh/h)	9	531	18	14	90	17	2	104	70	57	99	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.98	1.00		0.95	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	1863	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	9	531	18	14	90	17	2	104	70	57	99	4
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	52	1050	35	126	765	137	46	142	94	113	132	5
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	9	1787	60	128	1302	234	3	542	360	196	503	18
Grp Volume(v), veh/h	293	0	265	121	0	0	176	0	0	160	0	0
Grp Sat Flow(s),veh/h/ln	976	0	880	1664	0	0	904	0	0	717	0	0
Q Serve(g_s), s	0.0	0.0	14.2	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	14.1	0.0	14.2	2.4	0.0	0.0	14.4	0.0	0.0	17.6	0.0	0.0
Prop In Lane	0.03		0.07	0.12		0.14	0.01		0.40	0.36		0.02
Lane Grp Cap(c), veh/h	620	0	517	1028	0	0	283	0	0	249	0	0
V/C Ratio(X)	0.47	0.00	0.51	0.12	0.00	0.00	0.62	0.00	0.00	0.64	0.00	0.00
Avail Cap(c_a), veh/h	620	0	517	1028	0	0	283	0	0	249	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.00	0.87	1.00	0.00	0.00	1.00	0.00	0.00	0.86	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	9.7	7.3	0.0	0.0	27.1	0.0	0.0	27.9	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.1	0.1	0.0	0.0	9.9	0.0	0.0	10.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	3.8	1.2	0.0	0.0	4.3	0.0	0.0	4.1	0.0	0.0
LnGrp Delay(d),s/veh	12.0	0.0	12.8	7.3	0.0	0.0	37.0	0.0	0.0	38.3	0.0	0.0
LnGrp LOS	B		B	A			D			D		
Approach Vol, veh/h	558				121				176		160	
Approach Delay, s/veh	12.4				7.3				37.0		38.3	
Approach LOS	B				A				D		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		53.0		27.0		53.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	19.5		45.5		19.5		45.5					
Max Q Clear Time (g_c+I1), s	16.4		16.2		19.6		4.4					
Green Ext Time (p_c), s	0.3		3.8		0.0		0.8					
Intersection Summary												
HCM 2010 Ctrl Delay			20.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 13.5

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	67	200	47	99	276	14	32	94	38	7	110	14
Future Vol, veh/h	67	200	47	99	276	14	32	94	38	7	110	14
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	67	200	47	99	276	14	32	94	38	7	110	14
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	13.2	15.6	11.3	10.9
HCM LOS	B	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	21%	25%	5%
Vol Thru, %	57%	64%	71%	84%
Vol Right, %	23%	15%	4%	11%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	314	389	131
LT Vol	32	67	99	7
Through Vol	94	200	276	110
RT Vol	38	47	14	14
Lane Flow Rate	164	314	389	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.272	0.471	0.579	0.222
Departure Headway (Hd)	5.977	5.398	5.359	6.099
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	599	666	669	586
Service Time	4.047	3.454	3.412	4.172
HCM Lane V/C Ratio	0.274	0.471	0.581	0.224
HCM Control Delay	11.3	13.2	15.6	10.9
HCM Lane LOS	B	B	C	B
HCM 95th-tile Q	1.1	2.5	3.7	0.8

Intersection

Intersection Delay, s/veh 10.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	134	24	3	2	16	61	15	218	7	31	220	85
Future Vol, veh/h	134	24	3	2	16	61	15	218	7	31	220	85
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	134	24	3	2	16	61	15	218	7	31	220	85
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	8.9	10.7	11.6
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	83%	3%	9%
Vol Thru, %	91%	15%	20%	65%
Vol Right, %	3%	2%	77%	25%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	161	79	336
LT Vol	15	134	2	31
Through Vol	218	24	16	220
RT Vol	7	3	61	85
Lane Flow Rate	240	161	79	336
Geometry Grp	1	1	1	1
Degree of Util (X)	0.339	0.253	0.114	0.442
Departure Headway (Hd)	5.08	5.653	5.208	4.845
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	713	638	690	749
Service Time	3.08	3.67	3.229	2.845
HCM Lane V/C Ratio	0.337	0.252	0.114	0.449
HCM Control Delay	10.7	10.6	8.9	11.6
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.5	1	0.4	2.3

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Future Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Conflicting Peds, #/hr	12	0	8	8	0	12	9	0	14	14	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	3	0	7	40	11	395	0	15	167	38

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	460	656	203	658	675	224	214	0
Stage 1	225	225	-	431	431	-	-	-
Stage 2	235	431	-	227	244	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-
Pot Cap-1 Maneuver	498	384	837	363	375	780	1355	-
Stage 1	777	717	-	574	582	-	-	-
Stage 2	748	582	-	775	703	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	447	366	824	345	358	761	1343	-
Mov Cap-2 Maneuver	447	366	-	345	358	-	-	-
Stage 1	763	700	-	561	569	-	-	-
Stage 2	685	569	-	752	686	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	11	0.2	0.6
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1343	-	-	462 652	1133	-	-
HCM Lane V/C Ratio	0.008	-	-	0.048 0.072	0.013	-	-
HCM Control Delay (s)	7.7	0	-	13.2 11	8.2	0	-
HCM Lane LOS	A	A	-	B B	A A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	178	94	1712	129	138	1721		
Future Volume (veh/h)	178	94	1712	129	138	1721		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	178	19	1712	129	138	1721		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	294	263	2507	189	232	3622		
Arrive On Green	0.17	0.17	0.52	0.52	0.13	0.71		
Sat Flow, veh/h	1774	1583	4985	362	1774	5253		
Grp Volume(v), veh/h	178	19	1204	637	138	1721		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1789	1774	1695		
Q Serve(g_s), s	4.6	0.5	13.0	13.1	3.6	7.2		
Cycle Q Clear(g_c), s	4.6	0.5	13.0	13.1	3.6	7.2		
Prop In Lane	1.00	1.00		0.20	1.00			
Lane Grp Cap(c), veh/h	294	263	1764	931	232	3622		
V/C Ratio(X)	0.60	0.07	0.68	0.68	0.59	0.48		
Avail Cap(c_a), veh/h	1261	1125	1996	1053	612	5059		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.0	17.3	8.8	8.8	20.2	3.1		
Incr Delay (d2), s/veh	2.0	0.1	0.8	1.6	2.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.2	6.8	1.9	3.2		
LnGrp Delay(d),s/veh	21.0	17.5	9.6	10.4	22.6	3.2		
LnGrp LOS	C	B	A	B	C	A		
Approach Vol, veh/h	197		1841			1859		
Approach Delay, s/veh	20.7		9.9			4.6		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.5	28.6				38.1		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	27.5				47.5		33.5
Max Q Clear Time (g_c+I1), s	5.6	15.1				9.2		6.6
Green Ext Time (p_c), s	0.2	9.1				18.1		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.9					
HCM 2010 LOS			A					

Intersection

Int Delay, s/veh 2.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	299	292	11	23	70
Future Vol, veh/h	40	299	292	11	23	70
Conflicting Peds, #/hr	32	0	0	21	21	32
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	299	292	11	23	70

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	335	0	0 730 362
Stage 1	-	-	- 330 -
Stage 2	-	-	- 400 -
Critical Hdwy	4.12	-	- 6.42 6.22
Critical Hdwy Stg 1	-	-	- 5.42 -
Critical Hdwy Stg 2	-	-	- 5.42 -
Follow-up Hdwy	2.218	-	- 3.518 3.318
Pot Cap-1 Maneuver	1224	-	- 389 683
Stage 1	-	-	- 728 -
Stage 2	-	-	- 677 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1187	-	- 351 642
Mov Cap-2 Maneuver	-	-	- 351 -
Stage 1	-	-	- 678 -
Stage 2	-	-	- 657 -

Approach	EB	WB	SB
HCM Control Delay, s	1	0	13.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1187	-	-	-	533
HCM Lane V/C Ratio	0.034	-	-	-	0.174
HCM Control Delay (s)	8.1	0	-	-	13.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9.2

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	86	2	4	140	29	12	87	6	17	97	74
Future Vol, veh/h	75	86	2	4	140	29	12	87	6	17	97	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	86	2	4	140	29	12	87	6	17	97	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	9.2	8.9	9.2
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	46%	2%	9%
Vol Thru, %	83%	53%	81%	52%
Vol Right, %	6%	1%	17%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	163	173	188
LT Vol	12	75	4	17
Through Vol	87	86	140	97
RT Vol	6	2	29	74
Lane Flow Rate	105	163	173	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.145	0.223	0.228	0.243
Departure Headway (Hd)	4.97	4.933	4.747	4.662
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	717	724	753	765
Service Time	3.034	2.992	2.805	2.719
HCM Lane V/C Ratio	0.146	0.225	0.23	0.246
HCM Control Delay	8.9	9.4	9.2	9.2
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.9	0.9	1

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection																
Int Delay, s/veh	0															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR		
Lane Configurations		↑↑			↑↑	↔								↔		
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-		
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80		
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-		
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Major/Minor	Major1			Major2			Minor2									
Conflicting Flow All	-	0	-	0	0	0									-	23
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Critical Hdwy	-	-	-	4.13	-	-									-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-									-	-
Critical Hdwy Stg 2	-	-	-	-	-	-									-	-
Follow-up Hdwy	-	-	-	2.219	-	-									-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-									0	1053
Stage 1	0	-	0	-	-	-									0	-
Stage 2	0	-	0	-	-	-									0	-
Platoon blocked, %		-			-	-										
Mov Cap-1 Maneuver	-	-	-	-	-	-									-	1053
Mov Cap-2 Maneuver	-	-	-	-	-	-									-	-
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Approach	EB			WB			SW									
HCM Control Delay, s	0			0											0	
HCM LOS															A	
Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2												
Capacity (veh/h)	-	-	-	-	-	-										
HCM Lane V/C Ratio	-	-	-	-	-	-										
HCM Control Delay (s)	-	0	-	-	0	0										
HCM Lane LOS	-	A	-	-	A	A										
HCM 95th %tile Q(veh)	-	-	-	-	-	-										

HCM 2010 Research does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh 10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Future Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	142	76	49	2	68	158	39	1	206	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	10.7	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	1%	60%	0%
Vol Thru, %	60%	3%	39%	92%
Vol Right, %	15%	96%	2%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	148	127	225
LT Vol	68	2	76	1
Through Vol	158	4	49	206
RT Vol	39	142	2	18
Lane Flow Rate	265	148	127	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.358	0.194	0.191	0.306
Departure Headway (Hd)	4.86	4.719	5.411	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	750	655	725
Service Time	2.943	2.814	3.51	2.987
HCM Lane V/C Ratio	0.363	0.197	0.194	0.31
HCM Control Delay	10.7	9	9.8	10.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.7	1.3

HCM Signalized Intersection Capacity Analysis

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1563	1770	3528		1681	1696	1556		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.93	
Satd. Flow (perm)	1770	3539	1563	1770	3528		1681	1696	1556		1629	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	784	568	68	592	11	327	24	17	11	47	29
RTOR Reduction (vph)	0	0	318	0	0	0	0	0	13	0	0	0
Lane Group Flow (vph)	32	784	250	68	603	0	173	178	4	0	87	0
Confl. Peds. (#/hr)			1			11			7	6		5
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	1.6	29.5	29.5	4.6	32.5		13.7	13.7	13.7		4.6	
Effective Green, g (s)	3.1	31.0	31.0	6.1	34.0		15.2	15.2	15.2		6.1	
Actuated g/C Ratio	0.04	0.44	0.44	0.09	0.48		0.22	0.22	0.22		0.09	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	1558	688	153	1703		362	366	335		141	
v/s Ratio Prot	0.02	c0.22		c0.04	c0.17		0.10	c0.10				
v/s Ratio Perm			0.16						0.00		c0.05	
v/c Ratio	0.42	0.50	0.36	0.44	0.35		0.48	0.49	0.01		0.62	
Uniform Delay, d1	32.8	14.2	13.1	30.5	11.4		24.1	24.2	21.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.3	0.3	2.1	0.1		1.0	1.0	0.0		7.8	
Delay (s)	36.4	14.4	13.5	32.6	11.5		25.1	25.2	21.7		38.8	
Level of Service	D	B	B	C	B		C	C	C		D	
Approach Delay (s)		14.5			13.6			25.0			38.8	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			54.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00			1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.96	0.85	1.00	1.00			0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3250	1407	3433	3527			3277		1770	3430	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (perm)	1770	3250	1407	3433	3527			3277		1770	3430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	561	507	464	342	7	129	12	48	12	222	49
RTOR Reduction (vph)	0	18	214	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	63	720	116	464	349	0	0	189	0	12	271	0
Confl. Peds. (#/hr)			10			8			8			10
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	7.3	30.4	30.4	18.3	41.4			11.1		13.1	13.1	
Effective Green, g (s)	8.8	31.9	31.9	19.8	42.9			12.6		14.6	14.6	
Actuated g/C Ratio	0.10	0.35	0.35	0.22	0.47			0.14		0.16	0.16	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	171	1140	493	747	1664			454		284	550	
v/s Ratio Prot	0.04	c0.22		c0.14	0.10			c0.06		0.01	c0.08	
v/s Ratio Perm			0.08									
v/c Ratio	0.37	0.63	0.23	0.62	0.21			0.42		0.04	0.49	
Uniform Delay, d1	38.4	24.6	20.9	32.2	14.1			35.8		32.2	34.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.2	0.2	1.6	0.1			0.6		0.1	0.7	
Delay (s)	39.8	25.8	21.1	33.8	14.1			36.4		32.3	35.5	
Level of Service	D	C	C	C	B			D		C	D	
Approach Delay (s)		25.2			25.3			36.4			35.3	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			27.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			90.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	530	655	239	293	16	160	116	456	70	447	131
RTOR Reduction (vph)	0	0	271	0	0	0	0	154	154	0	22	0
Lane Group Flow (vph)	104	530	384	239	309	0	160	190	74	70	556	0
Confl. Peds. (#/hr)			14			23			21			16
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	11.4	29.7	29.7	12.5	30.8		14.6	30.3	30.3	7.9	23.6	
Effective Green, g (s)	12.9	31.2	31.2	14.0	32.3		16.1	31.8	31.8	9.4	25.1	
Actuated g/C Ratio	0.13	0.32	0.32	0.14	0.33		0.16	0.32	0.32	0.10	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	1122	488	488	1150		289	966	451	169	866	
v/s Ratio Prot	0.06	0.15		c0.07	0.09		c0.09	0.06		0.04	c0.16	
v/s Ratio Perm			c0.25						0.05			
v/c Ratio	0.45	0.47	0.79	0.49	0.27		0.55	0.20	0.16	0.41	0.64	
Uniform Delay, d1	39.5	27.0	30.6	38.9	24.3		37.8	24.1	23.8	41.9	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.3	8.2	0.8	0.1		2.3	0.1	0.2	1.6	1.6	
Delay (s)	40.8	27.3	38.7	39.7	24.5		40.1	24.2	24.0	43.6	34.3	
Level of Service	D	C	D	D	C		D	C	C	D	C	
Approach Delay (s)		34.2			31.1			27.6			35.3	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			98.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	1310	681	64	740	50	317	83	70	186	109	37
Future Volume (vph)	233	1310	681	64	740	50	317	83	70	186	109	37
Ideal Flow (vphpl)	1500	1500	1600	1900	1500	1900	1300	1900	1900	1900	1300	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00		1.00	0.99			1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (perm)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	233	1310	681	64	740	50	317	83	70	186	109	37
RTOR Reduction (vph)	0	0	275	0	0	0	0	0	0	0	0	29
Lane Group Flow (vph)	233	1310	406	64	790	0	317	153	0	0	295	8
Confl. Peds. (#/hr)			37			9			11			35
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.6	51.9	51.9	8.4	42.7		21.4	21.4			26.7	26.7
Effective Green, g (s)	19.1	53.4	53.4	9.9	44.2		22.9	22.9			28.2	28.2
Actuated g/C Ratio	0.15	0.42	0.42	0.08	0.35		0.18	0.18			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	211	1180	532	138	1385		425	310			275	334
v/s Ratio Prot	c0.17	c0.47		0.04	0.20		c0.13	0.09			c0.24	
v/s Ratio Perm			0.32									0.01
v/c Ratio	1.10	1.11	0.76	0.46	0.57		0.75	0.49			1.07	0.02
Uniform Delay, d1	53.7	36.5	31.1	55.7	33.4		49.0	46.5			49.1	38.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	92.7	61.9	6.4	2.5	0.6		7.0	1.2			74.9	0.0
Delay (s)	146.3	98.4	37.5	58.2	34.0		56.0	47.8			124.0	38.4
Level of Service	F	F	D	E	C		E	D			F	D
Approach Delay (s)		84.8			35.8			53.3			114.5	
Approach LOS		F			D			D			F	
Intersection Summary												
HCM 2000 Control Delay			72.7			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			126.4			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			104.8%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Ideal Flow (vphpl)	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	0.97		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	155	655	142	118	371	213	211	139	172	248	175	286
RTOR Reduction (vph)	0	0	81	0	0	139	0	0	0	0	0	235
Lane Group Flow (vph)	155	655	61	118	371	74	211	311	0	248	175	51
Confl. Peds. (#/hr)			12			17			11			18
Confl. Bikes (#/hr)			6			13			8			8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	12.1	38.8	38.8	6.8	33.5	33.5	16.9	15.0		18.9	17.0	17.0
Effective Green, g (s)	12.6	39.3	39.3	7.3	34.0	34.0	17.4	15.5		19.4	17.5	17.5
Actuated g/C Ratio	0.13	0.40	0.40	0.07	0.35	0.35	0.18	0.16		0.20	0.18	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	228	671	622	132	649	527	315	498		352	334	266
v/s Ratio Prot	0.09	c0.39		c0.07	0.20		0.12	c0.10		c0.14	0.09	
v/s Ratio Perm			0.04			0.05						0.03
v/c Ratio	0.68	0.98	0.10	0.89	0.57	0.14	0.67	0.62		0.70	0.52	0.19
Uniform Delay, d1	40.5	28.6	18.1	44.7	25.8	21.7	37.4	38.3		36.4	36.2	34.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.8	28.6	0.1	47.5	1.2	0.1	5.3	2.4		6.3	1.5	0.4
Delay (s)	48.3	57.2	18.2	92.2	27.0	21.9	42.7	40.7		42.7	37.7	34.4
Level of Service	D	E	B	F	C	C	D	D		D	D	C
Approach Delay (s)		49.9			36.4			41.5			38.1	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			97.5				Sum of lost time (s)			16.0		
Intersection Capacity Utilization			87.2%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Future Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Ideal Flow (vphpl)	1900	2200	2200	1700	2200	2200	2200	1900	1900	1900	1900	2200
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	*1.00	*1.00	1.00	*1.00		*1.00	1.00		1.00	*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.97		1.00	0.99	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
RTOR Reduction (vph)	0	1	58	0	4	0	0	15	0	0	8	157
Lane Group Flow (vph)	204	2327	274	112	1198	0	255	216	0	68	193	24
Confl. Peds. (#/hr)			8			25			21			13
Confl. Bikes (#/hr)			4			2						1
Turn Type	Prot	NA	custom	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2 7		1	6 7		8	8		4	4	
Permitted Phases			2									4
Actuated Green, G (s)	21.5	117.3	57.4	16.1	111.9		28.0	28.0		26.1	26.1	26.1
Effective Green, g (s)	23.0	120.3	58.9	17.6	114.9		29.5	29.5		27.6	27.6	27.6
Actuated g/C Ratio	0.11	0.57	0.28	0.08	0.55		0.14	0.14		0.13	0.13	0.13
Clearance Time (s)	4.5		4.5	4.5			4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0			3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	375	3704	579	132	3519		575	254		232	241	231
v/s Ratio Prot	0.06	c0.36		c0.07	0.19		0.06	c0.12		0.04	c0.11	
v/s Ratio Perm			0.13									0.01
v/c Ratio	0.54	0.63	0.47	0.85	0.34		0.44	0.85		0.29	0.80	0.10
Uniform Delay, d1	88.5	29.9	62.7	94.9	26.5		82.7	88.1		82.4	88.5	80.3
Progression Factor	1.02	1.00	1.03	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.3	36.9	0.1		0.5	23.0		0.7	17.2	0.2
Delay (s)	90.3	29.9	64.7	131.8	26.5		83.3	111.1		83.1	105.7	80.5
Level of Service	F	C	E	F	C		F	F		F	F	F
Approach Delay (s)		38.2			35.5			96.5			92.2	
Approach LOS		D			D			F			F	
Intersection Summary												
HCM 2000 Control Delay			47.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			210.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			84.2%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: Humboldt St/Humbolt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96		0.98			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.90			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1770	3403		1770	1863	1519		1630			1805	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.90			0.64	
Satd. Flow (perm)	1770	3403		1770	1863	1519		1476			1178	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	670	151	196	808	139	66	27	260	95	129	15
RTOR Reduction (vph)	0	0	0	0	0	32	0	106	0	0	3	0
Lane Group Flow (vph)	7	821	0	196	808	107	0	247	0	0	236	0
Confl. Peds. (#/hr)			20			8	11		9			19
Confl. Bikes (#/hr)			2			3			3			1
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	0.8	28.9		13.2	41.3	41.3		20.2			20.2	
Effective Green, g (s)	2.3	30.4		14.7	42.8	42.8		21.7			21.7	
Actuated g/C Ratio	0.03	0.40		0.19	0.56	0.56		0.29			0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	53	1364		343	1051	857		422			337	
v/s Ratio Prot	0.00	0.24		c0.11	c0.43							
v/s Ratio Perm						0.07		0.17			c0.20	
v/c Ratio	0.13	0.60		0.57	0.77	0.13		0.58			0.70	
Uniform Delay, d1	35.8	17.9		27.7	12.7	7.7		23.2			24.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.1	0.8		2.3	3.4	0.1		2.1			6.4	
Delay (s)	36.9	18.7		30.0	16.1	7.8		25.3			30.6	
Level of Service	D	B		C	B	A		C			C	
Approach Delay (s)		18.8			17.5			25.3			30.6	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			20.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			75.8				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			81.6%				ICU Level of Service			D		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	10	10	9	10	10	9	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.94	1.00		0.98	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1802		1615	1674		1495	1721		1567	1628	
Flt Permitted	0.28	1.00		0.48	1.00		0.58	1.00		0.52	1.00	
Satd. Flow (perm)	480	1802		808	1674		910	1721		860	1628	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	276	39	80	433	100	49	255	13	195	157	56
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	56	315	0	80	533	0	49	268	0	195	213	0
Confl. Peds. (#/hr)	31		36	16		11	36		16	11		31
Confl. Bikes (#/hr)									1			1
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	35.5		35.5	35.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	222	833		373	774		420	795		397	752	
v/s Ratio Prot		0.17			c0.32			0.16			0.13	
v/s Ratio Perm	0.12			0.10			0.05			c0.23		
v/c Ratio	0.25	0.38		0.21	0.69		0.12	0.34		0.49	0.28	
Uniform Delay, d1	13.1	14.0		12.8	17.0		12.2	13.7		15.0	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.3		1.3	5.0		0.6	1.1		4.3	0.9	
Delay (s)	15.8	15.3		14.1	21.9		12.8	14.8		19.2	14.2	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		15.4			20.9			14.5			16.6	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		17.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		71.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Humboldt St & 3rd Ave

06/12/2020



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2
Lane Configurations		←↑↑→			←↑	↑	↗	↘	↘	↗
Traffic Volume (vph)	200	808	261	3	94	293	47	263	352	67
Future Volume (vph)	200	808	261	3	94	293	47	263	352	67
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1000	1000	1000	1900	1900
Lane Width	12	12	12	12	10	10	12	12	12	12
Grade (%)		-3%			0%	0%		0%		
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		0.91			1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes		0.99			1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	1.00	0.85	0.97	1.00	
Flt Protected		0.99			1.00	1.00	1.00	0.96	1.00	
Satd. Flow (prot)		3853			100	700	120	915	1863	
Flt Permitted		0.99			0.99	1.00	1.00	0.96	1.00	
Satd. Flow (perm)		3853			500	915	120	915	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	200	808	261	3	94	293	47	263	352	67
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1269	0	0	97	293	47	326	356	0
Confl. Peds. (#/hr)	36		18				6			
Confl. Bikes (#/hr)			3				3			
Turn Type	Perm	NA		Perm	NA	NA	Perm	Prot	Perm	
Protected Phases		3			2	6		4		
Permitted Phases	3			2			6		4	
Actuated Green, G (s)		40.4			24.5	24.5	24.5	30.5	30.5	
Effective Green, g (s)		41.9			26.0	26.0	26.0	32.0	32.0	
Actuated g/C Ratio		0.38			0.24	0.24	0.24	0.29	0.29	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1482			119	167	28	268	547	
v/s Ratio Prot						c0.42		c0.36		
v/s Ratio Perm		0.33			0.19		0.39		0.19	
v/c Ratio		0.86			0.82	1.75	1.68	1.22	0.65	
Uniform Delay, d1		30.7			39.2	41.5	41.5	38.5	33.6	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.1			33.2	363.0	420.8	126.5	2.8	
Delay (s)		35.8			72.4	404.4	462.2	164.9	36.3	
Level of Service		D			E	F	F	F	D	
Approach Delay (s)		35.8			72.4	412.4		97.8		
Approach LOS		D			E	F		F		
Intersection Summary										
HCM 2000 Control Delay		108.6			HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio		1.20								
Actuated Cycle Length (s)		108.9			Sum of lost time (s)			9.0		
Intersection Capacity Utilization		115.9%			ICU Level of Service			H		
Analysis Period (min)		15								
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  							 		 	
Traffic Volume (vph)	28	1698	11	0	0	0	0	71	332	411	348	0
Future Volume (vph)	28	1698	11	0	0	0	0	71	332	411	348	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.91						0.95	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00						0.98	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00	1.00	1.00	
Frt	1.00	1.00						0.90	0.85	1.00	1.00	
Flt Protected	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3208						825	1455	1681	922	
Flt Permitted	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	3208						825	1455	1681	922	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1769	11	0	0	0	0	74	346	428	362	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	59	66	0	0	0
Lane Group Flow (vph)	29	1780	0	0	0	0	0	143	152	330	461	0
Confl. Peds. (#/hr)	10		7						10			
Confl. Bikes (#/hr)			2						1			
Turn Type	Split	NA						NA	Perm	Split	NA	
Protected Phases	4	4						2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	45.5	45.5						16.0	16.0	30.5	30.5	
Effective Green, g (s)	47.0	47.0						17.5	17.5	32.0	32.0	
Actuated g/C Ratio	0.45	0.45						0.17	0.17	0.30	0.30	
Clearance Time (s)	4.5	4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	788	1429						136	241	509	279	
v/s Ratio Prot	0.02	c0.55						c0.17		0.20	c0.50	
v/s Ratio Perm									0.10			
v/c Ratio	0.04	1.25						1.05	0.63	0.65	1.65	
Uniform Delay, d1	16.5	29.2						44.0	41.0	31.9	36.8	
Progression Factor	1.00	1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	116.6						91.1	11.9	2.8	309.1	
Delay (s)	16.5	145.8						135.1	52.9	34.7	345.8	
Level of Service	B	F						F	D	C	F	
Approach Delay (s)		143.8			0.0			92.4			216.0	
Approach LOS		F			A			F			F	
Intersection Summary												
HCM 2000 Control Delay		155.6			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.34										
Actuated Cycle Length (s)		105.5			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		122.0%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	0.97		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	116	188	160	272	55	296	155	43	21	129	30
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	0
Lane Group Flow (vph)	95	304	0	160	327	0	222	229	10	21	159	0
Confl. Peds. (#/hr)			34			30			34			30
Confl. Bikes (#/hr)			1			2			1			6
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.1	13.8		10.4	17.1		15.1	15.1	15.1	11.8	11.8	
Effective Green, g (s)	8.6	15.3		11.9	18.6		16.6	16.6	16.6	13.3	13.3	
Actuated g/C Ratio	0.12	0.22		0.17	0.27		0.24	0.24	0.24	0.19	0.19	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	220	693		304	915		403	418	363	340	345	
v/s Ratio Prot	0.05	c0.10		c0.09	0.10		c0.13	0.13		0.01	c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.43	0.44		0.53	0.36		0.55	0.55	0.03	0.06	0.46	
Uniform Delay, d1	28.0	23.2		26.0	20.4		23.0	23.0	20.1	22.8	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.4		1.6	0.2		1.6	1.5	0.0	0.1	1.0	
Delay (s)	29.4	23.6		27.7	20.7		24.6	24.4	20.1	22.9	25.7	
Level of Service	C	C		C	C		C	C	C	C	C	
Approach Delay (s)		25.0			23.0			24.1			25.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Util. Factor		1.00	1.00	1.00	1.00					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.95	1.00	1.00					1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		1863	1506	1770	1863					1681	1681	1528
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		1863	1506	1770	1863					1681	1681	1528
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	683	132	206	412	0	0	0	0	506	0	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	683	132	206	412	0	0	0	0	253	253	63
Confl. Peds. (#/hr)			9									2
Confl. Bikes (#/hr)			3									9
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases			4									6
Actuated Green, G (s)		51.0	51.0	18.2	73.7					37.3	37.3	37.3
Effective Green, g (s)		52.5	52.5	19.7	75.2					38.8	38.8	38.8
Actuated g/C Ratio		0.44	0.44	0.16	0.63					0.32	0.32	0.32
Clearance Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		815	658	290	1167					543	543	494
v/s Ratio Prot		c0.37		c0.12	0.22					c0.15	0.15	
v/s Ratio Perm			0.09									0.04
v/c Ratio		0.84	0.20	0.71	0.35					0.47	0.47	0.13
Uniform Delay, d1		30.0	20.8	47.5	10.7					32.3	32.3	28.7
Progression Factor		0.80	0.71	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		6.4	0.1	7.9	0.2					2.9	2.9	0.5
Delay (s)		30.4	14.9	55.4	10.9					35.2	35.2	29.2
Level of Service		C	B	E	B					D	D	C
Approach Delay (s)		27.9			25.7			0.0			34.5	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			29.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

13: US 101 NB Off Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↔↔	↔↔
Traffic Volume (vph)	1312	0	0	1394	286	1553
Future Volume (vph)	1312	0	0	1394	286	1553
Ideal Flow (vphpl)	1260	1900	1900	1800	1200	1750
Total Lost time (s)	3.0			3.0	3.0	3.0
Lane Util. Factor	0.95			0.95	0.97	0.88
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2347			3353	2168	2567
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2347			3353	2168	2567
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1312	0	0	1394	286	1553
RTOR Reduction (vph)	0	0	0	0	0	17
Lane Group Flow (vph)	1312	0	0	1394	286	1536
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6 2	8	6
Permitted Phases						8 6
Actuated Green, G (s)	44.5			82.5	13.5	47.0
Effective Green, g (s)	46.0			84.0	15.0	50.0
Actuated g/C Ratio	0.44			0.80	0.14	0.48
Clearance Time (s)	4.5				4.5	4.5
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	1028			2682	309	1295
v/s Ratio Prot	c0.56			0.42	0.13	c0.40
v/s Ratio Perm						0.20
v/c Ratio	1.28			0.52	0.93	1.19
Uniform Delay, d1	29.5			3.6	44.4	27.5
Progression Factor	0.95			1.13	1.00	1.00
Incremental Delay, d2	128.0			0.7	32.2	91.9
Delay (s)	156.1			4.8	76.7	119.4
Level of Service	F			A	E	F
Approach Delay (s)	156.1			4.8	112.8	
Approach LOS	F			A	F	
Intersection Summary						
HCM 2000 Control Delay	92.1			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio	1.27					
Actuated Cycle Length (s)	105.0			Sum of lost time (s)		9.0
Intersection Capacity Utilization	120.3%			ICU Level of Service		H
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Ideal Flow (vphpl)	1900	1000	1000	1900	1900	1900	1900	1900	1900	1000	1100	1900
Total Lost time (s)		3.0	3.0		3.0					2.5	3.0	
Lane Util. Factor		*0.70	*0.70		*1.00					*0.70	*0.70	
Frpb, ped/bikes		1.00	0.97		1.00					1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	
Frt		1.00	0.85		1.00					1.00	1.00	
Flt Protected		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (prot)		2059	566		3725					1304	1510	
Flt Permitted		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (perm)		2059	566		3725					1304	1510	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1076	57	0	1000	0	0	0	0	402	391	0
Confl. Peds. (#/hr)			10									
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm		NA					Prot	NA	
Protected Phases		2			6					7	4	
Permitted Phases			2									
Actuated Green, G (s)		63.9	63.9		63.9					32.1	32.1	
Effective Green, g (s)		65.4	65.4		65.4					34.1	33.6	
Actuated g/C Ratio		0.62	0.62		0.62					0.32	0.32	
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	
Lane Grp Cap (vph)		1282	352		2320					423	483	
v/s Ratio Prot		c0.52			0.27					c0.31	0.26	
v/s Ratio Perm			0.10									
v/c Ratio		0.84	0.16		0.43					0.95	0.81	
Uniform Delay, d1		15.6	8.3		10.2					34.6	32.8	
Progression Factor		1.00	1.00		0.96					1.00	1.00	
Incremental Delay, d2		6.7	1.0		0.5					31.2	9.7	
Delay (s)		22.4	9.3		10.3					65.9	42.4	
Level of Service		C	A		B					E	D	
Approach Delay (s)		21.3			10.3			0.0			54.3	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)				6.0		
Intersection Capacity Utilization			120.3%			ICU Level of Service				H		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00			1.00	0.95		1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1762	3374		1745	1847			1796	1511		1812	
Flt Permitted	0.23	1.00		0.34	1.00			0.77	1.00		0.87	
Satd. Flow (perm)	429	3374		621	1847			1430	1511		1604	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	563	150	94	655	28	149	94	186	48	113	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	0
Lane Group Flow (vph)	16	713	0	94	683	0	0	243	64	0	172	0
Confl. Peds. (#/hr)	11		47	34		29	13		52	18		24
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		2	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	21.7	21.7		21.7	21.7			13.7	13.7		13.7	
Effective Green, g (s)	23.2	23.2		23.2	23.2			15.2	15.2		15.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.34	0.34		0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	224	1762		324	965			489	517		549	
v/s Ratio Prot		0.21			c0.37							
v/s Ratio Perm	0.04			0.15				c0.17	0.04		0.11	
v/c Ratio	0.07	0.40		0.29	0.71			0.50	0.12		0.31	
Uniform Delay, d1	5.3	6.4		6.0	8.0			11.6	10.0		10.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2		0.5	2.4			0.8	0.1		0.3	
Delay (s)	5.4	6.6		6.5	10.4			12.4	10.1		11.1	
Level of Service	A	A		A	B			B	B		B	
Approach Delay (s)		6.5			9.9			11.4			11.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.2			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.62										
Actuated Cycle Length (s)		44.4			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		76.9%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1724		1770	1702		1770	1801		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1724		1770	1702		1770	1801		1770	1828	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	17	12	122	197	178	32	315	61	85	241	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	29	0	122	375	0	32	376	0	85	266	0
Confl. Peds. (#/hr)			17			18			19			16
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.1	11.3		11.9	21.1		2.4	22.6		7.1	27.3	
Effective Green, g (s)	3.6	12.8		13.4	22.6		3.9	24.1		8.6	28.8	
Actuated g/C Ratio	0.05	0.18		0.19	0.32		0.06	0.34		0.12	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	89	311		334	542		97	612		214	742	
v/s Ratio Prot	0.01	0.02		c0.07	c0.22		0.02	c0.21		c0.05	0.15	
v/s Ratio Perm												
v/c Ratio	0.20	0.09		0.37	0.69		0.33	0.61		0.40	0.36	
Uniform Delay, d1	32.3	24.2		25.0	21.1		32.2	19.5		28.8	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.1		0.7	3.8		2.0	1.8		1.2	0.3	
Delay (s)	33.4	24.3		25.7	24.9		34.2	21.4		30.0	14.9	
Level of Service	C	C		C	C		C	C		C	B	
Approach Delay (s)		27.8			25.1			22.4			18.6	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			70.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			57.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	70	0	268	262	468	92	52	342	0	0	514	32
Future Volume (vph)	70	0	268	262	468	92	52	342	0	0	514	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1000	1000	1900	1900	1400	1400
Total Lost time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Util. Factor	1.00		1.00	1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes	1.00		0.84	1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1380		1043	1770	3406		931	1863			2572	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1380		1043	1770	3406		931	1863			2572	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	70	0	268	262	468	92	52	342	0	0	514	32
RTOR Reduction (vph)	0	0	221	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	70	0	47	262	560	0	52	342	0	0	546	0
Confl. Peds. (#/hr)			83			70			95			58
Confl. Bikes (#/hr)			4			1			1			4
Bus Blockages (#/hr)	55	0	55	0	0	0	0	0	0	0	0	0
Turn Type	Prot		Perm	Split	NA		Prot	NA			NA	
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4									
Actuated Green, G (s)	9.8		9.8	20.3	20.3		4.4	29.2			20.3	
Effective Green, g (s)	14.3		14.3	24.8	24.8		5.9	33.7			24.8	
Actuated g/C Ratio	0.17		0.17	0.30	0.30		0.07	0.41			0.30	
Clearance Time (s)	7.5		7.5	7.5	7.5		4.5	7.5			7.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	241		182	536	1032		67	767			779	
v/s Ratio Prot	c0.05			0.15	c0.16		c0.06	0.18			c0.21	
v/s Ratio Perm			0.04									
v/c Ratio	0.29		0.26	0.49	0.54		0.78	0.45			0.70	
Uniform Delay, d1	29.3		29.2	23.3	23.8		37.3	17.3			25.2	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.7		0.8	3.2	2.0		42.0	0.4			2.9	
Delay (s)	30.0		29.9	26.5	25.8		79.3	17.7			28.1	
Level of Service	C		C	C	C		E	B			C	
Approach Delay (s)		29.9			26.0			25.9			28.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			81.8			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			67.5%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	39	794	31	0	0	0	48	366	190	371	478	144
Future Volume (vph)	39	794	31	0	0	0	48	366	190	371	478	144
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1650	1900	1300	1000	1900
Total Lost time (s)		3.0					3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95					1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00					1.00	0.97		1.00	0.97	
Flpb, ped/bikes		1.00					1.00	1.00		1.00	1.00	
Frt		0.99					1.00	0.95		1.00	0.97	
Flt Protected		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2764					1770	2836		1211	1753	
Flt Permitted		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2764					1770	2836		1211	1753	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	39	794	31	0	0	0	48	366	190	371	478	144
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	864	0	0	0	0	48	556	0	371	622	0
Confl. Peds. (#/hr)	16		41						41			33
Confl. Bikes (#/hr)			4						3			3
Turn Type	Perm	NA					Prot	NA		Prot	NA	
Protected Phases		4					5	2		1	6	
Permitted Phases	4											
Actuated Green, G (s)		24.0					5.5	15.8		32.5	42.8	
Effective Green, g (s)		28.5					7.0	20.3		34.0	47.3	
Actuated g/C Ratio		0.31					0.08	0.22		0.37	0.52	
Clearance Time (s)		7.5					4.5	7.5		4.5	7.5	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		858					134	627		448	903	
v/s Ratio Prot							0.03	c0.20		c0.31	0.35	
v/s Ratio Perm		0.31										
v/c Ratio		1.01					0.36	0.89		0.83	0.69	
Uniform Delay, d1		31.6					40.3	34.6		26.2	16.7	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		32.4					1.6	14.2		16.0	2.2	
Delay (s)		64.1					41.9	48.8		42.3	18.9	
Level of Service		E					D	D		D	B	
Approach Delay (s)		64.1			0.0			48.3			27.7	
Approach LOS		E			A			D			C	
Intersection Summary												
HCM 2000 Control Delay		45.5					HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio		0.90										
Actuated Cycle Length (s)		91.8					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		90.5%					ICU Level of Service			E		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	269	63	14	157	45	54	481	14	15	331	139
Future Volume (vph)	74	269	63	14	157	45	54	481	14	15	331	139
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1350	1900	1900	1000	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		1.00			1.00			1.00			1.00	1.00
Frpb, ped/bikes		0.98			0.99			1.00			1.00	0.89
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.98			0.97			1.00			1.00	0.85
Flt Protected		0.99			1.00			1.00			1.00	1.00
Satd. Flow (prot)		934			939			1306			978	1404
Flt Permitted		0.90			0.97			0.94			0.97	1.00
Satd. Flow (perm)		852			910			1228			952	1404
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	74	269	63	14	157	45	54	481	14	15	331	139
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	70
Lane Group Flow (vph)	0	406	0	0	216	0	0	548	0	0	346	70
Confl. Peds. (#/hr)	16		36	21		31	15		36	15		31
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		29.5			29.5			35.5			35.5	35.5
Effective Green, g (s)		34.0			34.0			40.0			40.0	40.0
Actuated g/C Ratio		0.42			0.42			0.50			0.50	0.50
Clearance Time (s)		7.5			7.5			7.5			7.5	7.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		362			386			614			476	702
v/s Ratio Prot												
v/s Ratio Perm		c0.48			0.24			c0.45			0.36	0.05
v/c Ratio		1.12			0.56			0.89			0.73	0.10
Uniform Delay, d1		23.0			17.4			18.1			15.7	10.5
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		84.4			1.8			17.8			9.4	0.3
Delay (s)		107.4			19.1			35.9			25.1	10.8
Level of Service		F			B			D			C	B
Approach Delay (s)		107.4			19.1			35.9			21.0	
Approach LOS		F			B			D			C	
Intersection Summary												
HCM 2000 Control Delay		46.9			HCM 2000 Level of Service			D				
HCM 2000 Volume to Capacity ratio		1.00										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		154.5%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	301	99	59	189	17	69	424	64	14	378	79
Future Volume (vph)	120	301	99	59	189	17	69	424	64	14	378	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1768			1814			1804			1801	
Flt Permitted		0.88			0.86			0.91			0.98	
Satd. Flow (perm)		1570			1575			1661			1770	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	301	99	59	189	17	69	424	64	14	378	79
RTOR Reduction (vph)	0	15	0	0	4	0	0	8	0	0	12	0
Lane Group Flow (vph)	0	505	0	0	261	0	0	549	0	0	459	0
Confl. Peds. (#/hr)	12		28	19		30	9		37	18		21
Confl. Bikes (#/hr)			3			4			5			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		20.5			20.5			21.0			21.0	
Effective Green, g (s)		22.0			22.0			22.5			22.5	
Actuated g/C Ratio		0.44			0.44			0.45			0.45	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		683			686			740			788	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.17			c0.33			0.26	
v/c Ratio		0.74			0.38			0.74			0.58	
Uniform Delay, d1		11.9			9.6			11.6			10.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.2			0.4			4.0			1.1	
Delay (s)		16.1			10.0			15.6			11.6	
Level of Service		B			A			B			B	
Approach Delay (s)		16.1			10.0			15.6			11.6	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		50.5			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		105.3%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.92	1.00	0.98		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	189	258	210	206	378	169	209	507	112	163	412	143
RTOR Reduction (vph)	0	0	162	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	189	258	48	206	547	0	209	619	0	163	555	0
Confl. Peds. (#/hr)			73			55			43			85
Confl. Bikes (#/hr)			3			7			4			4
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Effective Green, g (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Actuated g/C Ratio	0.17	0.23	0.23	0.18	0.24		0.12	0.25		0.15	0.28	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	803	329	311	777		404	859		262	936	
v/s Ratio Prot	0.11	0.07		c0.12	c0.17		0.06	c0.18		c0.09	c0.17	
v/s Ratio Perm			0.03									
v/c Ratio	0.64	0.32	0.14	0.66	0.70		0.52	0.72		0.62	0.59	
Uniform Delay, d1	35.6	29.5	28.3	35.2	32.1		38.0	31.3		36.6	28.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.2	0.2	5.2	2.9		1.1	3.0		4.5	1.0	
Delay (s)	40.3	29.7	28.5	40.4	35.0		39.1	34.3		41.1	29.3	
Level of Service	D	C	C	D	C		D	C		D	C	
Approach Delay (s)		32.4			36.5			35.5			32.0	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			34.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			91.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			78.8%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			4.0	3.0			
Lane Util. Factor		1.00		0.95	0.95			1.00	0.88			
Frpb, ped/bikes		0.99		1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			
Frt		0.89		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (prot)		1643		1681	1692			1770	2724			
Flt Permitted		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (perm)		1643		1681	1692			1770	2724			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	31	128	749	33	0	40	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	498	0	0	0
Lane Group Flow (vph)	0	159	0	389	393	0	0	40	121	0	0	0
Confl. Peds. (#/hr)			1						1			
Confl. Bikes (#/hr)						3						3
Turn Type		NA		Split	NA	Perm	Split	NA	Perm			
Protected Phases		4		8	8		2	2		6	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)		11.9		21.5	21.5			9.5	9.5			
Effective Green, g (s)		13.4		23.0	23.0			10.0	11.0			
Actuated g/C Ratio		0.24		0.41	0.41			0.18	0.20			
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		390		685	690			313	531			
v/s Ratio Prot		c0.10		0.23	c0.23			0.02				
v/s Ratio Perm									c0.04			
v/c Ratio		0.41		0.57	0.57			0.13	0.23			
Uniform Delay, d1		18.1		12.9	12.9			19.5	19.1			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.7		1.1	1.1			0.2	0.2			
Delay (s)		18.8		14.0	14.0			19.7	19.3			
Level of Service		B		B	B			B	B			
Approach Delay (s)		18.8			14.0			19.4			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			56.4			Sum of lost time (s)				14.0		
Intersection Capacity Utilization			45.4%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		0.97	1.00	
Frpb, ped/bikes		1.00	0.92	1.00		0.97		0.97		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Frt		1.00	0.85	1.00		0.85		0.90		1.00	1.00	
Flt Protected		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		900	1459	1770		1528		1050		1900	1863	
Flt Permitted		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)		1846	1459	1770		1528		3098		3433	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	41	179	33	162	0	296	0	86	152	364	130	0
RTOR Reduction (vph)	0	0	0	0	0	250	0	0	0	0	0	0
Lane Group Flow (vph)	0	220	33	162	0	46	0	238	0	364	130	0
Confl. Peds. (#/hr)			27			12			23			
Confl. Bikes (#/hr)			5			7			5			
Turn Type	Split	NA	Perm	Prot		Perm		NA		Prot	NA	
Protected Phases	4	4		8				2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		27.0	27.0	14.9		14.9		25.6		20.5	50.6	
Effective Green, g (s)		28.5	28.5	16.4		16.4		27.1		22.0	52.1	
Actuated g/C Ratio		0.27	0.27	0.15		0.15		0.26		0.21	0.49	
Clearance Time (s)		4.5	4.5	4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		241	392	273		236		268		394	915	
v/s Ratio Prot		c0.24		c0.09				c0.23		c0.19	0.07	
v/s Ratio Perm			0.02			0.03						
v/c Ratio		0.91	0.08	0.59		0.19		0.89		0.92	0.14	
Uniform Delay, d1		37.5	29.0	41.7		39.0		38.0		41.2	14.7	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		35.3	0.1	3.4		0.4		27.8		27.0	0.1	
Delay (s)		72.8	29.1	45.1		39.4		65.7		68.2	14.8	
Level of Service		E	C	D		D		E		E	B	
Approach Delay (s)		67.1			41.5			65.7			54.2	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			54.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			106.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			65.6%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0					3.0	2.5	3.0	3.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	0.91	0.91	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					0.99	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					0.97	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1681	1683	1462					3278	1389	1610	3350	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1681	1683	1462					3278	1389	1610	3350	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	233	344	89	0	0	0	0	530	396	418	439	0
RTOR Reduction (vph)	0	1	56	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	210	375	24	0	0	0	0	645	281	280	577	0
Confl. Peds. (#/hr)			14						25			
Confl. Bikes (#/hr)			6						6			
Turn Type	Perm	NA	Perm					NA	Perm	Split	NA	
Protected Phases		4						2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	21.9	21.9	21.9					23.2	23.2	18.4	18.4	
Effective Green, g (s)	23.4	23.4	23.4					24.7	25.2	19.9	19.9	
Actuated g/C Ratio	0.30	0.30	0.30					0.32	0.33	0.26	0.26	
Clearance Time (s)	4.5	4.5	4.5					4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	510	511	444					1051	454	416	865	
v/s Ratio Prot								0.20		c0.17	0.17	
v/s Ratio Perm	0.12	0.22	0.02						c0.20			
v/c Ratio	0.41	0.73	0.05					0.61	0.62	0.67	0.67	
Uniform Delay, d1	21.3	24.0	19.0					22.1	21.8	25.6	25.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	5.4	0.1					1.1	2.5	4.3	2.0	
Delay (s)	21.9	29.4	19.0					23.2	24.4	29.9	27.5	
Level of Service	C	C	B					C	C	C	C	
Approach Delay (s)		25.8			0.0			23.5			28.3	
Approach LOS		C			A			C			C	
Intersection Summary												
HCM 2000 Control Delay		25.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		77.0			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		67.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.97			1.00	0.97		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.91			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1629			1763	1530		3539	1535	1770	3536	
Flt Permitted		0.97			0.75	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (perm)		1591			1399	1530		3378	1535	1770	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	1	4	133	0	499	1	699	125	213	488	2
RTOR Reduction (vph)	0	0	0	0	0	319	0	0	80	0	0	0
Lane Group Flow (vph)	0	6	0	0	133	180	0	700	45	213	490	0
Confl. Peds. (#/hr)	5		27	5		21	22		21			27
Confl. Bikes (#/hr)			18			9			5			17
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		13.4			13.4	13.4		19.6	19.6	11.8	35.9	
Effective Green, g (s)		14.9			14.9	14.9		21.1	21.1	13.3	37.4	
Actuated g/C Ratio		0.26			0.26	0.26		0.36	0.36	0.23	0.64	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		406			357	391		1222	555	403	2268	
v/s Ratio Prot										c0.12	0.14	
v/s Ratio Perm		0.00			0.10	c0.12		c0.21	0.03			
v/c Ratio		0.01			0.37	0.46		0.57	0.08	0.53	0.22	
Uniform Delay, d1		16.2			17.9	18.3		15.0	12.2	19.7	4.3	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.7	0.9		0.7	0.1	1.3	0.0	
Delay (s)		16.2			18.5	19.2		15.6	12.3	21.0	4.4	
Level of Service		B			B	B		B	B	C	A	
Approach Delay (s)		16.2			19.0			15.1			9.4	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		14.4										
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		58.3										
Intersection Capacity Utilization		76.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

26: Delaware St & 25th Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→		↑↑	↑	→→
Traffic Volume (vph)	502	221	143	305	146	483
Future Volume (vph)	502	221	143	305	146	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.88
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.98	1.00	1.00
Satd. Flow (prot)	3433	1519		3483	1863	2650
Flt Permitted	0.95	1.00		0.83	1.00	1.00
Satd. Flow (perm)	3433	1519		2921	1863	2650
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	502	221	143	305	146	483
RTOR Reduction (vph)	0	0	0	0	0	291
Lane Group Flow (vph)	502	221	0	448	146	192
Confl. Peds. (#/hr)		4	2			15
Confl. Bikes (#/hr)		20				21
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	10.8	10.8		10.6	10.6	10.6
Effective Green, g (s)	12.3	12.3		12.1	12.1	12.1
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1389	614		1162	741	1054
v/s Ratio Prot	c0.15				0.08	
v/s Ratio Perm		0.15		c0.15		0.07
v/c Ratio	0.36	0.36		0.39	0.20	0.18
Uniform Delay, d1	6.3	6.3		6.5	6.0	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4		0.2	0.1	0.1
Delay (s)	6.5	6.7		6.7	6.1	6.0
Level of Service	A	A		A	A	A
Approach Delay (s)	6.5			6.7	6.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		6.4		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.37				
Actuated Cycle Length (s)		30.4		Sum of lost time (s)		6.0
Intersection Capacity Utilization		49.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Ideal Flow (vphpl)	2200	2200	2200	2200	2200	2200	1900	1900	1900	1100	1100	1100
Total Lost time (s)	3.0	3.0	3.0	3.0	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	*1.00	*1.00	*1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	134	234	378	232	163	46	271	54	131	313	34
RTOR Reduction (vph)	0	0	208	0	98	0	0	9	0	0	3	0
Lane Group Flow (vph)	85	134	26	378	297	0	46	316	0	131	344	0
Confl. Peds. (#/hr)			1			33			40			33
Confl. Bikes (#/hr)			8						1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.2	14.2	14.2	18.2	21.2		7.9	66.1		23.5	81.7	
Effective Green, g (s)	12.7	15.7	15.7	19.7	23.2		9.4	68.1		25.0	83.7	
Actuated g/C Ratio	0.09	0.11	0.11	0.14	0.17		0.07	0.49		0.18	0.60	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	185	241	398	576	652		118	1658		183	1199	
v/s Ratio Prot	0.04	c0.06		c0.09	0.08		0.03	0.09		c0.13	c0.17	
v/s Ratio Perm			0.01									
v/c Ratio	0.46	0.56	0.07	0.66	0.45		0.39	0.19		0.72	0.29	
Uniform Delay, d1	60.4	58.8	55.6	56.9	52.7		62.6	20.4		54.2	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.16	1.08		1.00	1.00	
Incremental Delay, d2	1.8	2.8	0.1	2.7	0.5		1.9	0.2		12.5	0.6	
Delay (s)	62.2	61.6	55.7	59.6	53.2		74.4	22.2		66.7	14.3	
Level of Service	E	E	E	E	D		E	C		E	B	
Approach Delay (s)		58.7			56.3			28.7			28.6	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			45.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)			11.5			
Intersection Capacity Utilization			70.7%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

28: Saratoga Dr & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 	 	 	
Traffic Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Future Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Ideal Flow (vphpl)	1000	1000	1000	1000	1900	1900	1000	1000	1100	1000	1000	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	*0.50	*0.80		*0.60	0.91	1.00		*0.95	0.88	*0.65	*0.70	0.91
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.93	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (perm)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	875	0	163	527	235	28	60	236	370	178	314
RTOR Reduction (vph)	0	0	0	0	0	165	0	0	192	0	46	113
Lane Group Flow (vph)	71	875	0	163	527	71	0	88	44	370	289	44
Confl. Peds. (#/hr)						12			22			
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	18.7	36.2		24.0	40.2	40.2		24.5	24.5	37.0	37.0	37.0
Effective Green, g (s)	21.0	38.0		25.0	42.0	42.0		26.2	26.2	38.8	38.8	38.8
Actuated g/C Ratio	0.15	0.27		0.18	0.30	0.30		0.19	0.19	0.28	0.28	0.28
Clearance Time (s)	5.3	4.8		4.0	4.8	4.8		4.7	4.7	4.8	4.8	4.8
Vehicle Extension (s)	3.0	6.0		3.0	6.0	6.0		4.0	4.0	6.0	6.0	6.0
Lane Grp Cap (vph)	69	638		199	1525	460		171	289	335	353	399
v/s Ratio Prot	0.15	c0.37		c0.15	0.10			c0.10		c0.31	0.23	
v/s Ratio Perm						0.05			0.03			0.03
v/c Ratio	1.03	1.37		0.82	0.35	0.15		0.51	0.15	1.10	0.82	0.11
Uniform Delay, d1	59.5	51.0		55.3	38.3	36.0		51.2	47.6	50.6	47.3	37.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.21	0.21	0.78	0.71	0.75
Incremental Delay, d2	116.6	177.0		22.4	0.6	0.7		3.2	0.3	79.4	15.4	0.3
Delay (s)	176.1	228.0		77.7	38.9	36.7		14.0	10.5	119.1	49.2	28.4
Level of Service	F	F		E	D	D		B	B	F	D	C
Approach Delay (s)		224.1			45.2			11.4			75.4	
Approach LOS		F			D			B			E	
Intersection Summary												
HCM 2000 Control Delay			105.5			HCM 2000 Level of Service				F		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			92.1%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.87			0.85			0.90			0.96	
Flpb, ped/bikes		0.99			0.97			0.98			0.95	
Frt		0.97			0.95			0.97			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1535			1451			1598			1652	
Flt Permitted		0.97			0.95			0.96			0.85	
Satd. Flow (perm)		1503			1391			1536			1430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	73	27	23	71	49	26	183	48	73	161	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	110	0	0	143	0	0	257	0	0	254	0
Confl. Peds. (#/hr)	99		289	112		240	177		253	141		276
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		601			556			789			735	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.10			0.17			c0.18	
v/c Ratio		0.18			0.26			0.33			0.35	
Uniform Delay, d1		13.6			14.0			9.9			10.0	
Progression Factor		1.00			1.00			0.75			1.00	
Incremental Delay, d2		0.7			1.1			1.0			1.3	
Delay (s)		14.3			15.2			8.5			11.3	
Level of Service		B			B			A			B	
Approach Delay (s)		14.3			15.2			8.5			11.3	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		11.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		53.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.89			0.87			0.89			0.93	
Flpb, ped/bikes		0.98			0.99			0.96			0.97	
Frt		0.97			0.97			0.97			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1562			1539			1548			1627	
Flt Permitted		0.95			0.95			0.94			0.93	
Satd. Flow (perm)		1488			1465			1458			1520	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	149	49	22	105	40	42	185	57	33	151	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	230	0	0	167	0	0	284	0	0	213	0
Confl. Peds. (#/hr)	96		246	88		248	158		240	152		254
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		595			586			749			781	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.11			c0.19			0.14	
v/c Ratio		0.39			0.28			0.38			0.27	
Uniform Delay, d1		14.9			14.2			10.3			9.6	
Progression Factor		1.00			1.00			1.00			0.65	
Incremental Delay, d2		1.9			1.2			1.5			0.8	
Delay (s)		16.8			15.4			11.7			7.1	
Level of Service		B			B			B			A	
Approach Delay (s)		16.8			15.4			11.7			7.1	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		47.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	149	61	120	346	120	29	136	35	40	150	100
Future Volume (vph)	45	149	61	120	346	120	29	136	35	40	150	100
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88		1.00	1.00	0.49		0.93			0.81	
Flpb, ped/bikes		0.98		0.91	1.00	1.00		0.97			0.98	
Frt		0.97		1.00	1.00	0.85		0.98			0.95	
Flt Protected		0.99		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)		804		1614	980	780		860			736	
Flt Permitted		0.90		0.58	1.00	1.00		0.93			0.94	
Satd. Flow (perm)		729		992	980	780		804			696	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	149	61	120	346	120	29	136	35	40	150	100
RTOR Reduction (vph)	0	0	0	0	0	61	0	0	0	0	0	0
Lane Group Flow (vph)	0	255	0	120	346	59	0	200	0	0	290	0
Confl. Peds. (#/hr)	131		272	76		244	196		189	113		327
Confl. Bikes (#/hr)			8			4			4			6
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		27.5		27.5	27.5	27.5		22.5			22.5	
Effective Green, g (s)		32.0		32.0	32.0	32.0		27.0			27.0	
Actuated g/C Ratio		0.49		0.49	0.49	0.49		0.42			0.42	
Clearance Time (s)		7.5		7.5	7.5	7.5		7.5			7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		358		488	482	384		333			289	
v/s Ratio Prot				c0.35								
v/s Ratio Perm		0.35		0.12		0.08		0.25			c0.42	
v/c Ratio		0.71		0.25	0.72	0.15		0.60			1.00	
Uniform Delay, d1		12.9		9.5	13.0	9.1		14.8			19.0	
Progression Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2		6.6		1.2	8.9	0.9		7.8			53.8	
Delay (s)		19.5		10.7	21.8	9.9		22.6			72.8	
Level of Service		B		B	C	A		C			E	
Approach Delay (s)		19.5			17.1			22.6			72.8	
Approach LOS		B			B			C			E	
Intersection Summary												
HCM 2000 Control Delay			30.5				HCM 2000 Level of Service				C	
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			65.0				Sum of lost time (s)				6.0	
Intersection Capacity Utilization			116.9%				ICU Level of Service				H	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	564	48	12	197	22	39	133	81	89	117	115
Future Volume (vph)	37	564	48	12	197	22	39	133	81	89	117	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		2.5			2.5			3.0			2.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.95			0.90			0.86	
Flpb, ped/bikes		0.99			1.00			0.99			0.96	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3361			913			824			761	
Flt Permitted		0.93			0.96			0.91			0.86	
Satd. Flow (perm)		3123			880			759			663	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	564	48	12	197	22	39	133	81	89	117	115
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	649	0	0	231	0	0	253	0	0	321	0
Confl. Peds. (#/hr)	93		161	74		251	87		232	158		180
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.5			34.5			30.5			30.5	
Effective Green, g (s)		39.5			39.5			35.0			35.5	
Actuated g/C Ratio		0.49			0.49			0.44			0.44	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		1541			434			332			294	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.33			c0.48	
v/c Ratio		0.42			0.53			0.76			1.09	
Uniform Delay, d1		12.9			13.9			19.0			22.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			4.6			15.2			79.3	
Delay (s)		13.8			18.5			34.2			101.5	
Level of Service		B			B			C			F	
Approach Delay (s)		13.8			18.5			34.2			101.5	
Approach LOS		B			B			C			F	
Intersection Summary												
HCM 2000 Control Delay		37.5										
HCM 2000 Volume to Capacity ratio		0.80										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		110.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	337	55	47	231	55	38	163	109	29	130	34
Future Volume (vph)	38	337	55	47	231	55	38	163	109	29	130	34
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1900	1900	1300	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.93			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.98			0.98			0.95			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1398			918			1108			1739	
Flt Permitted		0.95			0.90			0.95			0.92	
Satd. Flow (perm)		1333			835			1055			1619	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	337	55	47	231	55	38	163	109	29	130	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	430	0	0	333	0	0	310	0	0	193	0
Confl. Peds. (#/hr)	28		90	38		74	52		84	46		80
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5			24.5	
Effective Green, g (s)		35.0			35.0			29.0			29.0	
Actuated g/C Ratio		0.50			0.50			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		666			417			437			670	
v/s Ratio Prot												
v/s Ratio Perm		0.32			c0.40			c0.29			0.12	
v/c Ratio		0.65			0.80			0.71			0.29	
Uniform Delay, d1		12.9			14.6			17.0			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.8			14.7			9.4			1.1	
Delay (s)		17.7			29.3			26.4			14.7	
Level of Service		B			C			C			B	
Approach Delay (s)		17.7			29.3			26.4			14.7	
Approach LOS		B			C			C			B	
Intersection Summary												
HCM 2000 Control Delay		22.4			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.76										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		94.3%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.90			0.93			0.90			0.89	
Flpb, ped/bikes		0.98			0.98			0.99			0.99	
Frt		0.97			0.97			0.97			0.97	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1584			1644			1601			1577	
Flt Permitted		0.91			0.92			0.97			0.97	
Satd. Flow (perm)		1454			1530			1556			1543	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	182	57	26	101	34	9	76	26	28	239	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	302	0	0	161	0	0	111	0	0	349	0
Confl. Peds. (#/hr)	74		242	105		143	137		174	69		211
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			34.5			34.5	
Effective Green, g (s)		35.0			35.0			39.0			39.0	
Actuated g/C Ratio		0.44			0.44			0.49			0.49	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		636			669			758			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.11			0.07			c0.23	
v/c Ratio		0.47			0.24			0.15			0.46	
Uniform Delay, d1		16.0			14.1			11.3			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			0.9			0.4			2.1	
Delay (s)		18.5			15.0			11.7			15.6	
Level of Service		B			B			B			B	
Approach Delay (s)		18.5			15.0			11.7			15.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		59.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.98			0.98	
Flpb, ped/bikes		0.99			0.99			0.99			0.99	
Frt		0.98			0.97			0.98			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1734			1732			1764			1769	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1641			1692			1686			1732	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	165	38	18	224	65	10	69	12	20	217	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	228	0	0	307	0	0	91	0	0	273	0
Confl. Peds. (#/hr)	142		166	166		142	123		107	107		123
Confl. Bikes (#/hr)						2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.2			13.2			12.1			12.1	
Effective Green, g (s)		17.7			17.7			16.6			16.6	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		720			743			694			713	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.18			0.05			0.16	
v/c Ratio		0.32			0.41			0.13			0.38	
Uniform Delay, d1		7.4			7.7			7.4			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.4			0.1			0.3	
Delay (s)		7.6			8.1			7.5			8.6	
Level of Service		A			A			A			A	
Approach Delay (s)		7.6			8.1			7.5			8.6	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		40.3			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		46.2%			ICU Level of Service			A				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.5	2.5	2.5	2.5	2.5	2.5		2.5	2.5		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.93		1.00	0.93		0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.98	
Satd. Flow (prot)	1747	1863	1511	1751	1863	1477		3534	1470		3423	
Flt Permitted	0.50	1.00	1.00	0.52	1.00	1.00		0.94	1.00		0.66	
Satd. Flow (perm)	918	1863	1511	958	1863	1477		3313	1470		2286	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	274	29	102	296	290	12	450	195	209	439	36
RTOR Reduction (vph)	0	0	15	0	0	117	0	0	108	0	0	0
Lane Group Flow (vph)	19	274	14	102	296	173	0	462	87	0	684	0
Confl. Peds. (#/hr)	17		24	13		41	11		37	24		28
Confl. Bikes (#/hr)			5			4			4			6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	37.5	37.5	37.5	37.5	37.5	37.5		33.5	33.5		33.5	
Effective Green, g (s)	39.5	39.5	39.5	39.5	39.5	39.5		35.5	35.5		35.5	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Grp Cap (vph)	453	919	746	473	919	729		1470	652		1014	
v/s Ratio Prot		0.15			c0.16							
v/s Ratio Perm	0.02		0.01	0.11		0.12		0.14	0.06		c0.30	
v/c Ratio	0.04	0.30	0.02	0.22	0.32	0.24		0.31	0.13		0.67	
Uniform Delay, d1	10.5	12.0	10.3	11.5	12.2	11.6		14.4	13.2		17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.8	0.0	1.0	0.9	0.8		0.6	0.4		3.6	
Delay (s)	10.6	12.9	10.4	12.5	13.1	12.4		14.9	13.6		21.3	
Level of Service	B	B	B	B	B	B		B	B		C	
Approach Delay (s)		12.5			12.7			14.5			21.3	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			15.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)		5.0			
Intersection Capacity Utilization			66.3%				ICU Level of Service		C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.99	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		3455			1786			3462			3454	
Flt Permitted		0.89			0.85			0.93			0.73	
Satd. Flow (perm)		3088			1540			3212			2545	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	266	32	90	224	65	25	596	75	108	430	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	341	0	0	379	0	0	696	0	0	579	0
Confl. Peds. (#/hr)	9		29	15		25	14		31	16		23
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.6			19.6			16.3			16.3	
Effective Green, g (s)		21.1			21.1			17.8			17.8	
Actuated g/C Ratio		0.47			0.47			0.40			0.40	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1451			723			1273			1008	
v/s Ratio Prot												
v/s Ratio Perm		0.11			0.25			0.22			0.23	
v/c Ratio		0.24			0.52			0.55			0.57	
Uniform Delay, d1		7.1			8.4			10.4			10.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.7			0.5			0.8	
Delay (s)		7.2			9.1			10.9			11.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.2			9.1			10.9			11.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		10.1			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		44.9			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		83.9%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95			0.98			0.97		1.00	0.94	
Flpb, ped/bikes	0.97	1.00			0.99			1.00		0.97	1.00	
Frt	1.00	0.96			0.97			0.97		1.00	0.95	
Flt Protected	0.95	1.00			0.99			1.00		0.95	1.00	
Satd. Flow (prot)	1719	1706			1756			1736		1725	1658	
Flt Permitted	0.58	1.00			0.95			0.97		0.58	1.00	
Satd. Flow (perm)	1050	1706			1681			1694		1051	1658	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	177	206	63	25	161	49	13	170	51	63	249	121
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	269	0	0	235	0	0	234	0	63	370	0
Confl. Peds. (#/hr)	34		109	51		55	58		72	21		92
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.5	27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)	32.0	32.0			32.0			32.0		32.0	32.0	
Actuated g/C Ratio	0.46	0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)	7.5	7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)	480	779			768			774		480	757	
v/s Ratio Prot		0.16									c0.22	
v/s Ratio Perm	c0.17				0.14			0.14		0.06		
v/c Ratio	0.37	0.35			0.31			0.30		0.13	0.49	
Uniform Delay, d1	12.4	12.2			12.0			12.0		11.0	13.3	
Progression Factor	1.00	1.00			1.00			0.83		1.00	1.00	
Incremental Delay, d2	2.2	1.2			1.0			1.0		0.6	2.3	
Delay (s)	14.6	13.5			13.0			10.9		11.5	15.5	
Level of Service	B	B			B			B		B	B	
Approach Delay (s)		13.9			13.0			10.9			15.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.6									
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			70.0							6.0		
Intersection Capacity Utilization			77.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5		2.5	2.5	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.87			0.93			0.92		1.00	0.90	
Flpb, ped/bikes		0.98			0.98			0.99		0.86	1.00	
Frt		0.97			0.98			0.98		1.00	0.97	
Flt Protected		0.99			0.99			0.99		0.95	1.00	
Satd. Flow (prot)		1539			1647			1635		1514	1624	
Flt Permitted		0.95			0.94			0.94		0.63	1.00	
Satd. Flow (perm)		1467			1563			1552		1009	1624	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	202	73	30	200	40	22	125	28	42	240	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	308	0	0	270	0	0	175	0	42	299	0
Confl. Peds. (#/hr)	149		268	177		245	91		273	96		240
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)		32.5			32.5			32.5		32.5	32.5	
Actuated g/C Ratio		0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)		7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)		681			725			720		468	754	
v/s Ratio Prot												c0.18
v/s Ratio Perm		c0.21			0.17			0.11		0.04		
v/c Ratio		0.45			0.37			0.24		0.09	0.40	
Uniform Delay, d1		12.7			12.1			11.3		10.5	12.3	
Progression Factor		1.00			1.00			1.00		0.71	0.65	
Incremental Delay, d2		2.2			1.5			0.8		0.3	1.4	
Delay (s)		14.9			13.6			12.1		7.8	9.5	
Level of Service		B			B			B		A	A	
Approach Delay (s)		14.9			13.6			12.1			9.3	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		59.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

40: San Mateo Dr & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.94			0.96			0.94			0.94	
Flpb, ped/bikes		0.97			0.97			1.00			0.98	
Frt		0.98			0.98			0.97			0.97	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		3132			3213			1679			1643	
Flt Permitted		0.90			0.87			0.99			0.86	
Satd. Flow (perm)		2831			2804			1661			1429	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	320	48	30	160	31	6	110	37	109	164	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	411	0	0	221	0	0	153	0	0	337	0
Confl. Peds. (#/hr)	128		217	124		196	93		192	68		221
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			41.5			41.5	
Effective Green, g (s)		28.0			28.0			46.0			46.0	
Actuated g/C Ratio		0.35			0.35			0.58			0.58	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		990			981			955			821	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.08			0.09			c0.24	
v/c Ratio		0.42			0.23			0.16			0.41	
Uniform Delay, d1		19.8			18.3			8.0			9.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			0.5			0.4			1.5	
Delay (s)		21.1			18.9			8.3			11.0	
Level of Service		C			B			A			B	
Approach Delay (s)		21.1			18.9			8.3			11.0	
Approach LOS		C			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		15.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		68.3%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	104	331	219	109	144	105
Future Volume (vph)	104	331	219	109	144	105
Ideal Flow (vphpl)	1000	1500	1900	1900	1000	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97		1.00	0.90
Flpb, ped/bikes	0.95	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	881	1471	1720		931	1421
Flt Permitted	0.56	1.00	1.00		0.95	1.00
Satd. Flow (perm)	522	1471	1720		931	1421
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	331	219	109	144	105
RTOR Reduction (vph)	0	0	0	0	0	77
Lane Group Flow (vph)	104	331	328	0	144	28
Confl. Peds. (#/hr)	55			53	32	55
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	18.0	18.0	18.0		10.0	10.0
Effective Green, g (s)	19.5	19.5	19.5		11.5	11.5
Actuated g/C Ratio	0.45	0.45	0.45		0.27	0.27
Clearance Time (s)	7.5	7.5	7.5		7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	236	667	780		248	380
v/s Ratio Prot		c0.23	0.19		c0.15	
v/s Ratio Perm	0.20					0.02
v/c Ratio	0.44	0.50	0.42		0.58	0.07
Uniform Delay, d1	8.0	8.3	7.9		13.7	11.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	5.9	2.6	1.7		3.4	0.1
Delay (s)	13.9	10.9	9.6		17.1	11.9
Level of Service	B	B	A		B	B
Approach Delay (s)		11.6	9.6		14.9	
Approach LOS		B	A		B	
Intersection Summary						
HCM 2000 Control Delay			11.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.53			
Actuated Cycle Length (s)			43.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			60.6%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

42: El Camino Real & Peninsula Ave & Pard Rd

06/12/2020

												
Movement	WBL	WBR	WBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Future Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0					3.0		3.0	
Lane Util. Factor	1.00			0.95					0.95		0.97	
Frpb, ped/bikes	0.97			0.99					1.00		1.00	
Flpb, ped/bikes	1.00			1.00					1.00		1.00	
Frt	0.93			0.96					1.00		1.00	
Flt Protected	0.98			1.00					1.00		0.95	
Satd. Flow (prot)	1651			3371					3525		3426	
Flt Permitted	0.98			1.00					0.70		0.95	
Satd. Flow (perm)	1651			3371					2475		3426	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	115	12	914	151	154	1	78	879	3	88	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	260	0	0	1219	0	0	0	0	958	0	94	0
Confl. Peds. (#/hr)		9	9		16	8					7	9
Turn Type	Prot			NA			Perm	Perm	NA	Prot	Prot	
Protected Phases	3			2					6	4	4	
Permitted Phases							6	6				
Actuated Green, G (s)	16.7			39.3					39.3		6.0	
Effective Green, g (s)	18.2			40.8					40.8		7.5	
Actuated g/C Ratio	0.24			0.54					0.54		0.10	
Clearance Time (s)	4.5			4.5					4.5		4.5	
Vehicle Extension (s)	3.0			3.0					3.0		3.0	
Lane Grp Cap (vph)	397			1821					1337		340	
v/s Ratio Prot	c0.16			0.36							c0.03	
v/s Ratio Perm									c0.39			
v/c Ratio	0.65			0.67					0.72		0.28	
Uniform Delay, d1	25.8			12.5					13.0		31.5	
Progression Factor	1.00			1.00					1.00		1.00	
Incremental Delay, d2	3.9			0.9					1.9		0.4	
Delay (s)	29.7			13.4					14.9		31.9	
Level of Service	C			B					B		C	
Approach Delay (s)	29.7			13.4					14.9		31.9	
Approach LOS	C			B					B		C	
Intersection Summary												
HCM 2000 Control Delay			16.3									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.5						9.0			
Intersection Capacity Utilization			98.0%						F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5		2.5	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.96		1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760		1759	1649		1770	3470		1770	3534	
Flt Permitted		0.95		0.62	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1688		1152	1649		1770	3470		1770	3534	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	200	95	0	34	1389	0	105	1135	0
Confl. Peds. (#/hr)	7		7	7		7			6			4
Confl. Bikes (#/hr)						1						1
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		25.7		25.7	25.7		4.7	56.1		12.5	63.9	
Effective Green, g (s)		27.7		27.7	27.7		6.2	58.1		14.0	65.9	
Actuated g/C Ratio		0.26		0.26	0.26		0.06	0.54		0.13	0.61	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		433		296	423		101	1870		229	2160	
v/s Ratio Prot					0.06		0.02	c0.40		c0.06	0.32	
v/s Ratio Perm		0.06		c0.17								
v/c Ratio		0.24		0.68	0.22		0.34	0.74		0.46	0.53	
Uniform Delay, d1		31.8		36.0	31.6		48.8	19.1		43.4	12.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		6.0	0.3		2.0	1.6		1.5	0.2	
Delay (s)		32.1		42.0	31.9		50.8	20.7		44.8	12.2	
Level of Service		C		D	C		D	C		D	B	
Approach Delay (s)		32.1			38.7			21.5			15.0	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		20.9										
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		107.8										
Intersection Capacity Utilization		72.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5			2.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1780			1772			3481			3508	
Flt Permitted		0.86			0.73			0.94			0.92	
Satd. Flow (perm)		1554			1329			3275			3231	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	218	0	0	205	0	0	1598	0	0	1302	0
Confl. Peds. (#/hr)	16		5	5		16	15		14	14		15
Confl. Bikes (#/hr)			1			1						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.6			15.6			40.4			40.4	
Effective Green, g (s)		17.6			17.6			42.4			42.4	
Actuated g/C Ratio		0.27			0.27			0.65			0.65	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		420			359			2136			2107	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.15			c0.49			0.40	
v/c Ratio		0.52			0.57			0.75			0.62	
Uniform Delay, d1		20.1			20.4			7.7			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			2.2			1.5			0.5	
Delay (s)		21.2			22.6			9.1			7.1	
Level of Service		C			C			A			A	
Approach Delay (s)		21.2			22.6			9.1			7.1	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		10.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		79.5%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

45: El Camino Real & Crystal Springs Rd

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	W		W	↑↑	↑↑	W
Traffic Volume (vph)	257	74	77	1139	1269	201
Future Volume (vph)	257	74	77	1139	1269	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1724		1770	3539	3442	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1724		1770	3539	3442	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	257	74	77	1139	1269	201
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	331	0	77	1139	1470	0
Confl. Peds. (#/hr)		21				11
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	19.4		4.7	49.6	40.4	
Effective Green, g (s)	20.9		6.2	51.1	41.9	
Actuated g/C Ratio	0.27		0.08	0.66	0.54	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	461		140	2318	1848	
v/s Ratio Prot	c0.19		c0.04	0.32	c0.43	
v/s Ratio Perm						
v/c Ratio	0.72		0.55	0.49	0.80	
Uniform Delay, d1	25.9		34.6	6.8	14.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.3		4.6	0.2	2.5	
Delay (s)	31.2		39.2	7.0	17.0	
Level of Service	C		D	A	B	
Approach Delay (s)	31.2			9.0	17.0	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			78.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			75.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: El Camino Real & 2nd Ave

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	276	118	1404	282	74	1208
Future Volume (vph)	276	118	1404	282	74	1208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	0.95	1.00	0.91	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1507	3539	1445	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1507	3539	1445	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	276	118	1404	282	74	1208
RTOR Reduction (vph)	0	87	0	137	0	0
Lane Group Flow (vph)	276	31	1404	145	74	1208
Confl. Peds. (#/hr)	11	50		41		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3		2		
Actuated Green, G (s)	15.2	15.2	31.2	31.2	3.7	39.4
Effective Green, g (s)	16.7	16.7	32.7	32.7	5.2	40.9
Actuated g/C Ratio	0.26	0.26	0.51	0.51	0.08	0.64
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	464	395	1819	742	144	2275
v/s Ratio Prot	c0.16		c0.40		0.04	c0.34
v/s Ratio Perm		0.02		0.10		
v/c Ratio	0.59	0.08	0.77	0.20	0.51	0.53
Uniform Delay, d1	20.5	17.7	12.4	8.3	28.0	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1	2.1	0.1	3.1	0.2
Delay (s)	22.5	17.7	14.5	8.5	31.1	6.4
Level of Service	C	B	B	A	C	A
Approach Delay (s)	21.1		13.5			7.8
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.70			
Actuated Cycle Length (s)			63.6		Sum of lost time (s)	9.0
Intersection Capacity Utilization			73.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	120	192	192	139	116	103	1549	171	78	1295	119
Future Volume (vph)	119	120	192	192	139	116	103	1549	171	78	1295	119
Ideal Flow (vphpl)	1900	1600	1900	1000	1600	1900	1900	2500	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	2.5	2.5	2.5	3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.86	1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.96	1.00	1.00	0.94	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1701	1569	1410	875	1569	1363	1770	6353		1770	4945	
Flt Permitted	0.58	1.00	1.00	0.63	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1047	1569	1410	577	1569	1363	1770	6353		1770	4945	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	119	120	192	192	139	116	103	1549	171	78	1295	119
RTOR Reduction (vph)	0	0	130	0	0	82	0	0	0	0	0	0
Lane Group Flow (vph)	119	120	62	192	139	34	103	1720	0	78	1414	0
Confl. Peds. (#/hr)	45		88	67		114			136			66
Confl. Bikes (#/hr)			2			4			2			3
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	29.6	29.6	29.6	29.6	29.6	29.6	10.6	57.7		7.2	54.3	
Effective Green, g (s)	31.1	31.1	31.1	31.6	31.6	31.6	12.1	59.7		8.7	56.3	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.11	0.55		0.08	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	301	451	406	168	459	398	198	3511		142	2577	
v/s Ratio Prot		0.08			0.09		c0.06	0.27		0.04	c0.29	
v/s Ratio Perm	0.11		0.04	c0.33		0.02						
v/c Ratio	0.40	0.27	0.15	1.14	0.30	0.09	0.52	0.49		0.55	0.55	
Uniform Delay, d1	30.9	29.6	28.6	38.2	29.7	27.7	45.2	14.8		47.8	17.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.3	0.2	113.0	0.4	0.1	2.5	0.5		4.3	0.2	
Delay (s)	31.8	30.0	28.8	151.2	30.0	27.8	47.7	15.3		52.1	17.6	
Level of Service	C	C	C	F	C	C	D	B		D	B	
Approach Delay (s)		29.9			81.5			17.1			19.4	
Approach LOS		C			F			B			B	
Intersection Summary												
HCM 2000 Control Delay			26.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			108.0				Sum of lost time (s)			8.5		
Intersection Capacity Utilization			90.6%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	54	74	62	282	49	92	21	1570	239	189	1530	30
Future Volume (vph)	54	74	62	282	49	92	21	1570	239	189	1530	30
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1000	2500	1900	2500	2500	1900
Total Lost time (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		1.00	0.93	1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		0.99	1.00	0.96	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		949	1469	1708	2112		931	6484		2328	6641	
Flt Permitted		0.84	1.00	0.62	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		816	1469	1122	2112		931	6484		2328	6641	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	74	62	282	49	92	21	1570	239	189	1530	30
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	128	24	282	141	0	21	1809	0	189	1560	0
Confl. Peds. (#/hr)	37		82	45		60			68			74
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		27.5	33.0	27.5	27.5		5.5	42.5		13.1	50.1	
Effective Green, g (s)		29.0	36.0	29.0	29.0		7.0	44.0		14.6	51.6	
Actuated g/C Ratio		0.30	0.37	0.30	0.30		0.07	0.46		0.15	0.53	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		244	593	336	634		67	2953		351	3547	
v/s Ratio Prot			0.00		0.07		0.02	c0.28		c0.08	0.23	
v/s Ratio Perm		0.16	0.01	c0.25								
v/c Ratio		0.52	0.04	0.84	0.22		0.31	0.61		0.54	0.44	
Uniform Delay, d1		28.1	19.3	31.6	25.3		42.5	19.9		37.9	13.7	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.0	0.0	16.6	0.2		11.8	1.0		1.6	0.1	
Delay (s)		30.1	19.3	48.2	25.5		54.3	20.8		39.5	13.8	
Level of Service		C	B	D	C		D	C		D	B	
Approach Delay (s)		26.6		40.6			21.2			16.6		
Approach LOS		C		D			C			B		
Intersection Summary												
HCM 2000 Control Delay			21.5			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.67									
Actuated Cycle Length (s)			96.6			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			97.0%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

49: El Camino Real & Barneson Ave

06/12/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	154	48	44	1861	1532	67
Future Volume (vph)	154	48	44	1861	1532	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.97			1.00	0.99	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1722			5079	5041	
Flt Permitted	0.96			0.86	1.00	
Satd. Flow (perm)	1722			4351	5041	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	154	48	44	1861	1532	67
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	202	0	0	1905	1599	0
Confl. Peds. (#/hr)		33	18			18
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	13.9			43.4	43.4	
Effective Green, g (s)	15.4			44.9	44.9	
Actuated g/C Ratio	0.23			0.68	0.68	
Clearance Time (s)	4.5			4.5	4.5	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	399			2946	3413	
v/s Ratio Prot	c0.12				0.32	
v/s Ratio Perm				c0.44		
v/c Ratio	0.51			0.65	0.47	
Uniform Delay, d1	22.1			6.1	5.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.0			0.5	0.1	
Delay (s)	23.2			6.6	5.2	
Level of Service	C			A	A	
Approach Delay (s)	23.2			6.6	5.2	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			66.3		Sum of lost time (s)	6.0
Intersection Capacity Utilization			92.6%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	1863	1526	1735	1704		1770	4878		1770	5049	
Flt Permitted	0.62	1.00	1.00	0.66	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1131	1863	1526	1213	1704		1770	4878		1770	5049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
RTOR Reduction (vph)	0	0	235	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	104	95	72	195	118	0	256	2046	0	86	1527	0
Confl. Peds. (#/hr)	23		27	25		46			48			25
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	20.5	20.5	20.5	20.5	20.5		18.4	52.7		7.0	41.3	
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0		19.9	54.2		8.5	42.8	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.21	0.58		0.09	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	437	358	284	400		375	2821		160	2306	
v/s Ratio Prot		0.05			0.07		c0.14	c0.42		0.05	0.30	
v/s Ratio Perm	0.09		0.05	c0.16								
v/c Ratio	0.39	0.22	0.20	0.69	0.29		0.68	0.73		0.54	0.66	
Uniform Delay, d1	30.2	28.9	28.8	32.7	29.5		34.0	14.3		40.7	19.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3	0.3	6.7	0.4		5.1	0.9		3.4	0.7	
Delay (s)	31.2	29.2	29.1	39.4	29.9		39.1	15.3		44.2	20.5	
Level of Service	C	C	C	D	C		D	B		D	C	
Approach Delay (s)		29.5			35.8			17.9			21.8	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.7			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			93.7			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			79.0%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98			1.00	0.95	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1605			1813	1500	1770	5062		1770	4955	
Flt Permitted	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1605			1813	1500	1770	5062		1770	4955	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
RTOR Reduction (vph)	0	0	0	0	0	154	0	0	0	0	0	0
Lane Group Flow (vph)	336	327	0	0	159	50	85	1422	0	101	1482	0
Confl. Peds. (#/hr)			24			29			17			26
Confl. Bikes (#/hr)						3						5
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	31.2	31.2			17.2	17.2	11.5	47.7		13.5	49.7	
Effective Green, g (s)	32.7	32.7			18.7	18.7	13.0	49.2		15.0	51.2	
Actuated g/C Ratio	0.26	0.26			0.15	0.15	0.10	0.39		0.12	0.40	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	430	411			265	219	180	1951		208	1988	
v/s Ratio Prot	0.20	c0.20			c0.09		0.05	c0.28		0.06	c0.30	
v/s Ratio Perm						0.03						
v/c Ratio	0.78	0.80			0.60	0.23	0.47	0.73		0.49	0.75	
Uniform Delay, d1	44.1	44.3			51.0	48.1	54.1	33.5		52.7	32.6	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	10.2			3.6	0.5	2.0	1.4		1.8	1.6	
Delay (s)	53.1	54.5			54.6	48.6	56.0	34.9		54.5	34.2	
Level of Service	D	D			D	D	E	C		D	C	
Approach Delay (s)		53.8			51.2			36.1			35.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.0		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			127.6		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			88.0%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.90	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
RTOR Reduction (vph)	0	0	26	0	0	119	0	0	0	0	0	0
Lane Group Flow (vph)	137	193	4	218	226	28	78	1542	0	204	1204	0
Confl. Peds. (#/hr)			19			72			21			70
Confl. Bikes (#/hr)			1			5			1			5
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)	15.9	15.9	15.9	22.3	22.3	22.3	19.4	50.4		16.8	47.8	
Effective Green, g (s)	17.4	17.4	17.4	23.8	23.8	23.8	20.9	51.9		18.3	49.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.19	0.19	0.19	0.17	0.42		0.15	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	248	211	324	334	274	299	2049		262	1975	
v/s Ratio Prot	0.08	c0.11		0.13	c0.13		0.04	c0.32		c0.12	0.24	
v/s Ratio Perm			0.00			0.02						
v/c Ratio	0.58	0.78	0.02	0.67	0.68	0.10	0.26	0.75		0.78	0.61	
Uniform Delay, d1	49.6	51.1	45.7	46.2	46.2	41.0	44.5	30.3		50.6	29.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	14.2	0.0	5.4	5.4	0.2	0.5	1.6		13.6	0.5	
Delay (s)	53.0	65.4	45.7	51.6	51.6	41.2	45.0	31.9		64.2	30.0	
Level of Service	D	E	D	D	D	D	D	C		E	C	
Approach Delay (s)		59.0			49.0			32.5			34.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			38.2			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			123.4			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			89.8%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		0.99			0.96		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.90		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3175			1585		1770	5085		1770	5028	
Flt Permitted		0.81			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2632			1469		1770	5085		1770	5028	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
RTOR Reduction (vph)	0	95	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	8	0	133	1528	0	32	1419	0
Confl. Peds. (#/hr)			29	15		24			39			14
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.3			10.3		10.8	41.7		2.8	33.7	
Effective Green, g (s)		11.8			11.8		12.3	43.2		4.3	35.2	
Actuated g/C Ratio		0.17			0.17		0.18	0.63		0.06	0.52	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		454			253		318	3216		111	2591	
v/s Ratio Prot							c0.08	0.30		0.02	c0.28	
v/s Ratio Perm		c0.07			0.01							
v/c Ratio		0.41			0.03		0.42	0.48		0.29	0.55	
Uniform Delay, d1		25.1			23.5		24.8	6.6		30.5	11.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.1		0.9	0.1		1.4	0.2	
Delay (s)		25.8			23.5		25.7	6.7		32.0	11.4	
Level of Service		C			C		C	A		C	B	
Approach Delay (s)		25.8			23.5			8.2			11.9	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			68.3				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			66.0%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	NWR
Lane Configurations												
Traffic Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Future Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.91	1.00	0.86		1.00
Frpb, ped/bikes	1.00	1.00	0.88		0.98		1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85		0.96		1.00	1.00	1.00	0.98		1.00
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00	0.95	1.00		1.00
Satd. Flow (prot)	1681	1694	1400		3289		1770	5085	1770	6194		1863
Flt Permitted	0.95	0.96	1.00		0.79		0.95	1.00	0.95	1.00		1.00
Satd. Flow (perm)	1681	1694	1400		2658		1770	5085	1770	6194		1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	145	144	209	0	166	0	135	1075	106	1665	0	410
Confl. Peds. (#/hr)			63			34					51	
Confl. Bikes (#/hr)			1			6					7	
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA	Prot	NA		Prot
Protected Phases	3	3			4		5	2!	1	6		2!
Permitted Phases			3	4								
Actuated Green, G (s)	25.9	25.9	25.9		13.7		15.1	51.0	10.7	46.6		51.0
Effective Green, g (s)	27.4	27.4	27.4		15.2		16.6	52.5	12.2	48.1		52.5
Actuated g/C Ratio	0.23	0.23	0.23		0.13		0.14	0.44	0.10	0.40		0.44
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	386	389	321		338		246	2237	181	2497		819
v/s Ratio Prot	0.09	0.09					0.08	0.21	0.06	c0.27		c0.22
v/s Ratio Perm			c0.15		c0.06							
v/c Ratio	0.38	0.37	0.65		0.49		0.55	0.48	0.59	0.67		0.50
Uniform Delay, d1	38.7	38.7	41.6		48.5		47.9	23.7	51.1	29.1		24.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.6	0.6	4.7		1.1		2.5	0.2	4.8	0.7		0.5
Delay (s)	39.4	39.3	46.3		49.6		50.4	23.9	55.9	29.7		24.5
Level of Service	D	D	D		D		D	C	E	C		C
Approach Delay (s)		42.2			49.6			26.8		31.3		
Approach LOS		D			D			C		C		
Intersection Summary												
HCM 2000 Control Delay			31.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			119.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.4%				ICU Level of Service			E		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020



Movement	NWR2
Lane Configurations	LT
Traffic Volume (vph)	98
Future Volume (vph)	98
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	98
RTOR Reduction (vph)	54
Lane Group Flow (vph)	44
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	51.0
Effective Green, g (s)	52.5
Actuated g/C Ratio	0.44
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	696
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.06
Uniform Delay, d1	19.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	19.3
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

55: El Camino Real NB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 		 		 			
Traffic Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Future Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	2200	2200	1900	2200	2200	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Util. Factor		0.91			*1.00	1.00	0.95	*1.00	1.00			
Frpb, ped/bikes		1.00			1.00	0.59	1.00	1.00	1.00			
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00			
Frt		1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (prot)		5033			4314	1275	1681	2089	2157			
Flt Permitted		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (perm)		5033			4314	1275	1681	2089	2157			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	180	689	0	0	693	262	133	28	319	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	184	0	0	291	0	0	0
Lane Group Flow (vph)	0	869	0	0	693	78	80	81	28	0	0	0
Confl. Peds. (#/hr)						105						
Confl. Bikes (#/hr)						4						
Turn Type	Split	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	5			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)		63.5			34.1	34.1	8.9	8.9	8.9			
Effective Green, g (s)		65.0			35.6	35.6	10.4	10.4	10.4			
Actuated g/C Ratio		0.54			0.30	0.30	0.09	0.09	0.09			
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		2726			1279	378	145	181	186			
v/s Ratio Prot		c0.17			c0.16		c0.05	0.04				
v/s Ratio Perm						0.06			0.01			
v/c Ratio		0.32			0.54	0.21	0.55	0.45	0.15			
Uniform Delay, d1		15.2			35.4	31.6	52.6	52.1	50.7			
Progression Factor		0.04			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		0.2			1.7	1.2	4.5	1.8	0.4			
Delay (s)		0.9			37.0	32.8	57.0	53.8	51.1			
Level of Service		A			D	C	E	D	D			
Approach Delay (s)		0.9			35.9			52.5			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		26.1			HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)				13.5			
Intersection Capacity Utilization		51.3%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

56: El Camino Real SB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  					  	  	  
Traffic Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Future Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Ideal Flow (vphpl)	1900	1300	1900	1300	1300	1300	1900	1900	1900	1300	1400	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00					1.00	1.00	0.95
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (prot)		3479	1351		3413					1150	1279	1501
Flt Permitted		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (perm)		3479	1351		3413					1150	1279	1501
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	637	145	321	504	0	0	0	0	256	114	144
RTOR Reduction (vph)	0	0	71	0	0	0	0	0	0	0	0	103
Lane Group Flow (vph)	0	637	74	0	825	0	0	0	0	182	188	41
Confl. Peds. (#/hr)			49									26
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm	Split	NA					Split	NA	Perm
Protected Phases		2		1	1					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		28.5	28.5		45.5					32.5	32.5	32.5
Effective Green, g (s)		30.0	30.0		47.0					34.0	34.0	34.0
Actuated g/C Ratio		0.25	0.25		0.39					0.28	0.28	0.28
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		869	337		1336					325	362	425
v/s Ratio Prot		c0.18			c0.24					c0.16	0.15	
v/s Ratio Perm			0.05									0.03
v/c Ratio		0.73	0.22		0.62					0.56	0.52	0.10
Uniform Delay, d1		41.3	35.7		29.3					36.6	36.1	31.7
Progression Factor		1.00	1.00		0.19					1.00	1.00	1.00
Incremental Delay, d2		5.4	1.5		1.8					2.2	1.3	0.1
Delay (s)		46.8	37.2		7.3					38.8	37.4	31.8
Level of Service		D	D		A					D	D	C
Approach Delay (s)		45.0			7.3			0.0			36.3	
Approach LOS		D			A			A			D	
Intersection Summary												
HCM 2000 Control Delay		28.2			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.66										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		70.8%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

57: El Camino Real & 41st Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		W	TT	TTT	
Traffic Volume (vph)	103	54	30	1361	1427	107
Future Volume (vph)	103	54	30	1361	1427	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00	0.95	0.91	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.95		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	3286		1770	3539	5016	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	3286		1770	3539	5016	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	103	54	30	1361	1427	107
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	157	0	30	1361	1534	0
Confl. Peds. (#/hr)		27				19
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	8.6		1.9	42.8	36.4	
Effective Green, g (s)	10.1		3.4	44.3	37.9	
Actuated g/C Ratio	0.17		0.06	0.73	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	549		99	2595	3147	
v/s Ratio Prot	c0.05		0.02	c0.38	0.31	
v/s Ratio Perm						
v/c Ratio	0.29		0.30	0.52	0.49	
Uniform Delay, d1	22.0		27.4	3.5	6.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		1.7	0.2	0.1	
Delay (s)	22.3		29.1	3.7	6.2	
Level of Service	C		C	A	A	
Approach Delay (s)	22.3			4.2	6.2	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			60.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			60.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
RTOR Reduction (vph)	0	0	19	0	0	185	0	0	88	0	0	0
Lane Group Flow (vph)	77	147	3	111	161	34	42	1147	77	260	1210	0
Confl. Peds. (#/hr)			16			2			3			15
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.3	15.3	15.3	17.3	17.3	17.3	4.1	45.7	45.7	23.2	64.8	
Effective Green, g (s)	16.8	16.8	16.8	18.8	18.8	18.8	5.6	47.2	47.2	24.7	66.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.16	0.16	0.16	0.05	0.39	0.39	0.21	0.55	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	247	212	264	277	245	82	1397	615	365	2781	
v/s Ratio Prot	0.05	c0.08		0.07	c0.09		0.02	c0.32		c0.15	0.24	
v/s Ratio Perm			0.00			0.02			0.05			
v/c Ratio	0.33	0.60	0.01	0.42	0.58	0.14	0.51	0.82	0.12	0.71	0.44	
Uniform Delay, d1	46.3	48.2	44.2	45.4	46.7	43.4	55.6	32.4	23.0	44.1	15.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.8	0.0	1.1	3.1	0.3	5.3	4.0	0.1	6.4	0.1	
Delay (s)	47.1	52.0	44.2	46.5	49.8	43.7	60.9	36.4	23.1	50.5	15.7	
Level of Service	D	D	D	D	D	D	E	D	C	D	B	
Approach Delay (s)		49.7			46.3			35.5			21.9	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			32.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			119.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			75.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		0.97		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	1.00		1.00	0.94	
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1544		1722		1770	1859		1770	1727	
Flt Permitted	0.95	0.95	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1544		1485		1770	1859		1770	1727	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	234	1	329	5	7	4	311	451	3	2	267	169
RTOR Reduction (vph)	0	0	273	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	118	56	0	16	0	311	454	0	2	436	0
Confl. Peds. (#/hr)			2			74			38			38
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	13.4	13.4	13.4		2.3		21.5	53.4		0.7	32.6	
Effective Green, g (s)	14.9	14.9	14.9		3.8		23.0	54.9		2.2	34.1	
Actuated g/C Ratio	0.17	0.17	0.17		0.04		0.26	0.63		0.03	0.39	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	285	286	262		64		463	1162		44	670	
v/s Ratio Prot	0.07	c0.07					c0.18	0.24		0.00	c0.25	
v/s Ratio Perm			0.04		c0.01							
v/c Ratio	0.41	0.41	0.21		0.25		0.67	0.39		0.05	0.65	
Uniform Delay, d1	32.5	32.5	31.4		40.6		29.0	8.2		41.8	22.0	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.0	0.4		2.1		3.8	0.2		0.4	2.3	
Delay (s)	33.5	33.5	31.8		42.7		32.8	8.4		42.2	24.2	
Level of Service	C	C	C		D		C	A		D	C	
Approach Delay (s)		32.5			42.7			18.3			24.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			87.8				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			71.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

60: Alameda De Las Pulgas & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1551		1775	1551	1770	3431		1770	3532	
Flt Permitted		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1796	1551		1775	1551	1770	3431		1770	3532	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	30	11	59	1	172	13	544	118	347	714	8
RTOR Reduction (vph)	0	0	10	0	0	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	116	1	0	60	21	13	662	0	347	722	0
Confl. Peds. (#/hr)			9			9			11			7
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)		8.6	8.6		8.2	8.2	0.8	24.8		19.5	43.5	
Effective Green, g (s)		10.1	10.1		9.7	9.7	2.3	26.3		21.0	45.0	
Actuated g/C Ratio		0.13	0.13		0.12	0.12	0.03	0.33		0.27	0.57	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		229	198		217	190	51	1140		469	2009	
v/s Ratio Prot		c0.06			c0.03		0.01	c0.19		c0.20	0.20	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.51	0.01		0.28	0.11	0.25	0.58		0.74	0.36	
Uniform Delay, d1		32.2	30.1		31.5	30.9	37.6	21.8		26.6	9.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0		0.7	0.3	2.6	0.8		6.0	0.1	
Delay (s)		33.9	30.1		32.2	31.1	40.2	22.6		32.6	9.3	
Level of Service		C	C		C	C	D	C		C	A	
Approach Delay (s)		33.6			31.4			22.9			16.9	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.4									
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			79.1									
Intersection Capacity Utilization			63.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔↔	↑↑	↑↑		↔	↔↔
Traffic Volume (vph)	195	929	562	51	103	437
Future Volume (vph)	195	929	562	51	103	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	2.5	2.5		2.5	2.5
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	3491		1770	2713
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	3491		1770	2713
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	929	562	51	103	437
RTOR Reduction (vph)	0	0	0	0	0	335
Lane Group Flow (vph)	195	929	613	0	103	102
Confl. Peds. (#/hr)				3		3
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	8.4	27.6	14.7		8.6	8.6
Effective Green, g (s)	9.9	29.6	16.7		10.6	10.6
Actuated g/C Ratio	0.22	0.65	0.37		0.23	0.23
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	751	2317	1289		415	636
v/s Ratio Prot	0.06	c0.26	c0.18		c0.06	
v/s Ratio Perm						0.04
v/c Ratio	0.26	0.40	0.48		0.25	0.16
Uniform Delay, d1	14.6	3.7	10.9		14.1	13.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.1	0.3		0.3	0.1
Delay (s)	14.8	3.8	11.2		14.4	13.9
Level of Service	B	A	B		B	B
Approach Delay (s)		5.7	11.2		14.0	
Approach LOS		A	B		B	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.40			
Actuated Cycle Length (s)			45.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			39.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

62: Bayshore Blvd & Peninsula Ave

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	646	350	215	833	246	72
Future Volume (vph)	646	350	215	833	246	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3318		1770	3539	1770	1555
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3318		1770	3539	1770	1555
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	646	350	215	833	246	72
RTOR Reduction (vph)	0	0	0	0	0	53
Lane Group Flow (vph)	996	0	215	833	246	19
Confl. Peds. (#/hr)		4				3
Confl. Bikes (#/hr)		4				3
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	18.2		9.7	32.4	12.6	12.6
Effective Green, g (s)	19.7		11.2	33.9	14.1	14.1
Actuated g/C Ratio	0.36		0.21	0.63	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1210		367	2221	462	406
v/s Ratio Prot	c0.30		c0.12	0.24	c0.14	
v/s Ratio Perm						0.01
v/c Ratio	0.82		0.59	0.38	0.53	0.05
Uniform Delay, d1	15.6		19.3	4.9	17.1	14.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7		2.4	0.1	1.2	0.0
Delay (s)	20.2		21.7	5.0	18.3	15.0
Level of Service	C		C	A	B	B
Approach Delay (s)	20.2			8.4	17.5	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			14.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.67			
Actuated Cycle Length (s)			54.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			64.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

63: Peninsula Ave/Coyote Point Dr & Airport Blvd

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←	↑
Traffic Volume (vph)	648	64	91	39	35	1136
Future Volume (vph)	648	64	91	39	35	1136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1863	1863	1540	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1863	1863	1540	1770	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	648	64	91	39	35	1136
RTOR Reduction (vph)	0	0	0	34	0	0
Lane Group Flow (vph)	648	64	91	5	35	1136
Confl. Peds. (#/hr)				19		21
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases				8		
Actuated Green, G (s)	16.1	28.0	7.4	7.4	34.8	55.4
Effective Green, g (s)	17.6	29.5	8.9	8.9	36.3	56.9
Actuated g/C Ratio	0.25	0.41	0.12	0.12	0.51	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	841	765	230	190	894	1254
v/s Ratio Prot	0.19	0.03	c0.05		0.02	c0.72
v/s Ratio Perm				0.00		
v/c Ratio	0.77	0.08	0.40	0.03	0.04	0.91
Uniform Delay, d1	25.2	12.9	29.0	27.6	9.0	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.0	1.1	0.1	0.0	9.5
Delay (s)	29.6	13.0	30.1	27.7	9.0	15.0
Level of Service	C	B	C	C	A	B
Approach Delay (s)		28.1	29.4		14.8	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			71.8		Sum of lost time (s)	9.0
Intersection Capacity Utilization			91.7%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

64: Airport Blvd & US 101 NB

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	514	578	103	486	53
Future Volume (vph)	44	514	578	103	486	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (prot)	1770	1583	1681	1710	3482	
Flt Permitted	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (perm)	1770	1583	1681	1710	3482	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	514	578	103	486	53
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	44	514	335	346	539	0
Confl. Bikes (#/hr)		4				4
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	4 1	1	1	2	
Permitted Phases						
Actuated Green, G (s)	17.4	44.0	22.1	22.1	16.7	
Effective Green, g (s)	18.9	45.5	23.6	23.6	18.2	
Actuated g/C Ratio	0.27	0.65	0.34	0.34	0.26	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	479	1033	569	578	909	
v/s Ratio Prot	0.02	c0.32	0.20	c0.20	c0.15	
v/s Ratio Perm						
v/c Ratio	0.09	0.50	0.59	0.60	0.59	
Uniform Delay, d1	19.0	6.2	19.0	19.1	22.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.4	1.6	1.7	1.0	
Delay (s)	19.1	6.6	20.6	20.8	23.6	
Level of Service	B	A	C	C	C	
Approach Delay (s)	7.6			20.7	23.6	
Approach LOS	A			C	C	

Intersection Summary

HCM 2000 Control Delay	17.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	69.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		25.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		0.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

66: Claremont St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	53	483	76	32	300	13	56	78	31	52	66	58
Future Volume (vph)	53	483	76	32	300	13	56	78	31	52	66	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	53	483	76	32	300	13	56	78	31	52	66	58
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	612	345	165	176								
Volume Left (vph)	53	32	56	52								
Volume Right (vph)	76	13	31	58								
Hadj (s)	-0.02	0.03	-0.01	-0.10								
Departure Headway (s)	5.9	6.4	7.3	7.2								
Degree Utilization, x	1.00	0.61	0.34	0.35								
Capacity (veh/h)	610	546	458	474								
Control Delay (s)	59.9	19.0	14.0	14.0								
Approach Delay (s)	59.9	19.0	14.0	14.0								
Approach LOS	F	C	B	B								
Intersection Summary												
Delay				37.0								
Level of Service				E								
Intersection Capacity Utilization				62.8%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1413	13	0	0	0	0	84	115	243	108	0
Future Volume (vph)	24	1413	13	0	0	0	0	84	115	243	108	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.98			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.92			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		2227						890			1800	
Flt Permitted		1.00						1.00			0.61	
Satd. Flow (perm)		2227						890			1142	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	1413	13	0	0	0	0	84	115	243	108	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	21	0	0	0	0
Lane Group Flow (vph)	0	1449	0	0	0	0	0	178	0	0	351	0
Confl. Peds. (#/hr)	17		32						11			
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4								6			
Actuated Green, G (s)		41.5						23.8			23.8	
Effective Green, g (s)		42.0						24.3			24.3	
Actuated g/C Ratio		0.57						0.33			0.33	
Clearance Time (s)		4.5						4.5			4.5	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1258						291			373	
v/s Ratio Prot								0.20				
v/s Ratio Perm		0.65									c0.31	
v/c Ratio		1.15						0.61			0.94	
Uniform Delay, d1		16.1						21.0			24.3	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		77.9						3.8			31.7	
Delay (s)		94.0						24.8			56.0	
Level of Service		F						C			E	
Approach Delay (s)		94.0			0.0			24.8			56.0	
Approach LOS		F			A			C			E	
Intersection Summary												
HCM 2000 Control Delay		80.5						HCM 2000 Level of Service		F		
HCM 2000 Volume to Capacity ratio		1.07										
Actuated Cycle Length (s)		74.3						Sum of lost time (s)		8.0		
Intersection Capacity Utilization		115.2%						ICU Level of Service		H		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	328	13	109	233	132	13	155	253	95	90	48
Future Volume (vph)	57	328	13	109	233	132	13	155	253	95	90	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.98		1.00	0.96		1.00	0.98	
Flpb, ped/bikes		1.00		0.99	1.00		0.98	1.00		0.99	1.00	
Frt		1.00		1.00	0.95		1.00	0.91		1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1835		1761	1719		1726	1628		1744	1722	
Flt Permitted		0.91		0.53	1.00		0.67	1.00		0.41	1.00	
Satd. Flow (perm)		1676		981	1719		1215	1628		759	1722	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	57	328	13	109	233	132	13	155	253	95	90	48
RTOR Reduction (vph)	0	2	0	0	30	0	0	110	0	0	31	0
Lane Group Flow (vph)	0	396	0	109	335	0	13	298	0	95	107	0
Confl. Peds. (#/hr)	19		40	10		46	30		37	27		49
Confl. Bikes (#/hr)			1			2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.5		14.5	14.5		12.6	12.6		12.6	12.6	
Effective Green, g (s)		15.0		15.0	15.0		13.1	13.1		13.1	13.1	
Actuated g/C Ratio		0.42		0.42	0.42		0.36	0.36		0.36	0.36	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		696		407	714		440	590		275	624	
v/s Ratio Prot					0.19			c0.18			0.06	
v/s Ratio Perm		c0.24		0.11			0.01			0.13		
v/c Ratio		0.57		0.27	0.47		0.03	0.50		0.35	0.17	
Uniform Delay, d1		8.1		6.9	7.7		7.4	9.0		8.4	7.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1		0.4	0.5		0.0	0.7		0.8	0.1	
Delay (s)		9.2		7.3	8.1		7.4	9.7		9.1	7.9	
Level of Service		A		A	A		A	A		A	A	
Approach Delay (s)		9.2			7.9			9.6			8.4	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.8			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		36.1			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		87.2%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↔↔		↔↔		↑↑↑	↔		↑↑↑	
Traffic Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0		4.0	
Lane Util. Factor				0.97		0.88		0.91	1.00		0.91	
Frpb, ped/bikes				1.00		0.98		1.00	0.96		0.98	
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	
Frt				1.00		0.85		1.00	0.85		0.96	
Flt Protected				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (prot)				3433		2728		5085	1525		4774	
Flt Permitted				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (perm)				3433		2728		5085	1525		4774	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	108	0	52	0
Lane Group Flow (vph)	0	0	0	392	0	718	0	1601	167	0	2013	0
Confl. Peds. (#/hr)						10			10			13
Turn Type				Prot		Perm		NA	Perm		NA	
Protected Phases				3				2			6	
Permitted Phases						3			2			
Actuated Green, G (s)				36.8		36.8		69.2	69.2		69.2	
Effective Green, g (s)				37.3		37.3		69.7	69.7		69.7	
Actuated g/C Ratio				0.32		0.32		0.61	0.61		0.61	
Clearance Time (s)				4.5		4.5		4.5	4.5		4.5	
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)				1113		884		3081	924		2893	
v/s Ratio Prot				0.11				0.31			c0.42	
v/s Ratio Perm						c0.26			0.11			
v/c Ratio				0.35		0.81		0.52	0.18		0.70	
Uniform Delay, d1				29.6		35.6		13.0	10.0		15.4	
Progression Factor				1.00		1.00		1.00	1.00		1.00	
Incremental Delay, d2				0.2		5.7		0.6	0.4		1.4	
Delay (s)				29.8		41.4		13.7	10.4		16.8	
Level of Service				C		D		B	B		B	
Approach Delay (s)		0.0			37.3			13.2			16.8	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.0									
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			115.0						8.0			
Intersection Capacity Utilization			63.8%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		0.88					0.91			0.91	1.00
Flpb, ped/bikes	1.00		0.96					0.98			1.00	0.95
Flpb, ped/bikes	1.00		1.00					1.00			1.00	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		2673					4806			5085	1508
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		2673					4806			5085	1508
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	77
Lane Group Flow (vph)	346	0	201	0	0	0	0	2052	0	0	1493	307
Confl. Peds. (#/hr)			14						9			14
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			7									6
Actuated Green, G (s)	19.6		19.6					111.4			111.4	111.4
Effective Green, g (s)	20.1		20.1					111.9			111.9	111.9
Actuated g/C Ratio	0.14		0.14					0.80			0.80	0.80
Clearance Time (s)	4.5		4.5					4.5			4.5	4.5
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	492		383					3841			4064	1205
v/s Ratio Prot	c0.10							c0.43			0.29	
v/s Ratio Perm			0.08									0.20
v/c Ratio	0.70		0.52					0.53			0.37	0.25
Uniform Delay, d1	57.1		55.5					4.9			4.0	3.5
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.5		1.3					0.5			0.3	0.5
Delay (s)	61.6		56.8					5.5			4.2	4.1
Level of Service	E		E					A			A	A
Approach Delay (s)		59.9			0.0			5.5			4.2	
Approach LOS		E			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.6					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			140.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			58.1%					ICU Level of Service			B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

72: Delaware St & Sunnybrae Blvd

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	15	487	95	17	369
Future Volume (Veh/h)	26	15	487	95	17	369
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	15	487	95	17	369
Pedestrians	15		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	954	550			597	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	954	550			597	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	97			98	
cM capacity (veh/h)	278	527			966	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	26	15	582	386		
Volume Left	26	0	0	17		
Volume Right	0	15	95	0		
cSH	278	527	1700	966		
Volume to Capacity	0.09	0.03	0.34	0.02		
Queue Length 95th (ft)	8	2	0	1		
Control Delay (s)	19.3	12.0	0.0	0.6		
Lane LOS	C	B		A		
Approach Delay (s)	16.6		0.0	0.6		
Approach LOS	C					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			43.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

73: Delaware St & 16th Ave

06/12/2020

																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations																	
Sign Control	Stop				Stop			Stop			Stop						
Traffic Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15					
Future Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Hourly flow rate (vph)	16	30	213	21	23	13	161	551	16	14	364	15					
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2										
Volume Total (vph)	16	243	57	161	567	14	379										
Volume Left (vph)	16	0	21	161	0	14	0										
Volume Right (vph)	0	213	13	0	16	0	15										
Hadj (s)	0.53	-0.58	-0.03	0.53	0.01	0.53	0.01										
Departure Headway (s)	8.1	7.0	8.1	6.9	6.4	7.3	6.8										
Degree Utilization, x	0.04	0.47	0.13	0.31	1.00	0.03	0.71										
Capacity (veh/h)	431	503	415	511	567	481	521										
Control Delay (s)	10.2	14.9	12.2	11.7	61.7	9.3	23.8										
Approach Delay (s)	14.6		12.2	50.7		23.3											
Approach LOS	B		B	F		C											
Intersection Summary																	
Delay			35.1														
Level of Service			E														
Intersection Capacity Utilization			65.2%		ICU Level of Service		C										
Analysis Period (min)			15														

HCM Signalized Intersection Capacity Analysis

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.94			0.97		1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes		0.99			1.00		0.98	1.00	1.00	0.99	1.00	
Frt		0.91			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1563			1672		1741	1863	1492	1749	1857	
Flt Permitted		0.92			0.78		0.39	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1464			1347		722	1863	1492	710	1857	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	0	11	50	0	20	4	654	68	37	629	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	70	0	4	654	68	37	637	0
Confl. Peds. (#/hr)	10		17	1		27	16		18	17		26
Confl. Bikes (#/hr)			3			7			8			3
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		9.1			9.1		81.9	81.9	81.9	81.9	81.9	
Effective Green, g (s)		9.6			9.6		82.4	82.4	82.4	82.4	82.4	
Actuated g/C Ratio		0.10			0.10		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		140			129		594	1535	1229	585	1530	
v/s Ratio Prot								c0.35				0.34
v/s Ratio Perm		0.01			c0.05		0.01		0.05	0.05		
v/c Ratio		0.12			0.54		0.01	0.43	0.06	0.06	0.42	
Uniform Delay, d1		41.3			43.1		1.6	2.4	1.6	1.6	2.4	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			4.6		0.0	0.9	0.1	0.2	0.8	
Delay (s)		41.7			47.7		1.6	3.3	1.7	1.8	3.2	
Level of Service		D			D		A	A	A	A	A	
Approach Delay (s)		41.7			47.7			3.1			3.1	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay		5.7										
HCM 2000 Volume to Capacity ratio		0.44										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		55.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		0.97			1.00	0.94		0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.98			1.00	0.85		0.97			1.00	
Flt Protected		0.97			0.95	1.00		1.00			1.00	
Satd. Flow (prot)		1709			1775	1486		3366			3507	
Flt Permitted		0.97			0.95	1.00		0.95			0.84	
Satd. Flow (perm)		1709			1775	1486		3214			2940	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	12	2	3	238	4	56	1	863	238	37	479	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	242	56	0	1102	0	0	527	0
Confl. Peds. (#/hr)			30			13	14		29	13		14
Confl. Bikes (#/hr)			14			7			11			6
Turn Type	Split	NA		Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		1.6			18.6	18.6		46.3			46.3	
Effective Green, g (s)		2.1			19.1	19.1		46.8			46.8	
Actuated g/C Ratio		0.03			0.24	0.24		0.58			0.58	
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		44			423	354		1880			1719	
v/s Ratio Prot		c0.01			c0.14							
v/s Ratio Perm						0.04		c0.34			0.18	
v/c Ratio		0.39			0.57	0.16		0.59			0.31	
Uniform Delay, d1		38.3			26.8	24.1		10.5			8.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		5.6			1.9	0.2		1.3			0.5	
Delay (s)		43.9			28.7	24.3		11.8			8.9	
Level of Service		D			C	C		B			A	
Approach Delay (s)		43.9			27.9			11.8			8.9	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM 2000 Control Delay		13.8										
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		65.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

76: Ginnever St & Bermuda Dr

06/12/2020

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Sign Control	Stop			Stop			Stop			Stop								
Traffic Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Future Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Hourly flow rate (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2												
Volume Total (vph)	248	33	58	23	104	256												
Volume Left (vph)	186	0	0	6	84	0												
Volume Right (vph)	4	0	58	0	0	256												
Hadj (s)	0.17	0.03	-0.67	0.09	0.44	-0.67												
Departure Headway (s)	5.7	5.8	5.1	6.0	5.9	4.8												
Degree Utilization, x	0.39	0.05	0.08	0.04	0.17	0.34												
Capacity (veh/h)	600	571	647	548	578	713												
Control Delay (s)	12.4	8.0	7.4	9.3	8.9	9.1												
Approach Delay (s)	12.4	7.6		9.3	9.1													
Approach LOS	B	A		A	A													
Intersection Summary																		
Delay	10.0																	
Level of Service	B																	
Intersection Capacity Utilization	44.0%			ICU Level of Service			A											
Analysis Period (min)	15																	

HCM Signalized Intersection Capacity Analysis

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.87		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.96	
Satd. Flow (prot)	1770	1851		1770	1832			1763	1373		1758	
Flt Permitted	0.42	1.00		0.19	1.00			0.69	1.00		0.74	
Satd. Flow (perm)	784	1851		345	1832			1283	1373		1351	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	756	24	17	395	40	36	0	30	130	8	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	4	780	0	17	435	0	0	36	30	0	152	0
Confl. Peds. (#/hr)			15	13			2		13			2
Confl. Bikes (#/hr)			4			13			4			13
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	68.9	68.9		68.9	68.9			42.1	42.1		42.1	
Effective Green, g (s)	69.4	69.4		69.4	69.4			42.6	42.6		42.6	
Actuated g/C Ratio	0.58	0.58		0.58	0.58			0.36	0.36		0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	453	1070		199	1059			455	487		479	
v/s Ratio Prot		c0.42			0.24							
v/s Ratio Perm	0.01			0.05				0.03	0.02		c0.11	
v/c Ratio	0.01	0.73		0.09	0.41			0.08	0.06		0.32	
Uniform Delay, d1	10.7	18.4		11.2	14.0			25.7	25.5		28.1	
Progression Factor	1.00	1.00		0.88	0.74			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.5		0.2	0.3			0.3	0.2		1.7	
Delay (s)	10.7	21.0		10.0	10.6			26.0	25.8		29.9	
Level of Service	B	C		B	B			C	C		C	
Approach Delay (s)		20.9			10.6			25.9			29.9	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		18.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		77.1%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

88: Humboldt St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	244	64	5	0	21	10	4	32	0	19	47	139
Future Volume (vph)	244	64	5	0	21	10	4	32	0	19	47	139
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	244	64	5	0	21	10	4	32	0	19	47	139
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	313	31	36	205								
Volume Left (vph)	244	0	4	19								
Volume Right (vph)	5	10	0	139								
Hadj (s)	0.18	-0.16	0.06	-0.35								
Departure Headway (s)	4.7	4.7	5.1	4.4								
Degree Utilization, x	0.41	0.04	0.05	0.25								
Capacity (veh/h)	732	701	648	753								
Control Delay (s)	10.9	7.9	8.3	8.9								
Approach Delay (s)	10.9	7.9	8.3	8.9								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay				9.9								
Level of Service				A								
Intersection Capacity Utilization				46.2%	ICU Level of Service	A						
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 							
Traffic Volume (vph)	0	0	0	64	884	264	11	83	0	0	271	34
Future Volume (vph)	0	0	0	64	884	264	11	83	0	0	271	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	2500	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.92		1.00			0.99	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.98	
Flt Protected					1.00	1.00		0.99			1.00	
Satd. Flow (prot)					1849	1457		973			2397	
Flt Permitted					1.00	1.00		0.94			1.00	
Satd. Flow (perm)					1849	1457		925			2397	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	64	884	264	11	83	0	0	271	34
RTOR Reduction (vph)	0	0	0	0	0	95	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	948	169	0	94	0	0	298	0
Confl. Peds. (#/hr)				38		36	25					51
Confl. Bikes (#/hr)						3						3
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					37.3	37.3		12.8			12.8	
Effective Green, g (s)					37.8	37.8		13.3			13.3	
Actuated g/C Ratio					0.64	0.64		0.23			0.23	
Clearance Time (s)					4.5	4.5		4.5			4.5	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1182	931		208			539	
v/s Ratio Prot											c0.12	
v/s Ratio Perm					0.51	0.12		0.10				
v/c Ratio					0.80	0.18		0.45			0.55	
Uniform Delay, d1					7.9	4.3		19.8			20.3	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					4.0	0.1		1.6			1.2	
Delay (s)					11.9	4.4		21.3			21.5	
Level of Service					B	A		C			C	
Approach Delay (s)		0.0			10.3			21.3			21.5	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			13.0		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			59.1		Sum of lost time (s)						8.0	
Intersection Capacity Utilization			82.5%		ICU Level of Service						E	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

113: US 101 SB

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Volume (vph)	584	0	0	0	0	0
Future Volume (vph)	584	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					
Lane Util. Factor	0.95					
Frt	1.00					
Flt Protected	1.00					
Satd. Flow (prot)	3539					
Flt Permitted	1.00					
Satd. Flow (perm)	3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	584	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	584	0	0	0	0	0
Turn Type	NA					Perm
Protected Phases	4					
Permitted Phases						2
Actuated Green, G (s)	1.0					
Effective Green, g (s)	19.0					
Actuated g/C Ratio	0.67					
Clearance Time (s)	22.0					
Lane Grp Cap (vph)	2359					
v/s Ratio Prot	c0.17					
v/s Ratio Perm						
v/c Ratio	0.25					
Uniform Delay, d1	1.9					
Progression Factor	1.00					
Incremental Delay, d2	0.3					
Delay (s)	2.1					
Level of Service	A					
Approach Delay (s)	2.1			0.0	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay			2.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.21			
Actuated Cycle Length (s)			28.5		Sum of lost time (s)	6.0
Intersection Capacity Utilization			19.5%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

Intersection has too many legs for HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Ideal Flow (vphpl)	1900	1270	1900	1900	1900	1900	1900	1100	1100	1900	1300	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.95	
Flt Protected		1.00			1.00			0.97	1.00		0.98	
Satd. Flow (prot)		2346			3516			1044	890		1170	
Flt Permitted		0.95			0.95			0.83	1.00		0.88	
Satd. Flow (perm)		2238			3342			897	890		1054	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	25	0	9	0
Lane Group Flow (vph)	0	1049	0	0	866	0	0	58	19	0	22	0
Confl. Peds. (#/hr)	14		12	12		14	4		24	24		4
Confl. Bikes (#/hr)			1			1			1			
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		31.1			31.1			10.9	10.9		10.9	
Effective Green, g (s)		31.6			31.6			11.4	11.4		11.4	
Actuated g/C Ratio		0.62			0.62			0.22	0.22		0.22	
Clearance Time (s)		4.5			4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1386			2070			200	198		235	
v/s Ratio Prot												
v/s Ratio Perm		c0.47			0.26			c0.06	0.02		0.02	
v/c Ratio		0.76			0.42			0.29	0.10		0.10	
Uniform Delay, d1		6.9			5.0			16.4	15.7		15.7	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.9			0.6			0.8	0.2		0.2	
Delay (s)		10.8			5.6			17.2	15.9		15.9	
Level of Service		B			A			B	B		B	
Approach Delay (s)		10.8			5.6			16.7			15.9	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		51.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		73.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

188: Hillsdale EB Off-Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	902			317		
pX, platoon unblocked						
vC, conflicting volume				0	0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol				0	0	0
tC, single (s)				4.1	6.8	6.9
tC, 2 stage (s)						
tF (s)				2.2	3.5	3.3
p0 queue free %				100	100	100
cM capacity (veh/h)				1622	1023	1084
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	135	87	51	554	39	42	134	36	18	140	34
Future Volume (vph)	10	135	87	51	554	39	42	134	36	18	140	34
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1900	2500	1900	1900	1000	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.92			0.99			0.96			0.98	
Flpb, ped/bikes		1.00			0.99			1.00			0.99	
Frt		0.95			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		855			4505			2264			929	
Flt Permitted		0.97			0.91			0.91			0.96	
Satd. Flow (perm)		830			4117			2083			899	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	135	87	51	554	39	42	134	36	18	140	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	232	0	0	644	0	0	212	0	0	192	0
Confl. Peds. (#/hr)	44		77	54		80	23		90	36		67
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.5			38.5			26.5			26.5	
Effective Green, g (s)		42.0			42.0			30.0			30.0	
Actuated g/C Ratio		0.52			0.52			0.38			0.38	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		435			2161			781			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.16			0.10			c0.21	
v/c Ratio		0.53			0.30			0.27			0.57	
Uniform Delay, d1		12.5			10.7			17.4			19.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.6			0.4			0.2			6.8	
Delay (s)		17.2			11.1			17.6			26.7	
Level of Service		B			B			B			C	
Approach Delay (s)		17.2			11.1			17.6			26.7	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay		15.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		71.8%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: Saratoga Dr & Hillsdale EB Off-Ramp

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Future Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes		1.00	0.93	1.00		0.98		1.00			1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00			1.00	
Frt		1.00	0.85	1.00		0.85		1.00			1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00			0.99	
Satd. Flow (prot)		1810	1479	1770		1557		3518			3492	
Flt Permitted		0.97	1.00	0.75		1.00		1.00			0.54	
Satd. Flow (perm)		1810	1479	1390		1557		3518			1919	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	7	7	9	0	75	0	380	10	109	293	0
RTOR Reduction (vph)	0	0	5	0	0	55	0	2	0	0	0	0
Lane Group Flow (vph)	0	17	2	9	0	20	0	388	0	0	402	0
Confl. Peds. (#/hr)			18			3			30			
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		2						8			4 1	
Permitted Phases	2		2	2		2			4 1			
Actuated Green, G (s)		36.2	36.2	36.2		36.2		24.5			61.0	
Effective Green, g (s)		37.0	37.0	37.0		37.0		25.2			62.6	
Actuated g/C Ratio		0.26	0.26	0.26		0.26		0.18			0.45	
Clearance Time (s)		4.8	4.8	4.8		4.8		4.7				
Vehicle Extension (s)		6.0	6.0	6.0		6.0		4.0				
Lane Grp Cap (vph)		478	390	367		411		633			858	
v/s Ratio Prot								c0.11				
v/s Ratio Perm		0.01	0.00	0.01		c0.01					c0.21	
v/c Ratio		0.04	0.00	0.02		0.05		0.61			0.47	
Uniform Delay, d1		38.2	37.9	38.1		38.4		52.9			27.1	
Progression Factor		1.00	1.00	1.00		1.00		1.00			0.38	
Incremental Delay, d2		0.1	0.0	0.1		0.2		2.0			0.8	
Delay (s)		38.4	38.0	38.3		38.6		54.9			11.1	
Level of Service		D	D	D		D		D			B	
Approach Delay (s)		38.3			38.6			54.9			11.1	
Approach LOS		D			D			D			B	
Intersection Summary												
HCM 2000 Control Delay			33.4									
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			140.0								18.1	
Intersection Capacity Utilization			75.3%								D	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	164	74	130	132	85	106	1842	237	96	1539	101
Future Volume (vph)	59	164	74	130	132	85	106	1842	237	96	1539	101
Ideal Flow (vphpl)	2000	2500	1900	2500	2500	1900	1900	1350	1900	2500	2500	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.96	1.00		0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1791	2271		2241	2251		1770	3478		2328	6562	
Flt Permitted	0.38	1.00		0.33	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	716	2271		768	2251		1770	3478		2328	6562	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	59	164	74	130	132	85	106	1842	237	96	1539	101
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	238	0	130	217	0	106	2079	0	96	1640	0
Confl. Peds. (#/hr)	72		90	69		51			69			72
Confl. Bikes (#/hr)			3			8			4			7
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	12.6	12.6		12.6	12.6		8.5	46.2		7.2	44.9	
Effective Green, g (s)	13.1	13.1		13.1	13.1		9.0	46.7		7.7	45.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.11	0.59		0.10	0.57	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	117	374		126	370		200	2043		225	3747	
v/s Ratio Prot		0.10			0.10		c0.06	c0.60		0.04	0.25	
v/s Ratio Perm	0.08			c0.17								
v/c Ratio	0.50	0.64		1.03	0.59		0.53	1.02		0.43	0.44	
Uniform Delay, d1	30.2	31.0		33.2	30.7		33.3	16.4		33.8	9.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	3.5		88.9	2.4		2.7	24.4		1.3	0.4	
Delay (s)	33.6	34.5		122.1	33.1		35.9	40.8		35.1	10.1	
Level of Service	C	C		F	C		D	D		D	B	
Approach Delay (s)		34.3			66.4			40.6			11.5	
Approach LOS		C			E			D			B	
Intersection Summary												
HCM 2000 Control Delay			31.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.97									
Actuated Cycle Length (s)			79.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			103.8%				ICU Level of Service			G		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	715	33	7	116	23	7	148	51	155	121	27
Future Volume (vph)	25	715	33	7	116	23	7	148	51	155	121	27
Ideal Flow (vphpl)	1900	1100	2500	1900	1000	1900	1000	1000	1000	1900	1000	1900
Lane Width	10	10	10	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.98			0.97			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.98	
Frt		0.99			0.98			0.97			0.99	
Flt Protected		1.00			1.00			1.00			0.98	
Satd. Flow (prot)		1887			938			918			922	
Flt Permitted		0.94			0.96			0.99			0.75	
Satd. Flow (perm)		1780			900			908			707	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	715	33	7	116	23	7	148	51	155	121	27
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	773	0	0	146	0	0	206	0	0	303	0
Confl. Peds. (#/hr)	6		41	36		42	5		72	36		11
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.5			29.5			35.5			35.5	
Effective Green, g (s)		31.0			31.0			37.0			37.0	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		689			348			419			326	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.16			0.23			c0.43	
v/c Ratio		1.12			0.42			0.49			0.93	
Uniform Delay, d1		24.5			17.9			15.0			20.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		72.9			0.8			4.1			34.7	
Delay (s)		97.4			18.7			19.0			55.0	
Level of Service		F			B			B			E	
Approach Delay (s)		97.4			18.7			19.0			55.0	
Approach LOS		F			B			B			E	
Intersection Summary												
HCM 2000 Control Delay		69.1			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.02										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		115.4%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

217: Claremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	55	325	28	36	253	23	16	153	33	41	130	24
Future Volume (vph)	55	325	28	36	253	23	16	153	33	41	130	24
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Hourly flow rate (vph)	71	417	36	45	316	29	23	219	47	51	163	30
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	524	390	289	244								
Volume Left (vph)	71	45	23	51								
Volume Right (vph)	36	29	47	30								
Hadj (s)	0.02	0.01	-0.05	0.00								
Departure Headway (s)	7.4	7.6	8.0	8.3								
Degree Utilization, x	1.08	0.82	0.65	0.56								
Capacity (veh/h)	478	462	424	399								
Control Delay (s)	91.9	37.1	24.5	21.4								
Approach Delay (s)	91.9	37.1	24.5	21.4								
Approach LOS	F	E	C	C								
Intersection Summary												
Delay				51.8								
Level of Service				F								
Intersection Capacity Utilization				58.0%	ICU Level of Service				B			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	47	9	1	15	66	6	292	7	32	236	80
Future Volume (vph)	152	47	9	1	15	66	6	292	7	32	236	80
Ideal Flow (vphpl)	1900	1300	1900	1900	1800	1900	1900	1450	1900	1900	2500	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.91			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.89			1.00			0.97	
Flt Protected		0.96			1.00			1.00			1.00	
Satd. Flow (prot)		1220			1434			1414			2338	
Flt Permitted		0.96			1.00			1.00			1.00	
Satd. Flow (perm)		1220			1434			1414			2338	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	47	9	1	15	66	6	292	7	32	236	80
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	208	0	0	82	0	0	305	0	0	348	0
Confl. Peds. (#/hr)	6		6	9		9	6		9	9		6
Confl. Bikes (#/hr)						1						
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.7			2.0			2.0	
Effective Green, g (s)		2.0			0.7			2.0			2.0	
Actuated g/C Ratio		0.11			0.04			0.11			0.11	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		130			53			151			250	
v/s Ratio Prot		c0.17			c0.06			c0.22			c0.15	
v/s Ratio Perm												
v/c Ratio		1.60			1.55			2.02			1.39	
Uniform Delay, d1		8.3			9.0			8.3			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		302.9			320.1			481.4			199.1	
Delay (s)		311.3			329.1			489.8			207.4	
Level of Service		F			F			F			F	
Approach Delay (s)		311.3			329.1			489.8			207.4	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay		332.2										
HCM 2000 Volume to Capacity ratio		1.65										
Actuated Cycle Length (s)		18.7										
Intersection Capacity Utilization		56.9%										
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

223: Saratoga Dr & Poinsettia Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Future Volume (Veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	118	4	5	1	2	24	5	260	3	38	232	34
Pedestrians		8			28			5			8	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											297	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	506	634	262	636	650	168	274			291		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	418	557	152	560	574	168	165			291		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	99	99	100	99	97	100			97		
cM capacity (veh/h)	431	374	786	342	366	818	1286			1234		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	127	27	135	133	304							
Volume Left	118	1	5	0	38							
Volume Right	5	24	0	3	34							
cSH	436	716	1286	1700	1234							
Volume to Capacity	0.29	0.04	0.00	0.08	0.03							
Queue Length 95th (ft)	30	3	0	0	2							
Control Delay (s)	16.6	10.2	0.3	0.0	1.3							
Lane LOS	C	B	A		A							
Approach Delay (s)	16.6	10.2	0.2		1.3							
Approach LOS	C	B										
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			51.2%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

226: El Camino Real & 9th Ave

06/12/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	142	1989	173	150	1673
Future Volume (vph)	146	142	1989	173	150	1673
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	0.95	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1507	5005		1770	5085
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1507	5005		1770	5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	142	1989	173	150	1673
RTOR Reduction (vph)	0	118	9	0	0	0
Lane Group Flow (vph)	146	24	2153	0	150	1673
Confl. Peds. (#/hr)	2	21		15		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	10.9	10.9	31.8		10.9	47.2
Effective Green, g (s)	11.4	11.4	32.3		11.4	47.7
Actuated g/C Ratio	0.17	0.17	0.48		0.17	0.71
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	300	256	2409		300	3614
v/s Ratio Prot	c0.08		c0.43		0.08	c0.33
v/s Ratio Perm		0.02				
v/c Ratio	0.49	0.09	0.89		0.50	0.46
Uniform Delay, d1	25.2	23.5	15.8		25.3	4.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.2	4.7		1.3	0.1
Delay (s)	26.4	23.7	20.6		26.6	4.3
Level of Service	C	C	C		C	A
Approach Delay (s)	25.1		20.6			6.1
Approach LOS	C		C			A
Intersection Summary						
HCM 2000 Control Delay			14.7		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.73			
Actuated Cycle Length (s)			67.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			68.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

228: 5th Ave & Ellsworth Ave

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	325	234	31	36	137
Future Volume (Veh/h)	51	325	234	31	36	137
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	51	325	234	31	36	137
Pedestrians		36	22		36	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	2		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		366	310			
pX, platoon unblocked					0.99	
vC, conflicting volume	301				734	322
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	301				728	322
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				90	80
cM capacity (veh/h)	1217				351	671
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	376	265	173			
Volume Left	51	0	36			
Volume Right	0	31	137			
cSH	1217	1700	564			
Volume to Capacity	0.04	0.16	0.31			
Queue Length 95th (ft)	3	0	32			
Control Delay (s)	1.5	0.0	14.2			
Lane LOS	A		B			
Approach Delay (s)	1.5	0.0	14.2			
Approach LOS			B			
Intersection Summary						
Average Delay			3.7			
Intersection Capacity Utilization			57.6%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

229: 5th Ave & Idaho St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				0.0%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

231: Fremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	110	149	5	0	103	29	13	92	3	15	77	47
Future Volume (vph)	110	149	5	0	103	29	13	92	3	15	77	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	110	149	5	0	103	29	13	92	3	15	77	47
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	264	132	108	139								
Volume Left (vph)	110	0	13	15								
Volume Right (vph)	5	29	3	47								
Hadj (s)	0.11	-0.10	0.04	-0.15								
Departure Headway (s)	4.8	4.8	5.1	4.9								
Degree Utilization, x	0.35	0.18	0.15	0.19								
Capacity (veh/h)	706	697	641	671								
Control Delay (s)	10.4	8.8	9.1	9.0								
Approach Delay (s)	10.4	8.8	9.1	9.0								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay				9.6								
Level of Service				A								
Intersection Capacity Utilization				45.0%	ICU Level of Service	A						
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

237: US 101 SB Off Diag & Idaho St

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↩			↩
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)		382				
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	WB 1	SB 1				
Volume Total	0	0				
Volume Left	0	0				
Volume Right	0	0				
cSH	1700	1700				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS		A				
Approach Delay (s)	0.0	0.0				
Approach LOS		A				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

HCM Signalized Intersection Capacity Analysis

245: US 101 NB On Diag

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations		↰	↰					↰
Traffic Volume (vph)	0	0	657	0	0	0	0	572
Future Volume (vph)	0	0	657	0	0	0	0	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0					4.0
Lane Util. Factor			1.00					1.00
Frt			1.00					0.86
Flt Protected			1.00					1.00
Satd. Flow (prot)			1863					1611
Flt Permitted			1.00					1.00
Satd. Flow (perm)			1863					1611
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	657	0	0	0	0	572
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	657	0	0	0	0	572
Turn Type		Perm	NA					Perm
Protected Phases			2					
Permitted Phases		4						3
Actuated Green, G (s)			1.0					1.0
Effective Green, g (s)			1.0					1.0
Actuated g/C Ratio			0.06					0.06
Clearance Time (s)			4.0					4.0
Lane Grp Cap (vph)			120					103
v/s Ratio Prot			c0.35					
v/s Ratio Perm								c0.35
v/c Ratio			5.47					5.55
Uniform Delay, d1			7.2					7.2
Progression Factor			1.00					1.00
Incremental Delay, d2			2031.9					2070.1
Delay (s)			2039.2					2077.4
Level of Service			F					F
Approach Delay (s)	0.0		2039.2			0.0	2077.4	
Approach LOS	A		F			A	F	
Intersection Summary								
HCM 2000 Control Delay			2057.0			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.99					
Actuated Cycle Length (s)			15.5			Sum of lost time (s)		10.0
Intersection Capacity Utilization			83.3%			ICU Level of Service		E
Analysis Period (min)			15					
c Critical Lane Group								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

251:

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	298
Future Volume (vph)	0	0	0	0	0	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0
Lane Util. Factor						1.00
Frt						1.00
Flt Protected						1.00
Satd. Flow (prot)						1863
Flt Permitted						1.00
Satd. Flow (perm)						1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	298
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	298
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Actuated Green, G (s)						1.1
Effective Green, g (s)						1.5
Actuated g/C Ratio						0.14
Clearance Time (s)						4.4
Lane Grp Cap (vph)						254
v/s Ratio Prot						c0.16
v/s Ratio Perm						
v/c Ratio						1.17
Uniform Delay, d1						4.8
Progression Factor						1.00
Incremental Delay, d2						111.5
Delay (s)						116.3
Level of Service						F
Approach Delay (s)	0.0		0.0			116.3
Approach LOS	A		A			F
Intersection Summary						
HCM 2000 Control Delay			116.3		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			11.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			58.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

255: Norfolk St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Future Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	2	163	41	39	2	78	164	117	2	137	21
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	167	82	359	160								
Volume Left (vph)	2	41	78	2								
Volume Right (vph)	163	2	117	21								
Hadj (s)	-0.55	0.12	-0.12	-0.04								
Departure Headway (s)	4.7	5.5	4.6	5.0								
Degree Utilization, x	0.22	0.13	0.46	0.22								
Capacity (veh/h)	681	576	743	672								
Control Delay (s)	9.1	9.3	11.6	9.4								
Approach Delay (s)	9.1	9.3	11.6	9.4								
Approach LOS	A	A	B	A								
Intersection Summary												
Delay				10.3								
Level of Service				B								
Intersection Capacity Utilization				60.3%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	784	250	68	592	11	344	0	4	11	47	29
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1422	636	154	1512	28	687	0	303	21	89	55
Arrive On Green	0.06	0.40	0.40	0.09	0.43	0.43	0.19	0.00	0.19	0.10	0.10	0.10
Sat Flow, veh/h	1774	3539	1582	1774	3554	66	3548	0	1566	220	938	579
Grp Volume(v), veh/h	32	784	250	68	295	308	344	0	4	87	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1850	1774	0	1566	1737	0	0
Q Serve(g_s), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.13		0.33
Lane Grp Cap(c), veh/h	112	1422	636	154	753	787	687	0	303	166	0	0
V/C Ratio(X)	0.29	0.55	0.39	0.44	0.39	0.39	0.50	0.00	0.01	0.53	0.00	0.00
Avail Cap(c_a), veh/h	214	2657	1188	263	1378	1440	2072	0	914	258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	12.4	11.5	23.4	10.7	10.7	19.4	0.0	17.6	23.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.4	2.0	0.3	0.3	0.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	2.7	1.0	3.0	3.2	2.3	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	25.5	12.7	11.9	25.3	11.0	11.0	20.0	0.0	17.6	25.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h	1066				671				348			87
Approach Delay, s/veh	12.9				12.5				20.0			25.8
Approach LOS	B				B				B			C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.4		7.7	24.7	8.1		6.4	26.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	30.0		6.5	39.0	6.5		5.0	40.5				
Max Q Clear Time (g_c+l1), s	6.7		4.0	11.2	4.6		2.9	8.2				
Green Ext Time (p_c), s	1.2		0.0	7.2	0.1		0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	14.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	561	275	464	342	7	129	12	48	12	222	49
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1089	458	677	1474	30	284	52	207	307	499	108
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1774	3725	1567	3442	3547	72	1774	322	1290	1774	2886	624
Grp Volume(v), veh/h	63	561	275	464	170	179	129	0	60	12	134	137
Grp Sat Flow(s),veh/h/ln	1774	1863	1567	1721	1770	1849	1774	0	1612	1774	1770	1740
Q Serve(g_s), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Cycle Q Clear(g_c), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	131	1089	458	677	735	769	284	0	258	307	306	301
V/C Ratio(X)	0.48	0.51	0.60	0.69	0.23	0.23	0.45	0.00	0.23	0.04	0.44	0.45
Avail Cap(c_a), veh/h	604	2042	859	1173	970	1014	972	0	884	815	813	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	19.9	20.5	25.2	12.8	12.8	25.7	0.0	24.7	23.2	25.0	25.1
Incr Delay (d2), s/veh	2.7	0.4	1.3	1.2	0.2	0.2	1.1	0.0	0.5	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.4	4.5	4.1	2.1	2.2	2.3	0.0	1.0	0.2	2.3	2.4
LnGrp Delay(d),s/veh	32.8	20.3	21.8	26.4	12.9	12.9	26.8	0.0	25.2	23.3	26.0	26.1
LnGrp LOS	C	C	C	C	B	B	C		C	C	C	C
Approach Vol, veh/h		899			813			189			283	
Approach Delay, s/veh		21.6			20.6			26.3			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.8	16.3	22.7		14.7	8.0	31.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		6.4	10.4	12.2		6.8	4.3	6.2				
Green Ext Time (p_c), s		1.1	1.3	5.0		1.6	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	530	384	239	293	16	160	116	148	70	447	109
Adj No. of Lanes	1	2	1	2	2	0	1	1	2	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1144	505	400	1179	64	232	640	1069	124	796	193
Arrive On Green	0.09	0.32	0.32	0.12	0.35	0.35	0.13	0.34	0.34	0.07	0.28	0.28
Sat Flow, veh/h	1774	3539	1563	3442	3410	185	1774	1863	3109	1774	2817	681
Grp Volume(v), veh/h	104	530	384	239	151	158	160	116	148	70	279	277
Grp Sat Flow(s),veh/h/ln	1774	1770	1563	1721	1770	1826	1774	1863	1554	1774	1770	1729
Q Serve(g_s), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Cycle Q Clear(g_c), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	166	1144	505	400	612	631	232	640	1069	124	500	489
V/C Ratio(X)	0.63	0.46	0.76	0.60	0.25	0.25	0.69	0.18	0.14	0.57	0.56	0.57
Avail Cap(c_a), veh/h	478	1388	613	928	694	716	631	799	1334	631	759	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	22.0	24.8	34.2	19.1	19.1	33.9	18.7	18.4	36.8	24.9	25.0
Incr Delay (d2), s/veh	3.8	0.3	4.5	1.4	0.2	0.2	3.6	0.1	0.1	4.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.8	8.3	2.6	2.5	2.6	3.7	1.9	1.2	1.7	5.5	5.4
LnGrp Delay(d),s/veh	39.4	22.3	29.3	35.7	19.3	19.3	37.5	18.9	18.5	40.8	25.9	26.0
LnGrp LOS	D	C	C	D	B	B	D	B	B	D	C	C
Approach Vol, veh/h	1018				548		424				626	
Approach Delay, s/veh	26.7				26.4		25.8				27.6	
Approach LOS	C				C		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	7.7	31.0	12.5	29.4	13.7	26.1	10.7	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.5	33.5	20.5	30.5	27.5	33.5	20.5	30.5				
Max Q Clear Time (g_c+1.5I), s	15.6	5.6	7.4	20.0	9.0	13.1	6.6	7.0				
Green Ext Time (p_c), s	0.1	1.2	0.6	3.7	0.4	3.4	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	26.7											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	1310	681	64	740	50	317	83	70	186	109	37
Future Volume (veh/h)	233	1310	681	64	740	50	317	83	70	186	109	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1471	1471	1569	1863	1471	1900	1275	1863	1900	1900	1275	1863
Adj Flow Rate, veh/h	233	1310	405	64	740	50	317	83	70	186	109	9
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1217	566	104	1297	87	417	164	138	179	105	348
Arrive On Green	0.16	0.44	0.44	0.06	0.34	0.34	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	1401	2794	1299	1774	3839	258	2355	926	781	779	457	1511
Grp Volume(v), veh/h	233	1310	405	64	515	275	317	0	153	295	0	9
Grp Sat Flow(s),veh/h/ln	1401	1397	1299	1774	1338	1421	1177	0	1707	1236	0	1511
Q Serve(g_s), s	19.0	53.0	31.1	4.3	19.2	19.4	15.6	0.0	9.9	28.0	0.0	0.6
Cycle Q Clear(g_c), s	19.0	53.0	31.1	4.3	19.2	19.4	15.6	0.0	9.9	28.0	0.0	0.6
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.46	0.63		1.00
Lane Grp Cap(c), veh/h	219	1217	566	104	904	480	417	0	303	284	0	348
V/C Ratio(X)	1.07	1.08	0.72	0.62	0.57	0.57	0.76	0.00	0.51	1.04	0.00	0.03
Avail Cap(c_a), veh/h	219	1217	566	219	1078	572	522	0	379	284	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	34.3	28.2	56.0	33.0	33.1	47.6	0.0	45.2	46.8	0.0	36.3
Incr Delay (d2), s/veh	79.3	49.0	4.3	5.8	0.6	1.1	5.0	0.0	1.3	63.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	28.6	11.8	2.3	7.1	7.7	5.4	0.0	4.7	14.5	0.0	0.2
LnGrp Delay(d),s/veh	130.6	83.4	32.5	61.8	33.6	34.2	52.6	0.0	46.5	110.3	0.0	36.3
LnGrp LOS	F	F	C	E	C	C	D		D	F		D
Approach Vol, veh/h	1948			854			470			304		
Approach Delay, s/veh	78.4			35.9			50.6			108.1		
Approach LOS	E			D			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	10.1	56.0		31.0	22.0	44.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	13.5	51.5		26.5	17.5	47.5				
Max Q Clear Time (g_c+I1), s		17.6	6.3	55.0		30.0	21.0	21.4				
Green Ext Time (p_c), s		1.4	0.1	0.0		0.0	0.0	5.6				
Intersection Summary												
HCM 2010 Ctrl Delay	67.1											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1667	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	677	628	133	691	588	258	325	272	298	384	326
Arrive On Green	0.11	0.41	0.41	0.08	0.37	0.00	0.15	0.18	0.18	0.17	0.21	0.00
Sat Flow, veh/h	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Grp Volume(v), veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Grp Sat Flow(s),veh/h/ln	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Q Serve(g_s), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Cycle Q Clear(g_c), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	677	628	133	691	588	258	325	272	298	384	326
V/C Ratio(X)	0.79	0.97	0.10	0.89	0.54	0.00	0.82	0.43	0.63	0.83	0.46	0.00
Avail Cap(c_a), veh/h	244	677	628	133	691	588	468	467	390	601	631	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	27.8	17.6	44.0	23.7	0.0	39.8	34.7	36.4	38.6	33.4	0.0
Incr Delay (d2), s/veh	13.1	26.5	0.1	45.7	0.8	0.0	6.3	0.9	2.4	6.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	21.9	1.0	4.8	7.9	0.0	5.8	3.3	4.4	6.8	4.1	0.0
LnGrp Delay(d),s/veh	54.7	54.3	17.7	89.7	24.5	0.0	46.0	35.6	38.8	44.7	34.2	0.0
LnGrp LOS	D	D	B	F	C		D	D	D	D	C	
Approach Vol, veh/h		872			489			522			423	
Approach Delay, s/veh		51.8			40.2			40.9			40.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.1	21.6	11.2	43.0	18.0	23.8	14.6	39.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	32.0	24.8	6.7	38.5	24.8	32.0	12.7	32.5				
Max Q Clear Time (g_c+11.5), s	11.5	12.3	8.3	38.9	13.1	9.9	10.2	17.0				
Green Ext Time (p_c), s	0.6	1.5	0.0	0.0	0.4	0.9	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.8									
HCM 2010 LOS			D									

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	7	670	151	196	808	107	66	27	154	95	129	12
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1187	267	298	1021	843	165	68	246	227	247	20
Arrive On Green	0.04	0.42	0.42	0.17	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	2844	640	1774	1863	1537	326	275	995	538	998	82
Grp Volume(v), veh/h	7	417	404	196	808	107	247	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1863	1537	1596	0	0	1618	0	0
Q Serve(g_s), s	0.2	9.7	9.7	5.6	18.6	1.8	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.7	9.7	5.6	18.6	1.8	6.8	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.27		0.62	0.40		0.05
Lane Grp Cap(c), veh/h	66	739	716	298	1021	843	480	0	0	494	0	0
V/C Ratio(X)	0.11	0.56	0.57	0.66	0.79	0.13	0.52	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	214	1252	1213	672	1799	1484	729	0	0	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	11.9	12.0	21.0	9.7	5.9	17.8	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.7	2.5	1.4	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	4.6	2.9	9.8	0.8	3.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	25.8	12.6	12.7	23.4	11.1	6.0	18.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	A	B			B		
Approach Vol, veh/h		828			1111			247			236	
Approach Delay, s/veh		12.8			12.8			18.7			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	12.0	25.5		16.3	5.0	32.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	18.9	36.6		21.0	5.0	50.5				
Max Q Clear Time (g_c+I1), s		8.8	7.6	11.7		8.4	2.2	20.6				
Green Ext Time (p_c), s		1.2	0.4	5.8		1.1	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.98	0.98		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	56	276	39	80	433	100	49	255	13	195	157	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	734	104	457	675	156	517	810	41	479	597	213
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	868	1588	224	1050	1459	337	1100	1751	89	1048	1291	460
Grp Volume(v), veh/h	56	0	315	80	0	533	49	0	268	195	0	213
Grp Sat Flow(s),veh/h/ln	868	0	1812	1050	0	1796	1100	0	1840	1048	0	1751
Q Serve(g_s), s	4.2	0.0	9.0	4.3	0.0	18.1	2.3	0.0	7.3	11.5	0.0	6.0
Cycle Q Clear(g_c), s	22.4	0.0	9.0	13.3	0.0	18.1	8.2	0.0	7.3	18.8	0.0	6.0
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
V/C Ratio(X)	0.19	0.00	0.38	0.18	0.00	0.64	0.09	0.00	0.31	0.41	0.00	0.26
Avail Cap(c_a), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	14.0	18.3	0.0	16.4	15.7	0.0	13.5	19.5	0.0	13.2
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.8	0.0	3.8	0.4	0.0	1.0	2.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.8	1.4	0.0	9.8	0.7	0.0	4.0	3.6	0.0	3.0
LnGrp Delay(d),s/veh	26.4	0.0	15.3	19.2	0.0	20.2	16.0	0.0	14.5	22.0	0.0	13.9
LnGrp LOS	C		B	B		C	B		B	C		B
Approach Vol, veh/h	371				613				317		408	
Approach Delay, s/veh	17.0				20.1				14.7		17.8	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+I1), s	10.2		24.4		20.8		20.1					
Green Ext Time (p_c), s	1.9		1.7		1.9		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	1698	11	0	0	0	0	71	332	411	348	0
Future Volume (veh/h)	28	1698	11	0	0	0	0	71	332	411	348	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1176	1900				0	980	1863	1863	980	0
Adj Flow Rate, veh/h	29	1769	11				0	180	145	395	408	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	834	1548	10				0	118	183	568	314	0
Arrive On Green	0.47	0.47	0.47				0.00	0.12	0.12	0.32	0.32	0.00
Sat Flow, veh/h	1774	3293	20				0	980	1523	1774	980	0
Grp Volume(v), veh/h	29	1150	630				0	180	145	395	408	0
Grp Sat Flow(s),veh/h/ln	1774	1071	1172				0	980	1523	1774	980	0
Q Serve(g_s), s	0.9	47.0	47.0				0.0	12.0	9.3	19.5	32.0	0.0
Cycle Q Clear(g_c), s	0.9	47.0	47.0				0.0	12.0	9.3	19.5	32.0	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	834	1006	551				0	118	183	568	314	0
V/C Ratio(X)	0.03	1.14	1.14				0.00	1.53	0.79	0.70	1.30	0.00
Avail Cap(c_a), veh/h	834	1006	551				0	118	183	568	314	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	26.5	26.5				0.0	44.0	42.8	29.7	34.0	0.0
Incr Delay (d2), s/veh	0.0	76.4	84.4				0.0	276.6	28.9	3.7	156.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	24.5	28.1				0.0	12.3	5.4	10.1	22.3	0.0
LnGrp Delay(d),s/veh	14.3	102.9	110.9				0.0	320.6	71.7	33.4	190.7	0.0
LnGrp LOS	B	F	F					F	E	C	F	
Approach Vol, veh/h		1809						325			803	
Approach Delay, s/veh		104.2						209.5			113.3	
Approach LOS		F						F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		50.0		35.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		10.5		45.5		30.5						
Max Q Clear Time (g_c+l1), s		14.0		49.0		34.0						
Green Ext Time (p_c), s		0.0		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			118.4									
HCM 2010 LOS			F									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	95	116	188	160	272	55	226	254	10	21	129	30
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	478	407	234	909	180	423	444	357	338	275	64
Arrive On Green	0.09	0.27	0.27	0.13	0.31	0.31	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	1774	1770	1505	1774	2906	575	1774	1863	1497	1774	1441	335
Grp Volume(v), veh/h	95	116	188	160	163	164	226	254	10	21	0	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1505	1774	1770	1711	1774	1863	1497	1774	0	1776
Q Serve(g_s), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Cycle Q Clear(g_c), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	159	478	407	234	554	535	423	444	357	338	0	338
V/C Ratio(X)	0.60	0.24	0.46	0.68	0.29	0.31	0.53	0.57	0.03	0.06	0.00	0.47
Avail Cap(c_a), veh/h	297	660	561	312	675	653	612	642	516	612	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.6	29.4	18.5	18.5	23.6	23.9	20.8	23.6	0.0	25.6
Incr Delay (d2), s/veh	3.6	0.3	0.8	3.8	0.3	0.3	1.1	1.2	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.8	3.2	3.2	2.4	2.5	4.0	4.5	0.2	0.3	0.0	2.9
LnGrp Delay(d),s/veh	34.7	20.5	22.4	33.2	18.8	18.9	24.7	25.0	20.8	23.6	0.0	26.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		399			487			490			180	
Approach Delay, s/veh		24.8			23.6			24.8			26.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	12.4	22.2		16.5	9.4	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.0	11.0	25.0		23.0	10.4	25.6				
Max Q Clear Time (g_c+I1), s		10.5	8.1	9.4		7.7	5.7	7.2				
Green Ext Time (p_c), s		1.8	0.1	1.7		0.8	0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	66	0	0	0	0				43	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	683	132	206	412	0				506	0	63
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916	699	255	1164	0				1279	0	497
Arrive On Green	0.00	0.77	0.77	0.14	0.55	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	1863	1529	1774	1863	0				3548	0	1534
Grp Volume(v), veh/h	0	683	132	206	412	0				506	0	63
Grp Sat Flow(s),veh/h/ln	0	1863	1529	1774	1863	0				1774	0	1534
Q Serve(g_s), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Cycle Q Clear(g_c), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916	699	255	1164	0				1279	0	497
V/C Ratio(X)	0.00	0.75	0.19	0.81	0.35	0.00				0.40	0.00	0.13
Avail Cap(c_a), veh/h	0	916	752	340	1319	0				1403	0	607
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	1.0	3.3	49.8	11.0	0.0				31.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	2.2	0.1	10.1	0.2	0.0				0.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	145.0	0.0	0.0	0.0	0.0				13.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	38.0	0.5	7.4	6.6	0.0				12.1	0.0	1.5
LnGrp Delay(d),s/veh	0.0	148.2	3.4	59.9	11.2	0.0				45.6	0.0	29.2
LnGrp LOS		F	A	E	B					D		C
Approach Vol, veh/h		815			618						569	
Approach Delay, s/veh		124.7			27.4						43.8	
Approach LOS		F			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	49.3		50.5		69.5				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			21.5	57.5		27.5		83.5				
Max Q Clear Time (g_c+I1), s			15.5	39.8		14.1		17.2				
Green Ext Time (p_c), s			0.3	5.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			71.7									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	92	22	0	0	0				20	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	1863	0				980	1078	0
Adj Flow Rate, veh/h	0	1076	57	0	1000	0				402	391	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	1275	350	0	2306	0				430	489	0
Arrive On Green	0.00	0.62	0.62	0.00	0.62	0.00				0.33	0.32	0.00
Sat Flow, veh/h	0	2353	566	0	3725	0				1307	1833	0
Grp Volume(v), veh/h	0	1076	57	0	1000	0				402	391	0
Grp Sat Flow(s),veh/h/ln	0	686	566	0	1863	0				654	755	0
Q Serve(g_s), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Cycle Q Clear(g_c), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1275	350	0	2306	0				430	489	0
V/C Ratio(X)	0.00	0.84	0.16	0.00	0.43	0.00				0.94	0.80	0.00
Avail Cap(c_a), veh/h	0	1275	350	0	2306	0				430	489	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	11.9	0.0	10.4	0.0				35.2	32.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	0.6	0.0				28.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	189.8	33.9	0.0	0.0	0.0				138.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.6	6.8	0.0	7.7	0.0				16.2	5.8	0.0
LnGrp Delay(d),s/veh	0.0	210.5	45.9	0.0	11.0	0.0				202.0	41.6	0.0
LnGrp LOS		F	D		B					F	D	
Approach Vol, veh/h		1133			1000						793	
Approach Delay, s/veh		202.2			11.0						122.9	
Approach LOS		F			B						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.0		37.0		68.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		63.5		32.5		63.5						
Max Q Clear Time (g_c+I1), s		45.8		33.3		16.7						
Green Ext Time (p_c), s		7.0		0.0		8.4						
Intersection Summary												
HCM 2010 Ctrl Delay				115.4								
HCM 2010 LOS				F								

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	563	150	94	655	28	149	94	64	48	113	11
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1385	367	454	896	38	424	234	518	216	436	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	752	2737	726	723	1771	76	811	684	1511	293	1272	107
Grp Volume(v), veh/h	16	363	350	94	0	683	243	0	64	172	0	0
Grp Sat Flow(s),veh/h/ln	752	1770	1693	723	0	1846	1494	0	1511	1672	0	0
Q Serve(g_s), s	0.7	5.1	5.1	3.7	0.0	11.5	1.8	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	5.1	5.1	8.8	0.0	11.5	4.5	0.0	1.2	2.7	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.04	0.61		1.00	0.28		0.06
Lane Grp Cap(c), veh/h	344	896	857	454	0	934	659	0	518	689	0	0
V/C Ratio(X)	0.05	0.41	0.41	0.21	0.00	0.73	0.37	0.00	0.12	0.25	0.00	0.00
Avail Cap(c_a), veh/h	550	1381	1321	653	0	1440	992	0	875	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.1	6.1	8.8	0.0	7.7	9.9	0.0	9.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.2	0.0	1.1	0.3	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.4	0.8	0.0	6.0	2.1	0.0	0.5	1.4	0.0	0.0
LnGrp Delay(d),s/veh	12.5	6.4	6.4	9.1	0.0	8.8	10.3	0.0	9.1	9.7	0.0	0.0
LnGrp LOS	B	A	A	A		A	B		A	A		
Approach Vol, veh/h		729			777			307			172	
Approach Delay, s/veh		6.5			8.8			10.0			9.7	
Approach LOS		A			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		23.1		16.6		23.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		21.5		29.5		21.5		29.5				
Max Q Clear Time (g_c+I1), s		6.5		14.2		4.7		13.5				
Green Ext Time (p_c), s		1.5		4.2		0.8		5.1				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	17	12	122	197	178	32	315	61	85	241	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	249	176	207	281	254	114	468	91	171	567	59
Arrive On Green	0.05	0.25	0.25	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1774	1008	712	1774	895	809	1774	1508	292	1774	1656	172
Grp Volume(v), veh/h	18	0	29	122	0	375	32	0	376	85	0	266
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	0	1703	1774	0	1800	1774	0	1828
Q Serve(g_s), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Cycle Q Clear(g_c), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Prop In Lane	1.00		0.41	1.00		0.47	1.00		0.16	1.00		0.09
Lane Grp Cap(c), veh/h	90	0	426	207	0	534	114	0	558	171	0	626
V/C Ratio(X)	0.20	0.00	0.07	0.59	0.00	0.70	0.28	0.00	0.67	0.50	0.00	0.43
Avail Cap(c_a), veh/h	474	0	985	474	0	976	474	0	1031	474	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.1	21.9	0.0	15.8	23.4	0.0	15.8	22.5	0.0	13.3
Incr Delay (d2), s/veh	1.1	0.0	0.1	2.6	0.0	1.7	1.3	0.0	1.4	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.8	0.0	4.9	0.5	0.0	4.9	1.3	0.0	3.0
LnGrp Delay(d),s/veh	24.9	0.0	15.2	24.6	0.0	17.5	24.7	0.0	17.2	24.7	0.0	13.7
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	47		497				408			351		
Approach Delay, s/veh	18.9		19.2				17.8			16.4		
Approach LOS	B		B				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	19.2	9.1	16.0	6.4	20.9	5.7	19.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+I), s	14.4	11.5	5.4	2.7	2.9	7.9	2.5	12.1				
Green Ext Time (p_c), s	0.1	2.2	0.2	0.1	0.0	1.6	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			18.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	70	0	268	262	468	92	52	342	0	0	514	32
Future Volume (veh/h)	70	0	268	262	468	92	52	342	0	0	514	32
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		1.00	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	980	980	0	0	1373	1400
Adj Flow Rate, veh/h	70	0	100	262	468	92	52	342	0	0	514	32
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	859	1414	276	76	740	0	0	636	39
Arrive On Green	0.09	0.00	0.09	0.48	0.48	0.42	0.08	0.40	0.00	0.00	0.26	0.20
Sat Flow, veh/h		0		1774	2919	569	934	1912	0	0	2544	154
Grp Volume(v), veh/h		0.0		262	282	278	52	342	0	0	270	276
Grp Sat Flow(s),veh/h/ln				1774	1770	1719	934	931	0	0	1304	1325
Q Serve(g_s), s				4.5	4.9	5.2	2.7	6.9	0.0	0.0	9.8	9.9
Cycle Q Clear(g_c), s				4.5	4.9	5.2	2.7	6.9	0.0	0.0	9.8	9.9
Prop In Lane				1.00		0.33	1.00		0.00	0.00		0.12
Lane Grp Cap(c), veh/h				859	857	832	76	740	0	0	335	340
V/C Ratio(X)				0.30	0.33	0.33	0.69	0.46	0.00	0.00	0.81	0.81
Avail Cap(c_a), veh/h				859	857	832	175	939	0	0	335	340
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				7.9	8.0	8.4	22.6	11.3	0.0	0.0	17.6	17.8
Incr Delay (d2), s/veh				0.9	1.0	1.1	10.6	0.5	0.0	0.0	13.4	13.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	2.6	2.7	0.9	1.8	0.0	0.0	4.8	4.9
LnGrp Delay(d),s/veh				8.8	9.0	9.5	33.2	11.7	0.0	0.0	31.0	31.6
LnGrp LOS				A	A	A	C	B			C	C
Approach Vol, veh/h					822			394			546	
Approach Delay, s/veh					9.1			14.5			31.3	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		23.1			7.1	16.0		27.5				
Change Period (Y+Rc), s		7.5			4.5	7.5		7.5				
Max Green Setting (Gmax), s		21.0			8.0	8.5		20.0				
Max Q Clear Time (g_c+l1), s		8.9			4.7	11.9		7.2				
Green Ext Time (p_c), s		1.8			0.0	0.0		3.6				
Intersection Summary												
HCM 2010 Ctrl Delay				17.2								
HCM 2010 LOS				B								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	39	794	31	0	0	0	48	366	190	371	478	144
Future Volume (veh/h)	39	794	31	0	0	0	48	366	190	371	478	144
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900				1863	1618	1900	1275	980	1900
Adj Flow Rate, veh/h	39	794	31				48	366	190	371	478	144
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	40	846	35				98	393	199	459	736	220
Arrive On Green	0.32	0.32	0.28				0.06	0.21	0.17	0.38	0.53	0.49
Sat Flow, veh/h	125	2673	110				1774	1911	967	1214	1394	416
Grp Volume(v), veh/h	455	0	409				48	293	263	371	318	304
Grp Sat Flow(s),veh/h/ln	1464	0	1443				1774	1537	1341	1214	931	879
Q Serve(g_s), s	27.8	0.0	24.3				2.4	16.8	17.5	24.7	22.0	22.9
Cycle Q Clear(g_c), s	27.8	0.0	24.3				2.4	16.8	17.5	24.7	22.0	22.9
Prop In Lane	0.09		0.08				1.00		0.72	1.00		0.47
Lane Grp Cap(c), veh/h	464	0	457				98	316	276	459	492	464
V/C Ratio(X)	0.98	0.00	0.89				0.49	0.93	0.96	0.81	0.65	0.66
Avail Cap(c_a), veh/h	464	0	457				296	316	276	459	492	464
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.5	0.0	29.4				41.3	35.1	36.4	25.1	15.2	15.9
Incr Delay (d2), s/veh	37.6	0.0	22.5				3.7	32.1	42.2	14.3	2.9	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	12.5				1.3	10.0	9.7	10.1	6.1	5.9
LnGrp Delay(d),s/veh	68.1	0.0	52.0				45.0	67.2	78.6	39.4	18.2	19.3
LnGrp LOS	E		D				D	E	E	D	B	B
Approach Vol, veh/h	864							604		993		
Approach Delay, s/veh	60.5							70.4		26.4		
Approach LOS	E							E		C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4		5	6						
Phs Duration (G+Y+Rc), s	37.0	21.5	31.5		8.0	50.5						
Change Period (Y+Rc), s	4.5	7.5	7.5		4.5	7.5						
Max Green Setting (Gmax), s	32.5	14.0	24.0		13.5	33.0						
Max Q Clear Time (g_c+20), s	26.7	19.5	29.8		4.4	24.9						
Green Ext Time (p_c), s	0.6	0.0	0.0		0.0	2.6						
Intersection Summary												
HCM 2010 Ctrl Delay			49.2									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	74	269	63	14	157	45	54	481	14	15	331	139
Future Volume (veh/h)	74	269	63	14	157	45	54	481	14	15	331	139
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	980	1900	1900	1324	1900	1900	980	1863
Adj Flow Rate, veh/h	74	269	63	14	157	45	54	481	14	15	331	68
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	106	261	58	59	291	80	76	426	12	55	455	767
Arrive On Green	0.43	0.43	0.39	0.43	0.43	0.39	0.50	0.50	0.46	0.50	0.50	0.50
Sat Flow, veh/h	123	615	136	27	684	187	54	851	24	17	910	1534
Grp Volume(v), veh/h	406	0	0	216	0	0	549	0	0	346	0	68
Grp Sat Flow(s),veh/h/ln	874	0	0	898	0	0	929	0	0	927	0	1534
Q Serve(g_s), s	20.2	0.0	0.0	0.0	0.0	0.0	18.2	0.0	0.0	0.0	0.0	1.9
Cycle Q Clear(g_c), s	34.0	0.0	0.0	13.8	0.0	0.0	40.0	0.0	0.0	21.8	0.0	1.9
Prop In Lane	0.18		0.16	0.06		0.21	0.10		0.03	0.04		1.00
Lane Grp Cap(c), veh/h	425	0	0	430	0	0	514	0	0	510	0	767
V/C Ratio(X)	0.96	0.00	0.00	0.50	0.00	0.00	1.07	0.00	0.00	0.68	0.00	0.09
Avail Cap(c_a), veh/h	425	0	0	430	0	0	514	0	0	510	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	24.4	0.0	0.0	17.4	0.0	0.0	22.5	0.0	0.0	15.5	0.0	10.5
Incr Delay (d2), s/veh	32.4	0.0	0.0	0.9	0.0	0.0	59.2	0.0	0.0	7.1	0.0	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	0.0	3.7	0.0	0.0	19.7	0.0	0.0	6.9	0.0	0.8
LnGrp Delay(d),s/veh	56.8	0.0	0.0	18.4	0.0	0.0	81.7	0.0	0.0	22.5	0.0	10.7
LnGrp LOS	E			B			F			C		B
Approach Vol, veh/h	406				216		549				414	
Approach Delay, s/veh	56.8				18.4		81.7				20.6	
Approach LOS	E				B		F				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	42.0		36.0		23.8		15.8					
Green Ext Time (p_c), s	0.0		0.0		1.9		1.0					
Intersection Summary												
HCM 2010 Ctrl Delay	50.7											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	301	99	59	189	17	69	424	64	14	378	79
Future Volume (veh/h)	120	301	99	59	189	17	69	424	64	14	378	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.93	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	120	301	99	59	189	17	69	424	64	14	378	79
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	230	437	132	206	579	47	157	587	84	99	621	127
Arrive On Green	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	288	1019	307	234	1351	109	140	1375	197	22	1454	297
Grp Volume(v), veh/h	520	0	0	265	0	0	557	0	0	471	0	0
Grp Sat Flow(s),veh/h/ln	1614	0	0	1694	0	0	1712	0	0	1774	0	0
Q Serve(g_s), s	7.0	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.0	0.0	0.0	4.0	0.0	0.0	10.9	0.0	0.0	8.5	0.0	0.0
Prop In Lane	0.23		0.19	0.22		0.06	0.12		0.11	0.03		0.17
Lane Grp Cap(c), veh/h	799	0	0	832	0	0	828	0	0	846	0	0
V/C Ratio(X)	0.65	0.00	0.00	0.32	0.00	0.00	0.67	0.00	0.00	0.56	0.00	0.00
Avail Cap(c_a), veh/h	1145	0	0	1170	0	0	1188	0	0	1235	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	0.0	7.9	0.0	0.0	9.9	0.0	0.0	9.3	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.0	0.0	2.0	0.0	0.0	5.5	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	10.7	0.0	0.0	8.1	0.0	0.0	10.8	0.0	0.0	9.8	0.0	0.0
LnGrp LOS	B			A			B			A		
Approach Vol, veh/h		520			265			557			471	
Approach Delay, s/veh		10.7			8.1			10.8			9.8	
Approach LOS		B			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		20.7		20.8		20.7		20.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		25.5		25.5		25.5		25.5				
Max Q Clear Time (g_c+I1), s		12.9		13.0		10.5		6.0				
Green Ext Time (p_c), s		3.3		3.1		2.9		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay		10.1										
HCM 2010 LOS		B										

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.93	1.00		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	258	48	206	378	169	209	507	112	163	412	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	950	385	246	650	285	289	804	176	200	782	267
Arrive On Green	0.13	0.27	0.27	0.14	0.28	0.29	0.08	0.28	0.30	0.11	0.31	0.33
Sat Flow, veh/h	1774	3539	1434	1774	2337	1022	3442	2852	626	1774	2520	859
Grp Volume(v), veh/h	189	258	48	206	284	263	209	313	306	163	287	268
Grp Sat Flow(s),veh/h/ln	1774	1770	1434	1774	1770	1590	1721	1770	1708	1774	1770	1610
Q Serve(g_s), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Cycle Q Clear(g_c), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.37	1.00		0.53
Lane Grp Cap(c), veh/h	228	950	385	246	492	442	289	499	481	200	549	500
V/C Ratio(X)	0.83	0.27	0.12	0.84	0.58	0.59	0.72	0.63	0.64	0.82	0.52	0.54
Avail Cap(c_a), veh/h	413	1094	443	421	555	498	471	586	565	343	685	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.2	25.1	38.0	28.1	27.8	40.5	28.4	28.2	39.3	25.7	25.5
Incr Delay (d2), s/veh	7.5	0.2	0.1	7.4	1.2	1.5	3.4	1.6	1.8	7.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.9	5.5	6.2	5.8	2.7	7.0	6.9	4.4	6.0	5.6
LnGrp Delay(d),s/veh	46.0	26.3	25.2	45.4	29.3	29.4	43.9	30.0	30.0	47.2	26.5	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		495			753			828			718	
Approach Delay, s/veh		33.7			33.7			33.5			31.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.7	30.0	17.1	28.8	12.1	32.6	16.2	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	30.0	21.5	28.0	12.4	35.1	21.1	28.4				
Max Q Clear Time (g_c+11Q), s	16.1	16.1	12.3	7.2	7.4	14.4	11.4	14.9				
Green Ext Time (p_c), s	0.2	3.3	0.4	1.7	0.3	3.5	0.3	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				33.0								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	31	128	773	0	0	40	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	56	229	1318	0	542	286	0	530	0	5	0
Arrive On Green	0.00	0.17	0.17	0.37	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	318	1311	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	159	773	0	0	40	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1629	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.81	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	285	1318	0	542	286	0	530	0	5	0
V/C Ratio(X)	0.00	0.00	0.56	0.59	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	953	4154	0	1807	1220	0	1998	0	409	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	12.9	8.6	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.6	9.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			B					
Approach Vol, veh/h		159			773			40			0	
Approach Delay, s/veh		14.6			9.0			12.1			0.0	
Approach LOS		B			A			B				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		9.0		0.0		15.7				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.0		18.5		7.0		38.5				
Max Q Clear Time (g_c+I1), s		2.6		5.1		0.0		8.0				
Green Ext Time (p_c), s		0.1		0.7		0.0		3.2				
Intersection Summary												
HCM 2010 Ctrl Delay				10.1								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↩	↩	↩		↩		↩		↩	↩	↩
Traffic Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	41	179	33	162	0	296	0	86	152	364	130	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	98	429	420	0	0	0	0	457	392	735	1029	0
Arrive On Green	0.29	0.29	0.29	0.04	0.00	0.04	0.00	0.26	0.26	0.21	0.55	0.00
Sat Flow, veh/h	344	1502	1469		0		0	1863	1516	3442	1863	0
Grp Volume(v), veh/h	220	0	33		0.0		0	86	152	364	130	0
Grp Sat Flow(s),veh/h/ln	1846	0	1469				0	1770	1516	1721	1863	0
Q Serve(g_s), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Prop In Lane	0.19		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	528	0	420				0	457	392	735	1029	0
V/C Ratio(X)	0.42	0.00	0.08				0.00	0.19	0.39	0.50	0.13	0.00
Avail Cap(c_a), veh/h	1415	0	1126				0	1285	1101	2037	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	9.7				0.0	10.7	11.4	12.9	4.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1				0.0	0.2	0.6	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3				0.0	0.7	1.3	1.7	0.6	0.0
LnGrp Delay(d),s/veh	11.3	0.0	9.8				0.0	10.9	12.0	13.4	4.1	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		253						238			494	
Approach Delay, s/veh		11.1						11.6			10.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.9	12.6		13.6		23.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	20.5	25.5		27.0		50.5						
Max Q Clear Time (g_c+I), s	15.5	5.1		5.6		3.2						
Green Ext Time (p_c), s	1.1	1.4		1.3		0.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	233	344	32				0	661	309	286	624	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	516	425				0	1235	517	451	948	0
Arrive On Green	0.28	0.28	0.28				0.00	0.33	0.34	0.25	0.25	0.00
Sat Flow, veh/h	1774	1863	1533				0	3725	1524	1774	3725	0
Grp Volume(v), veh/h	233	344	32				0	661	309	286	624	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1533				0	1863	1524	1774	1863	0
Q Serve(g_s), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Cycle Q Clear(g_c), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	516	425				0	1235	517	451	948	0
V/C Ratio(X)	0.47	0.67	0.08				0.00	0.54	0.60	0.63	0.66	0.00
Avail Cap(c_a), veh/h	769	807	665				0	1728	718	593	1246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.8	21.1	17.5				0.0	17.9	18.0	21.8	22.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	0.1				0.0	0.4	1.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.8	0.4				0.0	4.9	4.8	4.8	5.1	0.0
LnGrp Delay(d),s/veh	20.5	22.6	17.6				0.0	18.2	19.1	23.3	22.7	0.0
LnGrp LOS	C	C	B					B	B	C	C	
Approach Vol, veh/h		609						970			910	
Approach Delay, s/veh		21.5						18.5			22.9	
Approach LOS		C						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.8		21.2		19.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.0		27.0		20.5						
Max Q Clear Time (g_c+I1), s		13.1		12.8		11.9						
Green Ext Time (p_c), s		5.2		2.5		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.97		0.96	0.98		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	4	133	0	180	1	699	45	213	488	2
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	113	297	535	0	439	70	1243	548	317	2150	9
Arrive On Green	0.29	0.29	0.29	0.29	0.00	0.29	0.36	0.36	0.36	0.18	0.59	0.59
Sat Flow, veh/h	124	390	1028	1370	0	1520	1	3471	1531	1774	3614	15
Grp Volume(v), veh/h	6	0	0	133	0	180	375	325	45	213	239	251
Grp Sat Flow(s),veh/h/ln	1543	0	0	1370	0	1520	1862	1610	1531	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	4.9	0.0	8.4	1.0	5.8	3.3	3.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.9	0.0	4.9	8.4	8.4	1.0	5.8	3.3	3.3
Prop In Lane	0.17		0.67	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	527	0	0	535	0	439	737	577	548	317	1053	1106
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.41	0.51	0.56	0.08	0.67	0.23	0.23
Avail Cap(c_a), veh/h	887	0	0	867	0	809	1059	857	815	549	1592	1673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	14.4	0.0	14.8	13.3	13.3	11.0	19.8	4.9	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.5	0.9	0.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.1	4.4	3.8	0.4	3.1	1.6	1.7
LnGrp Delay(d),s/veh	13.1	0.0	0.0	14.7	0.0	15.4	13.9	14.2	11.0	22.3	5.0	5.0
LnGrp LOS	B			B		B	B	B	B	C	A	A
Approach Vol, veh/h		6			313			745			703	
Approach Delay, s/veh		13.1			15.1			13.8			10.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	2.2	21.5		17.9		33.8		17.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	4.5	26.0		26.0		45.0		26.0				
Max Q Clear Time (g_c+17), s	17.8	10.4		2.1		5.3		6.9				
Green Ext Time (p_c), s	0.3	4.1		0.0		3.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	502	221	143	305	146	483		
Future Volume (veh/h)	502	221	143	305	146	483		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.94		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	502	221	143	305	146	192		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1244	572	493	871	708	996		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	646	2377	1863	2621		
Grp Volume(v), veh/h	502	221	239	209	146	192		
Grp Sat Flow(s),veh/h/ln	1721	1583	1328	1610	1863	1311		
Q Serve(g_s), s	2.5	2.4	1.5	2.1	1.2	1.1		
Cycle Q Clear(g_c), s	2.5	2.4	2.7	2.1	1.2	1.1		
Prop In Lane	1.00	1.00	0.60			1.00		
Lane Grp Cap(c), veh/h	1244	572	753	612	708	996		
V/C Ratio(X)	0.40	0.39	0.32	0.34	0.21	0.19		
Avail Cap(c_a), veh/h	3189	1467	1491	1561	1806	2541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.5	5.2	5.1	4.8	4.8		
Incr Delay (d2), s/veh	0.2	0.4	0.2	0.3	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.0	0.6	0.4		
LnGrp Delay(d),s/veh	5.7	5.9	5.4	5.5	5.0	4.9		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	723			448	338			
Approach Delay, s/veh	5.8			5.5	4.9			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	11.8		11.4		11.8			
Change Period (Y+Rc), s	4.5		4.5		4.5			
Max Green Setting (Gmax), s	21.0		20.0		21.0			
Max Q Clear Time (g_c+l1), s	4.7		4.5		3.2			
Green Ext Time (p_c), s	2.6		2.4		1.5			
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	8	20	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	2157	2157	2157	2157	2157	2200	1863	1863	1900	1078	1078	1100
Adj Flow Rate, veh/h	85	134	26	378	232	65	46	271	45	131	313	31
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	198	325	504	493	133	79	1656	271	172	1251	114
Arrive On Green	0.06	0.09	0.09	0.12	0.15	0.15	0.01	0.18	0.18	0.15	0.66	0.66
Sat Flow, veh/h	2054	2157	3540	4108	3217	871	1774	3029	495	1027	1882	185
Grp Volume(v), veh/h	85	134	26	378	153	144	46	157	159	131	169	175
Grp Sat Flow(s),veh/h/ln	2054	2157	1770	2054	2157	1931	1774	1770	1755	1027	1025	1042
Q Serve(g_s), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Cycle Q Clear(g_c), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.28	1.00		0.18
Lane Grp Cap(c), veh/h	133	198	325	504	331	296	79	968	959	172	675	689
V/C Ratio(X)	0.64	0.68	0.08	0.75	0.46	0.49	0.58	0.16	0.17	0.76	0.25	0.25
Avail Cap(c_a), veh/h	470	478	784	939	485	434	317	981	973	183	675	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	61.6	58.2	59.4	54.0	54.3	67.7	30.3	30.4	57.7	10.9	10.9
Incr Delay (d2), s/veh	5.0	4.0	0.1	2.3	1.0	1.2	5.6	0.3	0.3	16.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	2.1	2.0
%ile BackOfQ(50%),veh/ln	3.4	5.2	0.5	7.2	5.5	5.2	1.9	5.2	5.3	10.2	5.1	5.2
LnGrp Delay(d),s/veh	68.9	65.6	58.3	61.6	55.0	55.6	73.3	30.6	30.7	139.8	13.9	13.8
LnGrp LOS	E	E	E	E	E	E	E	C	C	F	B	B
Approach Vol, veh/h	245		675				362			475		
Approach Delay, s/veh	66.0		58.8				36.1			48.6		
Approach LOS	E		E				D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.9	80.1	20.2	15.9	9.2	94.8	12.1	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.5	38.5	30.5	29.5	23.5	38.5	30.5	29.5				
Max Q Clear Time (g_c+119.4), s	119.4	12.7	14.4	10.4	5.6	11.6	7.7	11.6				
Green Ext Time (p_c), s	0.1	1.9	1.2	0.7	0.1	2.1	0.2	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	52.4											
HCM 2010 LOS	D											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20		
Future Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20		
Number	7	4	14	3	8	18	5	2	12	1	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.79		0.68	0.80		0.66	0.86		0.75	0.84		0.71		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900		
Adj Flow Rate, veh/h	10	73	27	23	71	49	26	183	48	73	161	20		
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2		
Cap, veh/h	82	437	150	116	307	190	104	629	155	246	511	59		
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	1.00	1.00	0.94	0.51	0.51	0.47		
Sat Flow, veh/h	64	1093	376	142	768	474	92	1224	302	349	994	115		
Grp Volume(v), veh/h	110	0	0	143	0	0	257	0	0	254	0	0		
Grp Sat Flow(s),veh/h/ln	1533	0	0	1383	0	0	1618	0	0	1458	0	0		
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0		
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.6	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0		
Prop In Lane	0.09		0.25	0.16		0.34	0.10		0.19	0.29		0.08		
Lane Grp Cap(c), veh/h	669	0	0	613	0	0	889	0	0	816	0	0		
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.00	0.00	0.29	0.00	0.00	0.31	0.00	0.00		
Avail Cap(c_a), veh/h	669	0	0	613	0	0	889	0	0	816	0	0		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00		
Uniform Delay (d), s/veh	13.8	0.0	0.0	14.3	0.0	0.0	0.2	0.0	0.0	9.7	0.0	0.0		
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	1.0	0.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.0	3.0	0.0	0.0		
LnGrp Delay(d),s/veh	14.3	0.0	0.0	15.2	0.0	0.0	1.0	0.0	0.0	10.7	0.0	0.0		
LnGrp LOS	B			B			A			B				
Approach Vol, veh/h	110				143				257				254	
Approach Delay, s/veh	14.3				15.2				1.0				10.7	
Approach LOS	B				B				A				B	
Timer	1	2	3	4	5	6	7	8						
Assigned Phs	2		4		6		8							
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0							
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5							
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5							
Max Q Clear Time (g_c+I1), s	2.2		5.2		8.0		6.6							
Green Ext Time (p_c), s	1.8		0.6		1.8		0.8							
Intersection Summary														
HCM 2010 Ctrl Delay			8.8											
HCM 2010 LOS			A											

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		0.68	0.87		0.71	0.89		0.79	0.94		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	149	49	22	105	40	42	185	57	33	151	29
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	429	130	104	418	146	141	571	164	148	629	113
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	0.51	0.51	0.47	0.51	0.51	0.47
Sat Flow, veh/h	129	1071	325	115	1045	366	159	1111	319	173	1223	220
Grp Volume(v), veh/h	230	0	0	167	0	0	284	0	0	213	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1526	0	0	1589	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	4.9	0.0	0.0	6.9	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.14		0.21	0.13		0.24	0.15		0.20	0.15		0.14
Lane Grp Cap(c), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.25	0.00	0.00	0.32	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	14.3	0.0	0.0	10.1	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.2	0.0	0.0	11.1	0.0	0.0	10.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	230			167			284			213		
Approach Delay, s/veh	16.4			15.2			11.1			10.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	8.9		9.1		6.8		6.9					
Green Ext Time (p_c), s	1.9		1.3		1.4		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	13.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	149	61	120	346	120	29	136	35	40	150	100
Future Volume (veh/h)	45	149	61	120	346	120	29	136	35	40	150	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.69	1.00		0.73	1.00		0.72	0.93		0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1863	980	1863	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	45	149	61	120	346	60	29	136	35	40	150	100
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	180	65	342	483	573	92	249	59	91	176	108
Arrive On Green	0.49	0.49	0.45	0.49	0.49	0.49	0.42	0.42	0.37	0.42	0.42	0.37
Sat Flow, veh/h	57	366	133	1167	980	1164	68	600	142	68	424	259
Grp Volume(v), veh/h	255	0	0	120	346	60	200	0	0	290	0	0
Grp Sat Flow(s),veh/h/ln	555	0	0	1167	980	1164	810	0	0	751	0	0
Q Serve(g_s), s	11.5	0.0	0.0	0.0	18.0	1.8	0.0	0.0	0.0	12.3	0.0	0.0
Cycle Q Clear(g_c), s	29.5	0.0	0.0	13.5	18.0	1.8	11.4	0.0	0.0	23.7	0.0	0.0
Prop In Lane	0.18		0.24	1.00		1.00	0.14		0.17	0.14		0.34
Lane Grp Cap(c), veh/h	339	0	0	342	483	573	400	0	0	375	0	0
V/C Ratio(X)	0.75	0.00	0.00	0.35	0.72	0.10	0.50	0.00	0.00	0.77	0.00	0.00
Avail Cap(c_a), veh/h	339	0	0	342	483	573	400	0	0	375	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	0.96	0.96	0.96	0.56	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	16.2	0.0	0.0	11.8	12.9	8.8	14.6	0.0	0.0	18.3	0.0	0.0
Incr Delay (d2), s/veh	8.8	0.0	0.0	2.7	8.5	0.4	2.5	0.0	0.0	14.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	0.0	0.0	1.8	5.9	0.6	3.0	0.0	0.0	6.4	0.0	0.0
LnGrp Delay(d),s/veh	25.0	0.0	0.0	14.5	21.5	9.2	17.1	0.0	0.0	32.3	0.0	0.0
LnGrp LOS	C			B	C	A	B			C		
Approach Vol, veh/h	255				526		200				290	
Approach Delay, s/veh	25.0				18.5		17.1				32.3	
Approach LOS	C				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		35.0		30.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	22.5		27.5		22.5		27.5					
Max Q Clear Time (g_c+I1), s	13.4		31.5		25.7		20.0					
Green Ext Time (p_c), s	0.8		0.0		0.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	22.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	564	48	12	197	22	39	133	81	89	117	115
Future Volume (veh/h)	37	564	48	12	197	22	39	133	81	89	117	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.81	0.97		0.77	1.00		0.85	1.00		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	980	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	37	564	48	12	197	22	39	133	81	89	117	115
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	109	1481	123	57	395	43	87	195	108	126	124	108
Arrive On Green	0.49	0.49	0.43	0.49	0.49	0.43	0.44	0.44	0.38	0.44	0.44	0.38
Sat Flow, veh/h	121	3000	250	20	800	86	79	446	247	154	280	243
Grp Volume(v), veh/h	345	0	304	231	0	0	253	0	0	321	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1584	906	0	0	773	0	0	677	0	0
Q Serve(g_s), s	0.0	0.0	9.8	0.0	0.0	0.0	0.0	0.0	0.0	14.4	0.0	0.0
Cycle Q Clear(g_c), s	9.2	0.0	9.8	13.4	0.0	0.0	21.1	0.0	0.0	35.5	0.0	0.0
Prop In Lane	0.11		0.16	0.05		0.10	0.15		0.32	0.28		0.36
Lane Grp Cap(c), veh/h	932	0	782	495	0	0	390	0	0	358	0	0
V/C Ratio(X)	0.37	0.00	0.39	0.47	0.00	0.00	0.65	0.00	0.00	0.90	0.00	0.00
Avail Cap(c_a), veh/h	932	0	782	495	0	0	390	0	0	358	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.6	0.0	13.0	13.8	0.0	0.0	18.8	0.0	0.0	24.3	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.5	3.1	0.0	0.0	8.1	0.0	0.0	27.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	4.6	3.9	0.0	0.0	5.5	0.0	0.0	9.8	0.0	0.0
LnGrp Delay(d),s/veh	13.7	0.0	14.4	17.0	0.0	0.0	26.9	0.0	0.0	51.8	0.0	0.0
LnGrp LOS	B		B	B			C			D		
Approach Vol, veh/h		649			231			253			321	
Approach Delay, s/veh		14.0			17.0			26.9			51.8	
Approach LOS		B			B			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		30.5		34.5		30.5		34.5				
Max Q Clear Time (g_c+I1), s		23.1		11.8		37.5		15.4				
Green Ext Time (p_c), s		0.9		4.5		0.0		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				25.1								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	337	55	47	231	55	38	163	109	29	130	34
Future Volume (veh/h)	38	337	55	47	231	55	38	163	109	29	130	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	0.94		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900	1900	980	1900	1900	1275	1900	1900	1863	1900
Adj Flow Rate, veh/h	38	337	55	47	231	55	38	163	109	29	130	34
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	561	88	100	328	73	93	259	160	125	509	123
Arrive On Green	0.50	0.50	0.46	0.50	0.50	0.46	0.41	0.41	0.37	0.41	0.41	0.37
Sat Flow, veh/h	75	1122	175	82	656	146	86	624	385	160	1229	297
Grp Volume(v), veh/h	430	0	0	333	0	0	310	0	0	193	0	0
Grp Sat Flow(s),veh/h/ln	1372	0	0	883	0	0	1095	0	0	1685	0	0
Q Serve(g_s), s	0.0	0.0	0.0	4.5	0.0	0.0	5.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	15.5	0.0	0.0	20.0	0.0	0.0	16.0	0.0	0.0	5.1	0.0	0.0
Prop In Lane	0.09		0.13	0.14		0.17	0.12		0.35	0.15		0.18
Lane Grp Cap(c), veh/h	742	0	0	500	0	0	511	0	0	757	0	0
V/C Ratio(X)	0.58	0.00	0.00	0.67	0.00	0.00	0.61	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	742	0	0	500	0	0	511	0	0	757	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	13.8	0.0	0.0	17.0	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	3.3	0.0	0.0	6.8	0.0	0.0	5.3	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	0.0	6.0	0.0	0.0	5.6	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	16.0	0.0	0.0	20.7	0.0	0.0	22.3	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	B			C			C			B		
Approach Vol, veh/h	430			333			310			193		
Approach Delay, s/veh	16.0			20.7			22.3			14.5		
Approach LOS	B			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		32.0		38.0		32.0		38.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		24.5		30.5		24.5		30.5				
Max Q Clear Time (g_c+I1), s		18.0		17.5		7.1		22.0				
Green Ext Time (p_c), s		1.1		2.4		1.0		1.4				
Intersection Summary												
HCM 2010 Ctrl Delay				18.5								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.71	0.92		0.82	0.95		0.81	0.87		0.77
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	182	57	26	101	34	9	76	26	28	239	82
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	432	125	130	469	146	82	575	186	85	565	185
Arrive On Green	0.44	0.44	0.40	0.44	0.44	0.40	0.49	0.49	0.45	0.49	0.49	0.45
Sat Flow, veh/h	243	988	286	178	1072	335	68	1179	382	74	1158	379
Grp Volume(v), veh/h	302	0	0	161	0	0	111	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1517	0	0	1585	0	0	1629	0	0	1611	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	4.7	0.0	0.0	2.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.21		0.19	0.16		0.21	0.08		0.23	0.08		0.23
Lane Grp Cap(c), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	14.2	0.0	0.0	11.5	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	2.4	0.0	0.0	1.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	17.5	0.0	0.0	14.9	0.0	0.0	11.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	302			161			111			349		
Approach Delay, s/veh	17.5			14.9			11.8			15.1		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	42.0		38.0		42.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	34.5		30.5		34.5		30.5					
Max Q Clear Time (g_c+I1), s	4.9		12.5		13.1		6.7					
Green Ext Time (p_c), s	0.7		2.0		2.4		1.0					
Intersection Summary												
HCM 2010 Ctrl Delay	15.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.80	0.89		0.78	0.92		0.81	0.88		0.81
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	165	38	18	224	65	10	69	12	20	217	36
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	607	131	97	595	166	113	563	91	103	579	92
Arrive On Green	0.48	0.48	0.42	0.48	0.48	0.42	0.41	0.41	0.35	0.41	0.41	0.35
Sat Flow, veh/h	97	1275	275	49	1252	349	86	1381	223	70	1420	226
Grp Volume(v), veh/h	228	0	0	307	0	0	91	0	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1647	0	0	1650	0	0	1690	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	6.1	0.0	0.0	1.7	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.11		0.17	0.06		0.21	0.11		0.13	0.07		0.13
Lane Grp Cap(c), veh/h	861	0	0	859	0	0	767	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.36	0.00	0.00	0.12	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1060	0	0	1062	0	0	986	0	0	1002	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.9	0.0	0.0	9.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.9	0.0	0.0	0.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	A			A			A			B		
Approach Vol, veh/h	228				307				91		273	
Approach Delay, s/veh	8.5				9.1				9.7		11.1	
Approach LOS	A				A				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		27.5		24.0		27.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.7		6.2		7.7		8.1					
Green Ext Time (p_c), s	0.4		1.4		1.5		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	19	274	14	102	296	174	12	450	85	209	439	36
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	920	760	529	920	752	62	1511	676	344	771	66
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	913	1863	1538	1080	1863	1523	33	3405	1522	598	1737	148
Grp Volume(v), veh/h	19	274	14	102	296	174	246	216	85	282	0	402
Grp Sat Flow(s),veh/h/ln	913	1863	1538	1080	1863	1523	1828	1610	1522	825	0	1658
Q Serve(g_s), s	1.0	7.0	0.4	5.0	7.7	5.2	0.0	6.9	2.6	19.2	0.0	14.3
Cycle Q Clear(g_c), s	8.7	7.0	0.4	11.9	7.7	5.2	6.8	6.9	2.6	26.1	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	0.05		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
V/C Ratio(X)	0.04	0.30	0.02	0.19	0.32	0.23	0.29	0.30	0.13	0.63	0.00	0.55
Avail Cap(c_a), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	12.0	10.3	15.6	12.2	11.6	14.3	14.3	13.1	22.2	0.0	16.4
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.8	0.9	0.7	0.8	1.1	0.4	6.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	0.2	1.6	4.1	2.3	3.7	3.3	1.2	6.3	0.0	7.1
LnGrp Delay(d),s/veh	15.0	12.8	10.4	16.4	13.1	12.3	15.1	15.4	13.5	28.9	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		307			572			547			684	
Approach Delay, s/veh		12.9			13.4			15.0			23.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		8.9		10.7		28.1		13.9				
Green Ext Time (p_c), s		3.2		1.8		2.2		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	266	32	90	224	65	25	596	75	108	430	41
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1088	126	234	414	108	135	1309	162	281	994	97
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	233	2782	323	271	1058	275	56	2997	371	314	2275	221
Grp Volume(v), veh/h	180	0	161	379	0	0	368	0	328	273	0	306
Grp Sat Flow(s),veh/h/ln	1709	0	1629	1604	0	0	1804	0	1620	1161	0	1649
Q Serve(g_s), s	0.0	0.0	2.3	2.6	0.0	0.0	0.0	0.0	5.0	1.3	0.0	4.5
Cycle Q Clear(g_c), s	2.3	0.0	2.3	6.2	0.0	0.0	4.8	0.0	5.0	6.2	0.0	4.5
Prop In Lane	0.24		0.20	0.24		0.17	0.07		0.23	0.40		0.13
Lane Grp Cap(c), veh/h	796	0	637	755	0	0	898	0	708	651	0	720
V/C Ratio(X)	0.23	0.00	0.25	0.50	0.00	0.00	0.41	0.00	0.46	0.42	0.00	0.42
Avail Cap(c_a), veh/h	1131	0	981	1079	0	0	3530	0	3160	2440	0	3216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	7.2	8.2	0.0	0.0	6.9	0.0	6.9	6.7	0.0	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	3.0	0.0	0.0	2.5	0.0	2.3	2.0	0.0	2.0
LnGrp Delay(d),s/veh	7.3	0.0	7.4	8.8	0.0	0.0	7.2	0.0	7.4	7.2	0.0	7.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		341			379			696			579	
Approach Delay, s/veh		7.3			8.8			7.3			7.2	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		16.6		18.2		16.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		66.5		19.5		66.5		19.5				
Max Q Clear Time (g_c+I1), s		7.0		4.3		8.2		8.2				
Green Ext Time (p_c), s		5.2		1.8		4.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.87	0.95		0.93	0.97		0.91	0.95		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	206	63	25	161	49	13	170	51	63	249	121
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	602	184	102	568	161	74	594	171	614	518	252
Arrive On Green	0.46	0.46	0.41	0.46	0.46	0.41	0.91	0.91	0.83	0.46	0.46	0.41
Sat Flow, veh/h	1122	1317	403	98	1242	353	43	1299	374	1093	1134	551
Grp Volume(v), veh/h	177	0	269	235	0	0	234	0	0	63	0	370
Grp Sat Flow(s),veh/h/ln	1122	0	1720	1694	0	0	1716	0	0	1093	0	1685
Q Serve(g_s), s	1.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.9
Cycle Q Clear(g_c), s	7.1	0.0	7.1	5.9	0.0	0.0	1.3	0.0	0.0	1.6	0.0	10.9
Prop In Lane	1.00		0.23	0.11		0.21	0.06		0.22	1.00		0.33
Lane Grp Cap(c), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
V/C Ratio(X)	0.29	0.00	0.34	0.28	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.48
Avail Cap(c_a), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.5	12.1	0.0	0.0	2.1	0.0	0.0	10.7	0.0	13.6
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.9	0.0	0.0	0.8	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	3.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	5.5
LnGrp Delay(d),s/veh	13.4	0.0	13.7	13.0	0.0	0.0	2.9	0.0	0.0	11.1	0.0	15.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h		446			235			234			433	
Approach Delay, s/veh		13.6			13.0			2.9			15.1	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		3.3		9.1		12.9		7.9				
Green Ext Time (p_c), s		1.4		2.4		2.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			12.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.82		0.73	0.93		0.70	0.92		0.71	0.85		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	202	73	30	200	40	22	125	28	42	240	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	500	170	106	591	111	113	565	118	605	617	152
Arrive On Green	0.46	0.46	0.41	0.93	0.93	0.83	0.46	0.46	0.41	0.46	0.46	0.41
Sat Flow, veh/h	99	1076	365	105	1273	240	120	1218	255	1045	1330	327
Grp Volume(v), veh/h	308	0	0	270	0	0	175	0	0	42	0	299
Grp Sat Flow(s),veh/h/ln	1540	0	0	1617	0	0	1592	0	0	1045	0	1657
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	1.2	0.0	8.4
Prop In Lane	0.11		0.24	0.11		0.15	0.13		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
V/C Ratio(X)	0.40	0.00	0.00	0.33	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.39
Avail Cap(c_a), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	1.7	0.0	0.0	11.4	0.0	0.0	10.4	0.0	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	0.5	0.0	4.1
LnGrp Delay(d),s/veh	14.2	0.0	0.0	2.8	0.0	0.0	12.0	0.0	0.0	10.6	0.0	14.0
LnGrp LOS	B			A			B			B		B
Approach Vol, veh/h	308				270				175		341	
Approach Delay, s/veh	14.2				2.8				12.0		13.6	
Approach LOS	B				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	6.4		10.9		10.4		3.4					
Green Ext Time (p_c), s	1.1		2.0		2.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			10.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

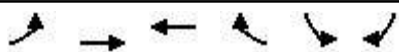
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.74	0.96		0.69	0.97		0.89	0.94		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	320	48	30	160	31	6	110	37	109	164	64
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	887	129	155	755	143	60	734	238	309	450	164
Arrive On Green	0.35	0.35	0.31	0.35	0.35	0.31	0.57	0.57	0.54	0.57	0.57	0.54
Sat Flow, veh/h	223	2536	367	281	2158	409	24	1276	415	435	783	285
Grp Volume(v), veh/h	218	0	193	115	0	106	153	0	0	337	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	1477	1446	0	1403	1715	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	7.9	0.2	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.9	8.1	0.0	4.3	3.4	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.20		0.25	0.26		0.29	0.04		0.24	0.32		0.19
Lane Grp Cap(c), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.20	0.00	0.22	0.15	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	0.0	19.7	18.0	0.0	18.6	8.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	1.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.5	1.9	0.0	1.8	1.7	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	20.6	0.0	21.8	18.9	0.0	19.6	8.4	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	C		C	B		B	A			B		
Approach Vol, veh/h	411			221			153			337		
Approach Delay, s/veh	21.2			19.2			8.4			10.3		
Approach LOS	C			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		49.0		31.0		49.0		31.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		41.5		23.5		41.5		23.5				
Max Q Clear Time (g_c+I1), s		5.4		9.9		11.2		10.1				
Green Ext Time (p_c), s		1.0		2.3		2.6		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay			15.8									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	104	331	219	109	144	105		
Future Volume (veh/h)	104	331	219	109	144	105		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.97			0.94	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1471	1863	1900	980	1863		
Adj Flow Rate, veh/h	104	331	219	109	144	29		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	371	658	514	256	202	343		
Arrive On Green	0.45	0.45	0.45	0.45	0.22	0.22		
Sat Flow, veh/h	535	1471	1148	571	934	1583		
Grp Volume(v), veh/h	104	331	0	328	144	29		
Grp Sat Flow(s),veh/h/ln	535	1471	0	1720	934	1583		
Q Serve(g_s), s	5.9	5.7	0.0	4.7	5.1	0.5		
Cycle Q Clear(g_c), s	10.5	5.7	0.0	4.7	5.1	0.5		
Prop In Lane	1.00			0.33	1.00	1.00		
Lane Grp Cap(c), veh/h	371	658	0	770	202	343		
V/C Ratio(X)	0.28	0.50	0.00	0.43	0.71	0.08		
Avail Cap(c_a), veh/h	371	658	0	770	967	1639		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.3	7.0	0.0	6.7	13.0	11.2		
Incr Delay (d2), s/veh	1.9	2.7	0.0	1.7	4.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	2.8	0.0	2.6	1.5	0.2		
LnGrp Delay(d),s/veh	12.2	9.8	0.0	8.5	17.6	11.3		
LnGrp LOS	B	A		A	B	B		
Approach Vol, veh/h		435	328		173			
Approach Delay, s/veh		10.3	8.5		16.5			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				22.0		13.7		22.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				14.5		35.5		14.5
Max Q Clear Time (g_c+I1), s				12.5		7.1		6.7
Green Ext Time (p_c), s				0.6		0.5		1.3
Intersection Summary								
HCM 2010 Ctrl Delay		10.8						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	56	31	200	31	64	34	1244	145	105	1126	9
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	227	109	417	118	244	102	1791	208	175	2167	17
Arrive On Green	0.22	0.22	0.21	0.22	0.22	0.21	0.06	0.56	0.55	0.10	0.60	0.59
Sat Flow, veh/h	171	1027	495	1295	534	1103	1774	3194	371	1774	3598	29
Grp Volume(v), veh/h	106	0	0	200	0	95	34	687	702	105	554	581
Grp Sat Flow(s),veh/h/ln	1693	0	0	1295	0	1638	1774	1770	1795	1774	1770	1857
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.1	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Prop In Lane	0.18		0.29	1.00		0.67	1.00		0.21	1.00		0.02
Lane Grp Cap(c), veh/h	437	0	0	417	0	362	102	992	1007	175	1066	1119
V/C Ratio(X)	0.24	0.00	0.00	0.48	0.00	0.26	0.33	0.69	0.70	0.60	0.52	0.52
Avail Cap(c_a), veh/h	1236	0	0	1048	0	1160	352	1991	2020	502	2142	2247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	21.8	30.4	10.6	10.7	29.0	7.7	7.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.4	1.9	0.9	0.9	3.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.4	0.0	1.5	0.7	9.2	9.4	2.0	6.0	6.3
LnGrp Delay(d),s/veh	22.0	0.0	0.0	24.1	0.0	22.1	32.3	11.5	11.5	32.2	8.1	8.1
LnGrp LOS	C			C		C	C	B	B	C	A	A
Approach Vol, veh/h	106			295			1423			1240		
Approach Delay, s/veh	22.0			23.5			12.0			10.1		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	40.1		17.3	6.8	42.9		17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+1.5), s	15.8	20.9		5.3	3.2	14.2		10.1				
Green Ext Time (p_c), s	0.2	14.7		0.6	0.0	10.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	12.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	110	37	104	72	29	14	1458	126	18	1231	53
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	235	70	273	165	55	76	2102	180	81	2170	93
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	427	955	282	693	669	224	10	3188	273	17	3292	141
Grp Volume(v), veh/h	218	0	0	205	0	0	840	0	758	674	0	628
Grp Sat Flow(s),veh/h/ln	1664	0	0	1586	0	0	1829	0	1643	1781	0	1668
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	10.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	0.0	0.0	14.8	0.0	15.5	10.2	0.0	10.9
Prop In Lane	0.33		0.17	0.51		0.14	0.02		0.17	0.03		0.08
Lane Grp Cap(c), veh/h	500	0	0	493	0	0	1275	0	1083	1244	0	1100
V/C Ratio(X)	0.44	0.00	0.00	0.42	0.00	0.00	0.66	0.00	0.70	0.54	0.00	0.57
Avail Cap(c_a), veh/h	883	0	0	844	0	0	1743	0	1520	1682	0	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	17.0	0.0	0.0	5.6	0.0	5.7	4.8	0.0	4.9
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.6	0.0	0.0	7.7	0.0	7.0	5.2	0.0	5.0
LnGrp Delay(d),s/veh	17.8	0.0	0.0	17.6	0.0	0.0	6.2	0.0	6.6	5.2	0.0	5.4
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	218				205		1598				1302	
Approach Delay, s/veh	17.8				17.6		6.4				5.3	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.4		15.6		37.4		15.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	17.5		7.5		12.9		7.2					
Green Ext Time (p_c), s	15.4		1.1		12.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	257	74	77	1139	1269	201		
Future Volume (veh/h)	257	74	77	1139	1269	201		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	257	74	77	1139	1269	201		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	334	96	138	2342	1655	260		
Arrive On Green	0.25	0.25	0.08	0.66	0.54	0.54		
Sat Flow, veh/h	1329	383	1774	3632	3154	481		
Grp Volume(v), veh/h	332	0	77	1139	730	740		
Grp Sat Flow(s),veh/h/ln	1717	0	1774	1770	1770	1772		
Q Serve(g_s), s	12.4	0.0	2.9	11.1	22.2	22.7		
Cycle Q Clear(g_c), s	12.4	0.0	2.9	11.1	22.2	22.7		
Prop In Lane	0.77	0.22	1.00			0.27		
Lane Grp Cap(c), veh/h	431	0	138	2342	957	958		
V/C Ratio(X)	0.77	0.00	0.56	0.49	0.76	0.77		
Avail Cap(c_a), veh/h	623	0	206	3030	1232	1234		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	0.0	30.6	5.8	12.4	12.5		
Incr Delay (d2), s/veh	3.6	0.0	3.5	0.2	2.1	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	1.5	5.4	11.3	11.5		
LnGrp Delay(d),s/veh	27.6	0.0	34.2	6.0	14.5	14.8		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	332			1216	1470			
Approach Delay, s/veh	27.6			7.8	14.7			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.6		20.3	8.4	40.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		57.5		23.5	6.5	46.5		
Max Q Clear Time (g_c+I1), s		13.1		14.4	4.9	24.7		
Green Ext Time (p_c), s		10.6		0.7	0.0	11.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	276	118	1404	282	74	1208		
Future Volume (veh/h)	276	118	1404	282	74	1208		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	276	31	1404	145	74	1208		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	1865	802	157	2371		
Arrive On Green	0.22	0.22	0.53	0.53	0.09	0.67		
Sat Flow, veh/h	1774	1583	3632	1522	1774	3632		
Grp Volume(v), veh/h	276	31	1404	145	74	1208		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1522	1774	1770		
Q Serve(g_s), s	7.9	0.9	17.2	2.7	2.2	9.4		
Cycle Q Clear(g_c), s	7.9	0.9	17.2	2.7	2.2	9.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	392	350	1865	802	157	2371		
V/C Ratio(X)	0.70	0.09	0.75	0.18	0.47	0.51		
Avail Cap(c_a), veh/h	981	875	2181	938	209	2791		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	17.1	10.2	6.8	23.9	4.6		
Incr Delay (d2), s/veh	2.3	0.1	1.3	0.1	2.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.4	8.5	1.2	1.2	4.6		
LnGrp Delay(d),s/veh	22.1	17.2	11.5	6.9	26.1	4.7		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	307		1549			1282		
Approach Delay, s/veh	21.6		11.1			6.0		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	32.1				40.0		15.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+14), s	14.2	19.2				11.4		9.9
Green Ext Time (p_c), s	0.0	8.4				10.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	120	192	192	139	116	103	1549	171	78	1295	119
Future Volume (veh/h)	119	120	192	192	139	116	103	1549	171	78	1295	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.90	0.94		0.87	1.00		0.86	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1569	1863	980	1569	1863	1863	2451	1900	1863	1863	1900
Adj Flow Rate, veh/h	119	120	62	192	139	40	103	1549	171	78	1295	119
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	314	457	414	208	464	409	153	3357	370	124	2550	234
Arrive On Green	0.29	0.29	0.29	0.30	0.30	0.30	0.09	0.56	0.55	0.07	0.54	0.54
Sat Flow, veh/h	1106	1569	1422	592	1569	1381	1774	6006	661	1774	4699	432
Grp Volume(v), veh/h	119	120	62	192	139	40	103	1150	570	78	934	480
Grp Sat Flow(s), veh/h/ln	1106	1569	1422	592	1569	1381	1774	2230	2206	1774	1695	1741
Q Serve(g_s), s	10.0	6.2	3.4	25.3	7.3	2.2	6.0	16.3	16.4	4.6	18.5	18.6
Cycle Q Clear(g_c), s	17.3	6.2	3.4	31.5	7.3	2.2	6.0	16.3	16.4	4.6	18.5	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.25
Lane Grp Cap(c), veh/h	314	457	414	208	464	409	153	2494	1233	124	1839	945
V/C Ratio(X)	0.38	0.26	0.15	0.92	0.30	0.10	0.67	0.46	0.46	0.63	0.51	0.51
Avail Cap(c_a), veh/h	314	457	414	208	464	409	233	2494	1233	183	1839	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.0	28.9	27.9	44.0	28.9	27.2	47.2	13.9	14.0	48.2	15.4	15.4
Incr Delay (d2), s/veh	0.8	0.3	0.2	41.4	0.4	0.1	5.0	0.6	1.2	5.2	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.7	1.4	8.0	3.2	0.9	3.2	10.1	10.4	2.4	8.6	8.9
LnGrp Delay(d),s/veh	36.8	29.2	28.1	85.4	29.3	27.3	52.2	14.6	15.3	53.3	15.6	15.9
LnGrp LOS	D	C	C	F	C	C	D	B	B	D	B	B
Approach Vol, veh/h		301			371			1823			1492	
Approach Delay, s/veh		32.0			58.1			16.9			17.7	
Approach LOS		C			E			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.0	62.0		34.0	12.2	60.2		34.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	57.5		29.5	12.5	54.5		29.5				
Max Q Clear Time (g_c+10), s	16.6	18.4		19.3	8.0	20.6		33.5				
Green Ext Time (p_c), s	0.0	18.4		1.0	0.1	13.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	74	62	282	49	92	21	1570	239	189	1530	30
Future Volume (veh/h)	54	74	62	282	49	92	21	1570	239	189	1530	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.95		0.94	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	2451	1900	980	2451	1900	2451	2451	1900
Adj Flow Rate, veh/h	54	74	24	282	49	92	21	1570	239	189	1530	30
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	143	149	575	280	229	430	70	2761	419	272	3475	68
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.47	0.47	0.23	0.52	0.52
Sat Flow, veh/h	281	478	1459	1229	733	1376	934	5825	884	2334	6744	132
Grp Volume(v), veh/h	128	0	24	282	0	141	21	1201	608	189	1012	548
Grp Sat Flow(s),veh/h/ln	759	0	1459	1229	0	2109	934	2230	2248	2334	2230	2416
Q Serve(g_s), s	9.2	0.0	1.0	15.3	0.0	4.6	2.0	18.0	18.1	6.9	13.2	13.2
Cycle Q Clear(g_c), s	13.7	0.0	1.0	29.0	0.0	4.6	2.0	18.0	18.1	6.9	13.2	13.2
Prop In Lane	0.42		1.00	1.00		0.65	1.00		0.39	1.00		0.05
Lane Grp Cap(c), veh/h	292	0	575	280	0	659	70	2114	1066	272	2298	1245
V/C Ratio(X)	0.44	0.00	0.04	1.01	0.00	0.21	0.30	0.57	0.57	0.69	0.44	0.44
Avail Cap(c_a), veh/h	292	0	575	280	0	659	70	2114	1066	704	3123	1691
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.8	0.0	17.7	40.9	0.0	23.5	40.6	17.6	17.6	34.1	14.1	14.1
Incr Delay (d2), s/veh	1.0	0.0	0.0	55.9	0.0	0.2	10.5	1.1	2.2	3.2	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.4	11.4	0.0	2.7	0.7	11.3	11.8	4.6	8.1	8.8
LnGrp Delay(d),s/veh	27.8	0.0	17.7	96.8	0.0	23.7	51.1	18.7	19.8	37.2	14.2	14.4
LnGrp LOS	C		B	F		C	D	B	B	D	B	B
Approach Vol, veh/h	152		423			1830			1749			
Approach Delay, s/veh	26.2		72.4			19.4			16.8			
Approach LOS	C		E			B			B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.8	47.0		32.0	10.0	50.8		32.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	26.5	42.5		27.5	5.5	63.5		27.5				
Max Q Clear Time (g_c+10), s	19.9	20.1		15.7	4.0	15.2		31.0				
Green Ext Time (p_c), s	0.5	13.8		0.6	0.0	15.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.0									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	154	48	44	1861	1532	67		
Future Volume (veh/h)	154	48	44	1861	1532	67		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.96	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	154	48	44	1861	1532	67		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	310	97	101	3047	3284	144		
Arrive On Green	0.24	0.24	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1294	403	54	4785	5160	218		
Grp Volume(v), veh/h	203	0	658	1247	1040	559		
Grp Sat Flow(s),veh/h/ln	1706	0	1601	1543	1695	1821		
Q Serve(g_s), s	6.0	0.0	0.0	13.6	8.8	8.8		
Cycle Q Clear(g_c), s	6.0	0.0	10.9	13.6	8.8	8.8		
Prop In Lane	0.76	0.24	0.07			0.12		
Lane Grp Cap(c), veh/h	408	0	1119	2030	2230	1198		
V/C Ratio(X)	0.50	0.00	0.59	0.61	0.47	0.47		
Avail Cap(c_a), veh/h	818	0	1541	2958	3251	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	0.0	5.3	5.7	4.9	4.9		
Incr Delay (d2), s/veh	0.9	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.6	5.6	4.1	4.4		
LnGrp Delay(d),s/veh	20.1	0.0	5.8	6.0	5.1	5.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	203			1905	1599			
Approach Delay, s/veh	20.1			6.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		41.4		17.0		41.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		54.5		26.5		54.5		
Max Q Clear Time (g_c+l1), s		15.6		8.0		10.8		
Green Ext Time (p_c), s		21.4		0.6		15.9		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.97	0.98		0.95	1.00		0.95	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	95	72	195	68	50	256	1772	274	86	1470	57
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	552	457	384	290	213	320	2343	359	137	2145	83
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.18	0.53	0.53	0.08	0.43	0.43
Sat Flow, veh/h	1223	1863	1540	1189	977	718	1774	4420	676	1774	5020	195
Grp Volume(v), veh/h	104	95	72	195	0	118	256	1355	691	86	993	534
Grp Sat Flow(s),veh/h/ln	1223	1863	1540	1189	0	1695	1774	1695	1706	1774	1695	1824
Q Serve(g_s), s	6.6	3.6	3.2	13.7	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Cycle Q Clear(g_c), s	11.5	3.6	3.2	17.2	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.40	1.00		0.11
Lane Grp Cap(c), veh/h	375	552	457	384	0	502	320	1798	904	137	1448	779
V/C Ratio(X)	0.28	0.17	0.16	0.51	0.00	0.23	0.80	0.75	0.76	0.63	0.69	0.69
Avail Cap(c_a), veh/h	436	645	533	443	0	587	482	2061	1037	215	1552	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	24.5	24.4	30.9	0.0	25.0	36.9	17.3	17.4	42.0	21.8	21.8
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.2	5.6	1.4	3.0	4.6	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.8	1.4	4.6	0.0	2.3	6.8	13.9	14.8	2.3	10.6	11.6
LnGrp Delay(d),s/veh	29.7	24.6	24.5	31.9	0.0	25.2	42.5	18.7	20.4	46.6	22.9	23.9
LnGrp LOS	C	C	C	C		C	D	B	C	D	C	C
Approach Vol, veh/h		271			313			2302			1613	
Approach Delay, s/veh		26.6			29.4			21.8			24.5	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.3	52.8		30.8	19.9	43.1		30.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.9	55.6		31.0	24.0	41.5		31.0				
Max Q Clear Time (g_c+16.4), s	16.4	32.0		13.5	15.0	24.3		19.2				
Green Ext Time (p_c), s	0.0	16.2		1.0	0.5	9.6		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay				23.6								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	332	241	135	88	71	50	85	1393	29	101	1333	149
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	282	158	177	143	261	130	1909	40	166	1809	202
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	1774	1110	622	1003	809	1482	1774	5125	107	1774	4610	515
Grp Volume(v), veh/h	332	0	376	159	0	50	85	922	500	101	980	502
Grp Sat Flow(s),veh/h/ln	1774	0	1732	1813	0	1482	1774	1695	1841	1774	1695	1735
Q Serve(g_s), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Cycle Q Clear(g_c), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Prop In Lane	1.00		0.36	0.55		1.00	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	451	0	441	319	0	261	130	1263	686	166	1331	681
V/C Ratio(X)	0.74	0.00	0.85	0.50	0.00	0.19	0.65	0.73	0.73	0.61	0.74	0.74
Avail Cap(c_a), veh/h	489	0	478	500	0	409	260	1958	1063	260	1958	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	43.1	0.0	40.7	52.3	31.4	31.4	50.5	30.1	30.1
Incr Delay (d2), s/veh	5.3	0.0	13.2	1.2	0.0	0.4	5.4	0.8	1.5	3.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.1	4.7	0.0	1.4	2.8	12.8	14.1	3.3	13.5	14.0
LnGrp Delay(d),s/veh	44.9	0.0	54.4	44.3	0.0	41.1	57.7	32.2	32.9	54.1	30.9	31.7
LnGrp LOS	D		D	D		D	E	C	C	D	C	C
Approach Vol, veh/h	708				209				1507		1583	
Approach Delay, s/veh	49.9				43.6				33.9		32.7	
Approach LOS	D				D				C		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.8	46.2		32.5	11.5	48.5		23.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	65.5		30.5	15.5	65.5		30.5				
Max Q Clear Time (g_c+1/3), s	19.3	29.2		26.0	7.4	30.7		11.2				
Green Ext Time (p_c), s	0.1	12.5		1.6	0.1	13.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.7											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.90	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	178	4	222	260	28	78	1206	336	204	1102	102
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	187	425	446	339	385	1545	430	251	1500	139
Arrive On Green	0.13	0.13	0.13	0.24	0.24	0.24	0.22	0.40	0.40	0.14	0.32	0.32
Sat Flow, veh/h	1774	1863	1491	1774	1863	1418	1774	3909	1089	1774	4698	434
Grp Volume(v), veh/h	152	178	4	222	260	28	78	1046	496	204	795	409
Grp Sat Flow(s),veh/h/ln	1774	1863	1491	1774	1863	1418	1774	1695	1608	1774	1695	1742
Q Serve(g_s), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Cycle Q Clear(g_c), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.25
Lane Grp Cap(c), veh/h	222	233	187	425	446	339	385	1340	635	251	1082	556
V/C Ratio(X)	0.68	0.76	0.02	0.52	0.58	0.08	0.20	0.78	0.78	0.81	0.73	0.74
Avail Cap(c_a), veh/h	264	277	222	476	500	380	385	1637	776	278	1746	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	51.2	46.5	40.1	40.7	35.8	38.8	32.0	32.1	50.5	36.7	36.7
Incr Delay (d2), s/veh	5.7	10.0	0.0	1.0	1.4	0.1	0.3	2.0	4.2	15.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	6.4	0.1	6.6	7.8	0.7	2.2	15.6	15.2	7.7	12.0	12.5
LnGrp Delay(d),s/veh	56.4	61.2	46.5	41.1	42.1	35.9	39.1	34.1	36.3	65.9	37.7	38.6
LnGrp LOS	E	E	D	D	D	D	D	C	D	E	D	D
Approach Vol, veh/h	334				510				1620		1408	
Approach Delay, s/veh	58.8				41.3				35.0		42.0	
Approach LOS	E				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	30.1	50.9			32.0	29.3	41.7	18.2				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	57.0			31.0	13.6	60.9	16.5				
Max Q Clear Time (g_c+1/5), s	34.7	34.7			16.9	6.4	27.3	13.2				
Green Ext Time (p_c), s	0.1	11.7			2.0	0.1	9.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	40.4											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT		NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	160	0	26	2	0	6	133	1528	0	32	1338	81
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	388	140	34	317	208	2694	0	100	2298	139
Arrive On Green	0.28	0.00	0.28	0.28	0.00	0.28	0.12	0.53	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1373	0	1396	259	122	1143	1774	5253	0	1774	4899	297
Grp Volume(v), veh/h	160	0	26	8	0	0	133	1528	0	32	926	493
Grp Sat Flow(s),veh/h/ln	1373	0	1396	1524	0	0	1774	1695	0	1774	1695	1805
Q Serve(g_s), s	6.0	0.0	0.9	0.0	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Cycle Q Clear(g_c), s	6.3	0.0	0.9	0.2	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	490	0	388	491	0	0	208	2694	0	100	1590	847
V/C Ratio(X)	0.33	0.00	0.07	0.02	0.00	0.00	0.64	0.57	0.00	0.32	0.58	0.58
Avail Cap(c_a), veh/h	773	0	676	798	0	0	322	7463	0	322	4975	2649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.6	17.3	0.0	0.0	27.9	10.4	0.0	30.0	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	3.3	0.2	0.0	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.4	0.1	0.0	0.0	2.5	6.3	0.0	0.6	6.1	6.6
LnGrp Delay(d),s/veh	19.9	0.0	17.6	17.3	0.0	0.0	31.1	10.6	0.0	31.8	13.2	13.5
LnGrp LOS	B		B	B			C	B		C	B	B
Approach Vol, veh/h	186			8			1661			1451		
Approach Delay, s/veh	19.5			17.3			12.3			13.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.0		21.4	10.7	34.0		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	95.5		30.5	10.5	95.5		30.5				
Max Q Clear Time (g_c+I), s	13.1	15.3		8.3	6.7	15.2		2.2				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.1	14.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	54	30	1361	1427	107		
Future Volume (veh/h)	103	54	30	1361	1427	107		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	78	80	30	1361	1427	107		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	238	216	124	2569	2823	212		
Arrive On Green	0.13	0.13	0.07	0.73	0.59	0.59		
Sat Flow, veh/h	1774	1615	1774	3632	4988	361		
Grp Volume(v), veh/h	78	80	30	1361	1004	530		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1792		
Q Serve(g_s), s	1.7	1.9	0.7	7.3	7.5	7.5		
Cycle Q Clear(g_c), s	1.7	1.9	0.7	7.3	7.5	7.5		
Prop In Lane	1.00	1.00	1.00			0.20		
Lane Grp Cap(c), veh/h	238	216	124	2569	1985	1049		
V/C Ratio(X)	0.33	0.37	0.24	0.53	0.51	0.51		
Avail Cap(c_a), veh/h	1285	1170	290	4383	3406	1800		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.8	16.9	18.8	2.6	5.2	5.2		
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.2	0.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.4	3.5	3.4	3.6		
LnGrp Delay(d),s/veh	17.6	17.9	19.8	2.8	5.4	5.6		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	158			1391	1534			
Approach Delay, s/veh	17.8			3.2	5.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.1		8.7	6.0	28.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+l1), s		9.3		3.9	2.7	9.5		
Green Ext Time (p_c), s		14.6		0.4	0.0	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	86	138	3	123	149	34	42	1147	77	260	1128	82
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	221	180	239	251	212	95	1498	669	330	2686	195
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.05	0.42	0.42	0.19	0.56	0.56
Sat Flow, veh/h	1774	1863	1519	1774	1863	1576	1774	3539	1580	1774	4834	351
Grp Volume(v), veh/h	86	138	3	123	149	34	42	1147	77	260	791	419
Grp Sat Flow(s),veh/h/ln	1774	1863	1519	1774	1863	1576	1774	1770	1580	1774	1695	1795
Q Serve(g_s), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Cycle Q Clear(g_c), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	211	221	180	239	251	212	95	1498	669	330	1883	997
V/C Ratio(X)	0.41	0.62	0.02	0.51	0.59	0.16	0.44	0.77	0.12	0.79	0.42	0.42
Avail Cap(c_a), veh/h	446	469	382	649	682	577	142	2105	940	548	2792	1479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	36.7	34.0	35.2	35.6	33.4	40.1	21.5	15.3	33.9	11.3	11.3
Incr Delay (d2), s/veh	1.3	2.9	0.0	1.7	2.2	0.3	3.2	1.1	0.1	4.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.4	0.1	2.9	3.5	0.7	1.1	12.0	1.1	6.4	5.5	5.9
LnGrp Delay(d),s/veh	37.0	39.5	34.1	36.9	37.8	33.8	43.3	22.6	15.4	38.1	11.4	11.5
LnGrp LOS	D	D	C	D	D	C	D	C	B	D	B	B
Approach Vol, veh/h	227		306				1266		1470			
Approach Delay, s/veh	38.5		37.0				22.9		16.2			
Approach LOS	D		D				C		B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	19.3	40.0			13.4	7.7	51.6	14.8				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	25.5	50.5			20.5	5.5	70.5	30.5				
Max Q Clear Time (g_c+14.2), s	14.2	26.2			8.2	4.0	13.8	8.6				
Green Ext Time (p_c), s	0.6	9.3			0.7	0.0	10.7	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			22.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.87	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	235	0	56	5	7	4	311	451	3	2	267	169
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	0	197	89	124	71	397	961	6	41	336	212
Arrive On Green	0.13	0.00	0.13	0.17	0.17	0.17	0.22	0.52	0.52	0.02	0.32	0.32
Sat Flow, veh/h	3548	0	1571	527	738	422	1774	1848	12	1774	1051	665
Grp Volume(v), veh/h	235	0	56	16	0	0	311	0	454	2	0	436
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1687	0	0	1774	0	1860	1774	0	1716
Q Serve(g_s), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0
Cycle Q Clear(g_c), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0
Prop In Lane	1.00		1.00	0.31		0.25	1.00		0.01	1.00		0.39
Lane Grp Cap(c), veh/h	444	0	197	284	0	0	397	0	968	41	0	548
V/C Ratio(X)	0.53	0.00	0.28	0.06	0.00	0.00	0.78	0.00	0.47	0.05	0.00	0.80
Avail Cap(c_a), veh/h	1280	0	567	471	0	0	797	0	1758	159	0	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	29.1	25.7	0.0	0.0	26.8	0.0	11.2	35.1	0.0	22.8
Incr Delay (d2), s/veh	1.0	0.0	0.8	0.1	0.0	0.0	3.4	0.0	0.4	0.5	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.1	0.3	0.0	0.0	6.3	0.0	5.9	0.0	0.0	8.4
LnGrp Delay(d),s/veh	31.1	0.0	29.9	25.7	0.0	0.0	30.2	0.0	11.5	35.6	0.0	25.5
LnGrp LOS	C		C	C			C		B	D		C
Approach Vol, veh/h	291		16				765			438		
Approach Delay, s/veh	30.9		25.7				19.1			25.5		
Approach LOS	C		C				B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	41.2		12.2	19.4	26.5		15.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	67.9			25.0	31.5	41.5		19.0				
Max Q Clear Time (g_c+I1), s	13.4			6.6	14.1	19.0		2.6				
Green Ext Time (p_c), s	0.0	3.3		0.9	0.9	2.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	23.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

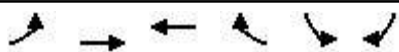
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘		↗	↘	↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	86	30	1	59	1	21	13	544	118	347	714	8
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	63	210	195	3	173	73	873	189	443	1832	21
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.04	0.30	0.30	0.25	0.51	0.51
Sat Flow, veh/h	1332	465	1552	1746	30	1545	1774	2885	623	1774	3585	40
Grp Volume(v), veh/h	116	0	1	60	0	21	13	333	329	347	352	370
Grp Sat Flow(s), veh/h/ln	1796	0	1552	1775	0	1545	1774	1770	1739	1774	1770	1855
Q Serve(g_s), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Prop In Lane	0.74		1.00	0.98		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	243	0	210	198	0	173	73	535	526	443	904	948
V/C Ratio(X)	0.48	0.00	0.00	0.30	0.00	0.12	0.18	0.62	0.63	0.78	0.39	0.39
Avail Cap(c_a), veh/h	765	0	661	756	0	658	193	786	772	604	1197	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	22.4	24.5	0.0	24.0	27.7	17.9	18.0	21.0	8.9	8.9
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.8	0.0	0.3	1.1	1.2	1.2	4.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.0	0.0	0.3	0.2	4.9	4.8	5.9	3.6	3.8
LnGrp Delay(d),s/veh	25.4	0.0	22.4	25.3	0.0	24.3	28.9	19.1	19.2	25.6	9.2	9.2
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h	117			81			675			1069		
Approach Delay, s/veh	25.3			25.0			19.3			14.5		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	21.1		9.7	5.5	33.6		11.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.9	25.1		24.0	5.0	39.0		24.0				
Max Q Clear Time (g_c+112, s)	11.8			3.9	2.4	9.3		5.6				
Green Ext Time (p_c), s	0.6	3.5		0.3	0.0	4.9		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	17.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020

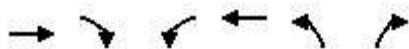


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	195	929	562	51	103	437		
Future Volume (veh/h)	195	929	562	51	103	437		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	195	929	562	51	103	98		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	615	2349	1276	116	312	491		
Arrive On Green	0.18	0.66	0.39	0.37	0.18	0.18		
Sat Flow, veh/h	3442	3632	3375	297	1774	2787		
Grp Volume(v), veh/h	195	929	303	310	103	98		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1809	1774	1393		
Q Serve(g_s), s	1.5	3.7	3.9	4.0	1.6	0.9		
Cycle Q Clear(g_c), s	1.5	3.7	3.9	4.0	1.6	0.9		
Prop In Lane	1.00			0.16	1.00	1.00		
Lane Grp Cap(c), veh/h	615	2349	688	703	312	491		
V/C Ratio(X)	0.32	0.40	0.44	0.44	0.33	0.20		
Avail Cap(c_a), veh/h	1764	6066	1956	1999	1790	2812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	2.4	7.0	7.1	11.2	11.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.4	0.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.9	2.0	0.8	0.8		
LnGrp Delay(d),s/veh	11.5	2.5	7.5	7.5	11.9	11.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		1124	613		201			
Approach Delay, s/veh		4.1	7.5		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.2		8.0	8.6	14.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				51.5		29.5	14.5	32.5
Max Q Clear Time (g_c+I1), s				5.7		3.6	3.5	6.0
Green Ext Time (p_c), s				8.4		0.7	0.5	4.0
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↵		↵	↑↑	↵	↵		
Traffic Volume (veh/h)	646	350	215	833	246	72		
Future Volume (veh/h)	646	350	215	833	246	72		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	646	350	215	833	246	19		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	869	471	329	2301	377	336		
Arrive On Green	0.40	0.40	0.19	0.65	0.21	0.21		
Sat Flow, veh/h	2286	1188	1774	3632	1774	1583		
Grp Volume(v), veh/h	521	475	215	833	246	19		
Grp Sat Flow(s),veh/h/ln	1770	1612	1774	1770	1774	1583		
Q Serve(g_s), s	11.0	11.0	4.9	4.7	5.5	0.4		
Cycle Q Clear(g_c), s	11.0	11.0	4.9	4.7	5.5	0.4		
Prop In Lane		0.74	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	701	638	329	2301	377	336		
V/C Ratio(X)	0.74	0.74	0.65	0.36	0.65	0.06		
Avail Cap(c_a), veh/h	791	720	488	2798	793	708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	11.3	16.5	3.5	15.7	13.7		
Incr Delay (d2), s/veh	3.4	3.7	2.2	0.1	1.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.0	5.5	2.6	2.2	2.9	0.2		
LnGrp Delay(d),s/veh	14.7	15.0	18.7	3.6	17.6	13.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	996			1048	265			
Approach Delay, s/veh	14.8			6.7	17.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	11.1	20.3				31.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	10.5	18.0				33.0
Max Q Clear Time (g_c+I1), s		7.5	6.9	13.0				6.7
Green Ext Time (p_c), s		0.6	0.2	2.8				6.5
Intersection Summary								
HCM 2010 Ctrl Delay			11.4					
HCM 2010 LOS			B					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↔			↔	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-72647		0	0-74510		0	0-74510		0	0-74510		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	135118356480		0	71114932224		0	71114932224		0	71114932224		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	24996896309248		13156260822464	13156260822464		13156260822464	13156260822464		13156260822464		13156260822464	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 36.1

Intersection LOS E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	483	76	32	300	13	56	78	31	52	66	58
Future Vol, veh/h	53	483	76	32	300	13	56	78	31	52	66	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	483	76	32	300	13	56	78	31	52	66	58
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	58.1	18.9	13.9	14
HCM LOS	F	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	9%	9%	30%
Vol Thru, %	47%	79%	87%	38%
Vol Right, %	19%	12%	4%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	612	345	176
LT Vol	56	53	32	52
Through Vol	78	483	300	66
RT Vol	31	76	13	58
Lane Flow Rate	165	612	345	176
Geometry Grp	1	1	1	1
Degree of Util (X)	0.332	0.991	0.608	0.348
Departure Headway (Hd)	7.254	5.828	6.344	7.126
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	493	618	566	502
Service Time	5.34	3.883	4.413	5.21
HCM Lane V/C Ratio	0.335	0.99	0.61	0.351
HCM Control Delay	13.9	58.1	18.9	14
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	1.4	14.7	4.1	1.5

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1413	13	0	0	0	0	84	115	243	108	0
Future Volume (veh/h)	24	1413	13	0	0	0	0	84	115	243	108	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900				0	980	1900	1900	1863	0
Adj Flow Rate, veh/h	24	1413	13				0	84	115	243	108	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	21	1281	12				0	123	169	207	62	0
Arrive On Green	0.56	0.56	0.55				0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	37	2287	22				0	370	507	378	187	0
Grp Volume(v), veh/h	760	0	690				0	0	199	351	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1171				0	0	877	565	0	0
Q Serve(g_s), s	42.0	0.0	42.0				0.0	0.0	14.7	10.3	0.0	0.0
Cycle Q Clear(g_c), s	42.0	0.0	42.0				0.0	0.0	14.7	25.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.58	0.69		0.00
Lane Grp Cap(c), veh/h	658	0	656				0	0	292	270	0	0
V/C Ratio(X)	1.16	0.00	1.05				0.00	0.00	0.68	1.30	0.00	0.00
Avail Cap(c_a), veh/h	658	0	656				0	0	292	270	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	16.5				0.0	0.0	21.7	33.4	0.0	0.0
Incr Delay (d2), s/veh	86.4	0.0	49.6				0.0	0.0	6.3	160.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	29.1	0.0	22.3				0.0	0.0	4.1	17.5	0.0	0.0
LnGrp Delay(d),s/veh	102.9	0.0	66.1				0.0	0.0	28.0	193.6	0.0	0.0
LnGrp LOS	F		F						C		F	
Approach Vol, veh/h	1450						199			351		
Approach Delay, s/veh	85.4						28.0			193.6		
Approach LOS	F						C			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	29.0		46.0		29.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	24.5		41.5		24.5							
Max Q Clear Time (g_c+l1), s	16.7		44.0		27.0							
Green Ext Time (p_c), s	0.7		0.0		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay			98.7									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	328	13	109	233	132	13	155	253	95	90	48
Future Volume (veh/h)	57	328	13	109	233	132	13	155	253	95	90	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.98		0.92	0.95		0.93	0.98		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	328	13	109	233	132	13	155	253	95	90	48
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	154	546	20	542	414	234	613	252	412	385	458	244
Arrive On Green	0.38	0.38	0.37	0.38	0.38	0.37	0.41	0.41	0.40	0.41	0.41	0.40
Sat Flow, veh/h	130	1424	52	1011	1079	611	1189	609	994	955	1106	590
Grp Volume(v), veh/h	398	0	0	109	0	365	13	0	408	95	0	138
Grp Sat Flow(s),veh/h/ln	1607	0	0	1011	0	1690	1189	0	1603	955	0	1696
Q Serve(g_s), s	1.5	0.0	0.0	0.0	0.0	6.7	0.3	0.0	8.0	3.4	0.0	2.1
Cycle Q Clear(g_c), s	8.2	0.0	0.0	3.5	0.0	6.7	2.3	0.0	8.0	11.4	0.0	2.1
Prop In Lane	0.14		0.03	1.00		0.36	1.00		0.62	1.00		0.35
Lane Grp Cap(c), veh/h	720	0	0	542	0	648	613	0	664	385	0	703
V/C Ratio(X)	0.55	0.00	0.00	0.20	0.00	0.56	0.02	0.00	0.61	0.25	0.00	0.20
Avail Cap(c_a), veh/h	1170	0	0	819	0	1111	1052	0	1257	739	0	1330
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	8.6	0.0	9.7	8.1	0.0	9.2	13.6	0.0	7.4
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.2	0.0	0.8	0.0	0.0	0.9	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	0.8	0.0	3.2	0.1	0.0	3.6	0.9	0.0	1.0
LnGrp Delay(d),s/veh	10.4	0.0	0.0	8.8	0.0	10.4	8.1	0.0	10.2	13.9	0.0	7.6
LnGrp LOS	B			A		B	A		B	B		A
Approach Vol, veh/h	398				474		421				233	
Approach Delay, s/veh	10.4				10.1		10.1				10.2	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	20.4		19.2		20.4		19.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.5		25.5		30.5		25.5					
Max Q Clear Time (g_c+I1), s	10.0		10.2		13.4		8.7					
Green Ext Time (p_c), s	2.8		2.4		1.2		2.7					
Intersection Summary												
HCM 2010 Ctrl Delay			10.2									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				392	0	718	0	1601	169	0	1498	515
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1032	0	836	0	3206	990	0	2362	799
Arrive On Green				0.30	0.00	0.30	0.00	0.63	0.63	0.00	0.63	0.63
Sat Flow, veh/h				3442	0	2787	0	5253	1571	0	3915	1267
Grp Volume(v), veh/h				392	0	718	0	1601	169	0	1353	660
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1571	0	1695	1624
Q Serve(g_s), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Cycle Q Clear(g_c), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.78
Lane Grp Cap(c), veh/h				1032	0	836	0	3206	990	0	2137	1024
V/C Ratio(X)				0.38	0.00	0.86	0.00	0.50	0.17	0.00	0.63	0.64
Avail Cap(c_a), veh/h				1317	0	1066	0	3206	990	0	2137	1024
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.81	0.00	0.71	0.71
Uniform Delay (d), s/veh				31.8	0.0	38.0	0.0	11.5	8.8	0.0	13.1	13.4
Incr Delay (d2), s/veh				0.2	0.0	5.9	0.0	0.5	0.3	0.0	1.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	11.4	0.0	9.2	2.3	0.0	13.5	13.7
LnGrp Delay(d),s/veh				32.0	0.0	43.8	0.0	11.9	9.1	0.0	14.1	15.6
LnGrp LOS				C		D		B	A		B	B
Approach Vol, veh/h				1110				1770			2013	
Approach Delay, s/veh				39.6				11.6			14.6	
Approach LOS				D				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.5				76.5		38.5				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		62.5				62.5		43.5				
Max Q Clear Time (g_c+I1), s		21.5				31.3		29.9				
Green Ext Time (p_c), s		17.9				19.5		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	346	0	201				0	1505	547	0	1493	310
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	441	0	357				0	3011	1073	0	4143	1279
Arrive On Green	0.13	0.00	0.13				0.00	0.81	0.81	0.00	0.81	0.81
Sat Flow, veh/h	3442	0	2787				0	3863	1317	0	5253	1570
Grp Volume(v), veh/h	346	0	201				0	1378	674	0	1493	310
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1622	0	1695	1570
Q Serve(g_s), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Cycle Q Clear(g_c), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Prop In Lane	1.00		1.00				0.00		0.81	0.00		1.00
Lane Grp Cap(c), veh/h	441	0	357				0	2762	1321	0	4143	1279
V/C Ratio(X)	0.78	0.00	0.56				0.00	0.50	0.51	0.00	0.36	0.24
Avail Cap(c_a), veh/h	737	0	597				0	2762	1321	0	4143	1279
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.00	0.72	0.72
Uniform Delay (d), s/veh	59.2	0.0	57.4				0.0	4.0	4.2	0.0	3.4	3.0
Incr Delay (d2), s/veh	3.1	0.0	1.4				0.0	0.4	0.9	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	3.7				0.0	8.4	8.6	0.0	5.0	14.3
LnGrp Delay(d),s/veh	62.3	0.0	58.7				0.0	4.4	5.1	0.0	3.6	3.3
LnGrp LOS	E		E					A	A		A	A
Approach Vol, veh/h		547						2052			1803	
Approach Delay, s/veh		61.0						4.7			3.5	
Approach LOS		E						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		101.5		29.5		101.5						
Max Q Clear Time (g_c+l1), s		20.7		15.6		12.8						
Green Ext Time (p_c), s		31.4		1.8		20.5						
Intersection Summary												
HCM 2010 Ctrl Delay			11.2									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	15	487	95	17	369
Future Vol, veh/h	26	15	487	95	17	369
Conflicting Peds, #/hr	1	0	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	15	487	95	17	369

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	954	550	0	0	597	0
Stage 1	550	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	287	535	-	-	980	-
Stage 1	578	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	276	527	-	-	966	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 276 527	966	-
HCM Lane V/C Ratio	-	- 0.094 0.028	0.018	-
HCM Control Delay (s)	-	- 19.4 12	8.8	0
HCM Lane LOS	-	- C B	A	A
HCM 95th %tile Q(veh)	-	- 0.3 0.1	0.1	-

Intersection	
Intersection Delay, s/veh	38.1
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Future Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	213	21	23	13	161	551	16	14	364	15
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16	12.8	54.9	25.3
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	37%	100%	0%
Vol Thru, %	0%	97%	0%	12%	40%	0%	96%
Vol Right, %	0%	3%	0%	88%	23%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	567	16	243	57	14	379
LT Vol	161	0	16	0	21	14	0
Through Vol	0	551	0	30	23	0	364
RT Vol	0	16	0	213	13	0	15
Lane Flow Rate	161	567	16	243	57	14	379
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.312	1.014	0.036	0.481	0.132	0.029	0.726
Departure Headway (Hd)	6.97	6.44	8.315	7.13	8.536	7.435	6.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	567	433	505	422	482	523
Service Time	4.705	4.175	6.015	4.87	6.536	5.174	4.634
HCM Lane V/C Ratio	0.311	1	0.037	0.481	0.135	0.029	0.725
HCM Control Delay	12.8	66.8	11.3	16.3	12.8	10.4	25.9
HCM Lane LOS	B	F	B	C	B	B	D
HCM 95th-tile Q	1.3	15	0.1	2.6	0.5	0.1	6

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.95	0.97		0.86	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	0	11	50	0	20	4	654	68	37	629	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	20	134	190	10	55	595	1453	1192	552	1431	18
Arrive On Green	0.14	0.00	0.13	0.14	0.00	0.13	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	383	142	961	917	69	394	787	1863	1528	727	1834	23
Grp Volume(v), veh/h	17	0	0	70	0	0	4	654	68	37	0	637
Grp Sat Flow(s),veh/h/ln	1486	0	0	1381	0	0	787	1863	1528	727	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	0.2	11.9	1.0	1.8	0.0	11.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	4.4	0.0	0.0	11.6	11.9	1.0	13.7	0.0	11.5
Prop In Lane	0.35		0.65	0.71		0.29	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	255	0	0	595	1453	1192	552	0	1449
V/C Ratio(X)	0.07	0.00	0.00	0.27	0.00	0.00	0.01	0.45	0.06	0.07	0.00	0.44
Avail Cap(c_a), veh/h	412	0	0	404	0	0	595	1453	1192	552	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.64	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	38.9	0.0	0.0	5.6	3.7	2.5	6.0	0.0	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	0.0	0.0	0.0	6.3	0.4	0.4	0.0	6.1
LnGrp Delay(d),s/veh	37.6	0.0	0.0	39.5	0.0	0.0	5.6	4.4	2.6	6.3	0.0	4.6
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	17				70				726		674	
Approach Delay, s/veh	37.6				39.5				4.2		4.7	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	82.0		18.0		82.0		18.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		24.5		66.5		24.5					
Max Q Clear Time (g_c+I1), s	13.9		2.9		15.7		6.4					
Green Ext Time (p_c), s	5.7		0.0		5.6		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			6.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.95	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	2	3	238	4	56	1	863	238	37	479	11
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	22	33	240	4	207	45	1597	440	133	1698	40
Arrive On Green	0.11	0.11	0.10	0.14	0.14	0.14	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1200	200	300	1746	29	1503	0	2653	730	135	2820	67
Grp Volume(v), veh/h	17	0	0	242	0	56	606	0	496	249	0	278
Grp Sat Flow(s),veh/h/ln	1701	0	0	1775	0	1503	1862	0	1521	1341	0	1681
Q Serve(g_s), s	0.7	0.0	0.0	10.9	0.0	2.7	0.0	0.0	15.5	1.0	0.0	6.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	10.9	0.0	2.7	15.4	0.0	15.5	16.5	0.0	6.3
Prop In Lane	0.71		0.18	0.98		1.00	0.00		0.48	0.15		0.04
Lane Grp Cap(c), veh/h	188	0	0	244	0	207	1167	0	916	859	0	1012
V/C Ratio(X)	0.09	0.00	0.00	0.99	0.00	0.27	0.52	0.00	0.54	0.29	0.00	0.27
Avail Cap(c_a), veh/h	544	0	0	244	0	207	1167	0	916	859	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.73	0.00	0.73	0.76	0.00	0.76
Uniform Delay (d), s/veh	32.0	0.0	0.0	34.5	0.0	30.9	9.4	0.0	9.5	7.4	0.0	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	55.0	0.0	0.7	1.2	0.0	1.7	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.0	0.0	1.1	8.1	0.0	6.8	2.6	0.0	3.1
LnGrp Delay(d),s/veh	32.2	0.0	0.0	89.5	0.0	31.6	10.6	0.0	11.2	8.1	0.0	8.1
LnGrp LOS	C			F		C	B		B	A		A
Approach Vol, veh/h	17			298			1102			527		
Approach Delay, s/veh	32.2			78.6			10.9			8.1		
Approach LOS	C			E			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	52.2		12.8		52.2		15.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.9		25.1		30.9		10.5					
Max Q Clear Time (g_c+I1), s	17.5		2.7		18.5		12.9					
Green Ext Time (p_c), s	6.3		0.0		2.8		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Future Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	58	4	0	33	58	6	17	0	84	20	256
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	12.4	8.5	9.3	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	75%	0%	0%	81%	0%
Vol Thru, %	74%	23%	100%	0%	19%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	248	33	58	104	256
LT Vol	6	186	0	0	84	0
Through Vol	17	58	33	0	20	0
RT Vol	0	4	0	58	0	256
Lane Flow Rate	23	248	33	58	104	256
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.038	0.392	0.053	0.082	0.17	0.34
Departure Headway (Hd)	5.982	5.691	5.773	5.066	5.898	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	627	614	699	605	748
Service Time	4.082	3.764	3.566	2.857	3.661	2.549
HCM Lane V/C Ratio	0.039	0.396	0.054	0.083	0.172	0.342
HCM Control Delay	9.3	12.4	8.9	8.3	9.9	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.9	0.2	0.3	0.6	1.5

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	4	756	24	17	395	40	36	0	30	130	8	14
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	836	27	113	772	78	722	0	712	598	38	59
Arrive On Green	0.47	0.47	0.46	0.93	0.93	0.92	0.47	0.00	0.47	0.47	0.47	0.46
Sat Flow, veh/h	944	1793	57	690	1656	168	1418	0	1525	1162	82	126
Grp Volume(v), veh/h	4	0	780	17	0	435	36	0	30	152	0	0
Grp Sat Flow(s),veh/h/ln	944	0	1850	690	0	1824	1418	0	1525	1369	0	0
Q Serve(g_s), s	0.3	0.0	46.7	2.6	0.0	3.7	0.0	0.0	1.3	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	46.7	49.3	0.0	3.7	1.5	0.0	1.3	9.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.09	1.00		1.00	0.86		0.09
Lane Grp Cap(c), veh/h	471	0	863	113	0	851	722	0	712	695	0	0
V/C Ratio(X)	0.01	0.00	0.90	0.15	0.00	0.51	0.05	0.00	0.04	0.22	0.00	0.00
Avail Cap(c_a), veh/h	676	0	1264	263	0	1246	722	0	712	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	29.6	24.6	0.0	2.3	17.4	0.0	17.4	19.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.6	0.0	0.5	0.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	25.5	0.5	0.0	1.6	0.7	0.0	0.6	3.2	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	36.3	25.2	0.0	2.8	17.6	0.0	17.5	20.5	0.0	0.0
LnGrp LOS	B		D	C		A	B		B	C		
Approach Vol, veh/h	784				452				66		152	
Approach Delay, s/veh	36.3				3.6				17.5		20.5	
Approach LOS	D				A				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	60.0		60.0		60.0		60.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	29.5		81.5		29.5		81.5					
Max Q Clear Time (g_c+I1), s	3.5		48.7		11.0		51.3					
Green Ext Time (p_c), s	0.2		6.8		0.7		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Intersection

Intersection Delay, s/veh 9.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	244	64	5	0	21	10	4	32	0	19	47	139
Future Vol, veh/h	244	64	5	0	21	10	4	32	0	19	47	139
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	244	64	5	0	21	10	4	32	0	19	47	139
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	7.9	8.4	9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	78%	0%	9%
Vol Thru, %	89%	20%	68%	23%
Vol Right, %	0%	2%	32%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	313	31	205
LT Vol	4	244	0	19
Through Vol	32	64	21	47
RT Vol	0	5	10	139
Lane Flow Rate	36	313	31	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.406	0.04	0.252
Departure Headway (Hd)	5.037	4.667	4.668	4.426
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	709	770	763	810
Service Time	3.083	2.704	2.719	2.458
HCM Lane V/C Ratio	0.051	0.406	0.041	0.253
HCM Control Delay	8.4	10.9	7.9	9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	2	0.1	1

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	64	884	264	11	83	0	0	271	34
Future Volume (veh/h)	0	0	0	64	884	264	11	83	0	0	271	34
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.97		1.00	1.00		0.93
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	980	1863	1900	980	0	0	2451	1900
Adj Flow Rate, veh/h				64	884	167	11	83	0	0	271	34
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				73	1059	891	86	232	0	0	544	68
Arrive On Green				0.59	0.59	0.59	0.26	0.26	0.00	0.00	0.26	0.25
Sat Flow, veh/h				123	1783	1499	43	902	0	0	2114	265
Grp Volume(v), veh/h				507	441	167	94	0	0	0	0	305
Grp Sat Flow(s),veh/h/ln				974	931	1499	946	0	0	0	0	2379
Q Serve(g_s), s				23.7	19.6	2.7	0.0	0.0	0.0	0.0	0.0	5.9
Cycle Q Clear(g_c), s				23.7	19.6	2.7	4.2	0.0	0.0	0.0	0.0	5.9
Prop In Lane				0.13		1.00	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				579	553	891	318	0	0	0	0	612
V/C Ratio(X)				0.88	0.80	0.19	0.30	0.00	0.00	0.00	0.00	0.50
Avail Cap(c_a), veh/h				724	693	1115	537	0	0	0	0	1194
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				9.2	8.4	5.0	16.4	0.0	0.0	0.0	0.0	17.0
Incr Delay (d2), s/veh				9.9	5.2	0.1	0.5	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				7.8	5.7	1.1	1.2	0.0	0.0	0.0	0.0	3.9
LnGrp Delay(d),s/veh				19.1	13.6	5.1	16.9	0.0	0.0	0.0	0.0	17.7
LnGrp LOS				B	B	A	B					B
Approach Vol, veh/h					1115			94			305	
Approach Delay, s/veh					14.8			16.9			17.7	
Approach LOS					B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		17.8				17.8		36.0				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		26.5				26.5		39.5				
Max Q Clear Time (g_c+I1), s		6.2				7.9		25.7				
Green Ext Time (p_c), s		0.4				1.8		5.8				
Intersection Summary												
HCM 2010 Ctrl Delay					15.5							
HCM 2010 LOS					B							

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	10	0	0	0	0	0	0	0	0	10	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1245	1900	1900	1863	1900	1900	1078	1078	1900	1275	1900
Adj Flow Rate, veh/h	2	1003	45	5	835	27	36	22	16	15	5	1
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1058	11	72	1451	49	193	74	341	214	427	3
Arrive On Green	0.65	0.65	0.64	0.65	0.65	0.64	0.19	0.19	0.19	0.19	0.19	0.18
Sat Flow, veh/h	1	2254	101	4	3411	110	489	431	871	528	273	40
Grp Volume(v), veh/h	555	0	495	456	0	411	58	0	16	21	0	0
Grp Sat Flow(s),veh/h/ln	1244	0	1111	1853	0	1672	920	0	871	842	0	0
Q Serve(g_s), s	0.0	0.0	14.4	0.0	0.0	5.8	0.0	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.3	0.0	14.4	5.8	0.0	5.8	2.4	0.0	0.8	2.4	0.0	0.0
Prop In Lane	0.00		0.09	0.01		0.07	0.62		1.00	0.71		0.05
Lane Grp Cap(c), veh/h	534	0	420	805	0	768	266	0	341	308	0	0
V/C Ratio(X)	1.04	0.00	1.18	0.57	0.00	0.54	0.22	0.00	0.05	0.07	0.00	0.00
Avail Cap(c_a), veh/h	879	0	722	1276	0	1086	535	0	410	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.0	10.5	0.0	10.6	10.7	0.0	10.3	16.8	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	103.3	2.9	0.0	2.7	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	31.8	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.0	22.9	5.0	0.0	4.8	0.6	0.0	0.1	1.5	0.0	0.0
LnGrp Delay(d),s/veh	98.2	0.0	154.8	13.3	0.0	13.3	11.1	0.0	10.3	25.0	0.0	0.0
LnGrp LOS	F		F	B		B	B		B	C		
Approach Vol, veh/h	1050				867				74		21	
Approach Delay, s/veh	124.9				13.3				11.0		25.0	
Approach LOS	F				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.1		13.9		37.1		13.9					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.5		23.5		18.5		23.5					
Max Q Clear Time (g_c+I1), s	16.4		4.4		7.8		4.4					
Green Ext Time (p_c), s	1.3		0.0		4.0		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			71.6									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	135	87	51	554	39	42	134	36	18	140	34
Future Volume (veh/h)	10	135	87	51	554	39	42	134	36	18	140	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.99		0.92	0.99		0.86	0.93		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	10	135	87	51	554	39	42	134	36	18	140	34
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	54	278	171	186	2065	142	171	561	139	65	265	61
Arrive On Green	0.52	0.52	0.48	0.52	0.52	0.48	0.38	0.38	0.33	0.38	0.38	0.33
Sat Flow, veh/h	14	530	327	256	3933	271	313	1496	370	43	707	161
Grp Volume(v), veh/h	232	0	0	334	0	310	212	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	871	0	0	2306	0	2154	2178	0	0	912	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	13.8	0.0	0.0	6.0	0.0	6.4	5.1	0.0	0.0	13.0	0.0	0.0
Prop In Lane	0.04		0.37	0.15		0.13	0.20		0.17	0.09		0.18
Lane Grp Cap(c), veh/h	504	0	0	1263	0	1131	871	0	0	391	0	0
V/C Ratio(X)	0.46	0.00	0.00	0.26	0.00	0.27	0.24	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	504	0	0	1263	0	1131	871	0	0	391	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.00	0.00	0.84	0.00	0.84	0.86	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	10.5	0.0	10.7	17.4	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	1.9	0.0	0.0	0.4	0.0	0.5	0.1	0.0	0.0	4.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	4.1	0.0	4.0	3.3	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	14.6	0.0	0.0	10.9	0.0	11.2	17.5	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	B			B		B	B			C		
Approach Vol, veh/h	232				644		212				192	
Approach Delay, s/veh	14.6				11.0		17.5				24.3	
Approach LOS	B				B		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	34.0		46.0		34.0		46.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	26.5		38.5		26.5		38.5					
Max Q Clear Time (g_c+I1), s	7.1		15.8		15.0		8.4					
Green Ext Time (p_c), s	1.2		1.5		0.8		4.7					
Intersection Summary												
HCM 2010 Ctrl Delay	14.7											
HCM 2010 LOS	B											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	164	74	130	132	85	106	1842	237	96	1539	101
Future Volume (veh/h)	59	164	74	130	132	85	106	1842	237	96	1539	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.94		0.82	0.93		0.86	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1961	2451	1900	2451	2451	1900	1863	1324	1900	2451	2451	1900
Adj Flow Rate, veh/h	59	164	74	130	132	85	106	1842	237	96	1539	101
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	253	114	188	221	142	149	1949	248	154	3753	246
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.61	0.60	0.07	0.59	0.58
Sat Flow, veh/h	1146	1490	672	1387	1300	837	1774	3211	408	2334	6374	418
Grp Volume(v), veh/h	59	0	238	130	0	217	106	1376	703	96	1077	563
Grp Sat Flow(s),veh/h/ln	1146	0	2162	1387	0	2137	1774	1204	1210	2334	2230	2332
Q Serve(g_s), s	3.8	0.0	7.9	5.1	0.0	7.2	4.4	40.1	41.6	3.1	10.0	10.0
Cycle Q Clear(g_c), s	11.0	0.0	7.9	13.0	0.0	7.2	4.4	40.1	41.6	3.1	10.0	10.0
Prop In Lane	1.00		0.31	1.00		0.39	1.00		0.34	1.00		0.18
Lane Grp Cap(c), veh/h	181	0	368	188	0	363	149	1462	735	154	2626	1373
V/C Ratio(X)	0.33	0.00	0.65	0.69	0.00	0.60	0.71	0.94	0.96	0.62	0.41	0.41
Avail Cap(c_a), veh/h	181	0	368	188	0	363	464	1462	735	611	2626	1373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.4	0.0	29.7	36.4	0.0	29.4	34.1	13.8	14.2	34.8	8.5	8.6
Incr Delay (d2), s/veh	1.0	0.0	3.9	10.4	0.0	2.7	6.1	13.2	24.1	4.1	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	5.1	3.3	0.0	4.5	2.4	15.7	18.6	2.1	6.3	6.8
LnGrp Delay(d),s/veh	35.4	0.0	33.6	46.8	0.0	32.1	40.2	27.0	38.3	38.8	9.0	9.5
LnGrp LOS	D		C	D		C	D	C	D	D	A	A
Approach Vol, veh/h	297				347				2185		1736	
Approach Delay, s/veh	33.9				37.6				31.3		10.8	
Approach LOS	C				D				C		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.0	50.4			17.0	10.4	49.0	17.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	49.5	44.5			12.5	19.5	44.5	12.5				
Max Q Clear Time (g_c+1.5), s	43.6	43.6			13.0	6.4	12.0	15.0				
Green Ext Time (p_c), s	0.2	0.8			0.0	0.2	14.9	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	715	33	7	116	23	7	148	51	155	121	27
Future Volume (veh/h)	25	715	33	7	116	23	7	148	51	155	121	27
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	24	0	0	35	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.95	0.99		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	2500	1900	980	1900	1000	980	1000	1900	980	1900
Adj Flow Rate, veh/h	25	715	33	7	116	23	7	148	51	155	121	27
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	702	32	48	209	39	50	410	34	68	234	10
Arrive On Green	0.41	0.39	0.37	0.41	0.39	0.37	0.49	0.46	0.44	0.49	0.46	0.44
Sat Flow, veh/h	31	1812	83	3	538	101	11	689	231	330	300	62
Grp Volume(v), veh/h	389	0	384	146	0	0	206	0	0	303	0	0
Grp Sat Flow(s),veh/h/ln	965	0	961	642	0	0	931	0	0	692	0	0
Q Serve(g_s), s	0.0	0.0	31.0	1.9	0.0	0.0	0.0	0.0	0.0	20.7	0.0	0.0
Cycle Q Clear(g_c), s	31.7	0.0	31.0	32.9	0.0	0.0	12.2	0.0	0.0	32.9	0.0	0.0
Prop In Lane	0.06		0.09	0.05		0.16	0.03		0.25	0.51		0.09
Lane Grp Cap(c), veh/h	446	0	372	312	0	0	506	0	0	350	0	0
V/C Ratio(X)	0.87	0.00	1.03	0.47	0.00	0.00	0.41	0.00	0.00	0.87	0.00	0.00
Avail Cap(c_a), veh/h	446	0	372	312	0	0	500	0	0	405	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.8	0.0	24.6	18.5	0.0	0.0	17.6	0.0	0.0	23.8	0.0	0.0
Incr Delay (d2), s/veh	17.1	0.0	54.6	1.1	0.0	0.0	2.4	0.0	0.0	23.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0	299.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	13.8	2.3	0.0	0.0	9.6	0.0	0.0	38.9	0.0	0.0
LnGrp Delay(d),s/veh	41.0	0.0	79.2	19.6	0.0	0.0	47.3	0.0	0.0	347.5	0.0	0.0
LnGrp LOS	D		F	B			D			F		
Approach Vol, veh/h	773			146			206			303		
Approach Delay, s/veh	59.9			19.6			47.3			347.5		
Approach LOS	E			B			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	14.2		33.7		34.9		34.9					
Green Ext Time (p_c), s	1.2		0.0		0.1		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	115.0											
HCM 2010 LOS	F											
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 51.6

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	325	28	36	253	23	16	153	33	41	130	24
Future Vol, veh/h	55	325	28	36	253	23	16	153	33	41	130	24
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	417	36	45	316	29	23	219	47	51	163	30
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	90.5	37.4	25.2	22
HCM LOS	F	E	D	C

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	13%	12%	21%
Vol Thru, %	76%	80%	81%	67%
Vol Right, %	16%	7%	7%	12%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	202	408	312	195
LT Vol	16	55	36	41
Through Vol	153	325	253	130
RT Vol	33	28	23	24
Lane Flow Rate	289	523	390	244
Geometry Grp	1	1	1	1
Degree of Util (X)	0.642	1.078	0.817	0.559
Departure Headway (Hd)	8.355	7.416	7.853	8.615
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	436	492	464	422
Service Time	6.355	5.416	5.853	6.615
HCM Lane V/C Ratio	0.663	1.063	0.841	0.578
HCM Control Delay	25.2	90.5	37.4	22
HCM Lane LOS	D	F	E	C
HCM 95th-tile Q	4.4	16.6	7.7	3.3

HCM 2010 Signalized Intersection Summary

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	47	9	1	15	66	6	292	7	32	236	80
Future Volume (veh/h)	152	47	9	1	15	66	6	292	7	32	236	80
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900	1900	1765	1900	1900	1422	1900	1900	2451	1900
Adj Flow Rate, veh/h	152	47	9	1	15	66	6	292	7	32	236	80
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	29	6	1	15	67	3	142	3	22	165	56
Arrive On Green	0.10	0.10	0.10	0.06	0.06	0.06	0.10	0.10	0.10	0.10	0.21	0.10
Sat Flow, veh/h	891	275	53	18	267	1175	28	1353	32	213	1572	533
Grp Volume(v), veh/h	208	0	0	82	0	0	305	0	0	348	0	0
Grp Sat Flow(s),veh/h/ln	1219	0	0	1460	0	0	1413	0	0	2318	0	0
Q Serve(g_s), s	2.0	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.73		0.04	0.01		0.80	0.02		0.02	0.09		0.23
Lane Grp Cap(c), veh/h	128	0	0	83	0	0	148	0	0	243	0	0
V/C Ratio(X)	1.63	0.00	0.00	0.99	0.00	0.00	2.06	0.00	0.00	1.43	0.00	0.00
Avail Cap(c_a), veh/h	128	0	0	153	0	0	148	0	0	243	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	9.0	0.0	0.0	8.5	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	315.5	0.0	0.0	49.2	0.0	0.0	499.5	0.0	0.0	216.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.5	0.0	0.0	21.3	0.0	0.0	15.8	0.0	0.0
LnGrp Delay(d),s/veh	324.0	0.0	0.0	58.2	0.0	0.0	508.1	0.0	0.0	224.5	0.0	0.0
LnGrp LOS	F			E			F			F		
Approach Vol, veh/h	208			82			305			348		
Approach Delay, s/veh	324.0			58.2			508.1			224.5		
Approach LOS	F			E			F			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	5.0		5.0		5.0		4.1					
Change Period (Y+Rc), s	3.0		3.0		3.0		3.0					
Max Green Setting (Gmax), s	2.0		2.0		2.0		2.0					
Max Q Clear Time (g_c+I1), s	4.0		4.0		4.0		3.1					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay		323.7										
HCM 2010 LOS		F										

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Future Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Conflicting Peds, #/hr	8	0	5	5	0	8	8	0	28	28	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	4	5	1	2	24	5	260	3	38	232	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	634	262	635	650	168	274	0	0	291	0	0
Stage 1	333	333	-	300	300	-	-	-	-	-	-	-
Stage 2	149	301	-	335	350	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	481	396	776	377	387	847	1288	-	-	1269	-	-
Stage 1	680	643	-	685	665	-	-	-	-	-	-	-
Stage 2	839	664	-	678	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	443	367	766	349	358	818	1278	-	-	1235	-	-
Mov Cap-2 Maneuver	443	367	-	349	358	-	-	-	-	-	-	-
Stage 1	671	615	-	663	644	-	-	-	-	-	-	-
Stage 2	802	643	-	642	604	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.2		10.2		0.1		1	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1278	-	-	448	714	1235	-
HCM Lane V/C Ratio	0.004	-	-	0.283	0.038	0.031	-
HCM Control Delay (s)	7.8	0	-	16.2	10.2	8	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	146	142	1989	173	150	1673		
Future Volume (veh/h)	146	142	1989	173	150	1673		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	146	24	1989	173	150	1673		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	218	195	2583	223	210	3728		
Arrive On Green	0.12	0.12	0.54	0.53	0.12	0.73		
Sat Flow, veh/h	1774	1583	4930	411	1774	5253		
Grp Volume(v), veh/h	146	24	1412	750	150	1673		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1783	1774	1695		
Q Serve(g_s), s	4.4	0.7	18.1	18.5	4.5	7.3		
Cycle Q Clear(g_c), s	4.4	0.7	18.1	18.5	4.5	7.3		
Prop In Lane	1.00	1.00		0.23	1.00			
Lane Grp Cap(c), veh/h	218	195	1839	967	210	3728		
V/C Ratio(X)	0.67	0.12	0.77	0.78	0.71	0.45		
Avail Cap(c_a), veh/h	958	855	1953	1027	511	4761		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	23.3	21.7	10.0	10.1	23.6	2.9		
Incr Delay (d2), s/veh	3.5	0.3	1.8	3.6	4.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.3	8.7	9.9	2.5	3.3		
LnGrp Delay(d),s/veh	26.8	22.0	11.8	13.7	28.0	3.0		
LnGrp LOS	C	C	B	B	C	A		
Approach Vol, veh/h	170		2162			1823		
Approach Delay, s/veh	26.1		12.4			5.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	34.1				44.7		10.8
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	31.5				51.5		29.5
Max Q Clear Time (g_c+I1), s	6.5	20.5				9.3		6.4
Green Ext Time (p_c), s	0.2	9.1				18.1		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	3.5					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	51	325	234	31	36	137
Future Vol, veh/h	51	325	234	31	36	137
Conflicting Peds, #/hr	36	0	0	22	22	36
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	51	325	234	31	36	137
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	301	0	-	0	735	322
Stage 1	-	-	-	-	286	-
Stage 2	-	-	-	-	449	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1260	-	-	-	387	719
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	643	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1217	-	-	-	343	671
Mov Cap-2 Maneuver	-	-	-	-	343	-
Stage 1	-	-	-	-	700	-
Stage 2	-	-	-	-	621	-
Approach	EB	WB		SB		
HCM Control Delay, s	1.1	0		14.3		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1217	-	-	-	560	
HCM Lane V/C Ratio	0.042	-	-	-	0.309	
HCM Control Delay (s)	8.1	0	-	-	14.3	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9.6

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	149	5	0	103	29	13	92	3	15	77	47
Future Vol, veh/h	110	149	5	0	103	29	13	92	3	15	77	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	149	5	0	103	29	13	92	3	15	77	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	8.8	9.1	9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	42%	0%	11%
Vol Thru, %	85%	56%	78%	55%
Vol Right, %	3%	2%	22%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	264	132	139
LT Vol	13	110	0	15
Through Vol	92	149	103	77
RT Vol	3	5	29	47
Lane Flow Rate	108	264	132	139
Geometry Grp	1	1	1	1
Degree of Util (X)	0.152	0.35	0.174	0.187
Departure Headway (Hd)	5.069	4.773	4.737	4.842
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	703	750	752	735
Service Time	3.136	2.827	2.799	2.906
HCM Lane V/C Ratio	0.154	0.352	0.176	0.189
HCM Control Delay	9.1	10.4	8.8	9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.5	1.6	0.6	0.7

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection														
Int Delay, s/veh	0													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations		↑↑			↑↑	↔								↔
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	0	0	0	-	0	
Stage 1	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	
Critical Hdwy	-	-	-	4.13	-	-	-	6.23	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	
Follow-up Hdwy	-	-	-	2.219	-	-	-	3.319	
Pot Cap-1 Maneuver	0	-	0	-	-	-	0	-	
Stage 1	0	-	0	-	-	-	0	-	
Stage 2	0	-	0	-	-	-	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	

Approach	EB	WB	SW
HCM Control Delay, s	0		0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0 0
HCM Lane LOS	-	-	-	A A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 analysis supports yellow change in the range of 3 and 6 seconds

Intersection

Intersection Delay, s/veh 10.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Future Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	163	41	39	2	78	164	117	2	137	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.3	11.5	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	1%	50%	1%
Vol Thru, %	46%	1%	48%	86%
Vol Right, %	33%	98%	2%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	167	82	160
LT Vol	78	2	41	2
Through Vol	164	2	39	137
RT Vol	117	163	2	21
Lane Flow Rate	359	167	82	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.217	0.124	0.217
Departure Headway (Hd)	4.583	4.669	5.446	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	762	651	726
Service Time	2.649	2.748	3.539	2.967
HCM Lane V/C Ratio	0.461	0.219	0.126	0.22
HCM Control Delay	11.5	9.1	9.3	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.8	0.4	0.8

HCM Signalized Intersection Capacity Analysis

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (vph)	7	741	347	8	726	7	343	16	27	1	5	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.99		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1564	1770	3533		1681	1692	1561		1847	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		1.00	
Satd. Flow (perm)	1770	3539	1564	1770	3533		1681	1692	1561		1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	741	347	8	726	7	343	16	27	1	5	0
RTOR Reduction (vph)	0	0	200	0	0	0	0	0	20	0	0	0
Lane Group Flow (vph)	7	741	147	8	733	0	178	181	7	0	6	0
Confl. Peds. (#/hr)			1			1			4			4
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	0.5	20.1	20.1	0.5	20.1		12.0	12.0	12.0		0.5	
Effective Green, g (s)	2.0	21.6	21.6	2.0	21.6		13.5	13.5	13.5		2.0	
Actuated g/C Ratio	0.04	0.42	0.42	0.04	0.42		0.26	0.26	0.26		0.04	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	69	1495	661	69	1493		444	447	412		72	
v/s Ratio Prot	0.00	c0.21		c0.00	0.21		0.11	c0.11				
v/s Ratio Perm			0.09						0.00		c0.00	
v/c Ratio	0.10	0.50	0.22	0.12	0.49		0.40	0.40	0.02		0.08	
Uniform Delay, d1	23.7	10.8	9.4	23.7	10.7		15.5	15.5	13.9		23.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	0.6	0.3	0.2	0.8	0.3		0.6	0.6	0.0		0.5	
Delay (s)	24.3	11.0	9.6	24.4	11.0		16.1	16.1	13.9		24.2	
Level of Service	C	B	A	C	B		B	B	B		C	
Approach Delay (s)		10.7			11.1			15.9			24.2	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			11.8			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			51.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			45.1%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (vph)	44	395	275	172	212	6	310	42	43	2	28	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00			1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.98	0.85	1.00	1.00			0.98		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.96		0.95	1.00	
Satd. Flow (prot)	1770	3303	1416	3433	3523			3344		1770	3328	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.96		0.95	1.00	
Satd. Flow (perm)	1770	3303	1416	3433	3523			3344		1770	3328	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	395	275	172	212	6	310	42	43	2	28	16
RTOR Reduction (vph)	0	10	138	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	44	457	65	172	218	0	0	395	0	2	44	0
Confl. Peds. (#/hr)			7			6			8			5
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	4.3	19.3	19.3	9.6	24.6			14.4		3.6	3.6	
Effective Green, g (s)	5.8	20.8	20.8	11.1	26.1			15.9		5.1	5.1	
Actuated g/C Ratio	0.09	0.32	0.32	0.17	0.40			0.24		0.08	0.08	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	158	1058	453	587	1416			819		139	261	
v/s Ratio Prot	0.02	c0.14		c0.05	0.06			c0.12		0.00	c0.01	
v/s Ratio Perm			0.05									
v/c Ratio	0.28	0.43	0.14	0.29	0.15			0.48		0.01	0.17	
Uniform Delay, d1	27.6	17.4	15.7	23.5	12.4			21.0		27.6	27.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3	0.1	0.3	0.1			0.4		0.0	0.3	
Delay (s)	28.6	17.7	15.9	23.8	12.4			21.4		27.6	28.2	
Level of Service	C	B	B	C	B			C		C	C	
Approach Delay (s)		17.8			17.4			21.4			28.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			19.0			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.39									
Actuated Cycle Length (s)			64.9			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			55.0%			ICU Level of Service				B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (vph)	104	228	179	60	461	21	272	460	518	41	105	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99	0.98	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95	0.85	1.00	0.91	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1542	3433	3514		1770	3207	1414	1770	3196	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1542	3433	3514		1770	3207	1414	1770	3196	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	228	179	60	461	21	272	460	518	41	105	142
RTOR Reduction (vph)	0	0	123	0	0	0	0	42	180	0	114	0
Lane Group Flow (vph)	104	228	56	60	482	0	272	636	120	41	133	0
Confl. Peds. (#/hr)			17			5			10			12
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.3	21.8	21.8	3.8	17.3		18.0	28.5	28.5	2.6	13.1	
Effective Green, g (s)	9.8	23.3	23.3	5.3	18.8		19.5	30.0	30.0	4.1	14.6	
Actuated g/C Ratio	0.13	0.31	0.31	0.07	0.25		0.26	0.40	0.40	0.05	0.20	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	1103	480	243	884		462	1287	567	97	624	
v/s Ratio Prot	c0.06	0.06		0.02	c0.14		c0.15	c0.20		0.02	0.04	
v/s Ratio Perm			0.04						0.09			
v/c Ratio	0.45	0.21	0.12	0.25	0.55		0.59	0.49	0.21	0.42	0.21	
Uniform Delay, d1	30.0	18.9	18.3	32.8	24.2		24.1	16.7	14.6	34.2	25.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.1	0.1	0.5	0.7		1.9	0.3	0.2	3.0	0.2	
Delay (s)	31.3	19.0	18.5	33.3	24.9		26.0	17.0	14.8	37.1	25.4	
Level of Service	C	B	B	C	C		C	B	B	D	C	
Approach Delay (s)		21.3			25.9			18.4			27.1	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.5			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			74.7			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			63.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	190	743	438	77	1221	89	651	155	86	131	196	137
Future Volume (vph)	190	743	438	77	1221	89	651	155	86	131	196	137
Ideal Flow (vphpl)	1300	1500	1900	1000	1550	1900	1750	1600	1600	1900	1600	1600
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.93	1.00	0.99		1.00	0.98			1.00	0.87
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1211	2794	1467	931	4079		3162	1458			1538	1159
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (perm)	1211	2794	1467	931	4079		3162	1458			1538	1159
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	190	743	438	77	1221	89	651	155	86	131	196	137
RTOR Reduction (vph)	0	0	95	0	7	0	0	0	0	0	0	105
Lane Group Flow (vph)	190	743	343	77	1303	0	651	241	0	0	327	32
Confl. Peds. (#/hr)			50			21			17			54
Turn Type	Prot	NA	pm+ov	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	16.5	40.5	67.0	9.5	33.5		26.5	26.5			25.5	25.5
Effective Green, g (s)	18.0	42.0	70.0	11.0	35.0		28.0	28.0			27.0	27.0
Actuated g/C Ratio	0.15	0.35	0.58	0.09	0.29		0.23	0.23			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	181	977	892	85	1189		737	340			346	260
v/s Ratio Prot	c0.16	0.27	0.09	0.08	c0.32		c0.21	0.17			c0.21	
v/s Ratio Perm			0.14									0.03
v/c Ratio	1.05	0.76	0.38	0.91	1.10		0.88	0.71			0.95	0.12
Uniform Delay, d1	51.0	34.5	13.4	54.0	42.5		44.4	42.3			45.8	37.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	80.6	3.5	0.3	66.6	56.4		12.1	6.6			34.0	0.2
Delay (s)	131.6	38.1	13.7	120.6	98.9		56.6	48.9			79.8	37.3
Level of Service	F	D	B	F	F		E	D			E	D
Approach Delay (s)		43.3			100.1			54.5			67.2	
Approach LOS		D			F			D			E	
Intersection Summary												
HCM 2000 Control Delay			67.5			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			101.2%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (vph)	158	241	182	94	511	265	213	224	132	202	261	598
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.96	1.00	0.98		1.00	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.94		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1863	1508	1770	1863	1513	1770	3287		1770	1863	1478
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1863	1508	1770	1863	1513	1770	3287		1770	1863	1478
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	158	241	182	94	511	265	213	224	132	202	261	598
RTOR Reduction (vph)	0	0	120	0	0	181	0	0	0	0	0	204
Lane Group Flow (vph)	158	241	62	94	511	84	213	356	0	202	261	394
Confl. Peds. (#/hr)			11			20			8			23
Confl. Bikes (#/hr)			11			3			6			9
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	10.5	33.7	33.7	7.9	31.1	31.1	13.4	27.6		16.2	30.4	30.4
Effective Green, g (s)	12.0	35.2	35.2	9.4	32.6	32.6	14.9	29.1		17.7	31.9	31.9
Actuated g/C Ratio	0.12	0.34	0.34	0.09	0.32	0.32	0.14	0.28		0.17	0.31	0.31
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	205	634	513	160	587	477	255	925		302	574	455
v/s Ratio Prot	c0.09	c0.13		0.05	c0.27		c0.12	0.11		0.11	0.14	
v/s Ratio Perm			0.04			0.06						c0.27
v/c Ratio	0.77	0.38	0.12	0.59	0.87	0.18	0.84	0.38		0.67	0.45	0.87
Uniform Delay, d1	44.4	25.8	23.5	45.1	33.4	25.7	43.1	29.9		40.1	28.8	33.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	16.3	0.4	0.1	5.4	13.3	0.2	20.4	0.3		5.5	0.6	15.7
Delay (s)	60.6	26.2	23.6	50.6	46.7	25.8	63.5	30.2		45.6	29.3	49.5
Level of Service	E	C	C	D	D	C	E	C		D	C	D
Approach Delay (s)		34.7			40.8			42.7			43.8	
Approach LOS		C			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			41.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			103.4			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			87.9%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (vph)	308	1041	178	50	1960	84	406	132	59	51	108	313
Ideal Flow (vphpl)	1800	2200	2200	1800	2200	2200	1900	2100	2100	1900	1900	2200
Lane Width	12	12	12	12	12	12	12	16	12	12	12	12
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	0.86	0.86	1.00	0.91		0.97	1.00		1.00	0.95	0.95
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.99		1.00	0.98	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.95		1.00	0.92	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3252	5548	1532	1676	5836		3433	2201		1770	1606	1678
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3252	5548	1532	1676	5836		3433	2201		1770	1606	1678
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	308	1041	178	50	1960	84	406	132	59	51	108	313
RTOR Reduction (vph)	0	1	62	0	3	0	0	10	0	0	24	155
Lane Group Flow (vph)	308	1058	98	50	2041	0	406	181	0	51	194	48
Confl. Peds. (#/hr)			6			20			14			15
Confl. Bikes (#/hr)			1			1						
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.8	86.5	86.5	8.1	76.8		24.7	24.7		22.7	22.7	22.7
Effective Green, g (s)	19.3	88.0	88.0	9.6	78.3		26.2	26.2		24.2	24.2	24.2
Actuated g/C Ratio	0.12	0.55	0.55	0.06	0.49		0.16	0.16		0.15	0.15	0.15
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	392	3051	842	100	2855		562	360		267	242	253
v/s Ratio Prot	c0.09	0.19		0.03	c0.35		c0.12	0.08		0.03	c0.12	
v/s Ratio Perm			0.06									0.03
v/c Ratio	0.79	0.35	0.12	0.50	0.72		0.72	0.50		0.19	0.80	0.19
Uniform Delay, d1	68.3	20.0	17.3	72.9	32.1		63.5	61.0		59.3	65.6	59.3
Progression Factor	1.05	1.07	1.32	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	8.5	0.3	0.2	3.9	1.6		4.6	1.1		0.3	17.2	0.4
Delay (s)	80.6	21.7	23.1	76.8	33.7		68.0	62.1		59.7	82.8	59.7
Level of Service	F	C	C	E	C		E	E		E	F	E
Approach Delay (s)		33.7			34.7			66.1			70.4	
Approach LOS		C			C			E			E	
Intersection Summary												
HCM 2000 Control Delay			42.0			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			160.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			85.9%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

7: Humboldt St/Humbolt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (vph)	4	818	129	183	656	148	69	56	213	83	153	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.95		0.98			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.98		1.00	1.00	0.85		0.91			1.00	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1770	3440		1770	1863	1498		1653			1820	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.87			0.68	
Satd. Flow (perm)	1770	3440		1770	1863	1498		1453			1255	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	818	129	183	656	148	69	56	213	83	153	8
RTOR Reduction (vph)	0	0	0	0	0	30	0	73	0	0	1	0
Lane Group Flow (vph)	4	947	0	183	656	118	0	265	0	0	243	0
Confl. Peds. (#/hr)			15			13	8		8	1		20
Confl. Bikes (#/hr)			8			6			10			4
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	0.8	30.9		12.7	42.8	42.8		18.5			18.5	
Effective Green, g (s)	2.3	32.4		14.2	44.3	44.3		20.0			20.0	
Actuated g/C Ratio	0.03	0.43		0.19	0.59	0.59		0.26			0.26	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	53	1474		332	1091	877		384			332	
v/s Ratio Prot	0.00	0.28		c0.10	c0.35							
v/s Ratio Perm						0.08		0.18			c0.19	
v/c Ratio	0.08	0.64		0.55	0.60	0.13		0.69			0.73	
Uniform Delay, d1	35.6	17.0		27.8	10.0	7.0		25.0			25.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	0.6	1.0		2.0	0.9	0.1		5.3			8.0	
Delay (s)	36.2	18.0		29.8	10.9	7.1		30.3			33.4	
Level of Service	D	B		C	B	A		C			C	
Approach Delay (s)		18.1			13.9			30.3			33.4	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			19.5				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.6				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			72.0%				ICU Level of Service			C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	48	291	81	85	277	53	87	254	19	205	230	110
Future Volume (vph)	48	291	81	85	277	53	87	254	19	205	230	110
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	10	10	9	10	10	9	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	0.97	1.00		0.94	1.00		0.96	1.00		0.97	1.00	
Frt	1.00	0.97		1.00	0.98		1.00	0.99		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1606	1787		1560	1676		1529	1712		1551	1599	
Flt Permitted	0.46	1.00		0.42	1.00		0.45	1.00		0.52	1.00	
Satd. Flow (perm)	778	1787		690	1676		725	1712		843	1599	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	48	291	81	85	277	53	87	254	19	205	230	110
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	48	372	0	85	330	0	87	273	0	205	340	0
Confl. Peds. (#/hr)	21		7	48		21	33		18	18		33
Confl. Bikes (#/hr)									4			4
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	35.5		35.5	35.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	359	826		319	775		335	791		389	739	
v/s Ratio Prot		c0.21			0.20			0.16			0.21	
v/s Ratio Perm	0.06			0.12			0.12			c0.24		
v/c Ratio	0.13	0.45		0.27	0.43		0.26	0.35		0.53	0.46	
Uniform Delay, d1	12.3	14.6		13.2	14.4		13.1	13.8		15.3	14.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	1.8		2.0	1.7		1.9	1.2		5.0	2.1	
Delay (s)	13.1	16.4		15.2	16.1		15.0	14.9		20.3	16.7	
Level of Service	B	B		B	B		B	B		C	B	
Approach Delay (s)		16.0			15.9			15.0			18.1	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.49										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		64.4%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Humboldt St & 3rd Ave

06/12/2020



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2
Lane Configurations										
Traffic Volume (vph)	278	1059	329	6	81	311	49	182	433	25
Future Volume (vph)	278	1059	329	6	81	311	49	182	433	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			0%	0%		0%		
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		0.91			1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes		0.99			1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	1.00	0.85	0.93	0.85	
Flt Protected		0.99			1.00	1.00	1.00	0.97	1.00	
Satd. Flow (prot)		4893			1856	1863	1550	1691	1583	
Flt Permitted		0.99			0.98	1.00	1.00	0.97	1.00	
Satd. Flow (perm)		4893			1817	1863	1550	1691	1583	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	278	1059	329	6	81	311	49	182	433	25
RTOR Reduction (vph)	0	0	0	0	0	0	35	0	0	0
Lane Group Flow (vph)	0	1666	0	0	87	311	14	329	311	0
Confl. Peds. (#/hr)	11		22				9			
Confl. Bikes (#/hr)							2			
Turn Type	Perm	NA		Perm	NA	NA	Perm	Prot	Perm	
Protected Phases		3			2	6		4		
Permitted Phases	3			2			6		4	
Actuated Green, G (s)		17.1			17.0	17.0	17.0	19.2	19.2	
Effective Green, g (s)		18.6			18.5	18.5	18.5	20.7	20.7	
Actuated g/C Ratio		0.28			0.28	0.28	0.28	0.31	0.31	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1362			503	515	429	524	490	
v/s Ratio Prot						c0.17		0.19		
v/s Ratio Perm		0.34			0.05		0.01		c0.20	
v/c Ratio		1.22			0.17	0.60	0.03	0.63	0.63	
Uniform Delay, d1		24.1			18.3	21.0	17.6	19.7	19.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		107.2			0.2	2.0	0.0	2.4	2.7	
Delay (s)		131.3			18.5	23.0	17.6	22.1	22.5	
Level of Service		F			B	C	B	C	C	
Approach Delay (s)		131.3			18.5	22.2		22.3		
Approach LOS		F			B	C		C		
Intersection Summary										
HCM 2000 Control Delay			88.1		HCM 2000 Level of Service				F	
HCM 2000 Volume to Capacity ratio			0.81							
Actuated Cycle Length (s)			66.8		Sum of lost time (s)				9.0	
Intersection Capacity Utilization			80.4%		ICU Level of Service				D	
Analysis Period (min)			15							
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  							 		 	
Traffic Volume (vph)	20	1302	14	0	0	0	0	57	508	377	378	0
Future Volume (vph)	20	1302	14	0	0	0	0	57	508	377	378	0
Ideal Flow (vphpl)	1700	1600	1700	1900	1900	1900	1900	1700	1100	1600	1500	1900
Total Lost time (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.91						0.95	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00						0.98	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00	1.00	1.00	
Frt	1.00	1.00						0.88	0.85	1.00	1.00	
Flt Protected	0.95	1.00						1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1583	4273						1362	846	1416	1391	
Flt Permitted	0.95	1.00						1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1583	4273						1362	846	1416	1391	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	1302	14	0	0	0	0	57	508	377	378	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	69	69	0	0	0
Lane Group Flow (vph)	20	1316	0	0	0	0	0	217	210	339	416	0
Confl. Peds. (#/hr)	12		13						13			
Turn Type	Split	NA						NA	Perm	Split	NA	
Protected Phases	4	4						2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	18.5	18.5						17.9	17.9	18.5	18.5	
Effective Green, g (s)	20.0	20.0						19.4	19.4	20.0	20.0	
Actuated g/C Ratio	0.29	0.29						0.28	0.28	0.29	0.29	
Clearance Time (s)	4.5	4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	462	1249						386	239	414	406	
v/s Ratio Prot	0.01	c0.31						0.16		0.24	c0.30	
v/s Ratio Perm									c0.25			
v/c Ratio	0.04	1.05						0.56	0.88	0.82	1.02	
Uniform Delay, d1	17.3	24.2						20.9	23.4	22.5	24.2	
Progression Factor	1.00	1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	40.9						1.9	28.1	11.9	51.1	
Delay (s)	17.4	65.1						22.7	51.5	34.4	75.3	
Level of Service	B	E						C	D	C	E	
Approach Delay (s)		64.3			0.0			36.9			57.0	
Approach LOS		E			A			D			E	
Intersection Summary												
HCM 2000 Control Delay			56.4									
HCM 2000 Volume to Capacity ratio			0.98									
Actuated Cycle Length (s)			68.4									
Intersection Capacity Utilization			103.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (vph)	52	331	197	66	78	11	242	123	187	53	224	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.94		1.00	0.98		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3295		1770	3446		1681	1740	1516	1770	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3295		1770	3446		1681	1740	1516	1770	1795	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	52	331	197	66	78	11	242	123	187	53	224	58
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	146	0	0	0
Lane Group Flow (vph)	52	528	0	66	89	0	179	186	41	53	282	0
Confl. Peds. (#/hr)			23			20			28			15
Confl. Bikes (#/hr)			7			2			5			3
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	2.9	19.0		4.1	20.2		14.5	14.5	14.5	16.6	16.6	
Effective Green, g (s)	4.4	20.5		5.6	21.7		16.0	16.0	16.0	18.1	18.1	
Actuated g/C Ratio	0.06	0.28		0.08	0.30		0.22	0.22	0.22	0.25	0.25	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	107	935		137	1035		372	385	335	443	449	
v/s Ratio Prot	0.03	c0.16		c0.04	0.03		0.11	c0.11		0.03	c0.16	
v/s Ratio Perm									0.03			
v/c Ratio	0.49	0.56		0.48	0.09		0.48	0.48	0.12	0.12	0.63	
Uniform Delay, d1	32.8	22.0		31.9	18.1		24.5	24.5	22.5	20.9	24.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	3.4	0.8		2.7	0.0		1.0	1.0	0.2	0.1	2.7	
Delay (s)	36.3	22.8		34.6	18.2		25.5	25.5	22.7	21.0	26.8	
Level of Service	D	C		C	B		C	C	C	C	C	
Approach Delay (s)		24.0			25.1			24.5			25.9	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.7			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			72.2			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.8%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (vph)	0	528	219	486	556	0	0	0	0	204	64	228
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Util. Factor		1.00	1.00	1.00	1.00					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.94	1.00	1.00					1.00	1.00	0.97
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.97	1.00
Satd. Flow (prot)		1863	1486	1770	1863					1681	1724	1531
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.97	1.00
Satd. Flow (perm)		1863	1486	1770	1863					1681	1724	1531
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	528	219	486	556	0	0	0	0	204	64	228
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	528	219	486	556	0	0	0	0	133	135	228
Confl. Peds. (#/hr)			15									2
Confl. Bikes (#/hr)			6									7
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases			4									6
Actuated Green, G (s)		28.3	28.3	28.8	61.6					24.4	24.4	24.4
Effective Green, g (s)		29.8	29.8	30.3	63.1					25.9	25.9	25.9
Actuated g/C Ratio		0.31	0.31	0.32	0.66					0.27	0.27	0.27
Clearance Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		584	466	564	1237					458	470	417
v/s Ratio Prot		c0.28		c0.27	0.30					0.08	0.08	
v/s Ratio Perm			0.15									c0.15
v/c Ratio		0.90	0.47	0.86	0.45					0.29	0.29	0.55
Uniform Delay, d1		31.2	26.2	30.4	7.6					27.3	27.3	29.5
Progression Factor		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		17.4	0.8	12.8	0.3					1.6	1.5	5.1
Delay (s)		48.6	27.0	43.2	7.9					28.9	28.8	34.6
Level of Service		D	C	D	A					C	C	C
Approach Delay (s)		42.3			24.4			0.0			31.5	
Approach LOS		D			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			31.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.78									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			84.8%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

13: US 101 NB Off Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↔	↔
Traffic Volume (vph)	822	0	0	2132	511	728
Future Volume (vph)	822	0	0	2132	511	728
Ideal Flow (vphpl)	1300	1900	1900	1900	1600	2100
Total Lost time (s)	3.0			3.0	3.0	3.0
Lane Util. Factor	0.95			0.95	0.97	*1.00
Frt	1.00			1.00	1.00	1.00
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2179			3185	2602	3706
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2179			3185	2602	3706
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	822	0	0	2132	511	728
RTOR Reduction (vph)	0	0	0	0	0	420
Lane Group Flow (vph)	822	0	0	2132	511	308
Turn Type	NA			NA	Prot	Perm
Protected Phases	2			2	8	
Permitted Phases						8
Actuated Green, G (s)	119.5			119.5	31.5	31.5
Effective Green, g (s)	121.0			121.0	33.0	33.0
Actuated g/C Ratio	0.76			0.76	0.21	0.21
Clearance Time (s)	4.5			4.5	4.5	4.5
Vehicle Extension (s)	3.0			3.0	3.0	3.0
Lane Grp Cap (vph)	1647			2408	536	764
v/s Ratio Prot	0.38			c0.67	c0.20	
v/s Ratio Perm						0.08
v/c Ratio	0.50			0.89	0.95	0.40
Uniform Delay, d1	7.6			14.4	62.7	55.0
Progression Factor	0.78			1.90	1.00	1.00
Incremental Delay, d2	0.9			3.9	28.9	1.6
Delay (s)	6.9			31.3	91.6	56.6
Level of Service	A			C	F	E
Approach Delay (s)	6.9			31.3	71.0	
Approach LOS	A			C	E	
Intersection Summary						
HCM 2000 Control Delay			38.2		HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio			0.90			
Actuated Cycle Length (s)			160.0		Sum of lost time (s)	6.0
Intersection Capacity Utilization			91.4%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

14: US 101 SB & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 					  	  	
Traffic Volume (vph)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (vph)	0	1270	406	0	1459	0	0	0	0	53	229	0
Ideal Flow (vphpl)	1900	1000	1000	1900	1000	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	
Lane Util. Factor		*0.95	1.00		*0.90					0.97	0.95	
Frpb, ped/bikes		1.00	0.98		1.00					1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	
Frt		1.00	0.85		1.00					1.00	1.00	
Flt Protected		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (prot)		2794	814		1765					3433	3539	
Flt Permitted		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (perm)		2794	814		1765					3433	3539	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1270	406	0	1459	0	0	0	0	53	229	0
RTOR Reduction (vph)	0	0	92	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1270	314	0	1459	0	0	0	0	53	229	0
Confl. Peds. (#/hr)			8									
Confl. Bikes (#/hr)			1									
Turn Type		NA	Perm		NA					Split	NA	
Protected Phases		4			8					6	6	
Permitted Phases			4									
Actuated Green, G (s)		60.3	60.3		60.3					10.7	10.7	
Effective Green, g (s)		61.8	61.8		61.8					12.2	12.2	
Actuated g/C Ratio		0.77	0.77		0.77					0.15	0.15	
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	
Lane Grp Cap (vph)		2158	628		1363					523	539	
v/s Ratio Prot		0.45			c0.83					0.02	c0.06	
v/s Ratio Perm			0.39									
v/c Ratio		0.59	0.50		1.07					0.10	0.42	
Uniform Delay, d1		3.8	3.4		9.1					29.2	30.7	
Progression Factor		1.00	1.00		1.47					1.00	1.00	
Incremental Delay, d2		1.2	2.8		38.6					0.1	0.5	
Delay (s)		5.0	6.2		51.9					29.3	31.3	
Level of Service		A	A		D					C	C	
Approach Delay (s)		5.3			51.9			0.0			30.9	
Approach LOS		A			D			A			C	
Intersection Summary												
HCM 2000 Control Delay			27.3		HCM 2000 Level of Service					C		
HCM 2000 Volume to Capacity ratio			0.96									
Actuated Cycle Length (s)			80.0		Sum of lost time (s)					6.0		
Intersection Capacity Utilization			91.4%		ICU Level of Service					F		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (vph)	7	612	107	118	541	28	144	79	249	51	105	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00			1.00	0.97		1.00	
Flpb, ped/bikes	0.99	1.00		0.99	1.00			0.99	1.00		1.00	
Frt	1.00	0.98		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1758	3431		1757	1844			1790	1530		1802	
Flt Permitted	0.31	1.00		0.33	1.00			0.78	1.00		0.87	
Satd. Flow (perm)	565	3431		614	1844			1433	1530		1592	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	612	107	118	541	28	144	79	249	51	105	15
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	116	0	0	0
Lane Group Flow (vph)	7	719	0	118	569	0	0	223	133	0	171	0
Confl. Peds. (#/hr)	13		35	19		30	16		36	17		29
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		2	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	18.7	18.7		18.7	18.7			13.1	13.1		13.1	
Effective Green, g (s)	20.2	20.2		20.2	20.2			14.6	14.6		14.6	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.36	0.36		0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	279	1698		303	912			512	547		569	
v/s Ratio Prot		0.21			c0.31							
v/s Ratio Perm	0.01			0.19				c0.16	0.09		0.11	
v/c Ratio	0.03	0.42		0.39	0.62			0.44	0.24		0.30	
Uniform Delay, d1	5.3	6.6		6.4	7.5			10.0	9.2		9.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.2		0.8	1.3			0.6	0.2		0.3	
Delay (s)	5.3	6.8		7.3	8.9			10.6	9.5		9.7	
Level of Service	A	A		A	A			B	A		A	
Approach Delay (s)		6.7			8.6			10.0			9.7	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.3			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		40.8			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		63.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (vph)	24	57	19	138	168	117	61	277	73	113	196	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.96		1.00	0.97		1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.96		1.00	0.94		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1774		1770	1677		1770	1749		1770	1789	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1774		1770	1677		1770	1749		1770	1789	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	57	19	138	168	117	61	277	73	113	196	42
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	24	76	0	138	285	0	61	350	0	113	238	0
Confl. Peds. (#/hr)			27			71			66			32
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.4	16.0		8.0	21.6		4.7	21.2		7.6	24.1	
Effective Green, g (s)	3.9	17.5		9.5	23.1		6.2	22.7		9.1	25.6	
Actuated g/C Ratio	0.06	0.25		0.13	0.33		0.09	0.32		0.13	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	438		237	547		155	560		227	646	
v/s Ratio Prot	0.01	0.04		c0.08	c0.17		0.03	c0.20		c0.06	c0.13	
v/s Ratio Perm												
v/c Ratio	0.25	0.17		0.58	0.52		0.39	0.62		0.50	0.37	
Uniform Delay, d1	32.0	21.0		28.8	19.4		30.5	20.4		28.7	16.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.3	0.2		3.6	0.9		1.6	2.2		1.7	0.4	
Delay (s)	33.4	21.2		32.4	20.3		32.2	22.6		30.4	17.0	
Level of Service	C	C		C	C		C	C		C	B	
Approach Delay (s)		24.1			24.2			24.0			21.3	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			23.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			70.8			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			56.2%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	60	0	191	326	589	89	43	279	0	0	536	44
Future Volume (vph)	60	0	191	326	589	89	43	279	0	0	536	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1500	1000	1000	1900	1100	1900
Total Lost time (s)	7.5		7.5	3.0	3.0		7.5	8.0			3.0	
Lane Util. Factor	1.00		1.00	1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes	1.00		0.89	1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1770		1404	1770	3432		1397	1000			2017	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1770		1404	1770	3432		1397	1863			2017	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	60	0	191	326	589	89	43	279	0	0	536	44
RTOR Reduction (vph)	0	0	173	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	60	0	18	326	678	0	43	279	0	0	580	0
Confl. Peds. (#/hr)			30			65						35
Confl. Bikes (#/hr)			4			3			2			4
Turn Type	Prot		Perm	Split	NA		Prot	NA			NA	
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4									
Actuated Green, G (s)	6.0		6.0	20.6	20.6		2.3	29.9			23.6	
Effective Green, g (s)	7.5		7.5	22.1	22.1		3.8	31.4			25.1	
Actuated g/C Ratio	0.09		0.09	0.28	0.28		0.05	0.39			0.32	
Clearance Time (s)	9.0		9.0	4.5	4.5		9.0	9.5			4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	166		132	492	954		66	394			636	
v/s Ratio Prot	c0.03			0.18	c0.20		0.03	c0.28			c0.29	
v/s Ratio Perm			0.01									
v/c Ratio	0.36		0.14	0.66	0.71		0.65	0.71			0.91	
Uniform Delay, d1	33.8		33.0	25.4	25.8		37.2	20.2			26.1	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	1.3		0.5	6.9	4.5		20.7	5.7			17.4	
Delay (s)	35.1		33.5	32.3	30.3		57.9	25.9			43.6	
Level of Service	D		C	C	C		E	C			D	
Approach Delay (s)		33.9			30.9			30.2			43.6	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			34.6									
HCM 2000 Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			79.5									
Intersection Capacity Utilization			75.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	574	17	0	0	0	17	289	178	321	635	64
Future Volume (vph)	20	574	17	0	0	0	17	289	178	321	635	64
Ideal Flow (vphpl)	1900	2500	1900	1900	1900	1900	1900	2500	1900	1100	2500	1900
Total Lost time (s)		3.0					3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95					1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00					1.00	0.97		1.00	0.99	
Flpb, ped/bikes		1.00					1.00	1.00		1.00	1.00	
Frt		1.00					1.00	0.94		1.00	0.99	
Flt Protected		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		4623					1770	4248		1025	4559	
Flt Permitted		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)		4623					1770	4248		1025	4559	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	574	17	0	0	0	17	289	178	321	635	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	113	0	0	0	0
Lane Group Flow (vph)	0	611	0	0	0	0	17	354	0	321	699	0
Confl. Peds. (#/hr)	14		18						28			24
Confl. Bikes (#/hr)			4						1			4
Turn Type	Perm	NA					Prot	NA		Prot	NA	
Protected Phases		4					5	2		1	6	
Permitted Phases	4											
Actuated Green, G (s)		32.5					1.5	12.8		24.5	35.8	
Effective Green, g (s)		34.0					3.0	14.3		26.0	37.3	
Actuated g/C Ratio		0.41					0.04	0.17		0.31	0.45	
Clearance Time (s)		4.5					4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		1886					63	729		319	2041	
v/s Ratio Prot							0.01	c0.08		c0.31	0.15	
v/s Ratio Perm		0.13										
v/c Ratio		0.32					0.27	0.48		1.01	0.34	
Uniform Delay, d1		16.8					39.1	31.2		28.6	15.0	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.5					2.3	0.5		52.0	0.1	
Delay (s)		17.3					41.4	31.7		80.6	15.1	
Level of Service		B					D	C		F	B	
Approach Delay (s)		17.3			0.0			32.0			35.7	
Approach LOS		B			A			C			D	
Intersection Summary												
HCM 2000 Control Delay		29.5					HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		83.3					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		70.4%					ICU Level of Service			C		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	166	53	22	225	44	54	357	13	4	318	194
Future Volume (vph)	64	166	53	22	225	44	54	357	13	4	318	194
Ideal Flow (vphpl)	1900	1100	1900	1900	1000	1900	1900	1000	1900	1900	1000	1000
Total Lost time (s)		6.0			6.0			6.0			6.0	6.0
Lane Util. Factor		1.00			1.00			1.00			1.00	1.00
Frpb, ped/bikes		0.98			0.99			1.00			1.00	0.93
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.97			0.98			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.99			1.00	1.00
Satd. Flow (prot)		1022			949			965			980	779
Flt Permitted		0.81			0.96			0.92			1.00	1.00
Satd. Flow (perm)		839			915			893			976	779
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	166	53	22	225	44	54	357	13	4	318	194
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	87
Lane Group Flow (vph)	0	283	0	0	291	0	0	423	0	0	322	107
Confl. Peds. (#/hr)	8		27	20		24	7		36	16		15
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		22.5			22.5			42.5			42.5	42.5
Effective Green, g (s)		24.0			24.0			44.0			44.0	44.0
Actuated g/C Ratio		0.30			0.30			0.55			0.55	0.55
Clearance Time (s)		7.5			7.5			7.5			7.5	7.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		251			274			491			536	428
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.32			c0.47			0.33	0.14
v/c Ratio		1.13			1.06			0.86			0.60	0.25
Uniform Delay, d1		28.0			28.0			15.4			12.1	9.4
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		95.5			71.7			17.7			4.9	1.4
Delay (s)		123.5			99.7			33.1			17.0	10.8
Level of Service		F			F			C			B	B
Approach Delay (s)		123.5			99.7			33.1			14.7	
Approach LOS		F			F			C			B	
Intersection Summary												
HCM 2000 Control Delay		56.5			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		0.95										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		146.0%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	64	194	75	89	235	16	74	302	60	9	372	107
Future Volume (vph)	64	194	75	89	235	16	74	302	60	9	372	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.99			0.98			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1767			1815			1798			1787	
Flt Permitted		0.90			0.87			0.89			0.99	
Satd. Flow (perm)		1598			1592			1611			1773	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	64	194	75	89	235	16	74	302	60	9	372	107
RTOR Reduction (vph)	0	19	0	0	3	0	0	9	0	0	17	0
Lane Group Flow (vph)	0	314	0	0	337	0	0	427	0	0	471	0
Confl. Peds. (#/hr)	17		17	24		24	17		24	24		17
Confl. Bikes (#/hr)			6			4						6
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.7			14.7			16.3			16.3	
Effective Green, g (s)		16.2			16.2			17.8			17.8	
Actuated g/C Ratio		0.40			0.40			0.45			0.45	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		647			644			716			788	
v/s Ratio Prot												
v/s Ratio Perm		0.20			c0.21			0.26			c0.27	
v/c Ratio		0.49			0.52			0.60			0.60	
Uniform Delay, d1		8.8			9.0			8.4			8.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.8			1.3			1.2	
Delay (s)		9.4			9.8			9.7			9.6	
Level of Service		A			A			A			A	
Approach Delay (s)		9.4			9.8			9.7			9.6	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		9.6			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.56										
Actuated Cycle Length (s)		40.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		88.5%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (vph)	219	260	386	86	288	81	181	391	136	110	439	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.94	1.00	0.99		1.00	0.99		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1488	1770	3393		3433	3368		1770	3313	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1488	1770	3393		3433	3368		1770	3313	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	219	260	386	86	288	81	181	391	136	110	439	185
RTOR Reduction (vph)	0	0	242	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	219	260	144	86	369	0	181	527	0	110	624	0
Confl. Peds. (#/hr)			50			31			25			56
Confl. Bikes (#/hr)			8						7			8
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.5	24.2	24.2	7.2	15.9		9.0	23.8		8.3	23.1	
Effective Green, g (s)	17.0	25.7	25.7	8.7	17.4		10.5	25.3		9.8	24.6	
Actuated g/C Ratio	0.21	0.32	0.32	0.11	0.21		0.13	0.31		0.12	0.30	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	369	1115	469	188	724		442	1045		212	999	
v/s Ratio Prot	c0.12	0.07		0.05	c0.11		0.05	0.16		c0.06	c0.19	
v/s Ratio Perm			0.10									
v/c Ratio	0.59	0.23	0.31	0.46	0.51		0.41	0.50		0.52	0.62	
Uniform Delay, d1	29.1	20.6	21.2	34.2	28.3		32.6	23.0		33.6	24.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.6	0.1	0.4	1.8	0.6		0.6	0.4		2.1	1.2	
Delay (s)	31.7	20.7	21.5	35.9	28.9		33.3	23.4		35.8	25.7	
Level of Service	C	C	C	D	C		C	C		D	C	
Approach Delay (s)		23.9			30.2			25.9			27.2	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			26.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			81.5			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			70.4%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (vph)	0	23	67	638	38	0	63	0	857	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			3.0	3.0			
Lane Util. Factor		1.00		0.95	0.95			1.00	0.88			
Frt		0.90		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (prot)		1676		1681	1694			1770	2787			
Flt Permitted		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (perm)		1676		1681	1694			1770	2787			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	23	67	638	38	0	63	0	857	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	618	0	0	0
Lane Group Flow (vph)	0	90	0	338	338	0	0	63	239	0	0	0
Turn Type		NA		Split	NA	Perm	Split	NA	Perm			
Protected Phases		4		8	8		2	2		6	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)		6.5		16.7	16.7			12.1	12.1			
Effective Green, g (s)		8.0		18.2	18.2			13.6	13.6			
Actuated g/C Ratio		0.16		0.37	0.37			0.28	0.28			
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		274		626	631			493	776			
v/s Ratio Prot		c0.05		c0.20	0.20			0.04				
v/s Ratio Perm									c0.09			
v/c Ratio		0.33		0.54	0.54			0.13	0.31			
Uniform Delay, d1		18.0		12.0	12.0			13.2	13.9			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.7		0.9	0.9			0.1	0.2			
Delay (s)		18.7		12.9	12.9			13.3	14.1			
Level of Service		B		B	B			B	B			
Approach Delay (s)		18.7			12.9			14.1			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			13.8									
HCM 2000 Level of Service											B	
HCM 2000 Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			48.8								12.0	
Intersection Capacity Utilization			42.0%								A	
ICU Level of Service												
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (vph)	117	234	35	270	0	392	0	197	248	261	158	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		0.97	1.00	
Frpb, ped/bikes		1.00	0.92	1.00		0.98		0.98		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Frt		1.00	0.85	1.00		0.85		0.92		1.00	1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1832	1456	1770		1546		3175		3433	1863	
Flt Permitted		0.98	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)		1832	1456	1770		1546		3175		3433	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	117	234	35	270	0	392	0	197	248	261	158	0
RTOR Reduction (vph)	0	0	0	0	0	301	0	0	0	0	0	0
Lane Group Flow (vph)	0	351	35	270	0	91	0	445	0	261	158	0
Confl. Peds. (#/hr)			28			5			11			
Confl. Bikes (#/hr)			10			7			12			4
Turn Type	Split	NA	Perm	Prot		Perm		NA		Prot	NA	
Protected Phases	4	4		8				2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		23.6	23.6	20.2		20.2		19.2		12.1	35.8	
Effective Green, g (s)		25.1	25.1	21.7		21.7		20.7		13.6	37.3	
Actuated g/C Ratio		0.27	0.27	0.23		0.23		0.22		0.15	0.40	
Clearance Time (s)		4.5	4.5	4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		493	392	412		360		705		501	746	
v/s Ratio Prot		c0.19		c0.15				c0.14		c0.08	0.08	
v/s Ratio Perm			0.02			0.06						
v/c Ratio		0.71	0.09	0.66		0.25		0.63		0.52	0.21	
Uniform Delay, d1		30.7	25.4	32.3		29.1		32.7		36.7	18.3	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		4.8	0.1	3.7		0.4		1.8		1.0	0.1	
Delay (s)		35.6	25.5	36.0		29.5		34.6		37.7	18.4	
Level of Service		D	C	D		C		C		D	B	
Approach Delay (s)		34.6			32.2			34.6			30.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			32.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.64									
Actuated Cycle Length (s)			93.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			71.9%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (vph)	238	352	213	0	0	0	0	401	235	344	483	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	0.91	0.91	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					1.00	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	0.99	0.85					0.99	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1681	1674	1463					3334	1404	1610	3367	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1681	1674	1463					3334	1404	1610	3367	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	238	352	213	0	0	0	0	401	235	344	483	0
RTOR Reduction (vph)	0	2	127	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	214	395	65	0	0	0	0	443	193	268	559	0
Confl. Peds. (#/hr)			14						15			
Confl. Bikes (#/hr)			7						3			
Turn Type	Perm	NA	Perm					NA	Perm	Split	NA	
Protected Phases		4						2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	22.2	22.2	22.2					17.3	17.3	17.4	17.4	
Effective Green, g (s)	23.7	23.7	23.7					18.8	18.8	18.9	18.9	
Actuated g/C Ratio	0.34	0.34	0.34					0.27	0.27	0.27	0.27	
Clearance Time (s)	4.5	4.5	4.5					4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	565	563	492					890	374	432	903	
v/s Ratio Prot								0.13		c0.17	0.17	
v/s Ratio Perm	0.13	0.24	0.04						c0.14			
v/c Ratio	0.38	0.70	0.13					0.50	0.52	0.62	0.62	
Uniform Delay, d1	17.8	20.3	16.2					21.8	21.9	22.6	22.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.4	3.9	0.1					0.4	1.2	2.8	1.3	
Delay (s)	18.2	24.2	16.3					22.2	23.1	25.4	23.9	
Level of Service	B	C	B					C	C	C	C	
Approach Delay (s)		20.7			0.0			22.5			24.3	
Approach LOS		C			A			C			C	
Intersection Summary												
HCM 2000 Control Delay			22.6									
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			70.4									
Intersection Capacity Utilization			63.5%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (vph)	2	2	1	82	0	319	0	518	125	451	608	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.99			1.00	0.97		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.97			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1768			1761	1537		3539	1532	1770	3536	
Flt Permitted		0.92			0.75	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1663			1399	1537		3539	1532	1770	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	2	1	82	0	319	0	518	125	451	608	3
RTOR Reduction (vph)	0	0	0	0	0	260	0	0	88	0	0	0
Lane Group Flow (vph)	0	5	0	0	82	59	0	518	37	451	611	0
Confl. Peds. (#/hr)			16	6		6	10		12	11		10
Confl. Bikes (#/hr)			1			11			14			1
Turn Type	Perm	NA		Perm	NA	Perm		NA	Perm	Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		10.4			10.4	10.4		17.6	17.6	22.8	44.9	
Effective Green, g (s)		11.9			11.9	11.9		19.1	19.1	24.3	46.4	
Actuated g/C Ratio		0.19			0.19	0.19		0.30	0.30	0.38	0.72	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		307			258	284		1051	455	668	2551	
v/s Ratio Prot								c0.15		c0.25	0.17	
v/s Ratio Perm		0.00			c0.06	0.04			0.02			
v/c Ratio		0.02			0.32	0.21		0.49	0.08	0.68	0.24	
Uniform Delay, d1		21.4			22.7	22.2		18.6	16.3	16.7	3.0	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.7	0.4		0.4	0.1	2.7	0.0	
Delay (s)		21.4			23.4	22.6		19.0	16.4	19.4	3.1	
Level of Service		C			C	C		B	B	B	A	
Approach Delay (s)		21.4			22.7			18.5			10.0	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		15.0			HCM 2000 Level of Service				B			
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		64.3			Sum of lost time (s)				9.0			
Intersection Capacity Utilization		62.8%			ICU Level of Service				B			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

26: Delaware St & 25th Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→	←	↑↑	↑	←←
Traffic Volume (vph)	448	240	100	197	286	428
Future Volume (vph)	448	240	100	197	286	428
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.88
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.97
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.98	1.00	1.00
Satd. Flow (prot)	3433	1523		3480	1863	2696
Flt Permitted	0.95	1.00		0.80	1.00	1.00
Satd. Flow (perm)	3433	1523		2832	1863	2696
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	448	240	100	197	286	428
RTOR Reduction (vph)	0	0	0	0	0	248
Lane Group Flow (vph)	448	240	0	297	286	180
Confl. Peds. (#/hr)		6	2			13
Confl. Bikes (#/hr)		15				4
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	11.3	11.3		12.2	12.2	12.2
Effective Green, g (s)	12.8	12.8		13.7	13.7	13.7
Actuated g/C Ratio	0.39	0.39		0.42	0.42	0.42
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1352	599		1193	785	1136
v/s Ratio Prot	0.13				c0.15	
v/s Ratio Perm		c0.16		0.10		0.07
v/c Ratio	0.33	0.40		0.25	0.36	0.16
Uniform Delay, d1	6.9	7.1		6.1	6.4	5.8
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.4		0.1	0.3	0.1
Delay (s)	7.0	7.5		6.2	6.7	5.9
Level of Service	A	A		A	A	A
Approach Delay (s)	7.2			6.2	6.2	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		6.6		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.38				
Actuated Cycle Length (s)		32.5		Sum of lost time (s)		6.0
Intersection Capacity Utilization		49.1%		ICU Level of Service		A
Analysis Period (min)		15				

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (vph)	34	84	59	189	41	44	184	441	120	122	194	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	0.88	0.97	0.95		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.98	1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.92		1.00	0.97		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1863	2724	3433	3183		1770	3390		1770	3429	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1863	2724	3433	3183		1770	3390		1770	3429	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	34	84	59	189	41	44	184	441	120	122	194	42
RTOR Reduction (vph)	0	0	52	0	36	0	0	21	0	0	17	0
Lane Group Flow (vph)	34	84	7	189	49	0	184	540	0	122	219	0
Confl. Peds. (#/hr)			2			28			37			15
Confl. Bikes (#/hr)			3			6						
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	3.3	9.2	9.2	8.0	13.9		14.6	43.4		11.4	40.2	
Effective Green, g (s)	4.8	10.7	10.7	9.5	15.4		16.1	44.9		12.9	41.7	
Actuated g/C Ratio	0.05	0.12	0.12	0.11	0.17		0.18	0.50		0.14	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	94	221	323	362	544		316	1691		253	1588	
v/s Ratio Prot	0.02	c0.05		c0.06	0.02		c0.10	c0.16		0.07	0.06	
v/s Ratio Perm			0.00									
v/c Ratio	0.36	0.38	0.02	0.52	0.09		0.58	0.32		0.48	0.14	
Uniform Delay, d1	41.1	36.6	35.0	38.1	31.4		33.9	13.4		35.5	13.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.4	1.1	0.0	1.4	0.1		2.7	0.5		1.4	0.2	
Delay (s)	43.5	37.7	35.1	39.5	31.5		36.6	13.9		36.9	14.0	
Level of Service	D	D	D	D	C		D	B		D	B	
Approach Delay (s)		37.9			37.0			19.5			21.8	
Approach LOS		D			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			25.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.42									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			61.4%			ICU Level of Service			B			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

28: Saratoga Dr & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 	 	 	
Traffic Volume (vph)	93	999	0	153	777	490	42	118	353	197	97	120
Future Volume (vph)	93	999	0	153	777	490	42	118	353	197	97	120
Ideal Flow (vphpl)	1000	1050	1900	1900	1500	1900	1900	1400	1700	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	*0.70	*0.75		0.97	0.91	1.00		1.00	0.88	0.97	0.91	0.91
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.96		1.00	0.97	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.95	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	652	2316		3433	4015	1524		1355	2409	3433	3211	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.99	1.00	0.95	1.00	1.00
Satd. Flow (perm)	652	2316		3433	4015	1524		1355	2409	3433	3211	1441
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	93	999	0	153	777	490	42	118	353	197	97	120
RTOR Reduction (vph)	0	0	0	0	0	317	0	0	281	0	44	56
Lane Group Flow (vph)	93	999	0	153	777	173	0	160	72	197	106	11
Confl. Peds. (#/hr)			6			15			16			
Confl. Bikes (#/hr)			1			4						
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	24.1	61.6		11.4	47.6	47.6		27.0	27.0	21.7	21.7	21.7
Effective Green, g (s)	26.4	63.4		12.4	49.4	49.4		28.7	28.7	23.5	23.5	23.5
Actuated g/C Ratio	0.19	0.45		0.09	0.35	0.35		0.20	0.20	0.17	0.17	0.17
Clearance Time (s)	5.3	4.8		4.0	4.8	4.8		4.7	4.7	4.8	4.8	4.8
Vehicle Extension (s)	3.0	6.0		3.0	6.0	6.0		4.0	4.0	6.0	6.0	6.0
Lane Grp Cap (vph)	122	1048		304	1416	537		277	493	576	538	241
v/s Ratio Prot	c0.14	c0.43		0.04	0.19			c0.12		c0.06	0.03	
v/s Ratio Perm						0.11			0.03			0.01
v/c Ratio	0.76	0.95		0.50	0.55	0.32		0.58	0.15	0.34	0.20	0.05
Uniform Delay, d1	53.8	36.9		60.9	36.4	33.1		50.2	45.6	51.4	50.1	48.9
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.27	0.25	1.00	1.00	1.00
Incremental Delay, d2	24.1	18.6		1.3	1.5	1.6		3.3	0.2	1.0	0.5	0.2
Delay (s)	77.9	55.5		62.2	37.9	34.7		16.9	11.6	52.4	50.6	49.1
Level of Service	E	E		E	D	C		B	B	D	D	D
Approach Delay (s)		57.4			39.4			13.2			51.2	
Approach LOS		E			D			B			D	
Intersection Summary												
HCM 2000 Control Delay			42.6				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			12.2		
Intersection Capacity Utilization			78.1%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (vph)	2	29	15	17	57	54	38	139	33	36	120	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.90			0.83			0.92			0.99	
Flpb, ped/bikes		1.00			0.98			0.99			0.94	
Frt		0.96			0.94			0.98			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1595			1407			1639			1698	
Flt Permitted		0.99			0.97			0.92			0.90	
Satd. Flow (perm)		1585			1370			1526			1548	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	29	15	17	57	54	38	139	33	36	120	10
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	46	0	0	128	0	0	210	0	0	166	0
Confl. Peds. (#/hr)	44		125	81		229	44		266	185		88
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			27.5			27.5	
Effective Green, g (s)		29.0			29.0			29.0			29.0	
Actuated g/C Ratio		0.41			0.41			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		656			567			632			641	
v/s Ratio Prot												
v/s Ratio Perm		0.03			c0.09			c0.14			0.11	
v/c Ratio		0.07			0.23			0.33			0.26	
Uniform Delay, d1		12.4			13.2			13.9			13.5	
Progression Factor		1.00			1.00			0.71			1.00	
Incremental Delay, d2		0.2			0.9			1.4			1.0	
Delay (s)		12.6			14.2			11.3			14.4	
Level of Service		B			B			B			B	
Approach Delay (s)		12.6			14.2			11.3			14.4	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.28										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		42.6%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (vph)	31	59	16	14	174	29	33	153	17	6	121	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.99			0.98	
Flpb, ped/bikes		0.98			1.00			0.98			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1711			1767			1771			1808	
Flt Permitted		0.88			0.98			0.94			0.99	
Satd. Flow (perm)		1520			1739			1676			1788	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	31	59	16	14	174	29	33	153	17	6	121	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	0	217	0	0	203	0	0	136	0
Confl. Peds. (#/hr)	44		76	24		78	52		58	34		96
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.5			26.5			28.5			28.5	
Effective Green, g (s)		28.0			28.0			30.0			30.0	
Actuated g/C Ratio		0.40			0.40			0.43			0.43	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		608			695			718			766	
v/s Ratio Prot												
v/s Ratio Perm		0.07			0.12			0.12			0.08	
v/c Ratio		0.17			0.31			0.28			0.18	
Uniform Delay, d1		13.5			14.4			13.0			12.4	
Progression Factor		0.89			1.00			1.00			0.49	
Incremental Delay, d2		0.6			1.2			1.0			0.5	
Delay (s)		12.6			15.6			14.0			6.5	
Level of Service		B			B			B			A	
Approach Delay (s)		12.6			15.6			14.0			6.5	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.8			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.30										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		48.8%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	127	44	95	401	62	18	117	14	14	116	38
Future Volume (vph)	29	127	44	95	401	62	18	117	14	14	116	38
Ideal Flow (vphpl)	1900	1000	1900	1000	1000	2000	1900	1000	1900	1900	2500	1900
Total Lost time (s)		6.0		6.0	6.0	6.0		6.0			6.0	
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.95		1.00	1.00	0.81		0.99			0.94	
Flpb, ped/bikes		0.99		0.95	1.00	1.00		0.98			0.99	
Frt		0.97		1.00	1.00	0.85		0.99			0.97	
Flt Protected		0.99		0.95	1.00	1.00		0.99			1.00	
Satd. Flow (prot)		894		889	980	1358		933			2218	
Flt Permitted		0.91		0.63	1.00	1.00		0.94			0.96	
Satd. Flow (perm)		823		592	980	1358		882			2140	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	127	44	95	401	62	18	117	14	14	116	38
RTOR Reduction (vph)	0	0	0	0	0	29	0	0	0	0	0	0
Lane Group Flow (vph)	0	200	0	95	401	33	0	149	0	0	168	0
Confl. Peds. (#/hr)	46		121	37		96	121		50	50		130
Confl. Bikes (#/hr)			4			6			9			1
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		28.1		28.1	28.1	28.1		11.9			11.9	
Effective Green, g (s)		29.6		29.6	29.6	29.6		13.4			13.4	
Actuated g/C Ratio		0.54		0.54	0.54	0.54		0.24			0.24	
Clearance Time (s)		7.5		7.5	7.5	7.5		7.5			7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		442		318	527	730		214			521	
v/s Ratio Prot				c0.41								
v/s Ratio Perm		0.24		0.16		0.02		c0.17			0.08	
v/c Ratio		0.45		0.30	0.76	0.05		0.70			0.32	
Uniform Delay, d1		7.8		7.0	9.9	6.0		18.9			17.1	
Progression Factor		1.00		1.00	1.00	1.00		1.33			1.00	
Incremental Delay, d2		3.3		2.4	9.9	0.1		15.1			1.6	
Delay (s)		11.1		9.4	19.9	6.1		40.2			18.7	
Level of Service		B		A	B	A		D			B	
Approach Delay (s)		11.1			16.6			40.2			18.7	
Approach LOS		B			B			D			B	
Intersection Summary												
HCM 2000 Control Delay			19.2				HCM 2000 Level of Service				B	
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			55.0				Sum of lost time (s)				12.0	
Intersection Capacity Utilization			100.1%				ICU Level of Service				G	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	21	448	20	7	112	7	32	103	83	66	106	66
Future Volume (vph)	21	448	20	7	112	7	32	103	83	66	106	66
Ideal Flow (vphpl)	1900	1200	1900	1900	1000	1900	1900	1000	1900	1900	1200	1900
Total Lost time (s)		3.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.98			0.98	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.99			0.99			0.95			0.96	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		2206			964			900			1084	
Flt Permitted		0.94			0.97			0.92			0.85	
Satd. Flow (perm)		2087			934			835			939	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	21	448	20	7	112	7	32	103	83	66	106	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	489	0	0	126	0	0	218	0	0	238	0
Confl. Peds. (#/hr)	19		41	13		46	28		40	27		47
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		25.4			22.4			17.6			17.6	
Effective Green, g (s)		26.9			23.9			19.1			19.1	
Actuated g/C Ratio		0.49			0.43			0.35			0.35	
Clearance Time (s)		4.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1020			405			289			326	
v/s Ratio Prot												
v/s Ratio Perm		c0.23			0.13			c0.26			0.25	
v/c Ratio		0.48			0.31			0.75			0.73	
Uniform Delay, d1		9.4			10.2			15.9			15.7	
Progression Factor		1.00			1.00			1.00			0.85	
Incremental Delay, d2		1.6			2.0			10.6			7.9	
Delay (s)		11.0			12.2			26.5			21.2	
Level of Service		B			B			C			C	
Approach Delay (s)		11.0			12.2			26.5			21.2	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		16.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		55.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		71.1%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	309	69	44	265	22	33	231	56	13	230	33
Future Volume (vph)	27	309	69	44	265	22	33	231	56	13	230	33
Ideal Flow (vphpl)	1900	2500	1900	1900	1200	1900	1900	2500	1900	1900	1600	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.98			0.98	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		2356			1151			2345			1528	
Flt Permitted		0.96			0.90			0.94			0.98	
Satd. Flow (perm)		2273			1048			2219			1495	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	27	309	69	44	265	22	33	231	56	13	230	33
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	405	0	0	331	0	0	320	0	0	276	0
Confl. Peds. (#/hr)	11		25	14		23	11		26	12		22
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5			24.5	
Effective Green, g (s)		32.0			32.0			26.0			26.0	
Actuated g/C Ratio		0.46			0.46			0.37			0.37	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1039			479			824			555	
v/s Ratio Prot												
v/s Ratio Perm		0.18			0.32			0.14			0.18	
v/c Ratio		0.39			0.69			0.39			0.50	
Uniform Delay, d1		12.6			15.1			16.2			17.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			7.9			1.4			3.2	
Delay (s)		13.7			23.0			17.5			20.1	
Level of Service		B			C			B			C	
Approach Delay (s)		13.7			23.0			17.5			20.1	
Approach LOS		B			C			B			C	
Intersection Summary												
HCM 2000 Control Delay		18.3			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.60										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		77.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (vph)	88	85	26	7	155	51	13	99	15	12	173	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.95			0.98			0.95	
Flpb, ped/bikes		0.96			1.00			1.00			1.00	
Frt		0.98			0.97			0.98			0.96	
Flt Protected		0.98			1.00			0.99			1.00	
Satd. Flow (prot)		1689			1708			1777			1689	
Flt Permitted		0.79			0.99			0.96			0.99	
Satd. Flow (perm)		1362			1693			1715			1669	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	88	85	26	7	155	51	13	99	15	12	173	66
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	199	0	0	213	0	0	127	0	0	251	0
Confl. Peds. (#/hr)	64		75	40		102	35		78	38		99
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.5			26.5			28.5			28.5	
Effective Green, g (s)		28.0			28.0			30.0			30.0	
Actuated g/C Ratio		0.40			0.40			0.43			0.43	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		544			677			735			715	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.13			0.07			c0.15	
v/c Ratio		0.37			0.31			0.17			0.35	
Uniform Delay, d1		14.8			14.4			12.3			13.5	
Progression Factor		1.28			0.44			1.00			1.00	
Incremental Delay, d2		1.8			1.2			0.5			1.4	
Delay (s)		20.8			7.5			12.9			14.8	
Level of Service		C			A			B			B	
Approach Delay (s)		20.8			7.5			12.9			14.8	
Approach LOS		C			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		14.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.36										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		63.1%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: Ellsowrth Ave/Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (vph)	30	104	19	12	255	43	3	48	8	8	151	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			1.00			1.00			1.00	
Frt		0.98			0.98			0.98			0.98	
Flt Protected		0.99			1.00			1.00			1.00	
Satd. Flow (prot)		1790			1805			1809			1793	
Flt Permitted		0.88			0.98			0.97			0.98	
Satd. Flow (perm)		1582			1778			1758			1764	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	30	104	19	12	255	43	3	48	8	8	151	35
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	153	0	0	310	0	0	59	0	0	194	0
Confl. Peds. (#/hr)	58		37	37		58	41		23	23		41
Confl. Bikes (#/hr)			1			3			2			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		12.4			12.4			7.5			7.5	
Effective Green, g (s)		13.9			13.9			9.0			9.0	
Actuated g/C Ratio		0.40			0.40			0.26			0.26	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		630			708			453			454	
v/s Ratio Prot												
v/s Ratio Perm		0.10			0.17			0.03			0.11	
v/c Ratio		0.24			0.44			0.13			0.43	
Uniform Delay, d1		7.0			7.7			9.9			10.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.4			0.1			0.6	
Delay (s)		7.2			8.1			10.1			11.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.2			8.1			10.1			11.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.43										
Actuated Cycle Length (s)		34.9			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		45.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (vph)	29	270	21	78	267	236	8	381	230	149	462	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	1.00	0.94		1.00	0.92		1.00	
Flpb, ped/bikes	1.00	1.00	1.00	0.99	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.99	
Satd. Flow (prot)	1761	1863	1528	1757	1863	1484		3535	1459		3435	
Flt Permitted	0.53	1.00	1.00	0.53	1.00	1.00		0.94	1.00		0.75	
Satd. Flow (perm)	985	1863	1528	978	1863	1484		3337	1459		2592	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	29	270	21	78	267	236	8	381	230	149	462	38
RTOR Reduction (vph)	0	0	11	0	0	121	0	0	129	0	0	0
Lane Group Flow (vph)	29	270	10	78	267	115	0	389	101	0	649	0
Confl. Peds. (#/hr)	6		16	9		38	7		41	32		13
Confl. Bikes (#/hr)			5			3			5			5
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	37.5	37.5	37.5	37.5	37.5	37.5		33.5	33.5		33.5	
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	39.0		35.0	35.0		35.0	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Grp Cap (vph)	480	908	744	476	908	723		1459	638		1134	
v/s Ratio Prot		c0.14			0.14							
v/s Ratio Perm	0.03		0.01	0.08		0.08		0.12	0.07		c0.25	
v/c Ratio	0.06	0.30	0.01	0.16	0.29	0.16		0.27	0.16		0.57	
Uniform Delay, d1	10.8	12.3	10.6	11.4	12.3	11.4		14.3	13.6		16.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.8	0.0	0.7	0.8	0.5		0.4	0.5		2.1	
Delay (s)	11.1	13.1	10.6	12.2	13.1	11.9		14.8	14.1		19.0	
Level of Service	B	B	B	B	B	B		B	B		B	
Approach Delay (s)		12.8			12.5			14.5			19.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			15.1				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			6.0		
Intersection Capacity Utilization			63.5%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (vph)	54	342	56	93	260	52	31	526	58	86	463	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		3429			1796			3467			3468	
Flt Permitted		0.88			0.83			0.91			0.76	
Satd. Flow (perm)		3034			1503			3165			2650	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	342	56	93	260	52	31	526	58	86	463	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	452	0	0	405	0	0	615	0	0	578	0
Confl. Peds. (#/hr)	29		35	18		35	17		24	6		46
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.6			29.6			17.9			17.9	
Effective Green, g (s)		31.1			31.1			19.4			19.4	
Actuated g/C Ratio		0.55			0.55			0.34			0.34	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1670			827			1086			909	
v/s Ratio Prot												
v/s Ratio Perm		0.15			0.27			0.19			0.22	
v/c Ratio		0.27			0.49			0.57			0.64	
Uniform Delay, d1		6.7			7.8			15.1			15.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.5			0.7			1.5	
Delay (s)		6.8			8.3			15.8			17.0	
Level of Service		A			A			B			B	
Approach Delay (s)		6.8			8.3			15.8			17.0	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		12.7			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		56.5			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		84.1%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (vph)	265	207	34	9	145	75	13	177	22	29	251	132
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0			6.0		6.0	6.0	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99			0.97			0.99		1.00	0.96	
Flpb, ped/bikes	0.98	1.00			1.00			1.00		0.96	1.00	
Frt	1.00	0.98			0.96			0.99		1.00	0.95	
Flt Protected	0.95	1.00			1.00			1.00		0.95	1.00	
Satd. Flow (prot)	1727	1801			1723			1809		1702	1699	
Flt Permitted	0.62	1.00			0.99			0.97		0.65	1.00	
Satd. Flow (perm)	1136	1801			1701			1756		1161	1699	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	265	207	34	9	145	75	13	177	22	29	251	132
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	265	241	0	0	229	0	0	212	0	29	383	0
Confl. Peds. (#/hr)	27		36	15		55	21		43	28		48
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.0	27.0			27.0			28.0		28.0	28.0	
Effective Green, g (s)	28.5	28.5			28.5			29.5		29.5	29.5	
Actuated g/C Ratio	0.41	0.41			0.41			0.42		0.42	0.42	
Clearance Time (s)	7.5	7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)	462	733			692			740		489	716	
v/s Ratio Prot		0.13									c0.23	
v/s Ratio Perm	c0.23				0.13			0.12		0.02		
v/c Ratio	0.57	0.33			0.33			0.29		0.06	0.53	
Uniform Delay, d1	16.1	14.2			14.2			13.3		12.0	15.1	
Progression Factor	1.00	1.00			0.98			0.86		1.00	1.00	
Incremental Delay, d2	5.1	1.2			1.2			1.0		0.2	2.9	
Delay (s)	21.2	15.4			15.1			12.4		12.2	18.0	
Level of Service	C	B			B			B		B	B	
Approach Delay (s)		18.4			15.1			12.4			17.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			16.7									
HCM 2000 Volume to Capacity ratio			0.55									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			75.9%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (vph)	50	137	37	27	228	47	6	116	17	16	223	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0		6.0	6.0	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.98			0.98			0.99		1.00	0.97	
Flpb, ped/bikes		0.99			1.00			1.00		0.98	1.00	
Frt		0.98			0.98			0.98		1.00	0.98	
Flt Protected		0.99			1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1744			1777			1805		1735	1774	
Flt Permitted		0.87			0.96			0.98		0.73	1.00	
Satd. Flow (perm)		1537			1713			1779		1338	1774	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	50	137	37	27	228	47	6	116	17	16	223	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	224	0	0	302	0	0	139	0	16	264	0
Confl. Peds. (#/hr)	39		49	22		50	27		33	11		66
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5		24.5	24.5	
Effective Green, g (s)		32.0			32.0			26.0		26.0	26.0	
Actuated g/C Ratio		0.46			0.46			0.37		0.37	0.37	
Clearance Time (s)		7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)		702			783			660		496	658	
v/s Ratio Prot											c0.15	
v/s Ratio Perm		0.15			c0.18			0.08		0.01		
v/c Ratio		0.32			0.39			0.21		0.03	0.40	
Uniform Delay, d1		12.1			12.5			15.0		14.0	16.3	
Progression Factor		1.00			1.00			1.00		0.77	0.64	
Incremental Delay, d2		1.2			1.4			0.7		0.1	1.6	
Delay (s)		13.3			14.0			15.7		10.9	12.0	
Level of Service		B			B			B		B	B	
Approach Delay (s)		13.3			14.0			15.7			11.9	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.39										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		49.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

40: San Mateo Dr & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (vph)	40	258	38	14	138	17	8	99	13	75	132	52
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.98			0.99			0.99			0.98	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.98			0.98			0.99			0.97	
Flt Protected		0.99			1.00			1.00			0.99	
Satd. Flow (prot)		3358			3429			1812			1750	
Flt Permitted		0.90			0.91			0.98			0.88	
Satd. Flow (perm)		3031			3144			1778			1562	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	258	38	14	138	17	8	99	13	75	132	52
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	336	0	0	169	0	0	120	0	0	259	0
Confl. Peds. (#/hr)	20		56	32		35	24		47	15		44
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			37.5			37.5	
Effective Green, g (s)		29.0			29.0			39.0			39.0	
Actuated g/C Ratio		0.36			0.36			0.49			0.49	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		1098			1139			866			761	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.05			0.07			c0.17	
v/c Ratio		0.31			0.15			0.14			0.34	
Uniform Delay, d1		18.3			17.2			11.3			12.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.7			0.3			0.3			1.2	
Delay (s)		19.0			17.5			11.6			13.8	
Level of Service		B			B			B			B	
Approach Delay (s)		19.0			17.5			11.6			13.8	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.2			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.33										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		51.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	98	333	262	80	109	92
Future Volume (vph)	98	333	262	80	109	92
Ideal Flow (vphpl)	1000	1900	2500	1900	1900	2500
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.99		1.00	0.95
Flpb, ped/bikes	0.99	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.97		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	924	1863	2340		1770	1973
Flt Permitted	0.53	1.00	1.00		0.95	1.00
Satd. Flow (perm)	519	1863	2340		1770	1973
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	98	333	262	80	109	92
RTOR Reduction (vph)	0	0	0	0	0	64
Lane Group Flow (vph)	98	333	342	0	109	28
Confl. Peds. (#/hr)	6			18	12	15
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	30.5	30.5	30.5		17.5	17.5
Effective Green, g (s)	32.0	32.0	32.0		19.0	19.0
Actuated g/C Ratio	0.51	0.51	0.51		0.30	0.30
Clearance Time (s)	7.5	7.5	7.5		7.5	7.5
Lane Grp Cap (vph)	263	946	1188		533	595
v/s Ratio Prot		0.18	0.15		c0.06	
v/s Ratio Perm	c0.19					0.01
v/c Ratio	0.37	0.35	0.29		0.20	0.05
Uniform Delay, d1	9.4	9.3	8.9		16.4	15.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.0	1.0	0.6		0.9	0.1
Delay (s)	13.4	10.3	9.5		17.2	15.7
Level of Service	B	B	A		B	B
Approach Delay (s)		11.0	9.5		16.6	
Approach LOS		B	A		B	
Intersection Summary						
HCM 2000 Control Delay			11.6		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.31			
Actuated Cycle Length (s)			63.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			51.6%		ICU Level of Service	A
Analysis Period (min)			15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

42: El Camino Real & Peninsula Ave & Pard Rd

06/12/2020

											
Movement	WBL	WBR	WBR2	NBT	NBR	NBR2	SBL	SBT	SWL2	SWL	SWR
Lane Configurations											
Traffic Volume (vph)	142	101	10	778	171	161	69	974	11	70	3
Future Volume (vph)	142	101	10	778	171	161	69	974	11	70	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0				3.0		3.0	
Lane Util. Factor	1.00			0.95				0.95		0.97	
Frpb, ped/bikes	0.96			0.98				1.00		1.00	
Flpb, ped/bikes	1.00			1.00				1.00		1.00	
Frt	0.94			0.96				1.00		0.99	
Flt Protected	0.97			1.00				1.00		0.95	
Satd. Flow (prot)	1643			3311				3528		3425	
Flt Permitted	0.97			1.00				0.77		0.95	
Satd. Flow (perm)	1643			3311				2729		3425	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	142	101	10	778	171	161	69	974	11	70	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	253	0	0	1110	0	0	0	1043	0	84	0
Confl. Peds. (#/hr)		18	14		27	27					7
Turn Type	Prot			NA			Perm	NA	Perm	Prot	
Protected Phases	3			2				6		4	
Permitted Phases							6		4		
Actuated Green, G (s)	16.4			39.1				39.1		5.8	
Effective Green, g (s)	17.9			40.6				40.6		7.3	
Actuated g/C Ratio	0.24			0.54				0.54		0.10	
Clearance Time (s)	4.5			4.5				4.5		4.5	
Vehicle Extension (s)	3.0			3.0				3.0		3.0	
Lane Grp Cap (vph)	393			1797				1481		334	
v/s Ratio Prot	c0.15			0.34							
v/s Ratio Perm								c0.38		0.02	
v/c Ratio	0.64			0.62				0.70		0.25	
Uniform Delay, d1	25.6			11.8				12.7		31.2	
Progression Factor	1.00			1.00				1.00		1.00	
Incremental Delay, d2	3.6			0.6				1.5		0.4	
Delay (s)	29.2			12.4				14.2		31.6	
Level of Service	C			B				B		C	
Approach Delay (s)	29.2			12.4				14.2		31.6	
Approach LOS	C			B				B		C	
Intersection Summary											
HCM 2000 Control Delay			15.5		HCM 2000 Level of Service					B	
HCM 2000 Volume to Capacity ratio			0.64								
Actuated Cycle Length (s)			74.8		Sum of lost time (s)					9.0	
Intersection Capacity Utilization			97.2%		ICU Level of Service					F	
Analysis Period (min)			15								
c Critical Lane Group											

HCM Signalized Intersection Capacity Analysis

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (vph)	22	116	70	171	77	79	79	1085	178	121	1098	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.95		1.00	0.92		1.00	0.98		1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1743		1743	1690		1770	3422		1770	3535	
Flt Permitted		0.96		0.47	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1686		869	1690		1770	3422		1770	3535	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	22	116	70	171	77	79	79	1085	178	121	1098	7
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	208	0	171	156	0	79	1263	0	121	1105	0
Confl. Peds. (#/hr)	18		22	22		18			24			15
Confl. Bikes (#/hr)			1						1			1
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		27.0		27.0	27.0		7.9	51.8		13.2	57.1	
Effective Green, g (s)		28.5		28.5	28.5		9.4	53.3		14.7	58.6	
Actuated g/C Ratio		0.27		0.27	0.27		0.09	0.51		0.14	0.56	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		455		234	456		157	1728		246	1963	
v/s Ratio Prot					0.09		0.04	c0.37		c0.07	0.31	
v/s Ratio Perm		0.12		c0.20								
v/c Ratio		0.46		0.73	0.34		0.50	0.73		0.49	0.56	
Uniform Delay, d1		32.1		35.0	31.0		45.8	20.5		41.9	15.2	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.7		11.1	0.5		2.5	1.6		1.5	0.4	
Delay (s)		32.8		46.1	31.4		48.3	22.1		43.5	15.5	
Level of Service		C		D	C		D	C		D	B	
Approach Delay (s)		32.8			39.1			23.6			18.3	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		23.8										
HCM 2000 Volume to Capacity ratio		0.69										
Actuated Cycle Length (s)		105.5										
Intersection Capacity Utilization		88.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (vph)	77	81	54	112	86	50	26	1263	108	34	1197	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.99			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.97			0.97			0.99			1.00	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1749			1756			3485			3514	
Flt Permitted		0.83			0.77			0.92			0.89	
Satd. Flow (perm)		1470			1390			3198			3121	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	77	81	54	112	86	50	26	1263	108	34	1197	37
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	212	0	0	248	0	0	1397	0	0	1268	0
Confl. Peds. (#/hr)	21		11	11		21	13		7	7		13
Confl. Bikes (#/hr)			3									
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.7			16.7			35.7			35.7	
Effective Green, g (s)		18.2			18.2			37.2			37.2	
Actuated g/C Ratio		0.30			0.30			0.61			0.61	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		435			412			1937			1890	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.18			0.44			0.41	
v/c Ratio		0.49			0.60			0.72			0.67	
Uniform Delay, d1		17.8			18.5			8.5			8.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.9			2.5			1.4			0.9	
Delay (s)		18.6			21.0			9.8			9.0	
Level of Service		B			C			A			A	
Approach Delay (s)		18.6			21.0			9.8			9.0	
Approach LOS		B			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		11.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		61.4			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		85.6%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

45: El Camino Real & Crystal Springs Rd

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	273	37	73	1105	1334	192
Future Volume (vph)	273	37	73	1105	1334	192
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	1.00		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.98		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1747		1770	3539	3447	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1747		1770	3539	3447	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	273	37	73	1105	1334	192
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	310	0	73	1105	1526	0
Confl. Peds. (#/hr)		23				13
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	18.2		4.7	51.5	42.3	
Effective Green, g (s)	19.7		6.2	53.0	43.8	
Actuated g/C Ratio	0.25		0.08	0.67	0.56	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	437		139	2383	1918	
v/s Ratio Prot	c0.18		c0.04	0.31	c0.44	
v/s Ratio Perm						
v/c Ratio	0.71		0.53	0.46	0.80	
Uniform Delay, d1	26.9		34.8	6.1	13.9	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.2		3.6	0.1	2.4	
Delay (s)	32.1		38.4	6.2	16.3	
Level of Service	C		D	A	B	
Approach Delay (s)	32.1			8.2	16.3	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			78.7		Sum of lost time (s)	9.0
Intersection Capacity Utilization			75.0%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: El Camino Real & 2nd Ave

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	184	91	1307	436	81	1225
Future Volume (vph)	184	91	1307	436	81	1225
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	0.96	1.00	0.92	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1520	3539	1460	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1520	3539	1460	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	184	91	1307	436	81	1225
RTOR Reduction (vph)	0	71	0	202	0	0
Lane Group Flow (vph)	184	20	1307	234	81	1225
Confl. Peds. (#/hr)		42		38		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3		2		
Actuated Green, G (s)	11.7	11.7	30.1	30.1	3.7	38.3
Effective Green, g (s)	13.2	13.2	31.6	31.6	5.2	39.8
Actuated g/C Ratio	0.22	0.22	0.54	0.54	0.09	0.67
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	396	340	1895	781	156	2387
v/s Ratio Prot	c0.10		c0.37		0.05	c0.35
v/s Ratio Perm		0.01		0.16		
v/c Ratio	0.46	0.06	0.69	0.30	0.52	0.51
Uniform Delay, d1	19.8	18.0	10.1	7.6	25.7	4.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.1	1.1	0.2	2.9	0.2
Delay (s)	20.7	18.1	11.2	7.8	28.6	5.0
Level of Service	C	B	B	A	C	A
Approach Delay (s)	19.8		10.3			6.4
Approach LOS	B		B			A
Intersection Summary						
HCM 2000 Control Delay			9.6		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.62			
Actuated Cycle Length (s)			59.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			69.5%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	173	139	163	182	140	46	64	1413	173	44	1520	85
Future Volume (vph)	173	139	163	182	140	46	64	1413	173	44	1520	85
Ideal Flow (vphpl)	1900	2500	1900	1000	1900	1900	1000	2500	1900	1800	2500	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.95	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	0.98	1.00	1.00	0.99	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1741	2451	1504	918	1863	1497	931	6500		1676	6602	
Flt Permitted	0.62	1.00	1.00	0.62	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1136	2451	1504	600	1863	1497	931	6500		1676	6602	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	173	139	163	182	140	46	64	1413	173	44	1520	85
RTOR Reduction (vph)	0	0	108	0	0	30	0	0	0	0	0	0
Lane Group Flow (vph)	173	139	55	182	140	16	64	1586	0	44	1605	0
Confl. Peds. (#/hr)	21		37	19		43			41			39
Confl. Bikes (#/hr)			4			2			4			1
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	30.6	30.6	30.6	30.6	30.6	30.6	8.2	45.4		5.5	42.7	
Effective Green, g (s)	32.1	32.1	32.1	32.1	32.1	32.1	9.7	46.9		7.0	44.2	
Actuated g/C Ratio	0.34	0.34	0.34	0.34	0.34	0.34	0.10	0.49		0.07	0.47	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	383	828	508	202	629	505	95	3208		123	3071	
v/s Ratio Prot		0.06			0.08		c0.07	c0.24		0.03	c0.24	
v/s Ratio Perm	0.15		0.04	c0.30		0.01						
v/c Ratio	0.45	0.17	0.11	0.90	0.22	0.03	0.67	0.49		0.36	0.52	
Uniform Delay, d1	24.6	22.1	21.6	29.9	22.5	21.0	41.1	16.1		41.9	17.9	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.8	0.1	0.1	37.1	0.2	0.0	17.2	0.5		1.8	0.6	
Delay (s)	25.4	22.2	21.7	67.1	22.7	21.1	58.3	16.7		43.6	18.6	
Level of Service	C	C	C	E	C	C	E	B		D	B	
Approach Delay (s)		23.2			44.4			18.3			19.3	
Approach LOS		C			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			21.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			95.0				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			81.9%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								  			  	
Traffic Volume (vph)	63	114	19	114	61	58	48	1627	140	129	1561	34
Future Volume (vph)	63	114	19	114	61	58	48	1627	140	129	1561	34
Ideal Flow (vphpl)	1900	1000	1900	1900	1900	1900	1000	2500	1900	2200	2500	1900
Total Lost time (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	*1.00		1.00	*1.00	
Frpb, ped/bikes		1.00	0.93	1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	0.97	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.93		1.00	0.99		1.00	1.00	
Flt Protected		0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		959	1465	1716	1693		931	7224		2049	7309	
Flt Permitted		0.86	1.00	0.52	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		840	1465	936	1693		931	7224		2049	7309	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	114	19	114	61	58	48	1627	140	129	1561	34
RTOR Reduction (vph)	0	0	14	0	36	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	177	5	114	83	0	48	1767	0	129	1595	0
Confl. Peds. (#/hr)	15		62	41		26			52			37
Confl. Bikes (#/hr)						2			2			
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		24.3	24.3	24.3	24.3		6.5	51.7		10.5	55.7	
Effective Green, g (s)		25.8	25.8	25.8	25.8		8.0	53.2		12.0	57.2	
Actuated g/C Ratio		0.26	0.26	0.26	0.26		0.08	0.53		0.12	0.57	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		216	377	241	436		74	3843		245	4180	
v/s Ratio Prot					0.05		c0.05	c0.24		c0.06	0.22	
v/s Ratio Perm		c0.21	0.00	0.12								
v/c Ratio		0.82	0.01	0.47	0.19		0.65	0.46		0.53	0.38	
Uniform Delay, d1		34.9	27.6	31.4	28.9		44.6	14.5		41.3	11.7	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		20.9	0.0	1.5	0.2		17.9	0.4		2.0	0.3	
Delay (s)		55.8	27.6	32.8	29.2		62.5	14.9		43.4	12.0	
Level of Service		E	C	C	C		E	B		D	B	
Approach Delay (s)		53.1			30.9			16.2			14.3	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			18.1			HCM 2000 Level of Service				B		
HCM 2000 Volume to Capacity ratio			0.58									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			72.7%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

49: El Camino Real & Barneson Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	187	74	59	1697	1479	154
Future Volume (vph)	187	74	59	1697	1479	154
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.96			1.00	0.99	
Flt Protected	0.97			1.00	1.00	
Satd. Flow (prot)	1717			5077	4994	
Flt Permitted	0.97			0.82	1.00	
Satd. Flow (perm)	1717			4146	4994	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	187	74	59	1697	1479	154
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	261	0	0	1756	1633	0
Confl. Peds. (#/hr)		17	10			10
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	16.3			41.1	41.1	
Effective Green, g (s)	17.8			42.6	42.6	
Actuated g/C Ratio	0.27			0.64	0.64	
Clearance Time (s)	4.5			4.5	4.5	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	460			2659	3203	
v/s Ratio Prot	c0.15				0.33	
v/s Ratio Perm				c0.42		
v/c Ratio	0.57			0.66	0.51	
Uniform Delay, d1	21.0			7.4	6.3	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.6			0.6	0.1	
Delay (s)	22.6			8.0	6.5	
Level of Service	C			A	A	
Approach Delay (s)	22.6			8.0	6.5	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			8.4		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.63			
Actuated Cycle Length (s)			66.4		Sum of lost time (s)	6.0
Intersection Capacity Utilization			94.2%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	86	302	236	84	23	270	1673	194	49	1471	39
Future Volume (vph)	45	86	302	236	84	23	270	1673	194	49	1471	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	0.99		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.98		1.00	1.00	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1735	1863	1508	1733	1785		1770	4976		1770	5062	
Flt Permitted	0.66	1.00	1.00	0.69	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1199	1863	1508	1267	1785		1770	4976		1770	5062	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	86	302	236	84	23	270	1673	194	49	1471	39
RTOR Reduction (vph)	0	0	223	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	45	86	79	236	107	0	270	1867	0	49	1510	0
Confl. Peds. (#/hr)	27		43	28		41			14			15
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	21.2	21.2	21.2	21.2	21.2		16.9	48.9		3.0	35.0	
Effective Green, g (s)	22.7	22.7	22.7	22.7	22.7		18.4	50.4		4.5	36.5	
Actuated g/C Ratio	0.26	0.26	0.26	0.26	0.26		0.21	0.58		0.05	0.42	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	314	488	395	332	467		376	2895		91	2133	
v/s Ratio Prot		0.05			0.06		c0.15	0.38		0.03	c0.30	
v/s Ratio Perm	0.04		0.05	c0.19								
v/c Ratio	0.14	0.18	0.20	0.71	0.23		0.72	0.64		0.54	0.71	
Uniform Delay, d1	24.5	24.7	24.9	29.0	25.1		31.7	12.1		40.0	20.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2	0.3	7.0	0.3		6.4	0.5		6.0	1.1	
Delay (s)	24.7	24.9	25.1	36.0	25.3		38.1	12.6		46.0	21.8	
Level of Service	C	C	C	D	C		D	B		D	C	
Approach Delay (s)		25.0			32.7			15.8			22.5	
Approach LOS		C			C			B			C	
Intersection Summary												
HCM 2000 Control Delay			20.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			86.6			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			77.9%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (vph)	335	53	102	82	87	105	102	1180	38	119	1144	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.99			1.00	0.97	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1606			1819	1535	1770	5052		1770	4922	
Flt Permitted	0.95	0.98			0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1606			1819	1535	1770	5052		1770	4922	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	335	53	102	82	87	105	102	1180	38	119	1144	206
RTOR Reduction (vph)	0	0	0	0	0	88	0	0	0	0	0	0
Lane Group Flow (vph)	251	239	0	0	169	17	102	1218	0	119	1350	0
Confl. Peds. (#/hr)			13			15			13			15
Confl. Bikes (#/hr)			4			1			5			
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	24.5	24.5			17.3	17.3	12.5	39.7		16.0	43.2	
Effective Green, g (s)	26.0	26.0			18.8	18.8	14.0	41.2		17.5	44.7	
Actuated g/C Ratio	0.23	0.23			0.16	0.16	0.12	0.36		0.15	0.39	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	378	361			296	249	214	1802		268	1904	
v/s Ratio Prot	c0.15	0.15			c0.09		0.06	c0.24		0.07	c0.27	
v/s Ratio Perm						0.01						
v/c Ratio	0.66	0.66			0.57	0.07	0.48	0.68		0.44	0.71	
Uniform Delay, d1	40.8	40.7			44.6	40.9	47.3	31.5		44.6	29.9	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.4	4.5			2.7	0.1	1.7	1.0		1.2	1.2	
Delay (s)	45.1	45.3			47.3	41.1	49.0	32.5		45.7	31.1	
Level of Service	D	D			D	D	D	C		D	C	
Approach Delay (s)		45.2			44.9			33.8			32.3	
Approach LOS		D			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			35.6		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			115.5		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			78.9%		ICU Level of Service					D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (vph)	156	212	34	277	138	105	48	1059	324	160	996	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.95	1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.96		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1763	1534	1681	1740	1503	1770	4876		1770	5031	
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1763	1534	1681	1740	1503	1770	4876		1770	5031	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	156	212	34	277	138	105	48	1059	324	160	996	46
RTOR Reduction (vph)	0	0	28	0	0	85	0	0	0	0	0	0
Lane Group Flow (vph)	140	228	6	205	210	20	48	1383	0	160	1042	0
Confl. Peds. (#/hr)			9			32			8			33
Confl. Bikes (#/hr)			4			1			4			1
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)	21.1	21.1	21.1	21.9	21.9	21.9	20.6	48.3		15.1	42.8	
Effective Green, g (s)	22.6	22.6	22.6	23.4	23.4	23.4	22.1	49.8		16.6	44.3	
Actuated g/C Ratio	0.18	0.18	0.18	0.19	0.19	0.19	0.18	0.40		0.13	0.36	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	305	320	278	316	327	282	314	1951		236	1791	
v/s Ratio Prot	0.08	c0.13		c0.12	0.12		0.03	c0.28		c0.09	0.21	
v/s Ratio Perm			0.00			0.01						
v/c Ratio	0.46	0.71	0.02	0.65	0.64	0.07	0.15	0.71		0.68	0.58	
Uniform Delay, d1	45.4	47.8	41.8	46.7	46.6	41.5	43.2	31.2		51.4	32.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	7.3	0.0	4.5	4.3	0.1	0.2	1.2		7.5	0.5	
Delay (s)	46.5	55.2	41.9	51.2	50.9	41.7	43.5	32.4		58.9	33.0	
Level of Service	D	E	D	D	D	D	D	C		E	C	
Approach Delay (s)		51.0			49.2			32.8			36.5	
Approach LOS		D			D			C			D	
Intersection Summary												
HCM 2000 Control Delay			38.5				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			124.4				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			82.1%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (vph)	145	0	145	1	0	3	123	1225	2	19	1306	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		0.98			0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.93			0.90		1.00	1.00		1.00	0.99	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3141			1617		1770	5084		1770	5016	
Flt Permitted		0.82			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2645			1502		1770	5084		1770	5016	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	145	0	145	1	0	3	123	1225	2	19	1306	104
RTOR Reduction (vph)	0	121	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	169	0	0	4	0	123	1227	0	19	1410	0
Confl. Peds. (#/hr)			30	22		8			30			8
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.0			10.0		10.7	42.7		3.0	35.0	
Effective Green, g (s)		11.5			11.5		12.2	44.2		4.5	36.5	
Actuated g/C Ratio		0.17			0.17		0.18	0.64		0.07	0.53	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		439			249		312	3247		115	2645	
v/s Ratio Prot							c0.07	0.24		0.01	c0.28	
v/s Ratio Perm		c0.06			0.00							
v/c Ratio		0.39			0.02		0.39	0.38		0.17	0.53	
Uniform Delay, d1		25.7			24.1		25.2	6.0		30.6	10.7	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.0		0.8	0.1		0.7	0.2	
Delay (s)		26.3			24.1		26.1	6.0		31.3	11.0	
Level of Service		C			C		C	A		C	B	
Approach Delay (s)		26.3			24.1			7.9			11.2	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			11.2				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.48									
Actuated Cycle Length (s)			69.2				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			65.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	NWR
Lane Configurations												
Traffic Volume (vph)	80	30	176	53	83	19	28	754	82	1349	130	502
Future Volume (vph)	80	30	176	53	83	19	28	754	82	1349	130	502
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.91	1.00	0.86		1.00
Frpb, ped/bikes	1.00	1.00	0.89		1.00		1.00	1.00	1.00	1.00		1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85		0.98		1.00	1.00	1.00	0.99		1.00
Flt Protected	0.95	0.98	1.00		0.98		0.95	1.00	0.95	1.00		1.00
Satd. Flow (prot)	1513	1557	1274		3062		1593	4577	1593	5675		1676
Flt Permitted	0.95	0.98	1.00		0.84		0.95	1.00	0.95	1.00		1.00
Satd. Flow (perm)	1513	1557	1274		2619		1593	4577	1593	5675		1676
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	80	30	176	53	83	19	28	754	82	1349	130	502
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	54	56	176	0	155	0	28	754	82	1479	0	502
Confl. Peds. (#/hr)			44			19					25	
Confl. Bikes (#/hr)			17									
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA	Prot	NA		Prot
Protected Phases	3	3			4		5	2!	1	6		2!
Permitted Phases			3	4								
Actuated Green, G (s)	22.4	22.4	22.4		13.0		9.1	45.1	9.1	45.1		45.1
Effective Green, g (s)	23.9	23.9	23.9		14.5		10.6	46.6	10.6	46.6		46.6
Actuated g/C Ratio	0.22	0.22	0.22		0.13		0.10	0.43	0.10	0.43		0.43
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	336	345	282		352		156	1982	156	2457		725
v/s Ratio Prot	0.04	0.04					0.02	0.16	0.05	c0.26		c0.30
v/s Ratio Perm			c0.14		c0.06							
v/c Ratio	0.16	0.16	0.62		0.44		0.18	0.38	0.53	0.60		0.69
Uniform Delay, d1	33.8	33.8	37.8		42.8		44.5	20.7	46.1	23.4		24.7
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.2	0.2	4.3		0.9		0.6	0.1	3.2	0.4		2.9
Delay (s)	34.0	34.0	42.1		43.7		45.1	20.8	49.3	23.8		27.6
Level of Service	C	C	D		D		D	C	D	C		C
Approach Delay (s)		39.0			43.7			21.7		25.1		
Approach LOS		D			D			C		C		
Intersection Summary												
HCM 2000 Control Delay			26.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			107.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			88.0%				ICU Level of Service			E		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020



Movement	NWR2
Lane Configurations	
Traffic Volume (vph)	137
Future Volume (vph)	137
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1425
Flt Permitted	1.00
Satd. Flow (perm)	1425
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	137
RTOR Reduction (vph)	60
Lane Group Flow (vph)	77
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	45.1
Effective Green, g (s)	46.6
Actuated g/C Ratio	0.43
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	617
v/s Ratio Prot	
v/s Ratio Perm	0.05
v/c Ratio	0.13
Uniform Delay, d1	18.3
Progression Factor	1.00
Incremental Delay, d2	0.1
Delay (s)	18.4
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

55: El Camino Real NB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑			↑↑	↑	↑	↑	↑			
Traffic Volume (vph)	119	601	0	0	619	376	29	20	447	0	0	0
Future Volume (vph)	119	601	0	0	619	376	29	20	447	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Util. Factor		0.91			0.95	1.00	0.95	0.95	1.00			
Frpb, ped/bikes		1.00			1.00	0.93	1.00	1.00	0.91			
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00			
Frt		1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected		0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)		5044			3539	1465	1681	1752	1439			
Flt Permitted		0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)		5044			3539	1465	1681	1752	1439			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	119	601	0	0	619	376	29	20	447	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	279	0	0	405	0	0	0
Lane Group Flow (vph)	0	720	0	0	619	97	24	25	42	0	0	0
Confl. Peds. (#/hr)			13			15			25			
Confl. Bikes (#/hr)			2			4			1			
Turn Type	Split	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	5			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)		67.1			29.5	29.5	9.9	9.9	9.9			
Effective Green, g (s)		68.6			31.0	31.0	11.4	11.4	11.4			
Actuated g/C Ratio		0.57			0.26	0.26	0.10	0.10	0.10			
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		2883			914	378	159	166	136			
v/s Ratio Prot		c0.14			c0.17		0.01	0.01				
v/s Ratio Perm						0.07			c0.03			
v/c Ratio		0.25			0.68	0.26	0.15	0.15	0.31			
Uniform Delay, d1		12.8			40.0	35.4	49.9	49.9	50.6			
Progression Factor		0.06			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		0.2			2.0	0.4	0.4	0.4	1.3			
Delay (s)		0.9			42.0	35.7	50.3	50.3	52.0			
Level of Service		A			D	D	D	D	D			
Approach Delay (s)		0.9			39.6			51.8			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		29.7			HCM 2000 Level of Service				C			
HCM 2000 Volume to Capacity ratio		0.39										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)				13.5			
Intersection Capacity Utilization		53.0%			ICU Level of Service				A			
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

56: El Camino Real SB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	0	498	103	288	382	0	0	0	0	208	45	105
Future Volume (vph)	0	498	103	288	382	0	0	0	0	208	45	105
Ideal Flow (vphpl)	1900	1300	1900	1100	1100	1900	1900	1900	1900	1100	1900	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.87		1.00					1.00	1.00	0.84
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98					0.95	0.97	1.00
Satd. Flow (prot)		3479	1371		2882					973	1714	1332
Flt Permitted		1.00	1.00		0.98					0.95	0.97	1.00
Satd. Flow (perm)		3479	1371		2882					973	1714	1332
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	498	103	288	382	0	0	0	0	208	45	105
RTOR Reduction (vph)	0	0	75	0	0	0	0	0	0	0	0	79
Lane Group Flow (vph)	0	498	28	0	670	0	0	0	0	125	128	26
Confl. Peds. (#/hr)			52			82						103
Confl. Bikes (#/hr)												2
Turn Type		NA	Perm	Split	NA					Split	NA	Perm
Protected Phases		2		1	1					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		23.5	23.5		54.5					28.5	28.5	28.5
Effective Green, g (s)		25.0	25.0		56.0					30.0	30.0	30.0
Actuated g/C Ratio		0.21	0.21		0.47					0.25	0.25	0.25
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		724	285		1344					243	428	333
v/s Ratio Prot		c0.14			c0.23					c0.13	0.07	
v/s Ratio Perm			0.02									0.02
v/c Ratio		0.69	0.10		0.50					0.51	0.30	0.08
Uniform Delay, d1		43.9	38.4		22.2					38.7	36.5	34.4
Progression Factor		1.00	1.00		0.19					1.00	1.00	1.00
Incremental Delay, d2		5.3	0.7		1.2					1.8	0.4	0.1
Delay (s)		49.2	39.1		5.3					40.6	36.9	34.5
Level of Service		D	D		A					D	D	C
Approach Delay (s)		47.4			5.3			0.0			37.5	
Approach LOS		D			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			27.9			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			72.1%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

57: El Camino Real & 41st Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		WT	TT	TTT	WT
Traffic Volume (vph)	152	55	6	1073	1177	56
Future Volume (vph)	152	55	6	1073	1177	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00	0.95	0.91	
Frpb, ped/bikes	1.00		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.96		1.00	1.00	0.99	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	3332		1770	3539	5044	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	3332		1770	3539	5044	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	55	6	1073	1177	56
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	207	0	6	1073	1233	0
Confl. Peds. (#/hr)		9				9
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	8.8		0.8	31.3	26.0	
Effective Green, g (s)	10.3		2.3	32.8	27.5	
Actuated g/C Ratio	0.21		0.05	0.67	0.56	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	698		82	2364	2825	
v/s Ratio Prot	c0.06		0.00	c0.30	0.24	
v/s Ratio Perm						
v/c Ratio	0.30		0.07	0.45	0.44	
Uniform Delay, d1	16.3		22.4	3.9	6.3	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.2		0.4	0.1	0.1	
Delay (s)	16.6		22.8	4.0	6.4	
Level of Service	B		C	A	A	
Approach Delay (s)	16.6			4.1	6.4	
Approach LOS	B			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.3		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.45			
Actuated Cycle Length (s)			49.1		Sum of lost time (s)	9.0
Intersection Capacity Utilization			47.3%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (vph)	54	167	40	100	115	210	13	846	140	232	982	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00	0.98	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1767	1542	1681	1763	1555	1770	3539	1555	1770	5046	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1767	1542	1681	1763	1555	1770	3539	1555	1770	5046	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	167	40	100	115	210	13	846	140	232	982	42
RTOR Reduction (vph)	0	0	33	0	0	179	0	0	93	0	0	0
Lane Group Flow (vph)	49	172	7	90	125	31	13	846	47	232	1024	0
Confl. Peds. (#/hr)			8			6			6			8
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.2	15.2	15.2	13.5	13.5	13.5	2.5	32.2	32.2	21.4	51.1	
Effective Green, g (s)	16.7	16.7	16.7	15.0	15.0	15.0	4.0	33.7	33.7	22.9	52.6	
Actuated g/C Ratio	0.17	0.17	0.17	0.15	0.15	0.15	0.04	0.34	0.34	0.23	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	279	294	256	251	263	232	70	1189	522	404	2646	
v/s Ratio Prot	0.03	c0.10		0.05	c0.07		0.01	c0.24		c0.13	0.20	
v/s Ratio Perm			0.00			0.02			0.03			
v/c Ratio	0.18	0.59	0.03	0.36	0.48	0.14	0.19	0.71	0.09	0.57	0.39	
Uniform Delay, d1	35.9	38.6	35.0	38.3	39.0	37.0	46.6	29.1	22.8	34.4	14.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.3	3.0	0.0	0.9	1.4	0.3	1.3	2.0	0.1	2.0	0.1	
Delay (s)	36.2	41.6	35.0	39.2	40.4	37.3	47.9	31.1	22.9	36.3	14.3	
Level of Service	D	D	D	D	D	D	D	C	C	D	B	
Approach Delay (s)		39.6			38.6			30.2			18.4	
Approach LOS		D			D			C			B	
Intersection Summary												
HCM 2000 Control Delay			27.2				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			100.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			67.8%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (vph)	135	8	383	3	3	3	311	313	9	6	193	122
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.97		0.98		1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.95		1.00	1.00		1.00	0.94	
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1694	1540		1707		1770	1850		1770	1733	
Flt Permitted	0.95	0.96	1.00		1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1694	1540		1735		1770	1850		1770	1733	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	135	8	383	3	3	3	311	313	9	6	193	122
RTOR Reduction (vph)	0	0	322	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	72	71	61	0	9	0	311	322	0	6	315	0
Confl. Peds. (#/hr)			4			56			34			26
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	9.8	9.8	9.8		1.0		16.7	41.2		0.9	25.4	
Effective Green, g (s)	11.3	11.3	11.3		2.5		18.2	42.7		2.4	26.9	
Actuated g/C Ratio	0.16	0.16	0.16		0.04		0.26	0.60		0.03	0.38	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	267	269	245		61		454	1114		59	657	
v/s Ratio Prot	c0.04	0.04					c0.18	0.17		0.00	c0.18	
v/s Ratio Perm			0.04		c0.01							
v/c Ratio	0.27	0.26	0.25		0.15		0.69	0.29		0.10	0.48	
Uniform Delay, d1	26.2	26.2	26.1		33.2		23.8	6.8		33.2	16.7	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.5	0.5	0.5		1.1		4.3	0.1		0.8	0.6	
Delay (s)	26.7	26.7	26.6		34.3		28.0	6.9		34.0	17.2	
Level of Service	C	C	C		C		C	A		C	B	
Approach Delay (s)		26.6			34.3			17.3			17.6	
Approach LOS		C			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.9				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			66.7%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

60: Alameda De Las Pulgas & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (vph)	16	9	3	46	20	171	34	688	92	438	564	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.98		1.00	0.98	
Flt Protected		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1805	1550		1800	1550	1770	3467		1770	3451	
Flt Permitted		0.97	1.00		0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1805	1550		1800	1550	1770	3467		1770	3451	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	9	3	46	20	171	34	688	92	438	564	88
RTOR Reduction (vph)	0	0	3	0	0	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	25	0	0	66	20	34	780	0	438	652	0
Confl. Peds. (#/hr)			9			9			11			7
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)		2.8	2.8		8.5	8.5	2.9	27.2		28.1	52.4	
Effective Green, g (s)		4.3	4.3		10.0	10.0	4.4	28.7		29.6	53.9	
Actuated g/C Ratio		0.05	0.05		0.12	0.12	0.05	0.34		0.35	0.64	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		91	78		212	183	92	1176		619	2198	
v/s Ratio Prot		c0.01			c0.04		0.02	c0.22		c0.25	0.19	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.27	0.00		0.31	0.11	0.37	0.66		0.71	0.30	
Uniform Delay, d1		38.6	38.1		34.1	33.3	38.8	23.8		23.8	6.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.6	0.0		0.8	0.3	2.5	1.4		3.7	0.1	
Delay (s)		40.3	38.1		35.0	33.6	41.3	25.3		27.5	6.9	
Level of Service		D	D		C	C	D	C		C	A	
Approach Delay (s)		40.1			34.0			25.9			15.2	
Approach LOS		D			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.61									
Actuated Cycle Length (s)			84.6				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			69.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑↑	↑↑		←	↑↑
Traffic Volume (vph)	332	573	795	49	22	145
Future Volume (vph)	332	573	795	49	22	145
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	2.5	2.5		2.5	2.5
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	3508		1770	2787
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	3508		1770	2787
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	332	573	795	49	22	145
RTOR Reduction (vph)	0	0	0	0	0	126
Lane Group Flow (vph)	332	573	844	0	22	19
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	10.9	35.6	20.2		4.8	4.8
Effective Green, g (s)	12.4	37.1	21.7		6.3	6.3
Actuated g/C Ratio	0.26	0.77	0.45		0.13	0.13
Clearance Time (s)	4.5	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	879	2712	1572		230	362
v/s Ratio Prot	c0.10	0.16	c0.24		c0.01	
v/s Ratio Perm						0.01
v/c Ratio	0.38	0.21	0.54		0.10	0.05
Uniform Delay, d1	14.8	1.6	9.7		18.5	18.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.3	0.0	0.4		0.2	0.1
Delay (s)	15.1	1.6	10.1		18.7	18.5
Level of Service	B	A	B		B	B
Approach Delay (s)		6.6	10.1		18.5	
Approach LOS		A	B		B	

Intersection Summary

HCM 2000 Control Delay	9.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

62: Bayshore Blvd & Peninsula Ave

06/12/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	966	180	45	726	232	173
Future Volume (vph)	966	180	45	726	232	173
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.98		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3441		1770	3539	1770	1552
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3441		1770	3539	1770	1552
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	966	180	45	726	232	173
RTOR Reduction (vph)	0	0	0	0	0	127
Lane Group Flow (vph)	1146	0	45	726	232	46
Confl. Peds. (#/hr)		1				
Confl. Bikes (#/hr)		8				9
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	28.9		2.7	36.1	14.3	14.3
Effective Green, g (s)	30.4		4.2	37.6	15.8	15.8
Actuated g/C Ratio	0.51		0.07	0.63	0.27	0.27
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1761		125	2240	470	412
v/s Ratio Prot	c0.33		0.03	c0.21	c0.13	
v/s Ratio Perm						0.03
v/c Ratio	0.65		0.36	0.32	0.49	0.11
Uniform Delay, d1	10.6		26.3	5.0	18.4	16.5
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9		1.8	0.1	0.8	0.1
Delay (s)	11.5		28.1	5.1	19.2	16.6
Level of Service	B		C	A	B	B
Approach Delay (s)	11.5			6.5	18.1	
Approach LOS	B			A	B	
Intersection Summary						
HCM 2000 Control Delay			11.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			59.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			56.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

63: Peninsula Ave/Coyote Point Dr & Airport Blvd

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1107	51	16	12	45	761
Future Volume (vph)	1107	51	16	12	45	761
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1863	1863	1547	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1863	1863	1547	1770	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1107	51	16	12	45	761
RTOR Reduction (vph)	0	0	0	11	0	0
Lane Group Flow (vph)	1107	51	16	1	45	761
Confl. Peds. (#/hr)				18		20
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases				8		
Actuated Green, G (s)	24.2	30.7	2.0	2.0	13.7	42.4
Effective Green, g (s)	25.7	32.2	3.5	3.5	15.2	43.9
Actuated g/C Ratio	0.48	0.60	0.07	0.07	0.28	0.82
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	1652	1123	122	101	503	1301
v/s Ratio Prot	c0.32	0.03	c0.01		0.03	c0.48
v/s Ratio Perm				0.00		
v/c Ratio	0.67	0.05	0.13	0.01	0.09	0.58
Uniform Delay, d1	10.6	4.3	23.5	23.3	14.0	1.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.1	0.0	0.5	0.0	0.1	0.7
Delay (s)	11.7	4.3	24.0	23.4	14.1	2.3
Level of Service	B	A	C	C	B	A
Approach Delay (s)		11.4	23.7		3.0	
Approach LOS		B	C		A	
Intersection Summary						
HCM 2000 Control Delay			8.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.60			
Actuated Cycle Length (s)			53.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			67.8%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

64: Airport Blvd & US 101 NB

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	204	632	936	167	133	15
Future Volume (vph)	204	632	936	167	133	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.98	
Flt Protected	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (prot)	1770	1583	1681	1710	3480	
Flt Permitted	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (perm)	1770	1583	1681	1710	3480	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	204	632	936	167	133	15
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	204	632	543	560	148	0
Confl. Bikes (#/hr)		2				2
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	1 4	1	1	2	
Permitted Phases						
Actuated Green, G (s)	15.4	54.1	34.2	34.2	8.7	
Effective Green, g (s)	16.9	55.6	35.7	35.7	10.2	
Actuated g/C Ratio	0.24	0.77	0.50	0.50	0.14	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	416	1225	835	850	494	
v/s Ratio Prot	0.12	c0.40	0.32	c0.33	c0.04	
v/s Ratio Perm						
v/c Ratio	0.49	0.52	0.65	0.66	0.30	
Uniform Delay, d1	23.7	3.0	13.4	13.5	27.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.9	0.4	1.8	1.9	0.3	
Delay (s)	24.6	3.4	15.2	15.4	27.9	
Level of Service	C	A	B	B	C	
Approach Delay (s)	8.6			15.3	27.9	
Approach LOS	A			B	C	

Intersection Summary

HCM 2000 Control Delay	13.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	71.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	55.8%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		25.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		0.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

66: Claremont St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	64	318	94	30	359	30	91	92	29	14	65	51
Future Volume (vph)	64	318	94	30	359	30	91	92	29	14	65	51
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	64	318	94	30	359	30	91	92	29	14	65	51
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	476	419	212	130								
Volume Left (vph)	64	30	91	14								
Volume Right (vph)	94	30	29	51								
Hadj (s)	-0.06	0.01	0.04	-0.18								
Departure Headway (s)	5.9	6.1	6.9	7.0								
Degree Utilization, x	0.78	0.70	0.41	0.25								
Capacity (veh/h)	589	564	459	436								
Control Delay (s)	26.6	22.2	14.7	12.4								
Approach Delay (s)	26.6	22.2	14.7	12.4								
Approach LOS	D	C	B	B								
Intersection Summary												
Delay				21.6								
Level of Service				C								
Intersection Capacity Utilization				67.7%	ICU Level of Service	C						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	1087	12	0	0	0	0	78	121	243	183	0
Future Volume (vph)	19	1087	12	0	0	0	0	78	121	243	183	0
Ideal Flow (vphpl)	1900	1300	1900	1900	1900	1900	1900	1600	1900	1900	1450	1900
Total Lost time (s)		3.0						3.0			3.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.99			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.92			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		2413						1420			1382	
Flt Permitted		1.00						1.00			0.66	
Satd. Flow (perm)		2413						1420			938	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	1087	12	0	0	0	0	78	121	243	183	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	41	0	0	0	0
Lane Group Flow (vph)	0	1117	0	0	0	0	0	158	0	0	426	0
Confl. Peds. (#/hr)	7		22						9			
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4								6			
Actuated Green, G (s)		30.5						20.5			20.5	
Effective Green, g (s)		32.0						22.0			22.0	
Actuated g/C Ratio		0.53						0.37			0.37	
Clearance Time (s)		4.5						4.5			4.5	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1286						520			343	
v/s Ratio Prot								0.11				
v/s Ratio Perm		0.46									c0.45	
v/c Ratio		0.87						0.30			1.24	
Uniform Delay, d1		12.2						13.5			19.0	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		8.1						0.3			131.2	
Delay (s)		20.3						13.9			150.2	
Level of Service		C						B			F	
Approach Delay (s)		20.3			0.0			13.9			150.2	
Approach LOS		C			A			B			F	
Intersection Summary												
HCM 2000 Control Delay		51.3						HCM 2000 Level of Service		D		
HCM 2000 Volume to Capacity ratio		1.02										
Actuated Cycle Length (s)		60.0						Sum of lost time (s)		6.0		
Intersection Capacity Utilization		99.8%						ICU Level of Service		F		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	383	11	157	383	97	10	161	256	114	118	38
Future Volume (vph)	36	383	11	157	383	97	10	161	256	114	118	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.99		1.00	0.98		1.00	0.99	
Flpb, ped/bikes		1.00		1.00	1.00		0.99	1.00		0.99	1.00	
Frt		1.00		1.00	0.97		1.00	0.91		1.00	0.96	
Flt Protected		1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1846		1763	1789		1753	1649		1760	1776	
Flt Permitted		0.94		0.48	1.00		0.66	1.00		0.36	1.00	
Satd. Flow (perm)		1749		896	1789		1215	1649		674	1776	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	36	383	11	157	383	97	10	161	256	114	118	38
RTOR Reduction (vph)	0	2	0	0	15	0	0	94	0	0	19	0
Lane Group Flow (vph)	0	428	0	157	465	0	10	323	0	114	137	0
Confl. Peds. (#/hr)	10		15	6		19	9		15	9		19
Confl. Bikes (#/hr)			3			4			2			
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		17.5		17.5	17.5		13.7	13.7		13.7	13.7	
Effective Green, g (s)		19.0		19.0	19.0		15.2	15.2		15.2	15.2	
Actuated g/C Ratio		0.47		0.47	0.47		0.38	0.38		0.38	0.38	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		826		423	845		459	623		254	671	
v/s Ratio Prot					c0.26			c0.20				0.08
v/s Ratio Perm		0.24		0.18			0.01			0.17		
v/c Ratio		0.52		0.37	0.55		0.02	0.52		0.45	0.20	
Uniform Delay, d1		7.4		6.8	7.6		7.8	9.7		9.4	8.4	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6		0.6	0.8		0.0	0.7		1.3	0.2	
Delay (s)		8.0		7.3	8.3		7.9	10.4		10.6	8.6	
Level of Service		A		A	A		A	B		B	A	
Approach Delay (s)		8.0			8.1			10.3			9.4	
Approach LOS		A			A			B			A	
Intersection Summary												
HCM 2000 Control Delay		8.8										
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		40.2										
Intersection Capacity Utilization		94.0%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				↰↱		↰↱		↑↑↑	↰		↑↑↑	
Traffic Volume (vph)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (vph)	0	0	0	400	0	670	0	1431	192	0	1702	488
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				3.0		3.0		3.0	3.0		3.0	
Lane Util. Factor				0.97		0.88		0.91	1.00		0.91	
Frpb, ped/bikes				1.00		0.99		1.00	0.98		0.99	
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	
Frt				1.00		0.85		1.00	0.85		0.97	
Flt Protected				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (prot)				3433		2745		5085	1544		4864	
Flt Permitted				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (perm)				3433		2745		5085	1544		4864	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	400	0	670	0	1431	192	0	1702	488
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	72	0	46	0
Lane Group Flow (vph)	0	0	0	400	0	670	0	1431	120	0	2144	0
Confl. Peds. (#/hr)						3			3			6
Turn Type				Prot		Perm		NA	Perm		NA	
Protected Phases				3				2			6	
Permitted Phases						3			2			
Actuated Green, G (s)				30.1		30.1		60.9	60.9		60.9	
Effective Green, g (s)				31.6		31.6		62.4	62.4		62.4	
Actuated g/C Ratio				0.32		0.32		0.62	0.62		0.62	
Clearance Time (s)				4.5		4.5		4.5	4.5		4.5	
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)				1084		867		3173	963		3035	
v/s Ratio Prot				0.12				0.28			c0.44	
v/s Ratio Perm						c0.24			0.08			
v/c Ratio				0.37		0.77		0.45	0.12		0.71	
Uniform Delay, d1				26.5		31.0		9.8	7.7		12.6	
Progression Factor				1.00		1.00		1.00	1.00		1.00	
Incremental Delay, d2				0.2		4.3		0.5	0.3		1.4	
Delay (s)				26.7		35.3		10.3	7.9		14.1	
Level of Service				C		D		B	A		B	
Approach Delay (s)		0.0			32.1			10.0			14.1	
Approach LOS		A			C			B			B	
Intersection Summary												
HCM 2000 Control Delay			16.7									
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			100.0									
Intersection Capacity Utilization			62.0%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (vph)	404	0	210	0	0	0	0	1227	411	0	1327	784
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0					3.0			3.0	3.0
Lane Util. Factor	0.97		0.88					0.91			0.91	1.00
Frpb, ped/bikes	1.00		0.98					0.99			1.00	0.97
Flpb, ped/bikes	1.00		1.00					1.00			1.00	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		2726					4860			5085	1536
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		2726					4860			5085	1536
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	404	0	210	0	0	0	0	1227	411	0	1327	784
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	185
Lane Group Flow (vph)	404	0	210	0	0	0	0	1638	0	0	1327	599
Confl. Peds. (#/hr)			6						2			6
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			7									6
Actuated Green, G (s)	18.4		18.4					82.6			82.6	82.6
Effective Green, g (s)	19.9		19.9					84.1			84.1	84.1
Actuated g/C Ratio	0.18		0.18					0.76			0.76	0.76
Clearance Time (s)	4.5		4.5					4.5			4.5	4.5
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	621		493					3715			3887	1174
v/s Ratio Prot	c0.12							0.34			0.26	
v/s Ratio Perm			0.08									c0.39
v/c Ratio	0.65		0.43					0.44			0.34	0.51
Uniform Delay, d1	41.8		40.0					4.6			4.1	5.0
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	2.4		0.6					0.4			0.2	1.6
Delay (s)	44.3		40.6					5.0			4.4	6.6
Level of Service	D		D					A			A	A
Approach Delay (s)		43.0			0.0			5.0			5.2	
Approach LOS		D			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			10.4					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.54									
Actuated Cycle Length (s)			110.0					Sum of lost time (s)			6.0	
Intersection Capacity Utilization			52.5%					ICU Level of Service			A	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

72: Delaware St & Sunnybrae Blvd

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	50	20	420	65	13	400
Future Volume (Veh/h)	50	20	420	65	13	400
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	50	20	420	65	13	400
Pedestrians	9		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	888	462			494	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	888	462			494	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	84	97			99	
cM capacity (veh/h)	307	595			1060	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	50	20	485	413		
Volume Left	50	0	0	13		
Volume Right	0	20	65	0		
cSH	307	595	1700	1060		
Volume to Capacity	0.16	0.03	0.29	0.01		
Queue Length 95th (ft)	14	3	0	1		
Control Delay (s)	19.0	11.3	0.0	0.4		
Lane LOS	C	B		A		
Approach Delay (s)	16.8		0.0	0.4		
Approach LOS	C					
Intersection Summary						
Average Delay			1.4			
Intersection Capacity Utilization			41.5%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

73: Delaware St & 16th Ave

06/12/2020

																	
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR					
Lane Configurations																	
Sign Control	Stop			Stop			Stop			Stop							
Traffic Volume (vph)	14	38	208	45	28	14	164	457	18	15	418	20					
Future Volume (vph)	14	38	208	45	28	14	164	457	18	15	418	20					
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00					
Hourly flow rate (vph)	14	38	208	45	28	14	164	457	18	15	418	20					
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2										
Volume Total (vph)	14	246	87	164	475	15	438										
Volume Left (vph)	14	0	45	164	0	15	0										
Volume Right (vph)	0	208	14	0	18	0	20										
Hadj (s)	0.53	-0.56	0.04	0.53	0.01	0.53	0.00										
Departure Headway (s)	8.3	7.2	8.2	7.2	6.7	7.4	6.9										
Degree Utilization, x	0.03	0.49	0.20	0.33	0.88	0.03	0.84										
Capacity (veh/h)	413	480	396	487	533	464	512										
Control Delay (s)	10.3	15.6	13.2	12.4	39.1	9.5	34.7										
Approach Delay (s)	15.3		13.2	32.2		33.9											
Approach LOS	C		B	D		D											
Intersection Summary																	
Delay	28.5																
Level of Service	D																
Intersection Capacity Utilization	71.0%			ICU Level of Service			C										
Analysis Period (min)	15																

HCM Signalized Intersection Capacity Analysis

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (vph)	6	1	12	75	0	34	4	519	37	9	692	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.90			0.97		1.00	1.00	0.96	1.00	1.00	
Flpb, ped/bikes		0.99			1.00		0.98	1.00	1.00	0.99	1.00	
Frt		0.91			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1497			1679		1737	1863	1517	1753	1862	
Flt Permitted		0.94			0.80		0.36	1.00	1.00	0.44	1.00	
Satd. Flow (perm)		1428			1382		656	1863	1517	819	1862	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	1	12	75	0	34	4	519	37	9	692	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	19	0	0	109	0	4	519	37	9	693	0
Confl. Peds. (#/hr)	11		18			19	18		8	8		29
Confl. Bikes (#/hr)			8			2			1			8
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		15.5			15.5		105.5	105.5	105.5	105.5	105.5	
Effective Green, g (s)		17.0			17.0		107.0	107.0	107.0	107.0	107.0	
Actuated g/C Ratio		0.13			0.13		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		186			180		539	1533	1248	674	1532	
v/s Ratio Prot								0.28				c0.37
v/s Ratio Perm		0.01			c0.08		0.01		0.02	0.01		
v/c Ratio		0.10			0.61		0.01	0.34	0.03	0.01	0.45	
Uniform Delay, d1		49.8			53.3		2.0	2.8	2.1	2.1	3.2	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.2			5.7		0.0	0.6	0.0	0.0	1.0	
Delay (s)		50.0			59.0		2.1	3.4	2.1	2.1	4.2	
Level of Service		D			E		A	A	A	A	A	
Approach Delay (s)		50.0			59.0			3.3			4.2	
Approach LOS		D			E			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.8										
HCM 2000 Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		130.0										
Intersection Capacity Utilization		57.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (vph)	19	7	4	328	3	94	1	542	285	37	753	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0			3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		0.99			1.00	0.94		0.97			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.98			1.00	0.85		0.95			1.00	
Flt Protected		0.97			0.95	1.00		1.00			1.00	
Satd. Flow (prot)		1757			1775	1482		3271			3517	
Flt Permitted		0.97			0.95	1.00		0.95			0.89	
Satd. Flow (perm)		1757			1775	1482		3122			3137	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	7	4	328	3	94	1	542	285	37	753	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	30	0	0	331	94	0	828	0	0	798	0
Confl. Peds. (#/hr)			38			10	24		24	10		24
Confl. Bikes (#/hr)			5			7			11			5
Turn Type	Split	NA		Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		3.3			20.5	20.5		42.7			42.7	
Effective Green, g (s)		4.8			22.0	22.0		44.2			44.2	
Actuated g/C Ratio		0.06			0.28	0.28		0.55			0.55	
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		105			488	407		1724			1733	
v/s Ratio Prot		c0.02			c0.19							
v/s Ratio Perm						0.06		c0.27			0.25	
v/c Ratio		0.29			0.68	0.23		0.48			0.46	
Uniform Delay, d1		36.0			25.8	22.5		10.9			10.7	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		1.5			3.7	0.3		1.0			0.9	
Delay (s)		37.5			29.6	22.7		11.9			11.6	
Level of Service		D			C	C		B			B	
Approach Delay (s)		37.5			28.1			11.9			11.6	
Approach LOS		D			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		15.5										
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		80.1%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

76: Ginnever St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	171	128	1	0	114	223	16	48	0	162	23	270
Future Volume (vph)	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	171	128	1	0	114	223	16	48	0	162	23	270
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2						
Volume Total (vph)	300	114	223	64	185	270						
Volume Left (vph)	171	0	0	16	162	0						
Volume Right (vph)	1	0	223	0	0	270						
Hadj (s)	0.15	0.03	-0.67	0.08	0.47	-0.67						
Departure Headway (s)	6.6	6.6	5.9	7.4	7.0	5.8						
Degree Utilization, x	0.55	0.21	0.37	0.13	0.36	0.44						
Capacity (veh/h)	519	512	575	425	488	586						
Control Delay (s)	17.6	10.2	11.1	11.5	12.7	12.1						
Approach Delay (s)	17.6	10.8		11.5	12.3							
Approach LOS	C	B		B	B							
Intersection Summary												
Delay			13.2									
Level of Service			B									
Intersection Capacity Utilization			51.7%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (vph)	18	741	73	88	653	113	57	5	61	34	5	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.94		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	0.98			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.96	1.00		0.96	
Satd. Flow (prot)	1770	1832		1767	1815			1775	1487		1770	
Flt Permitted	0.20	1.00		0.17	1.00			0.78	1.00		0.82	
Satd. Flow (perm)	372	1832		313	1815			1456	1487		1514	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	741	73	88	653	113	57	5	61	34	5	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	814	0	88	766	0	0	62	61	0	42	0
Confl. Peds. (#/hr)			9	6			3		6			3
Confl. Bikes (#/hr)			7			4			5			2
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	32.8	32.8		32.8	32.8			18.2	18.2		18.2	
Effective Green, g (s)	34.3	34.3		34.3	34.3			19.7	19.7		19.7	
Actuated g/C Ratio	0.57	0.57		0.57	0.57			0.33	0.33		0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	212	1047		178	1037			478	488		497	
v/s Ratio Prot		c0.44			0.42							
v/s Ratio Perm	0.05			0.28				c0.04	0.04		0.03	
v/c Ratio	0.08	0.78		0.49	0.74			0.13	0.12		0.08	
Uniform Delay, d1	5.8	9.9		7.7	9.5			14.1	14.1		13.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.2	3.7		2.2	2.8			0.6	0.5		0.3	
Delay (s)	6.0	13.6		9.8	12.3			14.7	14.6		14.3	
Level of Service	A	B		A	B			B	B		B	
Approach Delay (s)		13.4			12.1			14.7			14.3	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		12.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		76.7%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

88: Humboldt St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop			Stop			Stop			Stop		
Traffic Volume (vph)	153	35	7	0	35	18	8	30	1	8	35	198
Future Volume (vph)	153	35	7	0	35	18	8	30	1	8	35	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	153	35	7	0	35	18	8	30	1	8	35	198
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	195	53	39	241								
Volume Left (vph)	153	0	8	8								
Volume Right (vph)	7	18	1	198								
Hadj (s)	0.17	-0.17	0.06	-0.45								
Departure Headway (s)	4.8	4.6	4.8	4.1								
Degree Utilization, x	0.26	0.07	0.05	0.28								
Capacity (veh/h)	712	719	689	824								
Control Delay (s)	9.4	7.9	8.1	8.7								
Approach Delay (s)	9.4	7.9	8.1	8.7								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				8.8								
Level of Service				A								
Intersection Capacity Utilization				39.5%	ICU Level of Service	A						
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	73	1071	391	16	81	0	0	297	44
Future Volume (vph)	0	0	0	73	1071	391	16	81	0	0	297	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1500	1900	1900	1000	1900	1900	2300	1900
Total Lost time (s)					3.0	3.0		3.0			3.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frbp, ped/bikes					1.00	0.95		1.00			0.99	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.98	
Flt Protected					1.00	1.00		0.99			1.00	
Satd. Flow (prot)					2777	1509		971			2203	
Flt Permitted					1.00	1.00		0.92			1.00	
Satd. Flow (perm)					2777	1509		903			2203	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	73	1071	391	16	81	0	0	297	44
RTOR Reduction (vph)	0	0	0	0	0	156	0	0	0	0	9	0
Lane Group Flow (vph)	0	0	0	0	1144	235	0	97	0	0	332	0
Confl. Peds. (#/hr)				29		16	22					31
Confl. Bikes (#/hr)						1						1
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					30.6	30.6		13.7			13.7	
Effective Green, g (s)					32.1	32.1		15.2			15.2	
Actuated g/C Ratio					0.60	0.60		0.29			0.29	
Clearance Time (s)					4.5	4.5		4.5			4.5	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1672	908		257			628	
v/s Ratio Prot											c0.15	
v/s Ratio Perm					0.41	0.16		0.11				
v/c Ratio					0.68	0.26		0.38			0.53	
Uniform Delay, d1					7.2	5.0		15.3			16.0	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					1.2	0.2		0.9			0.8	
Delay (s)					8.3	5.1		16.2			16.8	
Level of Service					A	A		B			B	
Approach Delay (s)		0.0			7.5			16.2			16.8	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			9.6		HCM 2000 Level of Service						A	
HCM 2000 Volume to Capacity ratio			0.63									
Actuated Cycle Length (s)			53.3		Sum of lost time (s)						6.0	
Intersection Capacity Utilization			75.4%		ICU Level of Service						D	
Analysis Period (min)			15									
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

121: El Camino Real & El Camino Real SB Ramp

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR	
Lane Configurations				↑↑↑	↑↑↑	↗	
Traffic Volume (veh/h)	0	0	0	0	0	0	
Future Volume (Veh/h)	0	0	0	0	0	0	
Sign Control	Stop			Free	Free		
Grade	0%			0%	0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	
Hourly flow rate (vph)	0	0	0	0	0	0	
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type				None	None		
Median storage veh							
Upstream signal (ft)					279		
pX, platoon unblocked							
vC, conflicting volume	0	0	0				
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	0	0	0				
tC, single (s)	6.8	6.9	4.1				
tC, 2 stage (s)							
tF (s)	3.5	3.3	2.2				
p0 queue free %	100	100	100				
cM capacity (veh/h)	1023	1084	1622				
Direction, Lane #	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3	SB 4
Volume Total	0	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS							
Approach Delay (s)	0.0			0.0			
Approach LOS							
Intersection Summary							
Average Delay			0.0				
Intersection Capacity Utilization			0.0%	ICU Level of Service		A	
Analysis Period (min)			15				

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

137: Curtiss St/Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (vph)	10	1058	66	21	912	17	81	9	111	27	7	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0		3.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			0.99	1.00		0.99	
Frt		0.99			1.00			1.00	0.85		0.93	
Flt Protected		1.00			1.00			0.96	1.00		0.98	
Satd. Flow (prot)		3500			3523			1757	1532		1670	
Flt Permitted		0.95			0.92			0.79	1.00		0.87	
Satd. Flow (perm)		3317			3253			1458	1533		1476	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	1058	66	21	912	17	81	9	111	27	7	32
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	26	0	26	0
Lane Group Flow (vph)	0	1130	0	0	949	0	0	90	85	0	40	0
Confl. Peds. (#/hr)	15		13	13		15	23		25	25		23
Confl. Bikes (#/hr)			2			4			1			
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		41.8			41.8			9.2	9.2		9.2	
Effective Green, g (s)		43.3			43.3			10.7	10.7		10.7	
Actuated g/C Ratio		0.72			0.72			0.18	0.18		0.18	
Clearance Time (s)		4.5			4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		2393			2347			260	273		263	
v/s Ratio Prot												
v/s Ratio Perm		c0.34			0.29			c0.06	0.06		0.03	
v/c Ratio		0.47			0.40			0.35	0.31		0.15	
Uniform Delay, d1		3.5			3.3			21.6	21.4		20.8	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.7			0.5			0.8	0.7		0.3	
Delay (s)		4.2			3.8			22.4	22.1		21.1	
Level of Service		A			A			C	C		C	
Approach Delay (s)		4.2			3.8			22.2			21.1	
Approach LOS		A			A			C			C	
Intersection Summary												
HCM 2000 Control Delay		6.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.45										
Actuated Cycle Length (s)		60.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		69.1%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

188: Hillsdale EB Off-Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None		None			
Median storage veh						
Upstream signal (ft)	888		317			
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1622		1023	1084
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	93	25	115	568	40	12	75	18	43	95	25
Future Volume (vph)	4	93	25	115	568	40	12	75	18	43	95	25
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1900	2500	1900	1900	1000	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		940			4546			2346			934	
Flt Permitted		0.97			0.87			0.95			0.88	
Satd. Flow (perm)		912			4003			2238			835	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	93	25	115	568	40	12	75	18	43	95	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	122	0	0	723	0	0	105	0	0	163	0
Confl. Peds. (#/hr)	21		29	17		47	12		43	26		33
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		17.5			17.5			11.9			11.9	
Effective Green, g (s)		19.0			19.0			13.4			13.4	
Actuated g/C Ratio		0.43			0.43			0.30			0.30	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		390			1712			675			252	
v/s Ratio Prot												
v/s Ratio Perm		0.13			0.18			0.05			0.20	
v/c Ratio		0.31			0.42			0.16			0.65	
Uniform Delay, d1		8.4			8.9			11.4			13.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.5			0.2			0.1			5.6	
Delay (s)		8.8			9.0			11.5			19.1	
Level of Service		A			A			B			B	
Approach Delay (s)		8.8			9.0			11.5			19.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay			10.7									
HCM 2000 Volume to Capacity ratio			0.52									
Actuated Cycle Length (s)			44.4									
Intersection Capacity Utilization			53.1%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: Saratoga Dr & Hillsdale EB Off-Ramp

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	20	20	14	0	89	0	442	1	28	192	0
Future Volume (vph)	20	20	20	14	0	89	0	442	1	28	192	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	2200	1900	1900	2200	1900
Total Lost time (s)		3.3	3.3	3.3		3.3		3.2			3.3	
Lane Util. Factor		1.00	1.00	1.00		1.00		*1.00			*1.00	
Frpb, ped/bikes		1.00	0.96	1.00		0.98		1.00			1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00			1.00	
Frt		1.00	0.85	1.00		0.85		1.00			1.00	
Flt Protected		0.98	1.00	0.95		1.00		1.00			0.99	
Satd. Flow (prot)		1817	1519	1770		1555		4312			4286	
Flt Permitted		0.98	1.00	0.73		1.00		1.00			0.59	
Satd. Flow (perm)		1817	1519	1362		1555		4312			2540	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	20	20	20	14	0	89	0	442	1	28	192	0
RTOR Reduction (vph)	0	0	11	0	0	49	0	0	0	0	0	0
Lane Group Flow (vph)	0	40	9	14	0	40	0	443	0	0	220	0
Confl. Peds. (#/hr)			8			4			15			
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		2						8			4	1
Permitted Phases	2		2	2		2			4	1		
Actuated Green, G (s)		61.6	61.6	61.6		61.6		27.0			33.1	
Effective Green, g (s)		63.1	63.1	63.1		63.1		28.5			36.1	
Actuated g/C Ratio		0.45	0.45	0.45		0.45		0.20			0.26	
Clearance Time (s)		4.8	4.8	4.8		4.8		4.7				
Vehicle Extension (s)		6.0	6.0	6.0		6.0		4.0				
Lane Grp Cap (vph)		818	684	613		700		877			654	
v/s Ratio Prot								c0.10				
v/s Ratio Perm		0.02	0.01	0.01		c0.03					c0.09	
v/c Ratio		0.05	0.01	0.02		0.06		0.51			0.34	
Uniform Delay, d1		21.6	21.2	21.3		21.7		49.5			42.2	
Progression Factor		1.00	1.00	1.00		1.00		1.00			0.21	
Incremental Delay, d2		0.1	0.0	0.1		0.2		0.6			0.8	
Delay (s)		21.7	21.3	21.4		21.8		50.1			9.9	
Level of Service		C	C	C		C		D			A	
Approach Delay (s)		21.6			21.8			50.1			9.9	
Approach LOS		C			C			D			A	
Intersection Summary												
HCM 2000 Control Delay			33.8				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.24									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			16.6		
Intersection Capacity Utilization			71.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	79	164	102	168	113	62	61	1652	152	70	1682	39
Future Volume (vph)	79	164	102	168	113	62	61	1652	152	70	1682	39
Ideal Flow (vphpl)	1200	1900	1900	1300	1900	1900	1200	1800	1900	1500	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	0.98	1.00		0.97	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.95		1.00	0.99		1.00	1.00	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1097	1716		1175	1736		1118	4693		1397	5058	
Flt Permitted	0.55	1.00		0.41	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	633	1716		505	1736		1118	4693		1397	5058	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	79	164	102	168	113	62	61	1652	152	70	1682	39
RTOR Reduction (vph)	0	23	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	79	243	0	168	175	0	61	1804	0	70	1721	0
Confl. Peds. (#/hr)	27		46	51		32			51			27
Confl. Bikes (#/hr)			2			4			2			4
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	25.6	25.6		25.6	25.6		8.5	47.7		6.6	45.8	
Effective Green, g (s)	27.1	27.1		27.1	27.1		10.0	49.2		8.1	47.3	
Actuated g/C Ratio	0.29	0.29		0.29	0.29		0.11	0.53		0.09	0.51	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	183	497		146	503		119	2472		121	2561	
v/s Ratio Prot		0.14			0.10		0.05	c0.38		c0.05	0.34	
v/s Ratio Perm	0.12			c0.33								
v/c Ratio	0.43	0.49		1.15	0.35		0.51	0.73		0.58	0.67	
Uniform Delay, d1	26.9	27.4		33.2	26.2		39.4	17.0		41.0	17.2	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.6	0.8		120.7	0.4		14.9	1.9		6.6	0.7	
Delay (s)	28.5	28.2		153.8	26.6		54.3	18.9		47.6	18.0	
Level of Service	C	C		F	C		D	B		D	B	
Approach Delay (s)		28.3			88.9			20.1			19.1	
Approach LOS		C			F			C			B	
Intersection Summary												
HCM 2000 Control Delay		25.8					HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio		0.85										
Actuated Cycle Length (s)		93.4					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		91.3%					ICU Level of Service			F		
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	526	18	14	82	14	2	96	85	52	125	4
Future Volume (vph)	7	526	18	14	82	14	2	96	85	52	125	4
Ideal Flow (vphpl)	1900	1000	1900	1900	1900	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.99			0.96			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.99	
Frt		1.00			0.98			0.94			1.00	
Flt Protected		1.00			0.99			1.00			0.99	
Satd. Flow (prot)		1848			1796			886			957	
Flt Permitted		0.95			0.92			1.00			0.86	
Satd. Flow (perm)		1762			1667			883			834	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	526	18	14	82	14	2	96	85	52	125	4
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	551	0	0	110	0	0	183	0	0	181	0
Confl. Peds. (#/hr)			20	20		24			44	24		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		45.5			45.5			19.5			19.5	
Effective Green, g (s)		47.0			47.0			21.0			21.0	
Actuated g/C Ratio		0.59			0.59			0.26			0.26	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1035			979			231			218	
v/s Ratio Prot												
v/s Ratio Perm		c0.31			0.07			0.21			c0.22	
v/c Ratio		0.53			0.11			0.79			0.83	
Uniform Delay, d1		9.9			7.3			27.5			27.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			0.1			23.7			29.2	
Delay (s)		11.9			7.3			51.2			57.0	
Level of Service		B			A			D			E	
Approach Delay (s)		11.9			7.3			51.2			57.0	
Approach LOS		B			A			D			E	
Intersection Summary												
HCM 2000 Control Delay		26.4			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.62										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		84.1%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

217: Claremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	80	234	47	99	344	14	32	88	38	6	109	46
Future Volume (vph)	80	234	47	99	344	14	32	88	38	6	109	46
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	80	234	47	99	344	14	32	88	38	6	109	46
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	361	457	158	161								
Volume Left (vph)	80	99	32	6								
Volume Right (vph)	47	14	38	46								
Hadj (s)	0.00	0.06	-0.07	-0.13								
Departure Headway (s)	5.8	5.7	6.6	6.5								
Degree Utilization, x	0.58	0.72	0.29	0.29								
Capacity (veh/h)	587	612	462	465								
Control Delay (s)	16.6	22.2	12.3	12.2								
Approach Delay (s)	16.6	22.2	12.3	12.2								
Approach LOS	C	C	B	B								
Intersection Summary												
Delay				17.6								
Level of Service				C								
Intersection Capacity Utilization				61.5%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

219: Humboldt St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	134	38	3	2	16	61	15	218	7	31	220	94
Future Volume (vph)	134	38	3	2	16	61	15	218	7	31	220	94
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	134	38	3	2	16	61	15	218	7	31	220	94
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	175	79	240	345								
Volume Left (vph)	134	2	15	31								
Volume Right (vph)	3	61	7	94								
Hadj (s)	0.18	-0.42	0.03	-0.11								
Departure Headway (s)	5.7	5.3	5.1	4.9								
Degree Utilization, x	0.28	0.12	0.34	0.47								
Capacity (veh/h)	575	584	659	704								
Control Delay (s)	10.9	9.0	10.8	12.1								
Approach Delay (s)	10.9	9.0	10.8	12.1								
Approach LOS	B	A	B	B								
Intersection Summary												
Delay			11.2									
Level of Service			B									
Intersection Capacity Utilization			50.4%		ICU Level of Service					A		
Analysis Period (min)			15									

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

223: Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	3	3	0	7	40	11	395	0	15	167	38
Future Volume (Veh/h)	16	3	3	0	7	40	11	395	0	15	167	38
Sign Control	Stop			Stop			Free			Free		
Grade	0%			0%			0%			0%		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	3	3	0	7	40	11	395	0	15	167	38
Pedestrians	9			14			8			12		
Lane Width (ft)	12.0			12.0			12.0			12.0		
Walking Speed (ft/s)	3.5			3.5			3.5			3.5		
Percent Blockage	1			1			1			1		
Right turn flare (veh)												
Median type							None			None		
Median storage (veh)												
Upstream signal (ft)												297
pX, platoon unblocked	0.94	0.94	0.94	0.94	0.94		0.94					
vC, conflicting volume	500	656	203	660	675	224	214				409	
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	440	605	125	609	625	224	137				409	
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1				4.1	
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2				2.2	
p0 queue free %	96	99	100	100	98	95	99				99	
cM capacity (veh/h)	418	371	837	335	361	761	1351				1131	
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	22	47	208	198	220							
Volume Left	16	0	11	0	15							
Volume Right	3	40	0	0	38							
cSH	440	653	1351	1700	1131							
Volume to Capacity	0.05	0.07	0.01	0.12	0.01							
Queue Length 95th (ft)	4	6	1	0	1							
Control Delay (s)	13.6	10.9	0.5	0.0	0.7							
Lane LOS	B	B	A		A							
Approach Delay (s)	13.6	10.9	0.2		0.7							
Approach LOS	B	B										
Intersection Summary												
Average Delay				1.5								
Intersection Capacity Utilization				39.8%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

226: El Camino Real & 9th Ave

06/12/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	178	94	1716	129	138	1732
Future Volume (vph)	178	94	1716	129	138	1732
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	0.97	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1537	5009		1770	5085
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1537	5009		1770	5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	178	94	1716	129	138	1732
RTOR Reduction (vph)	0	75	7	0	0	0
Lane Group Flow (vph)	178	19	1838	0	138	1732
Confl. Peds. (#/hr)	17	12		23		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	11.8	11.8	30.4		8.7	43.6
Effective Green, g (s)	13.3	13.3	31.9		10.2	45.1
Actuated g/C Ratio	0.21	0.21	0.50		0.16	0.70
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	365	317	2481		280	3561
v/s Ratio Prot	c0.10		c0.37		0.08	c0.34
v/s Ratio Perm		0.01				
v/c Ratio	0.49	0.06	0.74		0.49	0.49
Uniform Delay, d1	22.5	20.5	13.0		24.7	4.4
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.1	1.2		1.4	0.1
Delay (s)	23.6	20.6	14.2		26.1	4.5
Level of Service	C	C	B		C	A
Approach Delay (s)	22.5		14.2			6.1
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			11.0		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.64			
Actuated Cycle Length (s)			64.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			63.7%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

228: 5th Ave & Ellsworth Ave

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	40	345	316	11	23	70
Future Volume (Veh/h)	40	345	316	11	23	70
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	40	345	316	11	23	70
Pedestrians		32	21		32	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	2		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		366	310			
pX, platoon unblocked					0.92	
vC, conflicting volume	359				800	386
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	359				738	386
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	97				93	89
cM capacity (veh/h)	1163				325	623
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	385	327	93			
Volume Left	40	0	23			
Volume Right	0	11	70			
cSH	1163	1700	508			
Volume to Capacity	0.03	0.19	0.18			
Queue Length 95th (ft)	3	0	17			
Control Delay (s)	1.2	0.0	13.7			
Lane LOS	A		B			
Approach Delay (s)	1.2	0.0	13.7			
Approach LOS			B			
Intersection Summary						
Average Delay			2.1			
Intersection Capacity Utilization			59.1%	ICU Level of Service		B
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

229: 5th Ave & Idaho St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				0.0%	ICU Level of Service	A						
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

231: Fremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	75	100	2	4	149	29	12	87	6	17	97	74
Future Volume (vph)	75	100	2	4	149	29	12	87	6	17	97	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	75	100	2	4	149	29	12	87	6	17	97	74
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	177	182	105	188								
Volume Left (vph)	75	4	12	17								
Volume Right (vph)	2	29	6	74								
Hadj (s)	0.11	-0.06	0.02	-0.18								
Departure Headway (s)	5.0	4.8	5.1	4.8								
Degree Utilization, x	0.25	0.24	0.15	0.25								
Capacity (veh/h)	670	693	645	697								
Control Delay (s)	9.6	9.4	9.0	9.4								
Approach Delay (s)	9.6	9.4	9.0	9.4								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			9.4									
Level of Service			A									
Intersection Capacity Utilization			47.0%	ICU Level of Service					A			
Analysis Period (min)			15									

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

237: US 101 SB Off Diag & Idaho St

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↩			↩
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		382				
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	WB 1	SB 1				
Volume Total	0	0				
Volume Left	0	0				
Volume Right	0	0				
cSH	1700	1700				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS		A				
Approach Delay (s)	0.0	0.0				
Approach LOS		A				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

Intersection has too many legs for HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

254:

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↰			↱	
Traffic Volume (vph)	0	598	0	0	819	0
Future Volume (vph)	0	598	0	0	819	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	
Lane Util. Factor		1.00			1.00	
Frt		0.86			1.00	
Flt Protected		1.00			1.00	
Satd. Flow (prot)		1611			1863	
Flt Permitted		1.00			1.00	
Satd. Flow (perm)		1611			1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	598	0	0	819	0
RTOR Reduction (vph)	0	50	0	0	0	0
Lane Group Flow (vph)	0	548	0	0	819	0
Turn Type		Perm			NA	
Protected Phases					6	
Permitted Phases		4				
Actuated Green, G (s)		15.0			16.0	
Effective Green, g (s)		16.5			17.5	
Actuated g/C Ratio		0.41			0.44	
Clearance Time (s)		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		664			815	
v/s Ratio Prot					c0.44	
v/s Ratio Perm		c0.34				
v/c Ratio		0.83			1.00	
Uniform Delay, d1		10.5			11.2	
Progression Factor		1.00			1.00	
Incremental Delay, d2		8.3			32.7	
Delay (s)		18.7			44.0	
Level of Service		B			D	
Approach Delay (s)	18.7			0.0	44.0	
Approach LOS	B			A	D	
Intersection Summary						
HCM 2000 Control Delay		33.3		HCM 2000 Level of Service		C
HCM 2000 Volume to Capacity ratio		0.96				
Actuated Cycle Length (s)		40.0		Sum of lost time (s)		7.5
Intersection Capacity Utilization		86.8%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

255: Norfolk St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	4	142	76	49	2	68	158	39	1	206	18
Future Volume (vph)	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	2	4	142	76	49	2	68	158	39	1	206	18
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	148	127	265	225								
Volume Left (vph)	2	76	68	1								
Volume Right (vph)	142	2	39	18								
Hadj (s)	-0.54	0.14	0.00	-0.01								
Departure Headway (s)	4.8	5.5	4.9	5.0								
Degree Utilization, x	0.20	0.19	0.36	0.31								
Capacity (veh/h)	667	587	689	673								
Control Delay (s)	9.0	9.8	10.7	10.2								
Approach Delay (s)	9.0	9.8	10.7	10.2								
Approach LOS	A	A	B	B								
Intersection Summary												
Delay				10.1								
Level of Service				B								
Intersection Capacity Utilization				59.0%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Future Volume (veh/h)	7	741	347	8	726	7	343	16	27	1	5	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	741	147	8	726	7	354	0	7	1	5	0
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	1435	642	83	1461	14	755	0	335	14	68	0
Arrive On Green	0.05	0.41	0.41	0.05	0.41	0.41	0.21	0.00	0.21	0.04	0.04	0.00
Sat Flow, veh/h	1774	3539	1582	1774	3592	35	3548	0	1574	308	1539	0
Grp Volume(v), veh/h	7	741	147	8	358	375	354	0	7	6	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1857	1774	0	1574	1847	0	0
Q Serve(g_s), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Cycle Q Clear(g_c), s	0.2	6.5	2.5	0.2	6.2	6.2	3.6	0.0	0.1	0.1	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.02	1.00		1.00	0.17		0.00
Lane Grp Cap(c), veh/h	81	1435	642	83	720	755	755	0	335	82	0	0
V/C Ratio(X)	0.09	0.52	0.23	0.10	0.50	0.50	0.47	0.00	0.02	0.07	0.00	0.00
Avail Cap(c_a), veh/h	279	3597	1608	279	1799	1887	2833	0	1257	291	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.9	9.2	8.0	18.9	9.1	9.1	14.2	0.0	12.9	18.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.3	0.2	0.5	0.5	0.5	0.5	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	3.1	1.1	0.1	3.1	3.2	1.8	0.0	0.1	0.1	0.0	0.0
LnGrp Delay(d),s/veh	19.3	9.5	8.2	19.3	9.6	9.6	14.7	0.0	12.9	19.3	0.0	0.0
LnGrp LOS	B	A	A	B	A	A	B		B	B		
Approach Vol, veh/h		895			741			361			6	
Approach Delay, s/veh		9.4			9.7			14.6			19.3	
Approach LOS		A			A			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		11.8	4.9	19.8		4.8	4.9	19.8				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		31.5	5.0	40.5		5.0	5.0	40.5				
Max Q Clear Time (g_c+I1), s		5.6	2.2	8.5		2.1	2.2	8.2				
Green Ext Time (p_c), s		1.3	0.0	6.5		0.0	0.0	5.1				
Intersection Summary												
HCM 2010 Ctrl Delay			10.5									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Future Volume (veh/h)	44	395	275	172	212	6	310	42	43	2	28	16
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	44	395	127	172	212	6	310	42	43	2	28	16
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	927	391	417	1034	29	521	247	253	170	215	112
Arrive On Green	0.08	0.25	0.25	0.12	0.29	0.29	0.29	0.29	0.29	0.10	0.10	0.10
Sat Flow, veh/h	1774	3725	1570	3442	3515	99	1774	841	861	1774	2239	1167
Grp Volume(v), veh/h	44	395	127	172	106	112	310	0	85	2	22	22
Grp Sat Flow(s),veh/h/ln	1774	1863	1570	1721	1770	1845	1774	0	1702	1774	1770	1636
Q Serve(g_s), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Cycle Q Clear(g_c), s	1.2	4.4	3.3	2.3	2.3	2.3	7.5	0.0	1.9	0.1	0.6	0.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.51	1.00		0.71
Lane Grp Cap(c), veh/h	135	927	391	417	520	542	521	0	500	170	170	157
V/C Ratio(X)	0.33	0.43	0.33	0.41	0.20	0.21	0.59	0.00	0.17	0.01	0.13	0.14
Avail Cap(c_a), veh/h	818	2763	1164	1587	1313	1368	1316	0	1263	1102	1100	1017
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.8	15.7	15.3	20.3	13.2	13.2	15.1	0.0	13.1	20.4	20.6	20.7
Incr Delay (d2), s/veh	1.4	0.3	0.5	0.7	0.2	0.2	1.1	0.0	0.2	0.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	2.3	1.5	1.1	1.1	1.2	3.8	0.0	0.9	0.0	0.3	0.3
LnGrp Delay(d),s/veh	23.2	16.1	15.8	20.9	13.4	13.4	16.2	0.0	13.3	20.4	21.0	21.1
LnGrp LOS	C	B	B	C	B	B	B		B	C	C	C
Approach Vol, veh/h		566			390			395			46	
Approach Delay, s/veh		16.6			16.7			15.5			21.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		17.7	9.0	15.4		7.8	6.8	17.7				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		9.5	4.3	6.4		2.6	3.2	4.3				
Green Ext Time (p_c), s		2.5	0.5	3.2		0.2	0.1	1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.5								
HCM 2010 LOS				B								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Future Volume (veh/h)	104	228	179	60	461	21	272	460	518	41	105	142
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	228	56	60	461	21	272	526	252	41	105	28
Adj No. of Lanes	1	2	1	2	2	0	1	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	1065	468	278	961	44	381	1252	528	122	527	136
Arrive On Green	0.10	0.30	0.30	0.08	0.28	0.28	0.22	0.34	0.34	0.07	0.19	0.19
Sat Flow, veh/h	1774	3539	1557	3442	3447	157	1774	3725	1569	1774	2777	714
Grp Volume(v), veh/h	104	228	56	60	236	246	272	526	252	41	65	68
Grp Sat Flow(s),veh/h/ln	1774	1770	1557	1721	1770	1834	1774	1863	1569	1774	1770	1721
Q Serve(g_s), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Cycle Q Clear(g_c), s	3.1	2.7	1.5	0.9	6.2	6.3	8.0	6.1	7.1	1.2	1.8	1.9
Prop In Lane	1.00		1.00	1.00		0.09	1.00		1.00	1.00		0.41
Lane Grp Cap(c), veh/h	182	1065	468	278	494	511	381	1252	528	122	336	327
V/C Ratio(X)	0.57	0.21	0.12	0.22	0.48	0.48	0.71	0.42	0.48	0.34	0.19	0.21
Avail Cap(c_a), veh/h	662	2920	1284	404	1007	1044	978	3868	1629	208	1070	1040
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.0	14.7	14.3	24.2	16.9	16.9	20.5	14.4	14.8	25.0	19.2	19.2
Incr Delay (d2), s/veh	2.8	0.1	0.1	0.4	0.7	0.7	2.5	0.2	0.7	1.6	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	1.3	0.6	0.4	3.1	3.2	4.2	3.2	3.1	0.7	0.9	0.9
LnGrp Delay(d),s/veh	26.8	14.8	14.4	24.6	17.6	17.6	23.0	14.7	15.4	26.6	19.4	19.5
LnGrp LOS	C	B	B	C	B	B	C	B	B	C	B	B
Approach Vol, veh/h		388			542			1050			174	
Approach Delay, s/veh		18.0			18.4			17.0			21.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.9	21.9	7.5	19.9	15.1	13.7	8.8	18.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	56.9	5.1	44.9	29.5	32.5	19.5	30.5					
Max Q Clear Time (g_c+I13), s	9.1	2.9	4.7	10.0	3.9	5.1	8.3					
Green Ext Time (p_c), s	0.0	5.1	0.0	1.8	0.8	0.7	2.9					
Intersection Summary												
HCM 2010 Ctrl Delay			17.8									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	190	743	438	77	1221	89	651	155	86	131	196	137
Future Volume (veh/h)	190	743	438	77	1221	89	651	155	86	131	196	137
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.96	1.00		0.98	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1275	1471	1863	980	1520	1900	1716	1569	1600	1900	1569	1569
Adj Flow Rate, veh/h	190	743	343	77	1221	89	651	155	86	131	196	32
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	981	898	86	1151	84	732	217	121	139	208	279
Arrive On Green	0.15	0.35	0.35	0.09	0.29	0.29	0.23	0.23	0.23	0.23	0.23	0.23
Sat Flow, veh/h	1214	2794	1516	934	3935	287	3170	941	522	616	922	1238
Grp Volume(v), veh/h	190	743	343	77	858	452	651	0	241	327	0	32
Grp Sat Flow(s),veh/h/ln	1214	1397	1516	934	1383	1456	1585	0	1463	1538	0	1238
Q Serve(g_s), s	18.0	28.1	14.6	9.8	35.0	35.0	23.8	0.0	18.1	25.0	0.0	2.5
Cycle Q Clear(g_c), s	18.0	28.1	14.6	9.8	35.0	35.0	23.8	0.0	18.1	25.0	0.0	2.5
Prop In Lane	1.00		1.00	1.00		0.20	1.00		0.36	0.40		1.00
Lane Grp Cap(c), veh/h	183	981	898	86	809	426	732	0	338	347	0	279
V/C Ratio(X)	1.04	0.76	0.38	0.90	1.06	1.06	0.89	0.00	0.71	0.94	0.00	0.11
Avail Cap(c_a), veh/h	183	981	898	86	809	426	742	0	342	347	0	279
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	50.8	34.3	13.5	53.8	42.3	42.3	44.5	0.0	42.4	45.5	0.0	36.8
Incr Delay (d2), s/veh	77.6	3.4	0.3	64.2	48.9	60.6	12.7	0.0	6.8	33.6	0.0	0.2
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	11.3	9.6	4.1	18.8	21.1	11.7	0.0	7.9	13.9	0.0	0.9
LnGrp Delay(d),s/veh	128.5	37.8	13.8	117.9	91.2	102.9	57.2	0.0	49.1	79.1	0.0	37.0
LnGrp LOS	F	D	B	F	F	F	E		D	E		D
Approach Vol, veh/h	1276			1387			892			359		
Approach Delay, s/veh	44.8			96.5			55.0			75.3		
Approach LOS	D			F			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		30.6	14.0	45.0		30.0	21.0	38.0				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.5	9.5	40.5		25.5	16.5	33.5				
Max Q Clear Time (g_c+I1), s		25.8	11.8	30.1		27.0	20.0	37.0				
Green Ext Time (p_c), s		0.4	0.0	4.7		0.0	0.0	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	68.3											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Future Volume (veh/h)	158	241	182	94	511	265	213	224	132	202	261	598
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	158	241	62	94	511	0	213	224	132	202	261	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	221	688	558	153	616	524	278	539	302	271	461	392
Arrive On Green	0.12	0.11	0.11	0.02	0.10	0.00	0.16	0.25	0.25	0.15	0.25	0.00
Sat Flow, veh/h	1774	1863	1511	1774	1863	1583	1774	2150	1204	1774	1863	1583
Grp Volume(v), veh/h	158	241	62	94	511	0	213	182	174	202	261	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1511	1774	1863	1583	1774	1770	1585	1774	1863	1583
Q Serve(g_s), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Cycle Q Clear(g_c), s	7.3	10.2	3.2	4.5	23.0	0.0	9.8	7.3	7.9	9.3	10.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.76	1.00		1.00
Lane Grp Cap(c), veh/h	221	688	558	153	616	524	278	444	398	271	461	392
V/C Ratio(X)	0.71	0.35	0.11	0.61	0.83	0.00	0.77	0.41	0.44	0.74	0.57	0.00
Avail Cap(c_a), veh/h	250	712	578	258	721	612	312	656	587	445	830	705
HCM Platoon Ratio	1.00	0.30	0.30	0.20	0.30	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.9	28.5	25.3	40.5	36.0	0.0	34.5	26.7	26.9	34.5	28.1	0.0
Incr Delay (d2), s/veh	8.2	0.3	0.1	4.0	7.0	0.0	9.8	0.6	0.8	4.0	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	5.3	1.3	2.4	13.1	0.0	5.6	3.7	3.5	4.8	5.5	0.0
LnGrp Delay(d),s/veh	44.0	28.8	25.4	44.5	43.1	0.0	44.3	27.3	27.6	38.6	29.2	0.0
LnGrp LOS	D	C	C	D	D		D	C	C	D	C	
Approach Vol, veh/h		461			605			569			463	
Approach Delay, s/veh		33.5			43.3			33.8			33.3	
Approach LOS		C			D			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	6.0	24.4	10.4	34.5	16.3	24.1	13.6	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	19.9	30.1	10.9	31.1	13.5	36.5	10.5	31.5				
Max Q Clear Time (g_c+I1), s	11.3	9.9	6.5	12.2	11.8	12.5	9.3	25.0				
Green Ext Time (p_c), s	0.4	2.1	0.1	1.5	0.1	1.5	0.0	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			36.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Future Volume (veh/h)	308	1041	178	50	1960	84	406	132	59	51	108	313
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	10	30	0	0	0	0	30	27	13
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1765	2157	2157	1765	2157	2200	1863	2141	2100	1863	1863	2157
Adj Flow Rate, veh/h	308	1041	178	50	1960	84	406	132	59	51	262	210
Adj No. of Lanes	2	3	1	1	3	0	2	1	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	510	3494	975	104	2611	100	545	220	98	295	314	297
Arrive On Green	0.15	0.56	0.56	0.05	0.45	0.45	0.16	0.16	0.16	0.16	0.16	0.16
Sat Flow, veh/h	3361	6471	1805	1681	5784	247	3442	1390	621	1774	1863	1783
Grp Volume(v), veh/h	308	1041	178	50	1329	715	406	0	191	51	262	210
Grp Sat Flow(s),veh/h/ln	1681	2157	1805	1681	1963	2106	1721	0	2012	1774	1863	1783
Q Serve(g_s), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Cycle Q Clear(g_c), s	13.6	13.6	7.8	4.7	45.1	45.4	18.0	0.0	14.1	4.0	21.9	17.9
Prop In Lane	1.00		1.00	1.00		0.12	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	510	3494	975	104	1762	947	545	0	318	295	314	297
V/C Ratio(X)	0.60	0.30	0.18	0.48	0.75	0.76	0.75	0.00	0.60	0.17	0.83	0.71
Avail Cap(c_a), veh/h	519	3600	1004	126	1762	945	663	0	387	299	314	301
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.4	20.2	18.8	74.4	38.1	38.0	64.3	0.0	62.6	61.9	66.5	65.2
Incr Delay (d2), s/veh	1.9	0.2	0.4	3.5	3.1	5.6	3.7	0.0	1.8	0.3	17.2	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	130.0	3.8	3.3	0.0	0.0	0.0	90.3	234.3	47.0
%ile BackOfQ(50%),veh/ln	6.5	8.4	4.1	7.8	28.7	31.4	8.8	0.0	8.0	14.8	35.8	15.9
LnGrp Delay(d),s/veh	65.3	20.4	19.2	207.9	44.9	46.9	67.9	0.0	64.4	152.5	318.0	119.5
LnGrp LOS	E	C	B	F	D	D	E		E	F	F	F
Approach Vol, veh/h	1527		2094				597			523		
Approach Delay, s/veh	29.3		49.5				66.8			222.2		
Approach LOS	C		D				E			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6			7	8			
Phs Duration (G+Y+Rc), s	28.3		10.5	92.0	29.2			27.7	74.8			
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5			4.5	4.5			
Max Green Setting (Gmax), s	29.3		10.5	76.7	25.5			16.8	70.3			
Max Q Clear Time (g_c+I1), s	20.0		6.7	15.6	23.9			15.6	47.4			
Green Ext Time (p_c), s	1.9		0.0	9.8	0.4			0.1	15.3			
Intersection Summary												
HCM 2010 Ctrl Delay			64.2									
HCM 2010 LOS			E									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Future Volume (veh/h)	4	818	129	183	656	148	69	56	213	83	153	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.96	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	4	818	129	183	656	118	69	56	140	83	153	7
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	1247	197	285	998	818	170	111	216	209	297	12
Arrive On Green	0.03	0.41	0.41	0.16	0.54	0.54	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	3041	480	1774	1863	1526	320	437	849	451	1167	48
Grp Volume(v), veh/h	4	476	471	183	656	118	265	0	0	243	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1751	1774	1863	1526	1607	0	0	1666	0	0
Q Serve(g_s), s	0.1	11.1	11.1	5.0	12.9	2.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.1	11.1	11.1	5.0	12.9	2.0	7.0	0.0	0.0	6.1	0.0	0.0
Prop In Lane	1.00		0.27	1.00		1.00	0.26		0.53	0.34		0.03
Lane Grp Cap(c), veh/h	61	725	718	285	998	818	497	0	0	517	0	0
V/C Ratio(X)	0.07	0.66	0.66	0.64	0.66	0.14	0.53	0.00	0.00	0.47	0.00	0.00
Avail Cap(c_a), veh/h	228	1210	1198	615	1681	1377	931	0	0	970	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.0	12.2	12.2	20.2	8.5	6.0	16.9	0.0	0.0	16.5	0.0	0.0
Incr Delay (d2), s/veh	0.4	1.0	1.0	2.4	0.7	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	5.6	5.6	2.6	6.8	0.8	3.4	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	24.4	13.2	13.2	22.6	9.3	6.1	17.8	0.0	0.0	17.2	0.0	0.0
LnGrp LOS	C	B	B	C	A	A	B			B		
Approach Vol, veh/h		951			957			265			243	
Approach Delay, s/veh		13.3			11.4			17.8			17.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.0	11.2	24.0		16.0	4.8	30.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		26.6	16.3	33.6		26.6	5.1	44.8				
Max Q Clear Time (g_c+I1), s		9.0	7.0	13.1		8.1	2.1	14.9				
Green Ext Time (p_c), s		1.6	0.3	6.4		1.4	0.0	5.5				
Intersection Summary												
HCM 2010 Ctrl Delay			13.4									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110
Future Volume (veh/h)	48	291	81	85	277	53	87	254	19	205	230	110
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.95	0.99		0.94	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	48	291	81	85	277	53	87	254	19	205	230	110
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	443	645	180	412	696	133	416	788	59	475	539	258
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	1035	1395	388	1003	1505	288	988	1704	127	1045	1166	558
Grp Volume(v), veh/h	48	0	372	85	0	330	87	0	273	205	0	340
Grp Sat Flow(s),veh/h/ln	1035	0	1784	1003	0	1793	988	0	1831	1045	0	1724
Q Serve(g_s), s	2.6	0.0	11.3	5.0	0.0	9.7	5.2	0.0	7.5	12.3	0.0	10.6
Cycle Q Clear(g_c), s	12.3	0.0	11.3	16.4	0.0	9.7	15.7	0.0	7.5	19.9	0.0	10.6
Prop In Lane	1.00		0.22	1.00		0.16	1.00		0.07	1.00		0.32
Lane Grp Cap(c), veh/h	443	0	825	412	0	829	416	0	847	475	0	797
V/C Ratio(X)	0.11	0.00	0.45	0.21	0.00	0.40	0.21	0.00	0.32	0.43	0.00	0.43
Avail Cap(c_a), veh/h	443	0	825	412	0	829	416	0	847	475	0	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	18.2	0.0	14.6	20.2	0.0	14.2	19.7	0.0	13.6	19.9	0.0	14.4
Incr Delay (d2), s/veh	0.5	0.0	1.8	1.1	0.0	1.4	1.1	0.0	1.0	2.9	0.0	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	0.0	6.0	1.5	0.0	5.1	1.5	0.0	4.0	3.9	0.0	5.4
LnGrp Delay(d),s/veh	18.7	0.0	16.4	21.3	0.0	15.6	20.8	0.0	14.6	22.7	0.0	16.1
LnGrp LOS	B		B	C		B	C		B	C		B
Approach Vol, veh/h	420				415				360		545	
Approach Delay, s/veh	16.6				16.8				16.1		18.6	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+l1), s	17.7		14.3		21.9		18.4					
Green Ext Time (p_c), s	2.0		2.5		2.7		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	1302	14	0	0	0	0	57	508	377	378	0
Future Volume (veh/h)	20	1302	14	0	0	0	0	57	508	377	378	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98				1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1667	1569	1700				0	1667	1078	1569	1471	0
Adj Flow Rate, veh/h	20	1302	14				0	0	408	377	378	0
Adj No. of Lanes	1	3	0				0	1	2	1	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	472	1299	14				0	454	492	443	436	0
Arrive On Green	0.30	0.30	0.30				0.00	0.00	0.27	0.30	0.30	0.00
Sat Flow, veh/h	1587	4367	47				0	1667	1807	1494	1471	0
Grp Volume(v), veh/h	20	851	465				0	0	408	377	378	0
Grp Sat Flow(s),veh/h/ln	1587	1427	1559				0	1667	904	1494	1471	0
Q Serve(g_s), s	0.6	20.0	20.0				0.0	0.0	14.3	16.0	16.4	0.0
Cycle Q Clear(g_c), s	0.6	20.0	20.0				0.0	0.0	14.3	16.0	16.4	0.0
Prop In Lane	1.00		0.03				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	472	849	464				0	454	492	443	436	0
V/C Ratio(X)	0.04	1.00	1.00				0.00	0.00	0.83	0.85	0.87	0.00
Avail Cap(c_a), veh/h	472	849	464				0	520	564	444	437	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	0.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	16.8	23.6	23.6				0.0	0.0	23.0	22.3	22.4	0.0
Incr Delay (d2), s/veh	0.0	31.5	42.5				0.0	0.0	9.0	14.6	16.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	11.5	14.0				0.0	0.0	4.1	8.4	8.6	0.0
LnGrp Delay(d),s/veh	16.9	55.2	66.1				0.0	0.0	31.9	36.9	39.1	0.0
LnGrp LOS	B	F	F						C	D	D	
Approach Vol, veh/h		1336						408			755	
Approach Delay, s/veh		58.4						31.9			38.0	
Approach LOS		E						C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		21.3		23.0		22.9						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		19.5		18.5		18.5						
Max Q Clear Time (g_c+I1), s		16.3		22.0		18.4						
Green Ext Time (p_c), s		0.6		0.0		0.1						
Intersection Summary												
HCM 2010 Ctrl Delay			47.9									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Future Volume (veh/h)	52	331	197	66	78	11	242	123	187	53	224	58
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		0.94	1.00		0.95	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	52	331	197	66	78	11	182	206	41	53	224	58
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	612	355	134	914	126	389	408	328	420	335	87
Arrive On Green	0.07	0.29	0.29	0.08	0.29	0.29	0.22	0.22	0.22	0.24	0.24	0.24
Sat Flow, veh/h	1774	2123	1231	1774	3102	426	1774	1863	1497	1774	1416	367
Grp Volume(v), veh/h	52	274	254	66	44	45	182	206	41	53	0	282
Grp Sat Flow(s),veh/h/ln	1774	1770	1584	1774	1770	1758	1774	1863	1497	1774	0	1783
Q Serve(g_s), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Cycle Q Clear(g_c), s	1.9	8.7	9.0	2.4	1.2	1.2	5.9	6.5	1.5	1.6	0.0	9.5
Prop In Lane	1.00		0.78	1.00		0.24	1.00		1.00	1.00		0.21
Lane Grp Cap(c), veh/h	122	510	457	134	522	518	389	408	328	420	0	422
V/C Ratio(X)	0.42	0.54	0.56	0.49	0.08	0.09	0.47	0.50	0.12	0.13	0.00	0.67
Avail Cap(c_a), veh/h	189	706	632	187	703	698	667	701	563	654	0	657
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.7	19.9	20.0	29.5	16.9	17.0	22.6	22.8	20.8	20.0	0.0	23.0
Incr Delay (d2), s/veh	2.3	0.9	1.1	2.8	0.1	0.1	0.9	1.0	0.2	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	4.3	4.1	1.3	0.6	0.6	3.0	3.4	0.6	0.8	0.0	4.9
LnGrp Delay(d),s/veh	32.0	20.8	21.1	32.3	17.0	17.0	23.5	23.7	21.0	20.1	0.0	24.8
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h	580		155				429				335	
Approach Delay, s/veh	21.9		23.5				23.4				24.1	
Approach LOS	C		C				C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	17.6		8.0	22.2	18.7		7.6	22.6				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	23.5		5.5	25.0	23.0		5.6	24.9				
Max Q Clear Time (g_c+I1), s	8.5		4.4	11.0	11.5		3.9	3.2				
Green Ext Time (p_c), s	1.6		0.0	3.0	1.4		0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	23.0											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑					↑	↑	↑
Traffic Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Future Volume (veh/h)	0	528	219	486	556	0	0	0	0	204	64	228
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	528	219	486	556	0				134	162	228
Adj No. of Lanes	0	1	1	1	1	0				1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	581	469	535	1202	0				517	543	447
Arrive On Green	0.00	0.31	0.31	0.30	0.65	0.00				0.29	0.29	0.29
Sat Flow, veh/h	0	1863	1503	1774	1863	0				1774	1863	1532
Grp Volume(v), veh/h	0	528	219	486	556	0				134	162	228
Grp Sat Flow(s),veh/h/ln	0	1863	1503	1774	1863	0				1774	1863	1532
Q Serve(g_s), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Cycle Q Clear(g_c), s	0.0	25.8	11.1	25.0	14.3	0.0				5.5	6.4	11.8
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	581	469	535	1202	0				517	543	447
V/C Ratio(X)	0.00	0.91	0.47	0.91	0.46	0.00				0.26	0.30	0.51
Avail Cap(c_a), veh/h	0	588	475	542	1216	0				517	543	447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.61	0.61	1.00	1.00	0.00				1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	31.4	26.3	31.9	8.5	0.0				25.8	26.1	28.0
Incr Delay (d2), s/veh	0.0	12.1	0.4	19.2	0.3	0.0				1.2	1.4	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	15.1	4.7	15.1	7.4	0.0				2.9	3.5	5.5
LnGrp Delay(d),s/veh	0.0	43.4	26.7	51.1	8.8	0.0				27.0	27.5	32.1
LnGrp LOS		D	C	D	A					C	C	C
Approach Vol, veh/h		747			1042						524	
Approach Delay, s/veh		38.5			28.5						29.4	
Approach LOS		D			C						C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			31.6	32.7		30.7		64.3				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			27.5	28.5		25.5		60.5				
Max Q Clear Time (g_c+I1), s			27.0	27.8		13.8		16.3				
Green Ext Time (p_c), s			0.1	0.3		1.7		4.2				
Intersection Summary												
HCM 2010 Ctrl Delay			32.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

14: US 101 SB & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Future Volume (veh/h)	0	1270	406	0	1459	0	0	0	0	53	229	0
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	980	0				1863	1863	0
Adj Flow Rate, veh/h	0	1270	314	0	1459	0				53	229	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	2358	686	0	1489	0				279	287	0
Arrive On Green	0.00	0.84	0.84	0.00	1.00	0.00				0.08	0.08	0.00
Sat Flow, veh/h	0	2843	812	0	1961	0				3442	3632	0
Grp Volume(v), veh/h	0	1270	314	0	1459	0				53	229	0
Grp Sat Flow(s), veh/h/ln	0	931	812	0	882	0				1721	1770	0
Q Serve(g_s), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Cycle Q Clear(g_c), s	0.0	10.4	7.9	0.0	0.0	0.0				1.1	5.1	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	2358	686	0	1489	0				279	287	0
V/C Ratio(X)	0.00	0.54	0.46	0.00	0.98	0.00				0.19	0.80	0.00
Avail Cap(c_a), veh/h	0	2358	686	0	1489	0				1506	1548	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.56	0.56	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	1.8	1.6	0.0	0.0	0.0				34.3	36.1	0.0
Incr Delay (d2), s/veh	0.0	0.5	1.2	0.0	19.0	0.0				0.3	5.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.7	1.9	0.0	3.9	0.0				0.6	2.7	0.0
LnGrp Delay(d),s/veh	0.0	2.3	2.8	0.0	19.0	0.0				34.6	41.2	0.0
LnGrp LOS		A	A		B					C	D	
Approach Vol, veh/h		1584			1459						282	
Approach Delay, s/veh		2.4			19.0						39.9	
Approach LOS		A			B						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs				4		6		8				
Phs Duration (G+Y+Rc), s				70.5		9.5		70.5				
Change Period (Y+Rc), s				4.5		4.5		4.5				
Max Green Setting (Gmax), s				37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s				12.4		3.1		2.0				
Green Ext Time (p_c), s				11.2		0.0		14.0				
Intersection Summary												
HCM 2010 Ctrl Delay				12.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Future Volume (veh/h)	7	612	107	118	541	28	144	79	249	51	105	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.97	0.97		0.97	0.98		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	7	612	107	118	541	28	144	79	133	51	105	15
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	417	1463	255	458	856	44	457	217	528	235	410	49
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	832	2995	522	722	1753	91	847	630	1534	304	1190	144
Grp Volume(v), veh/h	7	361	358	118	0	569	223	0	133	171	0	0
Grp Sat Flow(s),veh/h/ln	832	1770	1748	722	0	1843	1476	0	1534	1638	0	0
Q Serve(g_s), s	0.2	4.7	4.7	4.5	0.0	8.2	1.2	0.0	2.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.4	4.7	4.7	9.2	0.0	8.2	3.6	0.0	2.2	2.4	0.0	0.0
Prop In Lane	1.00		0.30	1.00		0.05	0.65		1.00	0.30		0.09
Lane Grp Cap(c), veh/h	417	864	854	458	0	900	673	0	528	694	0	0
V/C Ratio(X)	0.02	0.42	0.42	0.26	0.00	0.63	0.33	0.00	0.25	0.25	0.00	0.00
Avail Cap(c_a), veh/h	707	1482	1463	710	0	1543	1128	0	1027	1196	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.9	5.9	5.9	8.9	0.0	6.8	8.8	0.0	8.4	8.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.3	0.3	0.0	0.7	0.3	0.0	0.2	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.3	2.3	0.9	0.0	4.3	1.7	0.0	1.0	1.2	0.0	0.0
LnGrp Delay(d),s/veh	9.9	6.2	6.2	9.2	0.0	7.5	9.1	0.0	8.7	8.7	0.0	0.0
LnGrp LOS	A	A	A	A		A	A		A	A		
Approach Vol, veh/h		726			687			356			171	
Approach Delay, s/veh		6.3			7.8			8.9			8.7	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.3		20.5		15.3		20.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		22.5		28.5		22.5		28.5				
Max Q Clear Time (g_c+I1), s		5.6		10.4		4.4		11.2				
Green Ext Time (p_c), s		1.7		4.4		0.9		4.5				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Future Volume (veh/h)	24	57	19	138	168	117	61	277	73	113	196	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.89	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	24	57	19	138	168	117	61	277	73	113	196	42
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	97	319	106	223	309	215	144	432	114	192	500	107
Arrive On Green	0.05	0.24	0.24	0.13	0.31	0.31	0.08	0.31	0.31	0.11	0.34	0.34
Sat Flow, veh/h	1774	1325	442	1774	991	690	1774	1383	365	1774	1473	316
Grp Volume(v), veh/h	24	0	76	138	0	285	61	0	350	113	0	238
Grp Sat Flow(s),veh/h/ln	1774	0	1767	1774	0	1681	1774	0	1748	1774	0	1789
Q Serve(g_s), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Cycle Q Clear(g_c), s	0.7	0.0	1.9	4.2	0.0	7.9	1.8	0.0	9.7	3.4	0.0	5.7
Prop In Lane	1.00		0.25	1.00		0.41	1.00		0.21	1.00		0.18
Lane Grp Cap(c), veh/h	97	0	425	223	0	525	144	0	545	192	0	607
V/C Ratio(X)	0.25	0.00	0.18	0.62	0.00	0.54	0.42	0.00	0.64	0.59	0.00	0.39
Avail Cap(c_a), veh/h	441	0	941	441	0	896	441	0	931	441	0	953
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	17.0	23.3	0.0	16.0	24.6	0.0	16.7	23.9	0.0	14.2
Incr Delay (d2), s/veh	1.3	0.0	0.2	2.8	0.0	0.9	2.0	0.0	1.3	2.8	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	1.0	2.2	0.0	3.8	1.0	0.0	4.9	1.8	0.0	2.8
LnGrp Delay(d),s/veh	26.8	0.0	17.2	26.1	0.0	16.9	26.6	0.0	17.9	26.7	0.0	14.6
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	100			423			411			351		
Approach Delay, s/veh	19.5			19.9			19.2			18.5		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.1	20.6	10.1	16.5	7.6	22.1	6.1	20.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+1.5), s	11.7	11.7	6.2	3.9	3.8	7.7	2.7	9.9				
Green Ext Time (p_c), s	0.1	2.1	0.2	0.3	0.1	1.4	0.0	1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	19.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	0	191	326	589	89	43	279	0	0	536	44
Future Volume (veh/h)	60	0	191	326	589	89	43	279	0	0	536	44
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.93	1.00		1.00	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	1471	980	0	0	1078	1900
Adj Flow Rate, veh/h	60	0	91	326	589	89	43	279	0	0	536	44
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	590	1015	153	78	933	0	0	634	52
Arrive On Green	0.02	0.00	0.02	0.33	0.33	0.33	0.06	0.50	0.00	0.00	0.33	0.33
Sat Flow, veh/h		0		1774	3051	459	1401	1912	0	0	1964	156
Grp Volume(v), veh/h		0.0		326	341	337	43	279	0	0	287	293
Grp Sat Flow(s),veh/h/ln				1774	1770	1740	1401	931	0	0	1025	1042
Q Serve(g_s), s				9.9	10.5	10.6	2.0	5.8	0.0	0.0	17.2	17.3
Cycle Q Clear(g_c), s				9.9	10.5	10.6	2.0	5.8	0.0	0.0	17.2	17.3
Prop In Lane				1.00		0.26	1.00		0.00	0.00		0.15
Lane Grp Cap(c), veh/h				590	589	579	78	933	0	0	340	346
V/C Ratio(X)				0.55	0.58	0.58	0.55	0.30	0.00	0.00	0.84	0.85
Avail Cap(c_a), veh/h				590	589	579	117	933	0	0	372	378
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				18.0	18.2	18.3	30.4	9.7	0.0	0.0	20.5	20.5
Incr Delay (d2), s/veh				3.7	4.1	4.2	5.9	0.2	0.0	0.0	15.1	15.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.4	5.8	5.7	0.9	1.5	0.0	0.0	6.2	6.4
LnGrp Delay(d),s/veh				21.7	22.3	22.5	36.4	9.9	0.0	0.0	35.6	35.9
LnGrp LOS				C	C	C	D	A			D	D
Approach Vol, veh/h					1004			322			580	
Approach Delay, s/veh					22.2			13.4			35.8	
Approach LOS					C			B			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		41.1			11.2	29.9		25.0				
Change Period (Y+Rc), s		9.5			9.0	* 9.5		4.5				
Max Green Setting (Gmax), s		30.5			4.0	* 23		20.5				
Max Q Clear Time (g_c+I1), s		7.8			4.0	19.3		12.6				
Green Ext Time (p_c), s		1.8			0.0	1.1		3.3				
Intersection Summary												
HCM 2010 Ctrl Delay				24.8								
HCM 2010 LOS				C								
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	574	17	0	0	0	17	289	178	321	635	64
Future Volume (veh/h)	20	574	17	0	0	0	17	289	178	321	635	64
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900				1863	2451	1900	1078	2451	1900
Adj Flow Rate, veh/h	20	574	17				17	289	178	321	635	64
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	65	1942	60				53	376	222	334	1840	185
Arrive On Green	0.43	0.43	0.43				0.03	0.14	0.14	0.32	0.43	0.43
Sat Flow, veh/h	152	4571	142				1774	2731	1613	1027	4250	428
Grp Volume(v), veh/h	321	0	290				17	245	222	321	347	352
Grp Sat Flow(s), veh/h/ln	2443	0	2421				1774	2328	2016	1027	2328	2349
Q Serve(g_s), s	7.0	0.0	6.3				0.8	8.1	8.6	24.5	8.0	8.0
Cycle Q Clear(g_c), s	7.0	0.0	6.3				0.8	8.1	8.6	24.5	8.0	8.0
Prop In Lane	0.06		0.06				1.00		0.80	1.00		0.18
Lane Grp Cap(c), veh/h	1038	0	1029				53	320	277	334	1008	1017
V/C Ratio(X)	0.31	0.00	0.28				0.32	0.76	0.80	0.96	0.34	0.35
Avail Cap(c_a), veh/h	1038	0	1029				399	320	277	334	1008	1017
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	15.2	0.0	15.0				38.0	33.2	33.4	26.5	15.1	15.1
Incr Delay (d2), s/veh	0.8	0.0	0.7				3.5	10.4	15.5	40.4	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	0.0	4.4				0.4	6.1	6.0	10.7	5.2	5.2
LnGrp Delay(d),s/veh	16.0	0.0	15.7				41.5	43.7	48.9	67.0	15.3	15.3
LnGrp LOS	B		B				D	D	D	E	B	B
Approach Vol, veh/h		611						484			1020	
Approach Delay, s/veh		15.9						46.0			31.6	
Approach LOS		B						D			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	29.0	14.0		37.0	5.4	37.6						
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5						
Max Green Setting (Gmax), s	24.5	9.5		32.5	16.5	17.5						
Max Q Clear Time (g_c+20), s	20.5	10.6		9.0	2.8	10.0						
Green Ext Time (p_c), s	0.0	0.0		3.9	0.0	2.7						
Intersection Summary												
HCM 2010 Ctrl Delay			30.3									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	166	53	22	225	44	54	357	13	4	318	194
Future Volume (veh/h)	64	166	53	22	225	44	54	357	13	4	318	194
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.98	1.00		0.97	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	1900	1900	980	1900	1900	980	1900	1900	980	980
Adj Flow Rate, veh/h	64	166	53	22	225	44	54	357	13	4	318	122
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	142	40	59	220	41	87	395	14	47	537	452
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.55	0.55	0.55	0.55	0.55	0.55
Sat Flow, veh/h	106	473	133	36	735	137	66	717	25	3	976	821
Grp Volume(v), veh/h	283	0	0	291	0	0	424	0	0	322	0	122
Grp Sat Flow(s),veh/h/ln	713	0	0	907	0	0	809	0	0	979	0	821
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	22.7	0.0	0.0	0.0	0.0	6.3
Cycle Q Clear(g_c), s	24.0	0.0	0.0	24.0	0.0	0.0	40.3	0.0	0.0	17.6	0.0	6.3
Prop In Lane	0.23		0.19	0.08		0.15	0.13		0.03	0.01		1.00
Lane Grp Cap(c), veh/h	269	0	0	321	0	0	495	0	0	584	0	452
V/C Ratio(X)	1.05	0.00	0.00	0.91	0.00	0.00	0.86	0.00	0.00	0.55	0.00	0.27
Avail Cap(c_a), veh/h	269	0	0	321	0	0	495	0	0	584	0	452
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	29.4	0.0	0.0	28.5	0.0	0.0	17.2	0.0	0.0	12.1	0.0	9.5
Incr Delay (d2), s/veh	69.2	0.0	0.0	28.1	0.0	0.0	17.1	0.0	0.0	3.7	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	8.9	0.0	0.0	11.2	0.0	0.0	5.3	0.0	1.6
LnGrp Delay(d),s/veh	98.7	0.0	0.0	56.7	0.0	0.0	34.2	0.0	0.0	15.8	0.0	11.0
LnGrp LOS	F			E			C			B		B
Approach Vol, veh/h	283				291		424				444	
Approach Delay, s/veh	98.7				56.7		34.2				14.5	
Approach LOS	F				E		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	50.0		30.0		50.0		30.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	42.5		22.5		42.5		22.5					
Max Q Clear Time (g_c+I1), s	42.3		26.0		19.6		26.0					
Green Ext Time (p_c), s	0.1		0.0		2.5		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	45.3											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	194	75	89	235	16	74	302	60	9	372	107
Future Volume (veh/h)	64	194	75	89	235	16	74	302	60	9	372	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.97	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	64	194	75	89	235	16	74	302	60	9	372	107
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	213	391	136	260	465	29	215	560	103	121	606	172
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	214	1068	373	319	1271	79	185	1258	230	13	1361	386
Grp Volume(v), veh/h	333	0	0	340	0	0	436	0	0	488	0	0
Grp Sat Flow(s),veh/h/ln	1655	0	0	1669	0	0	1673	0	0	1759	0	0
Q Serve(g_s), s	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.6	0.0	0.0	4.6	0.0	0.0	5.6	0.0	0.0	6.7	0.0	0.0
Prop In Lane	0.19		0.23	0.26		0.05	0.17		0.14	0.02		0.22
Lane Grp Cap(c), veh/h	741	0	0	754	0	0	878	0	0	899	0	0
V/C Ratio(X)	0.45	0.00	0.00	0.45	0.00	0.00	0.50	0.00	0.00	0.54	0.00	0.00
Avail Cap(c_a), veh/h	1499	0	0	1505	0	0	1499	0	0	1602	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	7.8	0.0	0.0	6.4	0.0	0.0	6.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.4	0.0	0.0	0.4	0.0	0.0	0.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	0.0	2.4	0.0	0.0	2.8	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.3	0.0	0.0	8.3	0.0	0.0	6.9	0.0	0.0	7.3	0.0	0.0
LnGrp LOS	A			A			A			A		
Approach Vol, veh/h	333				340				436		488	
Approach Delay, s/veh	8.3				8.3				6.9		7.3	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.2		14.6		17.2		14.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	7.6		6.6		8.7		6.6					
Green Ext Time (p_c), s	3.0		2.1		3.1		2.2					
Intersection Summary												
HCM 2010 Ctrl Delay			7.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Future Volume (veh/h)	219	260	386	86	288	81	181	391	136	110	439	185
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.97	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	219	260	128	86	288	81	181	391	136	110	439	185
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	1287	543	143	758	208	328	783	268	173	734	305
Arrive On Green	0.17	0.36	0.36	0.08	0.28	0.28	0.10	0.31	0.31	0.10	0.31	0.31
Sat Flow, veh/h	1774	3539	1493	1774	2721	749	3442	2558	876	1774	2380	989
Grp Volume(v), veh/h	219	260	128	86	185	184	181	269	258	110	325	299
Grp Sat Flow(s),veh/h/ln	1774	1770	1493	1774	1770	1700	1721	1770	1664	1774	1770	1600
Q Serve(g_s), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Cycle Q Clear(g_c), s	9.3	4.0	4.7	3.7	6.7	6.9	4.0	9.8	10.1	4.7	12.3	12.6
Prop In Lane	1.00		1.00	1.00		0.44	1.00		0.53	1.00		0.62
Lane Grp Cap(c), veh/h	295	1287	543	143	493	473	328	542	510	173	546	494
V/C Ratio(X)	0.74	0.20	0.24	0.60	0.38	0.39	0.55	0.50	0.51	0.64	0.59	0.61
Avail Cap(c_a), veh/h	538	1833	773	269	648	623	478	693	652	314	760	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.4	17.3	17.5	35.2	23.0	23.1	34.2	22.5	22.6	34.4	23.2	23.3
Incr Delay (d2), s/veh	3.7	0.1	0.2	4.0	0.5	0.5	1.5	0.7	0.8	3.8	1.0	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	2.0	2.0	2.0	3.3	3.3	2.0	4.9	4.7	2.5	6.1	5.7
LnGrp Delay(d),s/veh	35.1	17.4	17.7	39.1	23.5	23.6	35.7	23.2	23.3	38.2	24.2	24.5
LnGrp LOS	D	B	B	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		607			455			708			734	
Approach Delay, s/veh		23.8			26.5			26.4			26.4	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	0.7	27.3	9.4	31.8	10.5	27.4	16.2	25.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	29.5	10.5	39.5	9.5	32.5	22.5	27.5				
Max Q Clear Time (g_c+I), s	10.7	12.1	5.7	6.7	6.0	14.6	11.3	8.9				
Green Ext Time (p_c), s	0.1	3.1	0.1	2.2	0.2	3.8	0.5	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay					25.8							
HCM 2010 LOS					C							

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔	↔		↔	↔		↔	
Traffic Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Future Volume (veh/h)	0	23	67	638	38	0	63	0	857	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	23	67	665	0	0	63	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	58	169	1219	0	544	386	0	606	0	6	0
Arrive On Green	0.00	0.14	0.14	0.34	0.00	0.00	0.22	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	421	1226	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	90	665	0	0	63	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1646	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	1.5	4.5	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.74	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	228	1219	0	544	386	0	606	0	6	0
V/C Ratio(X)	0.00	0.00	0.40	0.55	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	1074	2610	0	1165	1157	0	1817	0	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	11.7	7.9	0.0	0.0	9.5	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.1	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.7	2.3	0.0	0.0	0.4	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	12.9	8.3	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			A					
Approach Vol, veh/h		90			665			63			0	
Approach Delay, s/veh		12.9			8.3			9.7			0.0	
Approach LOS		B			A			A				
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		9.5		7.1		0.0		13.3				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		15.5		20.5				
Max Q Clear Time (g_c+I1), s		2.9		3.5		0.0		6.5				
Green Ext Time (p_c), s		0.2		0.3		0.0		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay			8.9									
HCM 2010 LOS			A									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘	↙		↖		↗		↘	↙	↖
Traffic Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Future Volume (veh/h)	117	234	35	270	0	392	0	197	248	261	158	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	117	234	35	270	0	392	0	197	248	261	158	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	210	421	507	0	0	0	0	517	448	541	965	0
Arrive On Green	0.34	0.34	0.34	0.03	0.00	0.03	0.00	0.29	0.29	0.16	0.52	0.00
Sat Flow, veh/h	611	1221	1472		0		0	1863	1533	3442	1863	0
Grp Volume(v), veh/h	351	0	35		0.0		0	197	248	261	158	0
Grp Sat Flow(s),veh/h/ln	1832	0	1472				0	1770	1533	1721	1863	0
Q Serve(g_s), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Cycle Q Clear(g_c), s	6.8	0.0	0.7				0.0	3.9	6.0	3.0	2.0	0.0
Prop In Lane	0.33		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	631	0	507				0	517	448	541	965	0
V/C Ratio(X)	0.56	0.00	0.07				0.00	0.38	0.55	0.48	0.16	0.00
Avail Cap(c_a), veh/h	1468	0	1180				0	1086	940	1198	1919	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	11.6	0.0	9.6				0.0	12.3	13.0	16.8	5.5	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.1				0.0	0.5	1.1	0.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.3				0.0	1.9	2.6	1.5	1.0	0.0
LnGrp Delay(d),s/veh	12.4	0.0	9.7				0.0	12.8	14.1	17.5	5.6	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		386						445			419	
Approach Delay, s/veh		12.1						13.5			13.0	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	9.9	15.8		18.1		25.6						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	3.7	25.3		33.5		43.5						
Max Q Clear Time (g_c+I), s	15.0	8.0		8.8		4.0						
Green Ext Time (p_c), s	0.6	2.6		2.3		0.9						
Intersection Summary												
HCM 2010 Ctrl Delay			12.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Future Volume (veh/h)	238	352	213	0	0	0	0	401	235	344	483	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	238	352	84				0	436	212	276	579	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	536	563	464				0	1028	424	462	970	0
Arrive On Green	0.30	0.30	0.30				0.00	0.28	0.28	0.26	0.26	0.00
Sat Flow, veh/h	1774	1863	1535				0	3725	1535	1774	3725	0
Grp Volume(v), veh/h	238	352	84				0	436	212	276	579	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1535				0	1863	1535	1774	1863	0
Q Serve(g_s), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Cycle Q Clear(g_c), s	6.0	9.1	2.3				0.0	5.3	6.5	7.6	7.6	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	536	563	464				0	1028	424	462	970	0
V/C Ratio(X)	0.44	0.63	0.18				0.00	0.42	0.50	0.60	0.60	0.00
Avail Cap(c_a), veh/h	923	969	798				0	2072	854	668	1404	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	15.7	16.7	14.4				0.0	16.5	17.0	18.1	18.0	0.0
Incr Delay (d2), s/veh	0.6	1.1	0.2				0.0	0.3	0.9	1.2	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	4.8	1.0				0.0	2.8	2.8	3.8	3.9	0.0
LnGrp Delay(d),s/veh	16.3	17.9	14.5				0.0	16.8	17.9	19.3	18.6	0.0
LnGrp LOS	B	B	B					B	B	B	B	
Approach Vol, veh/h		674						648			855	
Approach Delay, s/veh		16.9						17.2			18.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		18.4		19.8		17.5						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.5		27.5		19.5						
Max Q Clear Time (g_c+I1), s		8.5		11.1		9.6						
Green Ext Time (p_c), s		3.6		2.9		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔		↔	↔	↔	↔	
Traffic Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Future Volume (veh/h)	2	2	1	82	0	319	0	518	125	451	608	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.97		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	2	2	1	82	0	59	0	518	37	451	608	3
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	183	159	59	402	0	281	0	1060	458	586	2499	12
Arrive On Green	0.18	0.18	0.18	0.18	0.00	0.18	0.00	0.30	0.30	0.33	0.69	0.69
Sat Flow, veh/h	431	863	323	1376	0	1528	0	3632	1530	1774	3611	18
Grp Volume(v), veh/h	5	0	0	82	0	59	0	518	37	451	298	313
Grp Sat Flow(s),veh/h/ln1617	0	0	0	1376	0	1528	0	1770	1530	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	2.4	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Cycle Q Clear(g_c), s	0.1	0.0	0.0	2.5	0.0	1.6	0.0	5.8	0.8	11.0	3.0	3.0
Prop In Lane	0.40		0.20	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	401	0	0	402	0	281	0	1060	458	586	1225	1287
V/C Ratio(X)	0.01	0.00	0.00	0.20	0.00	0.21	0.00	0.49	0.08	0.77	0.24	0.24
Avail Cap(c_a), veh/h	1045	0	0	973	0	918	0	2052	887	1616	2748	2887
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.1	0.0	0.0	17.1	0.0	16.7	0.0	13.9	12.1	14.5	2.8	2.8
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.4	0.0	0.4	0.1	2.2	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln0.1	0.0	0.0	1.0	0.0	0.7	0.0	2.9	0.4	5.7	1.4	1.5	
LnGrp Delay(d),s/veh	16.2	0.0	0.0	17.3	0.0	17.1	0.0	14.2	12.2	16.7	2.9	2.9
LnGrp LOS	B			B		B		B	B	B	A	A
Approach Vol, veh/h	5			141			555			1062		
Approach Delay, s/veh	16.2			17.2			14.1			8.7		
Approach LOS	B			B			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.0	17.5		11.9		36.4		11.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	42.5	26.5		27.5		73.5		27.5				
Max Q Clear Time (g_c+113.0)	113.0	7.8		2.1		5.0		4.5				
Green Ext Time (p_c), s	1.5	3.5		0.0		4.3		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay	11.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	448	240	100	197	286	428		
Future Volume (veh/h)	448	240	100	197	286	428		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.96		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	448	240	100	197	286	180		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1235	568	450	813	716	1027		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	511	2202	1863	2674		
Grp Volume(v), veh/h	448	240	155	142	286	180		
Grp Sat Flow(s),veh/h/ln	1721	1583	1018	1610	1863	1337		
Q Serve(g_s), s	2.2	2.7	0.6	1.4	2.6	1.0		
Cycle Q Clear(g_c), s	2.2	2.7	3.2	1.4	2.6	1.0		
Prop In Lane	1.00	1.00	0.65			1.00		
Lane Grp Cap(c), veh/h	1235	568	645	619	716	1027		
V/C Ratio(X)	0.36	0.42	0.24	0.23	0.40	0.18		
Avail Cap(c_a), veh/h	3170	1458	1293	1552	1796	2578		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.7	5.1	4.9	5.2	4.7		
Incr Delay (d2), s/veh	0.2	0.5	0.2	0.2	0.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	1.2	0.8	0.6	1.3	0.4		
LnGrp Delay(d),s/veh	5.7	6.2	5.3	5.0	5.6	4.8		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	688			297	466			
Approach Delay, s/veh	5.9			5.2	5.3			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		12.0		11.4		12.0		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		21.0		20.0		21.0		
Max Q Clear Time (g_c+I1), s		5.2		4.7		4.6		
Green Ext Time (p_c), s		1.7		2.3		2.2		
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Future Volume (veh/h)	34	84	59	189	41	44	184	441	120	122	194	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.92	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	34	84	7	189	41	8	184	441	99	122	194	25
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	174	254	316	402	75	245	1661	370	181	1714	218
Arrive On Green	0.05	0.09	0.09	0.09	0.14	0.14	0.14	0.58	0.58	0.10	0.54	0.54
Sat Flow, veh/h	1774	1863	2716	3442	2933	547	1774	2867	638	1774	3156	401
Grp Volume(v), veh/h	34	84	7	189	24	25	184	271	269	122	108	111
Grp Sat Flow(s),veh/h/ln	1774	1863	1358	1721	1770	1710	1774	1770	1735	1774	1770	1788
Q Serve(g_s), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Cycle Q Clear(g_c), s	1.7	3.9	0.2	4.7	1.1	1.2	9.0	6.8	7.0	6.0	2.7	2.7
Prop In Lane	1.00		1.00	1.00		0.32	1.00		0.37	1.00		0.22
Lane Grp Cap(c), veh/h	86	174	254	316	242	234	245	1025	1005	181	961	971
V/C Ratio(X)	0.40	0.48	0.03	0.60	0.10	0.11	0.75	0.26	0.27	0.68	0.11	0.11
Avail Cap(c_a), veh/h	138	503	733	371	531	513	276	1025	1005	250	961	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.5	38.7	37.1	39.3	34.0	34.0	37.3	9.4	9.4	39.0	10.0	10.0
Incr Delay (d2), s/veh	2.9	2.1	0.0	1.9	0.2	0.2	7.6	0.5	0.5	4.3	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	2.1	0.1	2.3	0.5	0.6	4.9	3.4	3.4	3.1	1.3	1.4
LnGrp Delay(d),s/veh	44.5	40.8	37.1	41.2	34.1	34.2	44.9	9.9	9.9	43.3	10.2	10.3
LnGrp LOS	D	D	D	D	C	C	D	A	A	D	B	B
Approach Vol, veh/h		125			238			724			341	
Approach Delay, s/veh		41.6			39.7			18.8			22.1	
Approach LOS		D			D			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.2	55.1	11.3	11.4	15.4	51.9	7.4	15.3				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	1.2	29.8	8.2	22.8	12.5	28.5	5.5	25.5				
Max Q Clear Time (g_c+1/3), s	9.0	9.0	6.7	5.9	11.0	4.7	3.7	3.2				
Green Ext Time (p_c), s	0.1	3.3	0.1	0.3	0.1	1.2	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			25.1									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Future Volume (veh/h)	2	29	15	17	57	54	38	139	33	36	120	10
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.85	0.87		0.72	0.85		0.72	0.80		0.78
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	2	29	15	17	57	54	38	139	33	36	120	10
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	450	222	105	294	249	140	465	102	166	514	40
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.83	0.83	0.83	0.41	0.41	0.41
Sat Flow, veh/h	19	1086	535	112	710	600	192	1123	245	249	1240	95
Grp Volume(v), veh/h	46	0	0	128	0	0	210	0	0	166	0	0
Grp Sat Flow(s),veh/h/ln	1641	0	0	1422	0	0	1561	0	0	1584	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	1.2	0.0	0.0	3.9	0.0	0.0	2.0	0.0	0.0	4.1	0.0	0.0
Prop In Lane	0.04		0.33	0.13		0.42	0.18		0.16	0.22		0.06
Lane Grp Cap(c), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
V/C Ratio(X)	0.06	0.00	0.00	0.20	0.00	0.00	0.30	0.00	0.00	0.23	0.00	0.00
Avail Cap(c_a), veh/h	733	0	0	648	0	0	707	0	0	719	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	13.1	0.0	0.0	3.7	0.0	0.0	13.2	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.7	0.0	0.0	1.1	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	1.7	0.0	0.0	1.0	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	12.5	0.0	0.0	13.8	0.0	0.0	4.8	0.0	0.0	14.0	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h	46			128			210			166		
Approach Delay, s/veh	12.5			13.8			4.8			14.0		
Approach LOS	B			B			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		4.0		3.2		6.1		5.9				
Green Ext Time (p_c), s		1.4		0.2		1.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay				10.3								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Future Volume (veh/h)	31	59	16	14	174	29	33	153	17	6	121	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.90	0.93		0.90	0.91		0.93	0.97		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	31	59	16	14	174	29	33	153	17	6	121	9
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	214	384	94	74	593	94	138	593	61	64	714	51
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.43	0.43	0.43	0.86	0.86	0.86
Sat Flow, veh/h	368	960	236	47	1483	236	183	1384	143	24	1666	120
Grp Volume(v), veh/h	106	0	0	217	0	0	203	0	0	136	0	0
Grp Sat Flow(s),veh/h/ln	1563	0	0	1766	0	0	1710	0	0	1810	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	0.0	0.0	5.8	0.0	0.0	5.0	0.0	0.0	0.9	0.0	0.0
Prop In Lane	0.29		0.15	0.06		0.13	0.16		0.08	0.04		0.07
Lane Grp Cap(c), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
V/C Ratio(X)	0.15	0.00	0.00	0.29	0.00	0.00	0.26	0.00	0.00	0.16	0.00	0.00
Avail Cap(c_a), veh/h	692	0	0	761	0	0	793	0	0	829	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.4	0.0	0.0	14.3	0.0	0.0	12.9	0.0	0.0	2.9	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	0.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	3.0	0.0	0.0	2.7	0.0	0.0	0.5	0.0	0.0
LnGrp Delay(d),s/veh	13.9	0.0	0.0	15.3	0.0	0.0	13.6	0.0	0.0	3.3	0.0	0.0
LnGrp LOS	B			B			B			A		
Approach Vol, veh/h	106				217				203		136	
Approach Delay, s/veh	13.9				15.3				13.6		3.3	
Approach LOS	B				B				B		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	7.0		4.7		2.9		7.8					
Green Ext Time (p_c), s	1.2		0.6		0.8		1.2					
Intersection Summary												
HCM 2010 Ctrl Delay	12.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	127	44	95	401	62	18	117	14	14	116	38
Future Volume (veh/h)	29	127	44	95	401	62	18	117	14	14	116	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.86	1.00		0.88	0.84		0.75	0.87		0.75
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	980	980	1961	1900	980	1900	1900	2451	1900
Adj Flow Rate, veh/h	29	127	44	95	401	33	18	117	14	14	116	38
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	221	68	298	499	750	88	205	23	94	424	130
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.55	0.55	0.55	0.27	0.27	0.27
Sat Flow, veh/h	39	435	134	636	980	1473	53	753	84	83	1554	478
Grp Volume(v), veh/h	200	0	0	95	401	33	149	0	0	168	0	0
Grp Sat Flow(s),veh/h/ln	607	0	0	636	980	1473	890	0	0	2115	0	0
Q Serve(g_s), s	2.7	0.0	0.0	0.0	18.7	0.6	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	21.4	0.0	0.0	18.4	18.7	0.6	5.9	0.0	0.0	3.4	0.0	0.0
Prop In Lane	0.14		0.22	1.00		1.00	0.12		0.09	0.08		0.23
Lane Grp Cap(c), veh/h	384	0	0	298	499	750	316	0	0	648	0	0
V/C Ratio(X)	0.52	0.00	0.00	0.32	0.80	0.04	0.47	0.00	0.00	0.26	0.00	0.00
Avail Cap(c_a), veh/h	384	0	0	298	499	750	316	0	0	648	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.00	0.94	0.94	0.94	0.58	0.00	0.00	0.99	0.00	0.00
Uniform Delay (d), s/veh	9.3	0.0	0.0	11.1	11.2	6.8	10.4	0.0	0.0	15.8	0.0	0.0
Incr Delay (d2), s/veh	4.9	0.0	0.0	2.6	12.2	0.1	2.9	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	1.4	6.6	0.3	1.7	0.0	0.0	2.2	0.0	0.0
LnGrp Delay(d),s/veh	14.2	0.0	0.0	13.8	23.4	6.9	13.3	0.0	0.0	16.7	0.0	0.0
LnGrp LOS	B			B	C	A	B			B		
Approach Vol, veh/h	200				529		149				168	
Approach Delay, s/veh	14.2				20.7		13.3				16.7	
Approach LOS	B				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	21.0		34.0		21.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	13.5		26.5		13.5		26.5					
Max Q Clear Time (g_c+I1), s	7.9		23.4		5.4		20.7					
Green Ext Time (p_c), s	0.3		0.3		0.6		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			17.7									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	448	20	7	112	7	32	103	83	66	106	66
Future Volume (veh/h)	21	448	20	7	112	7	32	103	83	66	106	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.95	0.99		0.95	0.96		0.96	0.99		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900	1900	980	1900	1900	980	1900	1900	1176	1900
Adj Flow Rate, veh/h	21	448	20	7	112	7	32	103	83	66	106	66
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	962	42	77	409	25	99	150	107	145	166	87
Arrive On Green	0.46	0.46	0.44	0.46	0.46	0.44	0.32	0.32	0.29	0.53	0.53	0.49
Sat Flow, veh/h	41	2074	91	16	882	53	75	472	336	192	522	274
Grp Volume(v), veh/h	258	0	231	126	0	0	218	0	0	238	0	0
Grp Sat Flow(s),veh/h/ln	156	0	1049	951	0	0	884	0	0	987	0	0
Q Serve(g_s), s	0.0	0.0	8.4	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	8.4	4.4	0.0	0.0	11.9	0.0	0.0	10.1	0.0	0.0
Prop In Lane	0.08		0.09	0.06		0.06	0.15		0.38	0.28		0.28
Lane Grp Cap(c), veh/h	607	0	487	510	0	0	356	0	0	397	0	0
V/C Ratio(X)	0.42	0.00	0.48	0.25	0.00	0.00	0.61	0.00	0.00	0.60	0.00	0.00
Avail Cap(c_a), veh/h	607	0	487	510	0	0	440	0	0	493	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.67	1.67	1.67
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	0.93	0.00	0.00	0.96	0.00	0.00
Uniform Delay (d), s/veh	10.1	0.0	10.2	9.1	0.0	0.0	17.1	0.0	0.0	11.3	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.3	1.1	0.0	0.0	1.6	0.0	0.0	1.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	0.0	2.8	1.3	0.0	0.0	3.1	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	12.3	0.0	13.5	10.3	0.0	0.0	18.7	0.0	0.0	12.7	0.0	0.0
LnGrp LOS	B		B	B			B			B		
Approach Vol, veh/h	489				126				218		238	
Approach Delay, s/veh	12.9				10.3				18.7		12.7	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	23.5		31.5		23.5		31.5					
Change Period (Y+Rc), s	7.5		* 7.5		7.5		7.5					
Max Green Setting (Gmax), s	21.5		* 22		21.5		18.5					
Max Q Clear Time (g_c+I1), s	13.9		10.4		12.1		6.4					
Green Ext Time (p_c), s	0.7		2.2		1.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	13.7											
HCM 2010 LOS	B											
Notes												

* HCM 2010 computational engine requires equal clearance times for the phases crossing the barrier.

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	27	309	69	44	265	22	33	231	56	13	230	33
Future Volume (veh/h)	27	309	69	44	265	22	33	231	56	13	230	33
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	0.99		0.97	0.99		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	2451	1900	1900	1176	1900	1900	2451	1900	1900	1569	1900
Adj Flow Rate, veh/h	27	309	69	44	265	22	33	231	56	13	230	33
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	842	180	98	423	33	106	646	148	65	482	67
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	79	1841	394	88	925	72	133	1740	397	29	1299	180
Grp Volume(v), veh/h	405	0	0	331	0	0	320	0	0	276	0	0
Grp Sat Flow(s),veh/h/ln	2315	0	0	1085	0	0	2271	0	0	1509	0	0
Q Serve(g_s), s	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.8	0.0	0.0	15.7	0.0	0.0	6.9	0.0	0.0	9.7	0.0	0.0
Prop In Lane	0.07		0.17	0.13		0.07	0.10		0.17	0.05		0.12
Lane Grp Cap(c), veh/h	1113	0	0	554	0	0	900	0	0	614	0	0
V/C Ratio(X)	0.36	0.00	0.00	0.60	0.00	0.00	0.36	0.00	0.00	0.45	0.00	0.00
Avail Cap(c_a), veh/h	1113	0	0	554	0	0	900	0	0	614	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.4	0.0	0.0	14.5	0.0	0.0	16.0	0.0	0.0	16.9	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	4.7	0.0	0.0	1.1	0.0	0.0	2.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	0.0	5.6	0.0	0.0	4.7	0.0	0.0	4.5	0.0	0.0
LnGrp Delay(d),s/veh	13.4	0.0	0.0	19.2	0.0	0.0	17.1	0.0	0.0	19.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	405				331				320			
Approach Delay, s/veh	13.4				19.2				17.1			
Approach LOS	B				B				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	8.9		9.8		11.7		17.7					
Green Ext Time (p_c), s	1.8		2.7		1.3		1.7					
Intersection Summary												
HCM 2010 Ctrl Delay	16.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Future Volume (veh/h)	88	85	26	7	155	51	13	99	15	12	173	66
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.91	0.93		0.87	0.95		0.91	0.94		0.88
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	88	85	26	7	155	51	13	99	15	12	173	66
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	294	268	73	60	513	164	96	617	88	67	523	191
Arrive On Green	0.67	0.67	0.67	0.80	0.80	0.80	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	549	670	183	18	1282	409	91	1439	205	31	1220	446
Grp Volume(v), veh/h	199	0	0	213	0	0	127	0	0	251	0	0
Grp Sat Flow(s),veh/h/ln	1402	0	0	1710	0	0	1736	0	0	1698	0	0
Q Serve(g_s), s	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	3.4	0.0	0.0	2.3	0.0	0.0	3.0	0.0	0.0	6.9	0.0	0.0
Prop In Lane	0.44		0.13	0.03		0.24	0.10		0.12	0.05		0.26
Lane Grp Cap(c), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
V/C Ratio(X)	0.31	0.00	0.00	0.29	0.00	0.00	0.16	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	635	0	0	737	0	0	801	0	0	781	0	0
HCM Platoon Ratio	1.67	1.67	1.67	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.5	0.0	0.0	4.4	0.0	0.0	12.3	0.0	0.0	13.4	0.0	0.0
Incr Delay (d2), s/veh	1.3	0.0	0.0	1.0	0.0	0.0	0.4	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	0.0	1.1	0.0	0.0	1.6	0.0	0.0	3.4	0.0	0.0
LnGrp Delay(d),s/veh	8.8	0.0	0.0	5.4	0.0	0.0	12.7	0.0	0.0	14.5	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	199				213				127		251	
Approach Delay, s/veh	8.8				5.4				12.7		14.5	
Approach LOS	A				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	36.0		34.0		36.0		34.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.5		26.5		28.5		26.5					
Max Q Clear Time (g_c+I1), s	5.0		5.4		8.9		4.3					
Green Ext Time (p_c), s	0.7		1.3		1.5		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay	10.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

35: Ellsowrth Ave/Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Future Volume (veh/h)	30	104	19	12	255	43	3	48	8	8	151	35
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.91	0.94		0.91	0.95		0.91	0.94		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	30	104	19	12	255	43	3	48	8	8	151	35
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	514	83	104	604	99	104	448	72	103	423	95
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.30	0.30	0.30	0.30	0.30	0.30
Sat Flow, veh/h	177	1276	206	28	1500	246	33	1498	240	32	1414	318
Grp Volume(v), veh/h	153	0	0	310	0	0	59	0	0	194	0	0
Grp Sat Flow(s),veh/h/ln	1660	0	0	1774	0	0	1772	0	0	1764	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	2.2	0.0	0.0	5.0	0.0	0.0	1.0	0.0	0.0	3.5	0.0	0.0
Prop In Lane	0.20		0.12	0.04		0.14	0.05		0.14	0.04		0.18
Lane Grp Cap(c), veh/h	775	0	0	807	0	0	624	0	0	621	0	0
V/C Ratio(X)	0.20	0.00	0.00	0.38	0.00	0.00	0.09	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	1233	0	0	1321	0	0	1184	0	0	1183	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	7.9	0.0	0.0	8.7	0.0	0.0	10.2	0.0	0.0	11.1	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	2.5	0.0	0.0	0.5	0.0	0.0	1.7	0.0	0.0
LnGrp Delay(d),s/veh	8.0	0.0	0.0	9.0	0.0	0.0	10.3	0.0	0.0	11.4	0.0	0.0
LnGrp LOS	A			A			B			B		
Approach Vol, veh/h	153				310				59		194	
Approach Delay, s/veh	8.0				9.0				10.3		11.4	
Approach LOS	A				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.0		22.2		18.0		22.2					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.0		4.2		5.5		7.0					
Green Ext Time (p_c), s	0.2		0.8		1.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay			9.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Future Volume (veh/h)	29	270	21	78	267	236	8	381	230	149	462	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	1.00		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	29	270	10	78	267	115	8	381	101	149	462	38
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	487	908	753	527	908	744	56	1500	664	294	906	77
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	989	1863	1546	1090	1863	1526	22	3428	1517	516	2071	176
Grp Volume(v), veh/h	29	270	10	78	267	115	208	181	101	292	0	357
Grp Sat Flow(s),veh/h/ln	989	1863	1546	1090	1863	1526	1839	1610	1517	1112	0	1651
Q Serve(g_s), s	1.4	7.0	0.3	3.7	6.9	3.3	0.0	5.7	3.2	12.3	0.0	12.4
Cycle Q Clear(g_c), s	8.3	7.0	0.3	10.6	6.9	3.3	5.7	5.7	3.2	18.0	0.0	12.4
Prop In Lane	1.00		1.00	1.00		1.00	0.04		1.00	0.51		0.11
Lane Grp Cap(c), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
V/C Ratio(X)	0.06	0.30	0.01	0.15	0.29	0.15	0.24	0.26	0.15	0.53	0.00	0.49
Avail Cap(c_a), veh/h	487	908	753	527	908	744	851	705	664	554	0	722
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.7	12.3	10.6	15.5	12.3	11.4	14.2	14.3	13.6	18.3	0.0	16.2
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.6	0.8	0.4	0.7	0.9	0.5	3.6	0.0	2.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	3.7	0.1	1.2	3.7	1.5	3.0	2.7	1.4	5.6	0.0	6.1
LnGrp Delay(d),s/veh	15.0	13.1	10.6	16.1	13.1	11.8	14.9	15.1	14.0	21.8	0.0	18.6
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		309			460			490			649	
Approach Delay, s/veh		13.2			13.3			14.8			20.0	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		7.7		10.3		20.0		12.6				
Green Ext Time (p_c), s		2.7		1.8		3.8		2.3				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Future Volume (veh/h)	54	342	56	93	260	52	31	526	58	86	463	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.98		0.98	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	54	342	56	93	260	52	31	526	58	86	463	29
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1123	177	231	476	86	145	1228	133	245	1085	67
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.41	0.41	0.41	0.41	0.41	0.41
Sat Flow, veh/h	226	2665	420	254	1129	204	84	2992	323	279	2644	164
Grp Volume(v), veh/h	238	0	214	405	0	0	322	0	293	286	0	292
Grp Sat Flow(s),veh/h/ln	1703	0	1608	1587	0	0	1768	0	1631	1432	0	1655
Q Serve(g_s), s	0.0	0.0	3.2	2.5	0.0	0.0	0.0	0.0	4.6	0.2	0.0	4.5
Cycle Q Clear(g_c), s	3.0	0.0	3.2	6.5	0.0	0.0	4.4	0.0	4.6	4.8	0.0	4.5
Prop In Lane	0.23		0.26	0.23		0.13	0.10		0.20	0.30		0.10
Lane Grp Cap(c), veh/h	842	0	678	793	0	0	836	0	670	719	0	679
V/C Ratio(X)	0.28	0.00	0.32	0.51	0.00	0.00	0.39	0.00	0.44	0.40	0.00	0.43
Avail Cap(c_a), veh/h	1548	0	1395	1464	0	0	3347	0	3104	2732	0	3149
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	6.9	0.0	6.9	7.7	0.0	0.0	7.5	0.0	7.6	7.3	0.0	7.5
Incr Delay (d2), s/veh	0.2	0.0	0.3	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.0	1.4	3.0	0.0	0.0	2.3	0.0	2.1	2.0	0.0	2.1
LnGrp Delay(d),s/veh	7.0	0.0	7.2	8.3	0.0	0.0	7.8	0.0	8.0	7.7	0.0	8.0
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h	452				405				615		578	
Approach Delay, s/veh	7.1				8.3				7.9		7.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	17.7		18.1		17.7		18.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		29.5		66.5		29.5					
Max Q Clear Time (g_c+I1), s	6.6		5.2		6.8		8.5					
Green Ext Time (p_c), s	4.5		2.9		4.5		2.8					
Intersection Summary												
HCM 2010 Ctrl Delay			7.8									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Future Volume (veh/h)	265	207	34	9	145	75	13	177	22	29	251	132
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.96	0.98		0.93	0.99		0.95	0.96		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	265	207	34	9	145	75	13	177	22	29	251	132
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	545	631	104	63	456	227	73	654	78	596	474	249
Arrive On Green	0.41	0.41	0.41	0.41	0.41	0.41	0.84	0.84	0.84	0.42	0.42	0.42
Sat Flow, veh/h	1106	1549	255	24	1120	557	43	1552	185	1137	1125	592
Grp Volume(v), veh/h	265	0	241	229	0	0	212	0	0	29	0	383
Grp Sat Flow(s),veh/h/ln	1106	0	1804	1701	0	0	1780	0	0	1137	0	1716
Q Serve(g_s), s	7.3	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6
Cycle Q Clear(g_c), s	13.7	0.0	6.4	6.4	0.0	0.0	1.7	0.0	0.0	0.7	0.0	11.6
Prop In Lane	1.00		0.14	0.04		0.33	0.06		0.10	1.00		0.34
Lane Grp Cap(c), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
V/C Ratio(X)	0.49	0.00	0.33	0.31	0.00	0.00	0.26	0.00	0.00	0.05	0.00	0.53
Avail Cap(c_a), veh/h	545	0	734	746	0	0	805	0	0	596	0	723
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	16.5	0.0	14.2	14.2	0.0	0.0	3.3	0.0	0.0	11.9	0.0	15.1
Incr Delay (d2), s/veh	3.1	0.0	1.2	1.1	0.0	0.0	0.8	0.0	0.0	0.2	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	3.4	3.2	0.0	0.0	0.9	0.0	0.0	0.4	0.0	6.0
LnGrp Delay(d),s/veh	19.6	0.0	15.4	15.3	0.0	0.0	4.1	0.0	0.0	12.1	0.0	17.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h	506				229				212		412	
Approach Delay, s/veh	17.6				15.3				4.1		17.4	
Approach LOS	B				B				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.5		34.5		35.5		34.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	28.0		27.0		28.0		27.0					
Max Q Clear Time (g_c+I1), s	3.7		15.7		13.6		8.4					
Green Ext Time (p_c), s	1.2		2.1		2.2		1.3					
Intersection Summary												
HCM 2010 Ctrl Delay			15.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Future Volume (veh/h)	50	137	37	27	228	47	6	116	17	16	223	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.97		0.95	0.97		0.96	0.97		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	50	137	37	27	228	47	6	116	17	16	223	41
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	188	488	121	93	638	124	63	576	81	581	559	103
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.37	0.37	0.37	0.37	0.37	0.37
Sat Flow, veh/h	273	1068	265	80	1397	272	24	1550	219	1215	1505	277
Grp Volume(v), veh/h	224	0	0	302	0	0	139	0	0	16	0	264
Grp Sat Flow(s),veh/h/ln	1607	0	0	1749	0	0	1794	0	0	1215	0	1782
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.7
Cycle Q Clear(g_c), s	5.4	0.0	0.0	7.7	0.0	0.0	3.7	0.0	0.0	0.4	0.0	7.7
Prop In Lane	0.22		0.17	0.09		0.16	0.04		0.12	1.00		0.16
Lane Grp Cap(c), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
V/C Ratio(X)	0.28	0.00	0.00	0.35	0.00	0.00	0.19	0.00	0.00	0.03	0.00	0.40
Avail Cap(c_a), veh/h	798	0	0	856	0	0	720	0	0	581	0	662
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	11.8	0.0	0.0	12.4	0.0	0.0	15.0	0.0	0.0	14.0	0.0	16.2
Incr Delay (d2), s/veh	0.9	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.1	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	0.2	0.0	4.1
LnGrp Delay(d),s/veh	12.7	0.0	0.0	13.5	0.0	0.0	15.6	0.0	0.0	14.0	0.0	18.0
LnGrp LOS	B			B			B			B		B
Approach Vol, veh/h	224				302				139		280	
Approach Delay, s/veh	12.7				13.5				15.6		17.8	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	5.7		7.4		9.7		9.7					
Green Ext Time (p_c), s	0.7		1.4		1.4		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			14.9									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

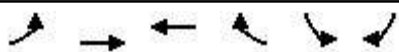
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Future Volume (veh/h)	40	258	38	14	138	17	8	99	13	75	132	52
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.97		0.95	0.99		0.97	0.98		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	40	258	38	14	138	17	8	99	13	75	132	52
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	160	950	137	115	1025	124	75	751	95	252	429	157
Arrive On Green	0.36	0.36	0.36	0.36	0.36	0.36	0.49	0.49	0.49	0.49	0.49	0.49
Sat Flow, veh/h	289	2621	378	174	2828	341	55	1541	194	398	880	321
Grp Volume(v), veh/h	176	0	160	89	0	80	120	0	0	259	0	0
Grp Sat Flow(s),veh/h/ln	1696	0	1591	1729	0	1614	1790	0	0	1600	0	0
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	2.7	0.0	0.0	0.0	2.4	0.0	0.0
Cycle Q Clear(g_c), s	5.3	0.0	5.7	2.5	0.0	2.7	2.9	0.0	0.0	7.3	0.0	0.0
Prop In Lane	0.23		0.24	0.16		0.21	0.07		0.11	0.29		0.20
Lane Grp Cap(c), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
V/C Ratio(X)	0.26	0.00	0.28	0.13	0.00	0.14	0.13	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	670	0	577	679	0	585	921	0	0	838	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	18.0	0.0	18.1	17.1	0.0	17.1	11.2	0.0	0.0	12.3	0.0	0.0
Incr Delay (d2), s/veh	1.0	0.0	1.2	0.4	0.0	0.5	0.3	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	0.0	2.7	1.4	0.0	1.3	1.5	0.0	0.0	3.7	0.0	0.0
LnGrp Delay(d),s/veh	18.9	0.0	19.3	17.5	0.0	17.6	11.5	0.0	0.0	13.3	0.0	0.0
LnGrp LOS	B		B	B		B	B			B		
Approach Vol, veh/h	336				169		120				259	
Approach Delay, s/veh	19.1				17.5		11.5				13.3	
Approach LOS	B				B		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	45.0		35.0		45.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	37.5		27.5		37.5		27.5					
Max Q Clear Time (g_c+I1), s	4.9		7.7		9.3		4.7					
Green Ext Time (p_c), s	0.7		2.0		1.8		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	16.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	98	333	262	80	109	92		
Future Volume (veh/h)	98	333	262	80	109	92		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.99			0.98	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1863	2451	1900	1863	2451		
Adj Flow Rate, veh/h	98	333	262	80	109	28		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	343	946	912	278	535	628		
Arrive On Green	0.51	0.51	0.51	0.51	0.30	0.30		
Sat Flow, veh/h	541	1863	1795	548	1774	2083		
Grp Volume(v), veh/h	98	333	0	342	109	28		
Grp Sat Flow(s),veh/h/ln	541	1863	0	2343	1774	2083		
Q Serve(g_s), s	8.0	6.7	0.0	5.3	2.9	0.6		
Cycle Q Clear(g_c), s	13.3	6.7	0.0	5.3	2.9	0.6		
Prop In Lane	1.00			0.23	1.00	1.00		
Lane Grp Cap(c), veh/h	343	946	0	1190	535	628		
V/C Ratio(X)	0.29	0.35	0.00	0.29	0.20	0.04		
Avail Cap(c_a), veh/h	343	946	0	1190	535	628		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.8	9.3	0.0	8.9	16.4	15.6		
Incr Delay (d2), s/veh	2.1	1.0	0.0	0.6	0.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.4	3.7	0.0	3.6	1.5	0.4		
LnGrp Delay(d),s/veh	14.9	10.3	0.0	9.5	17.2	15.7		
LnGrp LOS	B	B		A	B	B		
Approach Vol, veh/h		431	342		137			
Approach Delay, s/veh		11.3	9.5		16.9			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				38.0		25.0		38.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				30.5		17.5		30.5
Max Q Clear Time (g_c+I1), s				15.3		4.9		7.3
Green Ext Time (p_c), s				2.8		0.3		2.3
Intersection Summary								
HCM 2010 Ctrl Delay		11.5						
HCM 2010 LOS		B						

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔		↔	↔		↔	↔	
Traffic Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Future Volume (veh/h)	22	116	70	171	77	79	79	1085	178	121	1098	7
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.98		0.97	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	22	116	70	171	77	79	79	1085	178	121	1098	7
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	81	269	149	389	219	225	138	1520	249	192	1922	12
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.08	0.50	0.50	0.11	0.53	0.53
Sat Flow, veh/h	96	1021	567	1174	832	854	1774	3024	494	1774	3604	23
Grp Volume(v), veh/h	208	0	0	171	0	156	79	634	629	121	539	566
Grp Sat Flow(s),veh/h/ln	1684	0	0	1174	0	1686	1774	1770	1749	1774	1770	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.3	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Cycle Q Clear(g_c), s	7.2	0.0	0.0	10.5	0.0	5.4	3.1	19.8	20.0	4.7	14.6	14.6
Prop In Lane	0.11		0.34	1.00		0.51	1.00		0.28	1.00		0.01
Lane Grp Cap(c), veh/h	499	0	0	389	0	444	138	890	879	192	943	990
V/C Ratio(X)	0.42	0.00	0.00	0.44	0.00	0.35	0.57	0.71	0.72	0.63	0.57	0.57
Avail Cap(c_a), veh/h	1147	0	0	851	0	1108	330	1855	1833	471	1996	2096
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	0.0	0.0	23.5	0.0	21.4	31.8	13.8	13.8	30.5	11.2	11.2
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.8	0.0	0.5	3.7	1.1	1.1	3.4	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	0.0	0.0	3.1	0.0	2.6	1.7	9.8	9.9	2.5	7.2	7.5
LnGrp Delay(d),s/veh	22.6	0.0	0.0	24.3	0.0	21.9	35.5	14.8	14.9	33.9	11.8	11.7
LnGrp LOS	C			C		C	D	B	B	C	B	B
Approach Vol, veh/h	208			327			1342			1226		
Approach Delay, s/veh	22.6			23.1			16.1			13.9		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.7	39.0		21.8	8.6	41.1		21.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+10), s	10.5	22.0		9.2	5.1	16.6		12.5				
Green Ext Time (p_c), s	0.2	12.5		1.4	0.1	9.8		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	16.4											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Future Volume (veh/h)	77	81	54	112	86	50	26	1263	108	34	1197	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.98		0.98	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	77	81	54	112	86	50	26	1263	108	34	1197	37
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	224	213	115	272	185	89	91	1879	159	101	1947	60
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	449	762	414	598	664	319	27	3132	265	41	3246	99
Grp Volume(v), veh/h	212	0	0	248	0	0	728	0	669	643	0	625
Grp Sat Flow(s),veh/h/ln	1624	0	0	1581	0	0	1779	0	1645	1710	0	1676
Q Serve(g_s), s	0.0	0.0	0.0	1.1	0.0	0.0	0.0	0.0	13.6	0.0	0.0	11.8
Cycle Q Clear(g_c), s	4.8	0.0	0.0	5.9	0.0	0.0	12.7	0.0	13.6	10.5	0.0	11.8
Prop In Lane	0.36		0.25	0.45		0.20	0.04		0.16	0.05		0.06
Lane Grp Cap(c), veh/h	552	0	0	546	0	0	1142	0	987	1102	0	1005
V/C Ratio(X)	0.38	0.00	0.00	0.45	0.00	0.00	0.64	0.00	0.68	0.58	0.00	0.62
Avail Cap(c_a), veh/h	907	0	0	892	0	0	1779	0	1612	1695	0	1643
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.6	0.0	0.0	14.9	0.0	0.0	6.5	0.0	6.7	6.1	0.0	6.3
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.5	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	2.9	0.0	0.0	6.7	0.0	6.2	5.3	0.0	5.6
LnGrp Delay(d),s/veh	15.1	0.0	0.0	15.5	0.0	0.0	7.1	0.0	7.5	6.5	0.0	6.9
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	212				248		1397				1268	
Approach Delay, s/veh	15.1				15.5		7.3				6.7	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.7		16.8		32.7		16.8					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	15.6		6.8		13.8		7.9					
Green Ext Time (p_c), s	12.6		1.2		11.3		1.4					
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	273	37	73	1105	1334	192		
Future Volume (veh/h)	273	37	73	1105	1334	192		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	273	37	73	1105	1334	192		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	364	49	134	2394	1732	247		
Arrive On Green	0.24	0.24	0.08	0.68	0.56	0.56		
Sat Flow, veh/h	1530	207	1774	3632	3198	443		
Grp Volume(v), veh/h	311	0	73	1105	755	771		
Grp Sat Flow(s),veh/h/ln	1742	0	1774	1770	1770	1778		
Q Serve(g_s), s	11.6	0.0	2.8	10.3	23.1	23.7		
Cycle Q Clear(g_c), s	11.6	0.0	2.8	10.3	23.1	23.7		
Prop In Lane	0.88	0.12	1.00			0.25		
Lane Grp Cap(c), veh/h	414	0	134	2394	987	992		
V/C Ratio(X)	0.75	0.00	0.54	0.46	0.77	0.78		
Avail Cap(c_a), veh/h	572	0	203	3084	1264	1270		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.7	0.0	31.2	5.3	11.9	12.1		
Incr Delay (d2), s/veh	3.6	0.0	3.4	0.1	2.1	2.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.9	0.0	1.5	5.0	11.7	12.0		
LnGrp Delay(d),s/veh	28.3	0.0	34.6	5.5	14.1	14.4		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	311			1178	1526			
Approach Delay, s/veh	28.3			7.3	14.3			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		50.4		19.7	8.3	42.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		59.5		21.5	6.5	48.5		
Max Q Clear Time (g_c+I1), s		12.3		13.6	4.8	25.7		
Green Ext Time (p_c), s		10.2		0.6	0.0	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			13.0					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	184	91	1307	436	81	1225		
Future Volume (veh/h)	184	91	1307	436	81	1225		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	184	20	1307	234	81	1225		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	303	270	1921	829	177	2495		
Arrive On Green	0.17	0.17	0.54	0.54	0.10	0.70		
Sat Flow, veh/h	1774	1583	3632	1528	1774	3632		
Grp Volume(v), veh/h	184	20	1307	234	81	1225		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1528	1774	1770		
Q Serve(g_s), s	4.6	0.5	12.9	4.0	2.1	7.5		
Cycle Q Clear(g_c), s	4.6	0.5	12.9	4.0	2.1	7.5		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	303	270	1921	829	177	2495		
V/C Ratio(X)	0.61	0.07	0.68	0.28	0.46	0.49		
Avail Cap(c_a), veh/h	1123	1002	2497	1078	239	3195		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.5	16.8	8.0	5.9	20.5	3.2		
Incr Delay (d2), s/veh	2.0	0.1	0.5	0.2	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.3	1.7	1.1	3.6		
LnGrp Delay(d),s/veh	20.5	16.9	8.5	6.1	22.3	3.4		
LnGrp LOS	C	B	A	A	C	A		
Approach Vol, veh/h	204		1541			1306		
Approach Delay, s/veh	20.1		8.1			4.5		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.8	29.2				37.0		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+I1), s	14.9	14.9				9.5		6.6
Green Ext Time (p_c), s	0.0	9.8				11.0		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.4					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	139	163	182	140	46	64	1413	173	44	1520	85
Future Volume (veh/h)	173	139	163	182	140	46	64	1413	173	44	1520	85
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.98		0.95	1.00		0.94	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	2451	1863	980	1863	1863	980	2451	1900	1765	2451	1900
Adj Flow Rate, veh/h	173	139	55	182	140	16	64	1413	173	44	1520	85
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	896	553	275	681	551	82	2922	358	87	2919	163
Arrive On Green	0.37	0.37	0.37	0.37	0.37	0.37	0.09	0.49	0.49	0.05	0.45	0.45
Sat Flow, veh/h	1195	2451	1514	610	1863	1508	934	5990	733	1681	6458	361
Grp Volume(v), veh/h	173	139	55	182	140	16	64	1052	534	44	1050	555
Grp Sat Flow(s),veh/h/ln	1195	2451	1514	610	1863	1508	934	2230	2263	1681	2230	2359
Q Serve(g_s), s	11.0	3.6	2.3	27.2	4.9	0.6	6.4	15.0	15.0	2.4	16.0	16.0
Cycle Q Clear(g_c), s	15.9	3.6	2.3	30.8	4.9	0.6	6.4	15.0	15.0	2.4	16.0	16.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.32	1.00		0.15
Lane Grp Cap(c), veh/h	451	896	553	275	681	551	82	2176	1104	87	2016	1066
V/C Ratio(X)	0.38	0.16	0.10	0.66	0.21	0.03	0.78	0.48	0.48	0.50	0.52	0.52
Avail Cap(c_a), veh/h	467	929	574	284	706	571	118	2176	1104	212	2016	1066
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	0.93	0.93	0.93	0.89	0.89	0.89	0.85	0.85	0.85
Uniform Delay (d), s/veh	26.1	20.3	19.8	30.6	20.7	19.3	42.4	16.3	16.3	43.8	18.7	18.7
Incr Delay (d2), s/veh	0.5	0.1	0.1	5.0	0.1	0.0	16.7	0.7	1.3	3.8	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	2.5	1.0	4.9	2.6	0.3	2.0	9.4	9.8	1.2	10.0	10.8
LnGrp Delay(d),s/veh	26.7	20.4	19.9	35.6	20.8	19.3	59.2	17.0	17.7	47.6	19.5	20.2
LnGrp LOS	C	C	B	D	C	B	E	B	B	D	B	C
Approach Vol, veh/h	367				338				1650			
Approach Delay, s/veh	23.3				28.7				18.8			
Approach LOS	C				C				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.9	49.3			37.7	11.3	45.9	37.7				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	40.5	36.5			34.5	10.5	36.5	34.5				
Max Q Clear Time (g_c+14), s	14.4	17.0			17.9	8.4	18.0	32.8				
Green Ext Time (p_c), s	0.0	11.0			1.5	0.0	10.6	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	20.8											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	114	19	114	61	58	48	1627	140	129	1561	34
Future Volume (veh/h)	63	114	19	114	61	58	48	1627	140	129	1561	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.97		0.95	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	1863	1900	980	2451	1900	2157	2451	1900
Adj Flow Rate, veh/h	63	114	5	114	61	58	48	1627	140	129	1561	34
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	170	455	200	261	249	79	3375	290	198	3719	81
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.51	0.51	0.10	0.52	0.52
Sat Flow, veh/h	243	556	1487	1230	854	812	934	6651	571	2054	7163	156
Grp Volume(v), veh/h	177	0	5	114	0	119	48	1198	569	129	1068	527
Grp Sat Flow(s),veh/h/ln	800	0	1487	1230	0	1666	934	2451	2320	2054	2451	2417
Q Serve(g_s), s	14.9	0.0	0.2	9.2	0.0	5.3	5.0	15.9	16.0	6.1	13.4	13.4
Cycle Q Clear(g_c), s	20.2	0.0	0.2	29.4	0.0	5.3	5.0	15.9	16.0	6.1	13.4	13.4
Prop In Lane	0.36		1.00	1.00		0.49	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	294	0	455	200	0	510	79	2488	1177	198	2545	1255
V/C Ratio(X)	0.60	0.00	0.01	0.57	0.00	0.23	0.61	0.48	0.48	0.65	0.42	0.42
Avail Cap(c_a), veh/h	294	0	455	200	0	510	116	2488	1177	271	2545	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.99	0.00	0.99	0.64	0.64	0.64	0.84	0.84	0.84
Uniform Delay (d), s/veh	31.3	0.0	24.2	44.2	0.0	25.9	44.1	16.1	16.1	43.6	14.8	14.8
Incr Delay (d2), s/veh	3.5	0.0	0.0	3.8	0.0	0.2	4.7	0.4	0.9	3.0	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	0.1	3.3	0.0	2.5	1.4	10.8	10.4	3.6	9.2	9.2
LnGrp Delay(d),s/veh	34.7	0.0	24.2	48.1	0.0	26.2	48.8	16.5	17.0	46.6	15.2	15.6
LnGrp LOS	C		C	D		C	D	B	B	D	B	B
Approach Vol, veh/h	182					233		1815		1724		
Approach Delay, s/veh	34.5					36.9		17.5		17.7		
Approach LOS	C					D		B		B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	2.6	53.8		33.6	11.5	54.9		33.6				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	1.8	45.7		29.1	10.9	46.5		29.1				
Max Q Clear Time (g_c+I1), s	18.0	18.0		22.2	7.0	15.4		31.4				
Green Ext Time (p_c), s	0.1	15.2		0.5	0.0	13.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			19.5									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations				  	  			
Traffic Volume (veh/h)	187	74	59	1697	1479	154		
Future Volume (veh/h)	187	74	59	1697	1479	154		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.98	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	187	74	59	1697	1479	154		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	301	119	124	2870	3009	313		
Arrive On Green	0.25	0.25	0.64	0.64	0.64	0.64		
Sat Flow, veh/h	1217	482	80	4613	4844	487		
Grp Volume(v), veh/h	262	0	569	1187	1072	561		
Grp Sat Flow(s),veh/h/ln	1705	0	1456	1543	1695	1772		
Q Serve(g_s), s	7.5	0.0	0.0	12.2	9.0	9.0		
Cycle Q Clear(g_c), s	7.5	0.0	8.6	12.2	9.0	9.0		
Prop In Lane	0.71	0.28	0.10			0.27		
Lane Grp Cap(c), veh/h	421	0	1009	1985	2182	1141		
V/C Ratio(X)	0.62	0.00	0.56	0.60	0.49	0.49		
Avail Cap(c_a), veh/h	933	0	1426	3039	3340	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	18.4	0.0	5.0	5.7	5.1	5.1		
Incr Delay (d2), s/veh	1.5	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.7	0.0	4.4	5.2	4.2	4.5		
LnGrp Delay(d),s/veh	19.9	0.0	5.5	6.0	5.3	5.4		
LnGrp LOS	B		A	A	A	A		
Approach Vol, veh/h	262			1756	1633			
Approach Delay, s/veh	19.9			5.8	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		38.3		16.5		38.3		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		52.5		28.5		52.5		
Max Q Clear Time (g_c+I1), s		14.2		9.5		11.0		
Green Ext Time (p_c), s		19.6		0.8		16.3		
Intersection Summary								
HCM 2010 Ctrl Delay			6.6					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39
Future Volume (veh/h)	45	86	302	236	84	23	270	1673	194	49	1471	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.97		0.96	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	45	86	79	236	84	23	270	1673	194	49	1471	39
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	439	613	501	434	459	126	337	2349	271	102	1917	51
Arrive On Green	0.33	0.33	0.33	0.33	0.33	0.33	0.19	0.51	0.51	0.06	0.38	0.38
Sat Flow, veh/h	1243	1863	1521	1180	1396	382	1774	4616	534	1774	5092	135
Grp Volume(v), veh/h	45	86	79	236	0	107	270	1227	640	49	979	531
Grp Sat Flow(s),veh/h/ln	1243	1863	1521	1180	0	1778	1774	1695	1760	1774	1695	1837
Q Serve(g_s), s	2.3	2.8	3.2	15.1	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8
Cycle Q Clear(g_c), s	6.0	2.8	3.2	17.9	0.0	3.7	12.5	24.0	24.1	2.3	21.8	21.8
Prop In Lane	1.00		1.00	1.00		0.21	1.00		0.30	1.00		0.07
Lane Grp Cap(c), veh/h	439	613	501	434	0	585	337	1725	895	102	1276	691
V/C Ratio(X)	0.10	0.14	0.16	0.54	0.00	0.18	0.80	0.71	0.71	0.48	0.77	0.77
Avail Cap(c_a), veh/h	514	725	592	505	0	692	433	1990	1033	144	1438	779
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.7	20.3	20.4	26.6	0.0	20.6	33.3	16.3	16.3	39.3	23.5	23.5
Incr Delay (d2), s/veh	0.1	0.1	0.1	1.1	0.0	0.1	8.1	1.0	2.0	3.5	2.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.5	1.4	5.0	0.0	1.8	6.9	11.3	12.0	1.2	10.6	11.8
LnGrp Delay(d),s/veh	22.8	20.4	20.6	27.7	0.0	20.8	41.4	17.3	18.3	42.8	25.8	27.7
LnGrp LOS	C	C	C	C		C	D	B	B	D	C	C
Approach Vol, veh/h		210			343			2137			1559	
Approach Delay, s/veh		21.0			25.5			20.6			27.0	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	46.8		31.3	19.3	35.4		31.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	5.5	49.0		32.0	19.5	35.0		32.0				
Max Q Clear Time (g_c+14), s	14.3	26.1		8.0	14.5	23.8		19.9				
Green Ext Time (p_c), s	0.0	14.4		0.8	0.4	7.1		1.2				
Intersection Summary												
HCM 2010 Ctrl Delay			23.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Future Volume (veh/h)	335	53	102	82	87	105	102	1180	38	119	1144	206
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.96	1.00		0.96	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	245	179	102	82	87	17	102	1180	38	119	1144	206
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	410	255	145	149	158	257	158	1733	56	228	1653	297
Arrive On Green	0.23	0.23	0.23	0.17	0.17	0.17	0.09	0.34	0.34	0.13	0.38	0.38
Sat Flow, veh/h	1774	1100	627	882	936	1521	1774	5053	163	1774	4320	778
Grp Volume(v), veh/h	245	0	281	169	0	17	102	792	426	119	898	452
Grp Sat Flow(s),veh/h/ln	1774	0	1727	1819	0	1521	1774	1695	1825	1774	1695	1707
Q Serve(g_s), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Cycle Q Clear(g_c), s	11.5	0.0	14.0	8.0	0.0	0.9	5.2	18.8	18.8	5.9	20.8	20.9
Prop In Lane	1.00		0.36	0.49		1.00	1.00		0.09	1.00		0.46
Lane Grp Cap(c), veh/h	410	0	400	308	0	257	158	1163	626	228	1297	653
V/C Ratio(X)	0.60	0.00	0.70	0.55	0.00	0.07	0.65	0.68	0.68	0.52	0.69	0.69
Avail Cap(c_a), veh/h	719	0	700	679	0	568	341	2025	1090	360	2061	1038
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	0.0	33.1	35.7	0.0	32.7	41.3	26.4	26.4	38.2	24.3	24.3
Incr Delay (d2), s/veh	1.4	0.0	2.3	1.5	0.0	0.1	4.4	0.7	1.3	1.8	0.7	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	0.0	6.9	4.1	0.0	0.4	2.7	8.9	9.7	3.0	9.8	10.0
LnGrp Delay(d),s/veh	33.5	0.0	35.3	37.2	0.0	32.8	45.7	27.1	27.7	40.0	25.0	25.6
LnGrp LOS	C		D	D		C	D	C	C	D	C	C
Approach Vol, veh/h	526				186		1320				1469	
Approach Delay, s/veh	34.5				36.8		28.7				26.4	
Approach LOS	C				D		C				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.0	35.2		24.7	11.3	38.9		18.9				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	54.5		36.5	16.5	55.5		33.5				
Max Q Clear Time (g_c+I1),s	20.8			16.0	7.2	22.9		10.0				
Green Ext Time (p_c), s	0.2	9.9		2.5	0.1	11.5		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	29.0											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Future Volume (veh/h)	156	212	34	277	138	105	48	1059	324	160	996	46
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	156	212	6	208	235	20	48	1059	324	160	996	46
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	275	289	237	391	410	329	386	1493	457	215	1450	67
Arrive On Green	0.16	0.16	0.16	0.22	0.22	0.22	0.22	0.39	0.39	0.12	0.29	0.29
Sat Flow, veh/h	1774	1863	1529	1774	1863	1495	1774	3842	1175	1774	4962	229
Grp Volume(v), veh/h	156	212	6	208	235	20	48	934	449	160	680	362
Grp Sat Flow(s),veh/h/ln	1774	1863	1529	1774	1863	1495	1774	1695	1627	1774	1695	1800
Q Serve(g_s), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Cycle Q Clear(g_c), s	8.5	11.3	0.3	10.8	11.8	1.1	2.3	24.3	24.3	9.1	18.6	18.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.72	1.00		0.13
Lane Grp Cap(c), veh/h	275	289	237	391	410	329	386	1317	632	215	991	526
V/C Ratio(X)	0.57	0.73	0.03	0.53	0.57	0.06	0.12	0.71	0.71	0.75	0.69	0.69
Avail Cap(c_a), veh/h	459	481	395	628	660	530	386	2174	1043	289	2174	1155
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.9	42.1	37.4	36.0	36.3	32.2	32.9	27.0	27.0	44.4	32.7	32.8
Incr Delay (d2), s/veh	1.8	3.6	0.0	1.1	1.3	0.1	0.1	0.7	1.5	7.0	0.9	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	6.1	0.1	5.4	6.2	0.5	1.1	11.4	11.1	4.9	8.8	9.5
LnGrp Delay(d),s/veh	42.7	45.6	37.5	37.1	37.6	32.3	33.0	27.7	28.5	51.3	33.6	34.4
LnGrp LOS	D	D	D	D	D	C	C	C	C	D	C	C
Approach Vol, veh/h	374				463				1431		1202	
Approach Delay, s/veh	44.3				37.1				28.1		36.2	
Approach LOS	D				D				C		D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	5.6	43.6			19.2	25.7	33.5	26.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	5.5	65.5			25.5	15.5	65.5	35.5				
Max Q Clear Time (g_c+I1), s	26.3	26.3			13.3	4.3	20.6	13.8				
Green Ext Time (p_c), s	0.2	12.8			1.4	0.1	8.4	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay	33.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT		NBL	NBT		SBL	SBT	
Traffic Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Future Volume (veh/h)	145	0	145	1	0	3	123	1225	2	19	1306	104
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.96	0.96		0.97	1.00		0.98	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	145	0	24	1	0	3	123	1225	2	19	1306	104
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	450	0	329	132	36	273	204	2226	4	325	2365	188
Arrive On Green	0.24	0.00	0.24	0.24	0.00	0.24	0.12	0.42	0.42	0.18	0.49	0.49
Sat Flow, veh/h	1372	0	1386	232	151	1147	1774	5243	9	1774	4800	382
Grp Volume(v), veh/h	145	0	24	4	0	0	123	792	435	19	922	488
Grp Sat Flow(s), veh/h/ln	1372	0	1386	1529	0	0	1774	1695	1861	1774	1695	1792
Q Serve(g_s), s	5.1	0.0	0.8	0.0	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Cycle Q Clear(g_c), s	5.2	0.0	0.8	0.1	0.0	0.0	3.8	10.2	10.2	0.5	11.0	11.0
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.21
Lane Grp Cap(c), veh/h	450	0	329	441	0	0	204	1440	790	325	1671	883
V/C Ratio(X)	0.32	0.00	0.07	0.01	0.00	0.00	0.60	0.55	0.55	0.06	0.55	0.55
Avail Cap(c_a), veh/h	876	0	761	902	0	0	518	5353	2939	518	5353	2829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	0.0	17.2	17.0	0.0	0.0	24.5	12.6	12.6	19.6	10.3	10.3
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	2.8	0.3	0.6	0.1	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.3	0.0	0.0	0.0	2.0	4.8	5.3	0.3	5.2	5.5
LnGrp Delay(d),s/veh	19.3	0.0	17.3	17.0	0.0	0.0	27.4	12.9	13.2	19.7	10.6	10.8
LnGrp LOS	B		B	B			C	B	B	B	B	B
Approach Vol, veh/h	169			4			1350			1429		
Approach Delay, s/veh	19.0			17.0			14.3			10.8		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.7	27.7		16.8	9.7	31.7		16.8				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	90.5		30.5	15.5	90.5		30.5				
Max Q Clear Time (g_c+1), s	12.5	12.2		7.2	5.8	13.0		2.1				
Green Ext Time (p_c), s	0.0	11.0		1.0	0.2	14.2		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	12.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	152	55	6	1073	1177	56		
Future Volume (veh/h)	152	55	6	1073	1177	56		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	104	107	6	1073	1177	56		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	289	264	88	2374	2677	127		
Arrive On Green	0.16	0.16	0.05	0.67	0.54	0.54		
Sat Flow, veh/h	1774	1615	1774	3632	5140	236		
Grp Volume(v), veh/h	104	107	6	1073	802	431		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1819		
Q Serve(g_s), s	1.9	2.1	0.1	5.2	5.2	5.2		
Cycle Q Clear(g_c), s	1.9	2.1	0.1	5.2	5.2	5.2		
Prop In Lane	1.00	1.00	1.00			0.13		
Lane Grp Cap(c), veh/h	289	264	88	2374	1825	979		
V/C Ratio(X)	0.36	0.41	0.07	0.45	0.44	0.44		
Avail Cap(c_a), veh/h	1521	1385	343	5188	4032	2163		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	13.4	13.6	16.4	2.8	5.0	5.0		
Incr Delay (d2), s/veh	0.8	1.0	0.3	0.1	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.0	2.0	0.1	2.4	2.4	2.6		
LnGrp Delay(d),s/veh	14.2	14.6	16.7	2.9	5.2	5.4		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	211			1079	1233			
Approach Delay, s/veh	14.4			3.0	5.3			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		27.3		8.9	4.8	22.5		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+I1), s		7.2		4.1	2.1	7.2		
Green Ext Time (p_c), s		10.3		0.6	0.0	10.6		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Future Volume (veh/h)	54	167	40	100	115	210	13	846	140	232	982	42
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.99	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	54	167	7	100	115	31	13	846	47	232	982	42
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	258	271	227	247	260	218	67	1277	568	318	2512	107
Arrive On Green	0.15	0.15	0.15	0.14	0.14	0.14	0.04	0.36	0.36	0.18	0.50	0.50
Sat Flow, veh/h	1774	1863	1557	1774	1863	1563	1774	3539	1575	1774	5000	214
Grp Volume(v), veh/h	54	167	7	100	115	31	13	846	47	232	665	359
Grp Sat Flow(s),veh/h/ln	1774	1863	1557	1774	1863	1563	1774	1770	1575	1774	1695	1823
Q Serve(g_s), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Cycle Q Clear(g_c), s	1.8	5.8	0.3	3.5	3.9	1.2	0.5	13.8	1.3	8.5	8.3	8.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.12
Lane Grp Cap(c), veh/h	258	271	227	247	260	218	67	1277	568	318	1703	916
V/C Ratio(X)	0.21	0.62	0.03	0.40	0.44	0.14	0.19	0.66	0.08	0.73	0.39	0.39
Avail Cap(c_a), veh/h	569	597	499	827	868	729	310	2372	1056	594	2815	1514
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	27.5	25.2	26.9	27.1	25.9	32.0	18.4	14.5	26.6	10.6	10.6
Incr Delay (d2), s/veh	0.4	2.3	0.1	1.1	1.2	0.3	1.4	0.6	0.1	3.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	3.1	0.1	1.8	2.1	0.5	0.3	6.8	0.6	4.4	3.9	4.3
LnGrp Delay(d),s/veh	26.2	29.8	25.2	28.0	28.3	26.2	33.4	19.0	14.5	29.8	10.7	10.9
LnGrp LOS	C	C	C	C	C	C	C	B	B	C	B	B
Approach Vol, veh/h	228				246		906				1256	
Approach Delay, s/veh	28.8				27.9		19.0				14.3	
Approach LOS	C				C		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	5.3	27.8			13.0	5.6	37.5	12.6				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	21.5	44.5			20.5	10.5	55.5	30.5				
Max Q Clear Time (g_c+10), s	110.5	15.8			7.8	2.5	10.4	5.9				
Green Ext Time (p_c), s	0.5	6.6			0.8	0.0	8.2	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Future Volume (veh/h)	135	8	383	3	3	3	311	313	9	6	193	122
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.89	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	141	0	61	3	3	3	311	313	9	6	193	122
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	0	192	87	87	87	429	830	24	63	269	170
Arrive On Green	0.12	0.00	0.12	0.16	0.16	0.16	0.24	0.46	0.46	0.04	0.26	0.26
Sat Flow, veh/h	3548	0	1558	553	553	553	1774	1800	52	1774	1054	666
Grp Volume(v), veh/h	141	0	61	9	0	0	311	0	322	6	0	315
Grp Sat Flow(s),veh/h/ln	1774	0	1558	1660	0	0	1774	0	1851	1774	0	1720
Q Serve(g_s), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Cycle Q Clear(g_c), s	2.0	0.0	1.9	0.2	0.0	0.0	8.7	0.0	6.1	0.2	0.0	9.0
Prop In Lane	1.00		1.00	0.33		0.33	1.00		0.03	1.00		0.39
Lane Grp Cap(c), veh/h	438	0	192	262	0	0	429	0	854	63	0	440
V/C Ratio(X)	0.32	0.00	0.32	0.03	0.00	0.00	0.73	0.00	0.38	0.09	0.00	0.72
Avail Cap(c_a), veh/h	1441	0	633	981	0	0	1539	0	1948	393	0	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	21.7	19.3	0.0	0.0	18.9	0.0	9.5	25.3	0.0	18.4
Incr Delay (d2), s/veh	0.4	0.0	0.9	0.1	0.0	0.0	2.4	0.0	0.3	0.6	0.0	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	0.0	0.9	0.1	0.0	0.0	4.5	0.0	3.2	0.1	0.0	4.6
LnGrp Delay(d),s/veh	22.1	0.0	22.6	19.4	0.0	0.0	21.2	0.0	9.8	25.9	0.0	20.6
LnGrp LOS	C		C	B			C		A	C		C
Approach Vol, veh/h	202			9			633			321		
Approach Delay, s/veh	22.2			19.4			15.4			20.7		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	28.0		9.7	16.1	16.8		11.5				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	55.5		20.5	45.5	20.5		30.5				
Max Q Clear Time (g_c+I12), s	12.2	8.1		4.0	10.7	11.0		2.2				
Green Ext Time (p_c), s	0.0	2.2		0.6	1.0	1.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	18.1											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

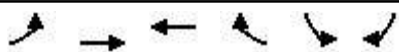
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Future Volume (veh/h)	16	9	3	46	20	171	34	688	92	438	564	88
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	16	9	0	46	20	20	34	688	92	438	564	88
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	91	51	125	137	60	169	104	1013	135	534	1735	270
Arrive On Green	0.08	0.08	0.00	0.11	0.11	0.11	0.06	0.32	0.32	0.30	0.57	0.57
Sat Flow, veh/h	1155	650	1583	1255	545	1544	1774	3132	418	1774	3069	477
Grp Volume(v), veh/h	25	0	0	66	0	20	34	388	392	438	325	327
Grp Sat Flow(s),veh/h/ln	1805	0	1583	1800	0	1544	1774	1770	1780	1774	1770	1776
Q Serve(g_s), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Cycle Q Clear(g_c), s	0.8	0.0	0.0	2.2	0.0	0.7	1.2	12.2	12.2	14.7	6.2	6.3
Prop In Lane	0.64		1.00	0.70		1.00	1.00		0.23	1.00		0.27
Lane Grp Cap(c), veh/h	142	0	125	197	0	169	104	572	576	534	1001	1005
V/C Ratio(X)	0.18	0.00	0.00	0.34	0.00	0.12	0.33	0.68	0.68	0.82	0.32	0.33
Avail Cap(c_a), veh/h	720	0	631	718	0	616	183	769	774	810	1395	1400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.5	0.0	0.0	26.3	0.0	25.7	28.9	18.8	18.8	20.7	7.4	7.4
Incr Delay (d2), s/veh	0.6	0.0	0.0	1.0	0.0	0.3	1.8	1.5	1.5	4.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.1	0.0	0.3	0.6	6.2	6.2	7.8	3.0	3.1
LnGrp Delay(d),s/veh	28.1	0.0	0.0	27.3	0.0	26.0	30.7	20.2	20.3	24.8	7.6	7.6
LnGrp LOS	C			C		C	C	C	C	C	A	A
Approach Vol, veh/h	25			86			814			1090		
Approach Delay, s/veh	28.1			27.0			20.7			14.5		
Approach LOS	C			C			C			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	23.3	23.7		10.0	6.8	39.2		8.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	27.3	26.3		24.0	5.1	48.9		24.0				
Max Q Clear Time (g_c+11g), s	14.2	14.2		4.2	3.2	8.3		2.8				
Green Ext Time (p_c), s	1.1	3.9		0.3	0.0	4.6		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	17.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020

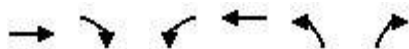


Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations	↰↱	↑↑	↑↱		↰↱	↰↱		
Traffic Volume (veh/h)	332	573	795	49	22	145		
Future Volume (veh/h)	332	573	795	49	22	145		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	332	573	795	49	22	19		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	738	2705	1553	96	148	233		
Arrive On Green	0.21	0.76	0.46	0.46	0.08	0.08		
Sat Flow, veh/h	3442	3632	3480	209	1774	2787		
Grp Volume(v), veh/h	332	573	415	429	22	19		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1826	1774	1393		
Q Serve(g_s), s	2.8	1.5	5.5	5.5	0.4	0.2		
Cycle Q Clear(g_c), s	2.8	1.5	5.5	5.5	0.4	0.2		
Prop In Lane	1.00			0.11	1.00	1.00		
Lane Grp Cap(c), veh/h	738	2705	811	837	148	233		
V/C Ratio(X)	0.45	0.21	0.51	0.51	0.15	0.08		
Avail Cap(c_a), veh/h	2513	7159	2126	2194	998	1568		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	1.1	6.3	6.3	14.0	13.9		
Incr Delay (d2), s/veh	0.4	0.0	0.5	0.5	0.5	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.7	2.7	2.7	0.2	0.2		
LnGrp Delay(d),s/veh	11.7	1.1	6.8	6.8	14.4	14.0		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		905	844		41			
Approach Delay, s/veh		5.0	6.8		14.3			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				27.6		5.2	10.1	17.6
Change Period (Y+Rc), s				4.0		4.0	4.5	4.0
Max Green Setting (Gmax), s				65.0		17.0	22.5	38.0
Max Q Clear Time (g_c+I1), s				3.5		2.4	4.8	7.5
Green Ext Time (p_c), s				4.5		0.1	1.1	6.1
Intersection Summary								
HCM 2010 Ctrl Delay			6.1					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	966	180	45	726	232	173		
Future Volume (veh/h)	966	180	45	726	232	173		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	966	180	45	726	232	46		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1530	285	142	2342	368	329		
Arrive On Green	0.52	0.52	0.08	0.66	0.21	0.21		
Sat Flow, veh/h	3058	552	1774	3632	1774	1583		
Grp Volume(v), veh/h	576	570	45	726	232	46		
Grp Sat Flow(s),veh/h/ln	1770	1748	1774	1770	1774	1583		
Q Serve(g_s), s	10.7	10.7	1.1	4.0	5.5	1.1		
Cycle Q Clear(g_c), s	10.7	10.7	1.1	4.0	5.5	1.1		
Prop In Lane		0.32	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	913	902	142	2342	368	329		
V/C Ratio(X)	0.63	0.63	0.32	0.31	0.63	0.14		
Avail Cap(c_a), veh/h	1698	1677	271	4168	1161	1036		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	8.0	8.0	19.9	3.3	16.6	14.8		
Incr Delay (d2), s/veh	0.7	0.7	1.3	0.1	1.8	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.3	5.3	0.6	1.9	2.8	0.5		
LnGrp Delay(d),s/veh	8.7	8.7	21.2	3.4	18.3	15.0		
LnGrp LOS	A	A	C	A	B	B		
Approach Vol, veh/h	1146			771	278			
Approach Delay, s/veh	8.7			4.4	17.8			
Approach LOS	A			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.5	6.7	26.7				33.3
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		28.5	5.5	42.5				52.5
Max Q Clear Time (g_c+I1), s		7.5	3.1	12.7				6.0
Green Ext Time (p_c), s		0.8	0.0	9.4				6.0
Intersection Summary								
HCM 2010 Ctrl Delay			8.3					
HCM 2010 LOS			A					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave/Ellsworth Ave & 4th Ave

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EBT			WBT			NBT			SBT	
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-54020		0	0-55882		0	0-55882		0	0-55882		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	148300	627968		0	780529	66400		0	780529	66400		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	259526	12515840		1365926	8972544		1365926	8972544		1365926	8972544	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		16.0		16.0		16.0		16.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 21.4

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	64	318	94	30	359	30	91	92	29	14	65	51
Future Vol, veh/h	64	318	94	30	359	30	91	92	29	14	65	51
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	64	318	94	30	359	30	91	92	29	14	65	51
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	26.3	22	14.6	12.4
HCM LOS	D	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	43%	13%	7%	11%
Vol Thru, %	43%	67%	86%	50%
Vol Right, %	14%	20%	7%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	212	476	419	130
LT Vol	91	64	30	14
Through Vol	92	318	359	65
RT Vol	29	94	30	51
Lane Flow Rate	212	476	419	130
Geometry Grp	1	1	1	1
Degree of Util (X)	0.406	0.775	0.7	0.252
Departure Headway (Hd)	6.891	5.859	6.012	6.965
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	522	614	599	514
Service Time	4.958	3.913	4.068	5.041
HCM Lane V/C Ratio	0.406	0.775	0.699	0.253
HCM Control Delay	14.6	26.3	22	12.4
HCM Lane LOS	B	D	C	B
HCM 95th-tile Q	2	7.3	5.6	1

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	1087	12	0	0	0	0	78	121	243	183	0
Future Volume (veh/h)	19	1087	12	0	0	0	0	78	121	243	183	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900				0	1569	1900	1900	1422	0
Adj Flow Rate, veh/h	19	1087	12				0	78	121	243	183	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	22	1318	15				0	201	312	253	133	0
Arrive On Green	0.53	0.53	0.53				0.00	0.37	0.37	0.37	0.37	0.00
Sat Flow, veh/h	41	2471	29				0	548	850	433	364	0
Grp Volume(v), veh/h	586	0	532				0	0	199	426	0	0
Grp Sat Flow(s),veh/h/ln	1272	0	1268				0	0	1398	797	0	0
Q Serve(g_s), s	23.9	0.0	20.2				0.0	0.0	6.3	15.7	0.0	0.0
Cycle Q Clear(g_c), s	23.9	0.0	20.2				0.0	0.0	6.3	22.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.61	0.57		0.00
Lane Grp Cap(c), veh/h	679	0	676				0	0	513	387	0	0
V/C Ratio(X)	0.86	0.00	0.79				0.00	0.00	0.39	1.10	0.00	0.00
Avail Cap(c_a), veh/h	679	0	676				0	0	513	387	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	0.0	11.3				0.0	0.0	14.0	23.6	0.0	0.0
Incr Delay (d2), s/veh	13.8	0.0	9.0				0.0	0.0	0.5	76.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	8.6				0.0	0.0	2.5	14.5	0.0	0.0
LnGrp Delay(d),s/veh	25.9	0.0	20.2				0.0	0.0	14.5	99.7	0.0	0.0
LnGrp LOS	C		C						B	F		
Approach Vol, veh/h	1118						199			426		
Approach Delay, s/veh	23.2						14.5			99.7		
Approach LOS	C						B			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6							
Phs Duration (G+Y+Rc), s	25.0		35.0		25.0							
Change Period (Y+Rc), s	4.5		4.5		4.5							
Max Green Setting (Gmax), s	20.5		30.5		20.5							
Max Q Clear Time (g_c+I1), s	8.3		25.9		24.0							
Green Ext Time (p_c), s	0.9		2.8		0.0							
Intersection Summary												
HCM 2010 Ctrl Delay	40.9											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	383	11	157	383	97	10	161	256	114	118	38
Future Volume (veh/h)	36	383	11	157	383	97	10	161	256	114	118	38
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	0.99		0.95	0.98		0.96	0.99		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	36	383	11	157	383	97	10	161	256	114	118	38
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	644	18	559	595	151	633	269	428	406	572	184
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	70	1537	42	979	1420	360	1205	632	1005	958	1343	432
Grp Volume(v), veh/h	430	0	0	157	0	480	10	0	417	114	0	156
Grp Sat Flow(s),veh/h/ln	1649	0	0	979	0	1779	1205	0	1637	958	0	1775
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	8.3	0.2	0.0	7.6	4.0	0.0	2.1
Cycle Q Clear(g_c), s	8.7	0.0	0.0	5.4	0.0	8.3	2.3	0.0	7.6	11.6	0.0	2.1
Prop In Lane	0.08		0.03	1.00		0.20	1.00		0.61	1.00		0.24
Lane Grp Cap(c), veh/h	792	0	0	559	0	746	633	0	697	406	0	756
V/C Ratio(X)	0.54	0.00	0.00	0.28	0.00	0.64	0.02	0.00	0.60	0.28	0.00	0.21
Avail Cap(c_a), veh/h	1487	0	0	959	0	1473	961	0	1143	667	0	1239
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	8.1	0.0	8.9	7.7	0.0	8.6	13.0	0.0	7.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.3	0.0	0.9	0.0	0.0	0.8	0.4	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	1.2	0.0	4.2	0.1	0.0	3.5	1.1	0.0	1.1
LnGrp Delay(d),s/veh	9.1	0.0	0.0	8.4	0.0	9.9	7.7	0.0	9.4	13.4	0.0	7.1
LnGrp LOS	A			A		A	A		A	B		A
Approach Vol, veh/h	430				637				427		270	
Approach Delay, s/veh	9.1				9.5				9.3		9.8	
Approach LOS	A				A				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	19.5		19.2		19.5		19.2					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		30.5		25.5		30.5					
Max Q Clear Time (g_c+I1), s	9.6		10.7		13.6		10.3					
Green Ext Time (p_c), s	2.7		2.9		1.1		4.1					
Intersection Summary												
HCM 2010 Ctrl Delay			9.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Future Volume (veh/h)	0	0	0	400	0	670	0	1431	192	0	1702	488
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				400	0	670	0	1431	120	0	1702	442
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1009	0	817	0	3290	1022	0	2611	666
Arrive On Green				0.29	0.00	0.29	0.00	0.65	0.65	0.00	0.65	0.65
Sat Flow, veh/h				3442	0	2787	0	5253	1580	0	4204	1029
Grp Volume(v), veh/h				400	0	670	0	1431	120	0	1424	720
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1580	0	1695	1676
Q Serve(g_s), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Cycle Q Clear(g_c), s				9.3	0.0	22.4	0.0	13.8	2.9	0.0	25.6	26.6
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.61
Lane Grp Cap(c), veh/h				1009	0	817	0	3290	1022	0	2193	1084
V/C Ratio(X)				0.40	0.00	0.82	0.00	0.44	0.12	0.00	0.65	0.66
Avail Cap(c_a), veh/h				1239	0	1003	0	3290	1022	0	2193	1084
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.87	0.87	0.00	0.66	0.66
Uniform Delay (d), s/veh				28.3	0.0	32.9	0.0	8.7	6.7	0.0	10.8	10.9
Incr Delay (d2), s/veh				0.3	0.0	4.6	0.0	0.4	0.2	0.0	1.0	2.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.4	0.0	9.1	0.0	6.5	1.3	0.0	12.2	12.8
LnGrp Delay(d),s/veh				28.5	0.0	37.5	0.0	9.0	7.0	0.0	11.7	13.1
LnGrp LOS				C		D		A	A		B	B
Approach Vol, veh/h					1070			1551			2144	
Approach Delay, s/veh					34.1			8.9			12.2	
Approach LOS					C			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		67.7				67.7		32.3				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		56.5				56.5		34.5				
Max Q Clear Time (g_c+I1), s		15.8				28.6		24.4				
Green Ext Time (p_c), s		14.8				19.3		3.4				
Intersection Summary												
HCM 2010 Ctrl Delay				16.0								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Future Volume (veh/h)	404	0	210	0	0	0	0	1227	411	0	1327	784
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	404	0	210				0	1227	411	0	1327	599
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	545	0	442				0	2966	992	0	4002	1241
Arrive On Green	0.16	0.00	0.16				0.00	0.79	0.79	0.00	0.79	0.79
Sat Flow, veh/h	3442	0	2787				0	3936	1260	0	5253	1577
Grp Volume(v), veh/h	404	0	210				0	1104	534	0	1327	599
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1638	0	1695	1577
Q Serve(g_s), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Cycle Q Clear(g_c), s	12.3	0.0	7.5				0.0	11.3	11.3	0.0	8.3	14.3
Prop In Lane	1.00		1.00				0.00		0.77	0.00		1.00
Lane Grp Cap(c), veh/h	545	0	442				0	2668	1289	0	4002	1241
V/C Ratio(X)	0.74	0.00	0.48				0.00	0.41	0.41	0.00	0.33	0.48
Avail Cap(c_a), veh/h	751	0	608				0	2668	1289	0	4002	1241
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.71	0.71	0.00	0.70	0.70
Uniform Delay (d), s/veh	44.1	0.0	42.1				0.0	3.7	3.7	0.0	3.4	4.0
Incr Delay (d2), s/veh	2.5	0.0	0.8				0.0	0.3	0.7	0.0	0.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	3.0				0.0	5.3	5.3	0.0	3.9	22.4
LnGrp Delay(d),s/veh	46.7	0.0	42.9				0.0	4.0	4.4	0.0	3.5	5.0
LnGrp LOS	D		D					A	A		A	A
Approach Vol, veh/h		614						1638			1926	
Approach Delay, s/veh		45.4						4.2			4.0	
Approach LOS		D						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		89.6		20.4		89.6						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		78.5		22.5		78.5						
Max Q Clear Time (g_c+I1), s		13.3		14.3		16.3						
Green Ext Time (p_c), s		18.9		1.6		19.5						
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

Intersection

Int Delay, s/veh 1.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	50	20	420	65	13	400
Future Vol, veh/h	50	20	420	65	13	400
Conflicting Peds, #/hr	1	0	0	9	9	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	20	420	65	13	400

Major/Minor	Minor1	Major1	Major2
Conflicting Flow All	889	462	0
Stage 1	462	-	-
Stage 2	427	-	-
Critical Hdwy	6.42	6.22	-
Critical Hdwy Stg 1	5.42	-	-
Critical Hdwy Stg 2	5.42	-	-
Follow-up Hdwy	3.518	3.318	-
Pot Cap-1 Maneuver	314	600	-
Stage 1	634	-	-
Stage 2	658	-	-
Platoon blocked, %		-	-
Mov Cap-1 Maneuver	306	595	-
Mov Cap-2 Maneuver	306	-	-
Stage 1	628	-	-
Stage 2	647	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.8	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	-	306	595
HCM Lane V/C Ratio	-	-	0.163	0.034
HCM Control Delay (s)	-	-	19	11.3
HCM Lane LOS	-	-	C	B
HCM 95th %tile Q(veh)	-	-	0.6	0.1

Intersection												
Intersection Delay, s/veh	31.2											
Intersection LOS	D											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Future Vol, veh/h	14	38	208	45	28	14	164	457	18	15	418	20
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	14	38	208	45	28	14	164	457	18	15	418	20
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16.9	14	35.3	36.9
HCM LOS	C	B	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	52%	100%	0%
Vol Thru, %	0%	96%	0%	15%	32%	0%	95%
Vol Right, %	0%	4%	0%	85%	16%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	164	475	14	246	87	15	438
LT Vol	164	0	14	0	45	15	0
Through Vol	0	457	0	38	28	0	418
RT Vol	0	18	0	208	14	0	20
Lane Flow Rate	164	475	14	246	87	15	438
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.332	0.891	0.033	0.499	0.209	0.031	0.849
Departure Headway (Hd)	7.292	6.753	8.428	7.304	8.634	7.527	6.982
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	492	537	424	492	414	475	517
Service Time	5.05	4.511	6.188	5.062	6.72	5.286	4.741
HCM Lane V/C Ratio	0.333	0.885	0.033	0.5	0.21	0.032	0.847
HCM Control Delay	13.7	42.7	11.5	17.2	14	10.5	37.8
HCM Lane LOS	B	E	B	C	B	B	E
HCM 95th-tile Q	1.4	10.2	0.1	2.7	0.8	0.1	8.8

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Future Volume (veh/h)	6	1	12	75	0	34	4	519	37	9	692	1
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.94	0.97		0.90	1.00		0.97	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	1	12	75	0	34	4	519	37	9	692	1
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	86	27	131	167	8	58	590	1529	1259	692	1526	2
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.82	0.82	0.82	0.82	0.82	0.82
Sat Flow, veh/h	372	204	987	906	61	439	748	1863	1534	847	1859	3
Grp Volume(v), veh/h	19	0	0	109	0	0	4	519	37	9	0	693
Grp Sat Flow(s),veh/h/ln	1563	0	0	1407	0	0	748	1863	1534	847	0	1862
Q Serve(g_s), s	0.0	0.0	0.0	7.9	0.0	0.0	0.2	9.0	0.6	0.3	0.0	13.8
Cycle Q Clear(g_c), s	1.4	0.0	0.0	9.3	0.0	0.0	14.0	9.0	0.6	9.3	0.0	13.8
Prop In Lane	0.32		0.63	0.69		0.31	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	0	0	234	0	0	590	1529	1259	692	0	1529
V/C Ratio(X)	0.08	0.00	0.00	0.47	0.00	0.00	0.01	0.34	0.03	0.01	0.00	0.45
Avail Cap(c_a), veh/h	362	0	0	348	0	0	590	1529	1259	692	0	1529
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.84	0.84	0.84	1.00	0.00	1.00
Uniform Delay (d), s/veh	49.5	0.0	0.0	52.8	0.0	0.0	5.3	2.9	2.1	4.0	0.0	3.3
Incr Delay (d2), s/veh	0.1	0.0	0.0	1.4	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	3.8	0.0	0.0	0.0	4.7	0.2	0.1	0.0	7.3
LnGrp Delay(d),s/veh	49.6	0.0	0.0	54.2	0.0	0.0	5.3	3.4	2.2	4.1	0.0	4.3
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	19				109				560		702	
Approach Delay, s/veh	49.6				54.2				3.3		4.3	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	109.7		20.3		109.7		20.3					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	94.5		26.5		94.5		26.5					
Max Q Clear Time (g_c+I1), s	16.0		3.4		15.8		11.3					
Green Ext Time (p_c), s	4.1		0.1		6.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay			8.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Future Volume (veh/h)	19	7	4	328	3	94	1	542	285	37	753	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.97	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	19	7	4	328	3	94	1	542	285	37	753	8
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	153	56	32	395	4	344	45	1130	592	95	1712	18
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.52	0.52	0.52	0.52	0.52	0.52
Sat Flow, veh/h	1100	405	232	1759	16	1533	1	2158	1129	88	3267	34
Grp Volume(v), veh/h	30	0	0	331	0	94	468	0	360	402	0	396
Grp Sat Flow(s),veh/h/ln	1737	0	0	1775	0	1533	1862	0	1426	1702	0	1687
Q Serve(g_s), s	1.2	0.0	0.0	14.2	0.0	4.1	0.0	0.0	12.9	0.0	0.0	11.7
Cycle Q Clear(g_c), s	1.2	0.0	0.0	14.2	0.0	4.1	12.8	0.0	12.9	10.5	0.0	11.7
Prop In Lane	0.63		0.13	0.99		1.00	0.00		0.79	0.09		0.02
Lane Grp Cap(c), veh/h	242	0	0	398	0	344	1021	0	747	941	0	884
V/C Ratio(X)	0.12	0.00	0.00	0.83	0.00	0.27	0.46	0.00	0.48	0.43	0.00	0.45
Avail Cap(c_a), veh/h	532	0	0	413	0	356	1021	0	747	941	0	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.83	0.00	0.83	0.82	0.00	0.82
Uniform Delay (d), s/veh	30.2	0.0	0.0	29.6	0.0	25.6	12.1	0.0	12.1	11.6	0.0	11.8
Incr Delay (d2), s/veh	0.2	0.0	0.0	13.1	0.0	0.4	1.2	0.0	1.8	1.2	0.0	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	0.0	0.0	8.4	0.0	1.8	6.9	0.0	5.4	5.7	0.0	5.7
LnGrp Delay(d),s/veh	30.4	0.0	0.0	42.7	0.0	26.1	13.3	0.0	14.0	12.7	0.0	13.2
LnGrp LOS	C			D		C	B		B	B		B
Approach Vol, veh/h	30			425			828			798		
Approach Delay, s/veh	30.4			39.0			13.6			13.0		
Approach LOS	C			D			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	44.9		14.1		44.9		21.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	26.4		23.0		26.4		17.1					
Max Q Clear Time (g_c+I1), s	14.9		3.2		13.7		16.2					
Green Ext Time (p_c), s	4.3		0.1		4.3		0.2					
Intersection Summary												
HCM 2010 Ctrl Delay	18.8											
HCM 2010 LOS	B											

Intersection

Intersection Delay, s/veh 13.9

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Future Vol, veh/h	171	128	1	0	114	223	16	48	0	162	23	270
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	171	128	1	0	114	223	16	48	0	162	23	270
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	17.8	11.8	11.6	13.3
HCM LOS	C	B	B	B

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	25%	57%	0%	0%	88%	0%
Vol Thru, %	75%	43%	100%	0%	12%	0%
Vol Right, %	0%	0%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	64	300	114	223	185	270
LT Vol	16	171	0	0	162	0
Through Vol	48	128	114	0	23	0
RT Vol	0	1	0	223	0	270
Lane Flow Rate	64	300	114	223	185	270
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.133	0.555	0.209	0.365	0.359	0.437
Departure Headway (Hd)	7.475	6.661	6.6	5.886	6.988	5.831
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	483	540	540	607	512	613
Service Time	5.475	4.735	4.377	3.664	4.763	3.605
HCM Lane V/C Ratio	0.133	0.556	0.211	0.367	0.361	0.44
HCM Control Delay	11.6	17.8	11.1	12.1	13.7	13.1
HCM Lane LOS	B	C	B	B	B	B
HCM 95th-tile Q	0.5	3.4	0.8	1.7	1.6	2.2

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Future Volume (veh/h)	18	741	73	88	653	113	57	5	61	34	5	3
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	1.00		0.97	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	18	741	73	88	653	113	57	5	61	34	5	3
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	212	832	82	186	770	133	644	52	613	533	76	38
Arrive On Green	0.50	0.50	0.50	0.50	0.50	0.50	0.40	0.40	0.40	0.40	0.40	0.40
Sat Flow, veh/h	699	1663	164	668	1540	266	1323	130	1533	1061	189	96
Grp Volume(v), veh/h	18	0	814	88	0	766	62	0	61	42	0	0
Grp Sat Flow(s),veh/h/ln	699	0	1827	668	0	1806	1453	0	1533	1347	0	0
Q Serve(g_s), s	1.4	0.0	24.1	5.9	0.0	22.1	0.0	0.0	1.5	0.5	0.0	0.0
Cycle Q Clear(g_c), s	23.5	0.0	24.1	30.0	0.0	22.1	1.3	0.0	1.5	1.8	0.0	0.0
Prop In Lane	1.00		0.09	1.00		0.15	0.92		1.00	0.81		0.07
Lane Grp Cap(c), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
V/C Ratio(X)	0.08	0.00	0.89	0.47	0.00	0.85	0.09	0.00	0.10	0.06	0.00	0.00
Avail Cap(c_a), veh/h	212	0	914	186	0	903	696	0	613	647	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.87	0.00	0.87	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	13.5	27.8	0.0	13.0	11.2	0.0	11.2	11.3	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	10.9	1.6	0.0	6.7	0.3	0.0	0.3	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	14.8	1.5	0.0	12.5	0.7	0.0	0.7	0.5	0.0	0.0
LnGrp Delay(d),s/veh	23.4	0.0	24.5	29.4	0.0	19.8	11.4	0.0	11.6	11.5	0.0	0.0
LnGrp LOS	C		C	C		B	B		B	B		
Approach Vol, veh/h	832				854				123		42	
Approach Delay, s/veh	24.4				20.8				11.5		11.5	
Approach LOS	C				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		33.0		27.0		33.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	22.5		28.5		22.5		28.5					
Max Q Clear Time (g_c+I1), s	3.5		26.1		3.8		32.0					
Green Ext Time (p_c), s	0.4		1.3		0.1		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	21.6											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 8.8

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	153	35	7	0	35	18	8	30	1	8	35	198
Future Vol, veh/h	153	35	7	0	35	18	8	30	1	8	35	198
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	153	35	7	0	35	18	8	30	1	8	35	198
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	7.9	8.1	8.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	21%	78%	0%	3%
Vol Thru, %	77%	18%	66%	15%
Vol Right, %	3%	4%	34%	82%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	39	195	53	241
LT Vol	8	153	0	8
Through Vol	30	35	35	35
RT Vol	1	7	18	198
Lane Flow Rate	39	195	53	241
Geometry Grp	1	1	1	1
Degree of Util (X)	0.052	0.256	0.067	0.274
Departure Headway (Hd)	4.82	4.734	4.574	4.097
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	743	759	782	877
Service Time	2.853	2.766	2.611	2.118
HCM Lane V/C Ratio	0.052	0.257	0.068	0.275
HCM Control Delay	8.1	9.4	7.9	8.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	1	0.2	1.1

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	73	1071	391	16	81	0	0	297	44
Future Volume (veh/h)	0	0	0	73	1071	391	16	81	0	0	297	44
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.98		1.00	1.00		0.96
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	1471	1863	1900	980	0	0	2255	1900
Adj Flow Rate, veh/h				73	1071	236	16	81	0	0	297	44
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				100	1539	866	114	250	0	0	561	83
Arrive On Green				0.57	0.57	0.57	0.29	0.29	0.00	0.00	0.29	0.29
Sat Flow, veh/h				174	2685	1511	71	850	0	0	1907	283
Grp Volume(v), veh/h				612	532	236	97	0	0	0	0	341
Grp Sat Flow(s),veh/h/ln				1462	1397	1511	921	0	0	0	0	2190
Q Serve(g_s), s				13.9	11.9	3.6	0.0	0.0	0.0	0.0	0.0	5.9
Cycle Q Clear(g_c), s				13.9	11.9	3.6	3.5	0.0	0.0	0.0	0.0	5.9
Prop In Lane				0.12		1.00	0.16		0.00	0.00		0.13
Lane Grp Cap(c), veh/h				838	801	866	364	0	0	0	0	644
V/C Ratio(X)				0.73	0.66	0.27	0.27	0.00	0.00	0.00	0.00	0.53
Avail Cap(c_a), veh/h				1163	1111	1202	739	0	0	0	0	1597
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				7.1	6.7	4.9	12.5	0.0	0.0	0.0	0.0	13.4
Incr Delay (d2), s/veh				1.5	1.0	0.2	0.4	0.0	0.0	0.0	0.0	0.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				5.8	4.6	1.5	1.0	0.0	0.0	0.0	0.0	3.6
LnGrp Delay(d),s/veh				8.6	7.6	5.1	12.9	0.0	0.0	0.0	0.0	14.0
LnGrp LOS				A	A	A	B					B
Approach Vol, veh/h				1380			97			341		
Approach Delay, s/veh				7.6			12.9			14.0		
Approach LOS				A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		16.3				16.3		28.9				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		31.5				31.5		34.5				
Max Q Clear Time (g_c+I1), s		5.5				7.9		15.9				
Green Ext Time (p_c), s		0.5				2.2		8.5				
Intersection Summary												
HCM 2010 Ctrl Delay				9.1								
HCM 2010 LOS				A								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

137: Curtiss St/Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Future Volume (veh/h)	10	1058	66	21	912	17	81	9	111	27	7	32
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	10	1058	62	21	912	16	81	9	85	27	7	6
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	67	2249	131	83	2303	40	395	38	329	263	67	41
Arrive On Green	0.68	0.07	0.68	0.68	0.07	0.68	0.22	0.22	0.22	0.22	0.22	0.22
Sat Flow, veh/h	9	3297	192	30	3376	58	1290	175	1509	747	307	186
Grp Volume(v), veh/h	596	0	534	489	0	460	90	0	85	40	0	0
Grp Sat Flow(s),veh/h/ln	1844	0	1654	1782	0	1682	1465	0	1509	1240	0	0
Q Serve(g_s), s	0.0	0.0	17.9	0.0	0.0	15.5	0.0	0.0	2.8	0.2	0.0	0.0
Cycle Q Clear(g_c), s	18.4	0.0	17.9	14.8	0.0	15.5	2.6	0.0	2.8	2.7	0.0	0.0
Prop In Lane	0.02		0.12	0.04		0.03	0.90		1.00	0.67		0.15
Lane Grp Cap(c), veh/h	1319	0	1128	1278	0	1147	433	0	329	371	0	0
V/C Ratio(X)	0.45	0.00	0.47	0.38	0.00	0.40	0.21	0.00	0.26	0.11	0.00	0.00
Avail Cap(c_a), veh/h	1319	0	1128	1278	0	1147	802	0	730	736	0	0
HCM Platoon Ratio	1.00	0.10	1.00	1.00	0.10	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	15.9	15.3	0.0	15.7	19.3	0.0	19.4	18.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.4	0.9	0.0	1.0	0.2	0.0	0.4	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	0.0	8.6	8.0	0.0	7.6	1.3	0.0	1.2	0.6	0.0	0.0
LnGrp Delay(d),s/veh	18.4	0.0	17.3	16.2	0.0	16.8	19.6	0.0	19.9	19.0	0.0	0.0
LnGrp LOS	B		B	B		B	B		B	B		
Approach Vol, veh/h	1130				949				175		40	
Approach Delay, s/veh	17.9				16.5				19.7		19.0	
Approach LOS	B				B				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.9		16.1		43.9		16.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.5		27.5		23.5		27.5					
Max Q Clear Time (g_c+l1), s	20.4		4.7		17.5		4.8					
Green Ext Time (p_c), s	2.0		0.1		3.0		0.7					
Intersection Summary												
HCM 2010 Ctrl Delay	17.5											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	93	25	115	568	40	12	75	18	43	95	25
Future Volume (veh/h)	4	93	25	115	568	40	12	75	18	43	95	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	15	0
Ped-Bike Adj(A_pbT)	0.98		0.96	0.97		0.94	0.98		0.93	0.94		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	4	93	25	115	568	40	12	75	18	43	95	25
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	262	68	310	1288	89	138	595	132	147	237	38
Arrive On Green	0.38	0.38	0.38	0.38	0.38	0.38	0.32	0.32	0.32	0.32	0.32	0.32
Sat Flow, veh/h	10	725	189	539	3577	247	119	1777	392	143	600	135
Grp Volume(v), veh/h	122	0	0	373	0	350	105	0	0	163	0	0
Grp Sat Flow(s),veh/h/ln	924	0	0	2196	0	2167	2289	0	0	877	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.9	0.0	4.7	0.0	0.0	0.0	1.3	0.0	0.0
Cycle Q Clear(g_c), s	3.7	0.0	0.0	4.6	0.0	4.7	1.3	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.03		0.20	0.31		0.11	0.11		0.17	0.26		0.15
Lane Grp Cap(c), veh/h	423	0	0	904	0	783	864	0	0	422	0	0
V/C Ratio(X)	0.29	0.00	0.00	0.41	0.00	0.45	0.12	0.00	0.00	0.39	0.00	0.00
Avail Cap(c_a), veh/h	816	0	0	1826	0	1716	2224	0	0	920	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	10.4	0.0	0.0	10.8	0.0	10.8	9.2	0.0	0.0	11.8	0.0	0.0
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.3	0.0	0.4	0.1	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	14.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	3.4	0.0	3.3	0.8	0.0	0.0	4.6	0.0	0.0
LnGrp Delay(d),s/veh	10.8	0.0	0.0	11.1	0.0	11.2	9.3	0.0	0.0	27.2	0.0	0.0
LnGrp LOS	B			B		B	A			C		
Approach Vol, veh/h	122				723		105				163	
Approach Delay, s/veh	10.8				11.1		9.3				27.2	
Approach LOS	B				B		A				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	18.4		20.7		18.4		20.7					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	3.3		5.7		7.7		6.7					
Green Ext Time (p_c), s	0.6		0.7		1.0		5.1					
Intersection Summary												
HCM 2010 Ctrl Delay			13.3									
HCM 2010 LOS			B									

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	79	164	102	168	113	62	61	1652	152	70	1682	39
Future Volume (veh/h)	79	164	102	168	113	62	61	1652	152	70	1682	39
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.94	0.98		0.93	1.00		0.93	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1176	1863	1900	1275	1863	1900	1176	1765	1900	1471	1863	1900
Adj Flow Rate, veh/h	79	164	102	168	113	62	61	1652	152	70	1682	39
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	235	308	191	199	324	178	122	2378	218	105	2551	59
Arrive On Green	0.29	0.29	0.29	0.29	0.29	0.29	0.11	0.53	0.53	0.08	0.50	0.50
Sat Flow, veh/h	735	1048	652	741	1102	604	1120	4460	409	1401	5106	118
Grp Volume(v), veh/h	79	0	266	168	0	175	61	1189	615	70	1117	604
Grp Sat Flow(s),veh/h/ln	735	0	1699	741	0	1706	1120	1606	1657	1401	1695	1835
Q Serve(g_s), s	8.7	0.0	12.0	15.0	0.0	7.4	4.7	25.2	25.3	4.5	22.6	22.6
Cycle Q Clear(g_c), s	16.1	0.0	12.0	27.0	0.0	7.4	4.7	25.2	25.3	4.5	22.6	22.6
Prop In Lane	1.00		0.38	1.00		0.35	1.00		0.25	1.00		0.06
Lane Grp Cap(c), veh/h	235	0	499	199	0	501	122	1712	884	105	1693	916
V/C Ratio(X)	0.34	0.00	0.53	0.84	0.00	0.35	0.50	0.69	0.70	0.67	0.66	0.66
Avail Cap(c_a), veh/h	235	0	499	199	0	501	122	1712	884	152	1808	978
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.9	0.0	27.2	40.6	0.0	25.5	38.6	15.9	15.9	41.4	17.2	17.2
Incr Delay (d2), s/veh	0.8	0.0	1.1	26.9	0.0	0.4	13.9	2.3	4.5	7.0	0.8	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.0	5.8	5.7	0.0	3.6	1.9	11.6	12.6	1.9	10.7	11.8
LnGrp Delay(d),s/veh	32.7	0.0	28.3	67.5	0.0	26.0	52.5	18.2	20.5	48.4	18.0	18.7
LnGrp LOS	C		C	E		C	D	B	C	D	B	B
Approach Vol, veh/h	345				343		1865				1791	
Approach Delay, s/veh	29.3				46.3		20.1				19.4	
Approach LOS	C				D		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	9.9	52.0			30.0	13.0	48.9	30.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	8.5	47.5			25.5	8.5	47.5	25.5				
Max Q Clear Time (g_c+I10), s	16.5	27.3			18.1	6.7	24.6	29.0				
Green Ext Time (p_c), s	0.0	12.8			1.3	0.0	13.1	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			22.6									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	526	18	14	82	14	2	96	85	52	125	4
Future Volume (veh/h)	7	526	18	14	82	14	2	96	85	52	125	4
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.95	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	1863	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	7	526	18	14	82	14	2	96	85	52	125	4
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	50	1052	36	134	750	121	46	125	109	99	156	4
Arrive On Green	0.59	0.59	0.59	0.59	0.59	0.59	0.26	0.26	0.26	0.26	0.26	0.26
Sat Flow, veh/h	6	1791	61	142	1276	207	3	478	417	156	594	17
Grp Volume(v), veh/h	290	0	261	110	0	0	183	0	0	181	0	0
Grp Sat Flow(s),veh/h/ln	978	0	880	1625	0	0	897	0	0	766	0	0
Q Serve(g_s), s	0.0	0.0	13.9	0.1	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0
Cycle Q Clear(g_c), s	13.9	0.0	13.9	14.0	0.0	0.0	15.4	0.0	0.0	18.6	0.0	0.0
Prop In Lane	0.02		0.07	0.13		0.13	0.01		0.46	0.29		0.02
Lane Grp Cap(c), veh/h	620	0	517	1005	0	0	281	0	0	259	0	0
V/C Ratio(X)	0.47	0.00	0.50	0.11	0.00	0.00	0.65	0.00	0.00	0.70	0.00	0.00
Avail Cap(c_a), veh/h	620	0	517	1005	0	0	281	0	0	259	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.00	0.87	1.00	0.00	0.00	1.00	0.00	0.00	0.86	0.00	0.00
Uniform Delay (d), s/veh	9.7	0.0	9.7	7.2	0.0	0.0	27.4	0.0	0.0	28.2	0.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	3.1	0.0	0.0	0.0	11.2	0.0	0.0	12.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln4.1	0.0	0.0	3.8	1.1	0.0	0.0	4.6	0.0	0.0	4.8	0.0	0.0
LnGrp Delay(d),s/veh	11.9	0.0	12.7	7.3	0.0	0.0	38.6	0.0	0.0	40.8	0.0	0.0
LnGrp LOS	B		B	A			D			D		
Approach Vol, veh/h	551				110		183				181	
Approach Delay, s/veh	12.3				7.3		38.6				40.8	
Approach LOS	B				A		D				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	27.0		53.0		27.0		53.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	19.5		45.5		19.5		45.5					
Max Q Clear Time (g_c+I1), s	17.4		15.9		20.6		16.0					
Green Ext Time (p_c), s	0.2		3.8		0.0		0.6					
Intersection Summary												
HCM 2010 Ctrl Delay			21.5									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 17.6

Intersection LOS C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	234	47	99	344	14	32	88	38	6	109	46
Future Vol, veh/h	80	234	47	99	344	14	32	88	38	6	109	46
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	80	234	47	99	344	14	32	88	38	6	109	46
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	16.6	22.2	12.3	12.2
HCM LOS	C	C	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	22%	22%	4%
Vol Thru, %	56%	65%	75%	68%
Vol Right, %	24%	13%	3%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	158	361	457	161
LT Vol	32	80	99	6
Through Vol	88	234	344	109
RT Vol	38	47	14	46
Lane Flow Rate	158	361	457	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.288	0.582	0.724	0.291
Departure Headway (Hd)	6.567	5.805	5.701	6.5
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	547	625	635	552
Service Time	4.623	3.821	3.715	4.556
HCM Lane V/C Ratio	0.289	0.578	0.72	0.292
HCM Control Delay	12.3	16.6	22.2	12.2
HCM Lane LOS	B	C	C	B
HCM 95th-tile Q	1.2	3.7	6.1	1.2

Intersection

Intersection Delay, s/veh 11.2

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	134	38	3	2	16	61	15	218	7	31	220	94
Future Vol, veh/h	134	38	3	2	16	61	15	218	7	31	220	94
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	134	38	3	2	16	61	15	218	7	31	220	94
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	9	10.8	12.1
HCM LOS	B	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	6%	77%	3%	9%
Vol Thru, %	91%	22%	20%	64%
Vol Right, %	3%	2%	77%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	240	175	79	345
LT Vol	15	134	2	31
Through Vol	218	38	16	220
RT Vol	7	3	61	94
Lane Flow Rate	240	175	79	345
Geometry Grp	1	1	1	1
Degree of Util (X)	0.342	0.276	0.116	0.468
Departure Headway (Hd)	5.129	5.676	5.273	4.887
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	701	634	679	742
Service Time	3.16	3.712	3.315	2.887
HCM Lane V/C Ratio	0.342	0.276	0.116	0.465
HCM Control Delay	10.8	10.9	9	12.1
HCM Lane LOS	B	B	A	B
HCM 95th-tile Q	1.5	1.1	0.4	2.5

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Future Vol, veh/h	16	3	3	0	7	40	11	395	0	15	167	38
Conflicting Peds, #/hr	12	0	8	8	0	12	9	0	14	14	0	9
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	3	3	0	7	40	11	395	0	15	167	38
Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	460	656	203	658	675	224	214	0	0	409	0	0
Stage 1	225	225	-	431	431	-	-	-	-	-	-	-
Stage 2	235	431	-	227	244	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	498	384	837	363	375	780	1355	-	-	1148	-	-
Stage 1	777	717	-	574	582	-	-	-	-	-	-	-
Stage 2	748	582	-	775	703	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	447	366	824	345	358	761	1343	-	-	1133	-	-
Mov Cap-2 Maneuver	447	366	-	345	358	-	-	-	-	-	-	-
Stage 1	763	700	-	561	569	-	-	-	-	-	-	-
Stage 2	685	569	-	752	686	-	-	-	-	-	-	-
Approach	EB		WB		NB		SB					
HCM Control Delay, s	13.2		11		0.2		0.6					
HCM LOS	B		B									
Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR					
Capacity (veh/h)	1343	-	-	462	652	1133	-	-				
HCM Lane V/C Ratio	0.008	-	-	0.048	0.072	0.013	-	-				
HCM Control Delay (s)	7.7	0	-	13.2	11	8.2	0	-				
HCM Lane LOS	A	A	-	B	B	A	A	-				
HCM 95th %tile Q(veh)	0	-	-	0.1	0.2	0	-	-				

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	178	94	1716	129	138	1732		
Future Volume (veh/h)	178	94	1716	129	138	1732		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.98	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	178	19	1716	129	138	1732		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	294	263	2509	188	232	3623		
Arrive On Green	0.17	0.17	0.52	0.52	0.13	0.71		
Sat Flow, veh/h	1774	1583	4986	361	1774	5253		
Grp Volume(v), veh/h	178	19	1206	639	138	1732		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1789	1774	1695		
Q Serve(g_s), s	4.6	0.5	13.1	13.1	3.6	7.3		
Cycle Q Clear(g_c), s	4.6	0.5	13.1	13.1	3.6	7.3		
Prop In Lane	1.00	1.00		0.20	1.00			
Lane Grp Cap(c), veh/h	294	263	1765	932	232	3623		
V/C Ratio(X)	0.61	0.07	0.68	0.69	0.59	0.48		
Avail Cap(c_a), veh/h	1260	1124	1994	1053	612	5055		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.1	17.4	8.8	8.8	20.2	3.1		
Incr Delay (d2), s/veh	2.0	0.1	0.8	1.6	2.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.2	6.2	6.8	1.9	3.4		
LnGrp Delay(d),s/veh	21.1	17.5	9.6	10.4	22.6	3.2		
LnGrp LOS	C	B	A	B	C	A		
Approach Vol, veh/h	197		1845			1870		
Approach Delay, s/veh	20.7		9.9			4.6		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.5	28.7				38.1		11.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	27.5				47.5		33.5
Max Q Clear Time (g_c+I1), s	5.6	15.1				9.3		6.6
Green Ext Time (p_c), s	0.2	9.1				18.2		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			7.9					
HCM 2010 LOS			A					

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	40	345	316	11	23	70
Future Vol, veh/h	40	345	316	11	23	70
Conflicting Peds, #/hr	32	0	0	21	21	32
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	345	316	11	23	70
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	359	0	-	0	800	386
Stage 1	-	-	-	-	354	-
Stage 2	-	-	-	-	446	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1200	-	-	-	354	662
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	645	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1163	-	-	-	319	622
Mov Cap-2 Maneuver	-	-	-	-	319	-
Stage 1	-	-	-	-	659	-
Stage 2	-	-	-	-	626	-
Approach	EB	WB		SB		
HCM Control Delay, s	0.9	0		13.8		
HCM LOS				B		
Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	
Capacity (veh/h)	1163	-	-	-	504	
HCM Lane V/C Ratio	0.034	-	-	-	0.185	
HCM Control Delay (s)	8.2	0	-	-	13.8	
HCM Lane LOS	A	A	-	-	B	
HCM 95th %tile Q(veh)	0.1	-	-	-	0.7	

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9.4

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	100	2	4	149	29	12	87	6	17	97	74
Future Vol, veh/h	75	100	2	4	149	29	12	87	6	17	97	74
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	75	100	2	4	149	29	12	87	6	17	97	74
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	9.4	9	9.3
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	42%	2%	9%
Vol Thru, %	83%	56%	82%	52%
Vol Right, %	6%	1%	16%	39%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	105	177	182	188
LT Vol	12	75	4	17
Through Vol	87	100	149	97
RT Vol	6	2	29	74
Lane Flow Rate	105	177	182	188
Geometry Grp	1	1	1	1
Degree of Util (X)	0.147	0.243	0.241	0.246
Departure Headway (Hd)	5.03	4.945	4.776	4.72
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	708	722	746	756
Service Time	3.102	3.009	2.84	2.784
HCM Lane V/C Ratio	0.148	0.245	0.244	0.249
HCM Control Delay	9	9.6	9.4	9.3
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.5	0.9	0.9	1

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection																
Int Delay, s/veh	0															
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR		
Lane Configurations		↑↑			↑↑	↔								↔		
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop		
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-		
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80		
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-		
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-		
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100		
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Major/Minor	Major1			Major2			Minor2									
Conflicting Flow All	-	0	-	0	0	0									-	23
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Critical Hdwy	-	-	-	4.13	-	-									-	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-									-	-
Critical Hdwy Stg 2	-	-	-	-	-	-									-	-
Follow-up Hdwy	-	-	-	2.219	-	-									-	3.319
Pot Cap-1 Maneuver	0	-	0	-	-	-									0	1053
Stage 1	0	-	0	-	-	-									0	-
Stage 2	0	-	0	-	-	-									0	-
Platoon blocked, %		-			-	-										
Mov Cap-1 Maneuver	-	-	-	-	-	-									-	1053
Mov Cap-2 Maneuver	-	-	-	-	-	-									-	-
Stage 1	-	-	-	-	-	-									-	-
Stage 2	-	-	-	-	-	-									-	-
Approach	EB			WB			SW									
HCM Control Delay, s	0			0			0									
HCM LOS							A									
Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2												
Capacity (veh/h)	-	-	-	-	-	-										
HCM Lane V/C Ratio	-	-	-	-	-	-										
HCM Control Delay (s)	-	0	-	-	0	0										
HCM Lane LOS	-	A	-	-	A	A										
HCM 95th %tile Q(veh)	-	-	-	-	-	-										

HCM 2010 Research does not support Non-NEMA phasing.

Intersection

Intersection Delay, s/veh 10.1

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Future Vol, veh/h	2	4	142	76	49	2	68	158	39	1	206	18
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	4	142	76	49	2	68	158	39	1	206	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9	9.8	10.7	10.2
HCM LOS	A	A	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	26%	1%	60%	0%
Vol Thru, %	60%	3%	39%	92%
Vol Right, %	15%	96%	2%	8%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	148	127	225
LT Vol	68	2	76	1
Through Vol	158	4	49	206
RT Vol	39	142	2	18
Lane Flow Rate	265	148	127	225
Geometry Grp	1	1	1	1
Degree of Util (X)	0.358	0.194	0.191	0.306
Departure Headway (Hd)	4.86	4.719	5.411	4.901
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	731	750	655	725
Service Time	2.943	2.814	3.51	2.987
HCM Lane V/C Ratio	0.363	0.197	0.194	0.31
HCM Control Delay	10.7	9	9.8	10.2
HCM Lane LOS	B	A	A	B
HCM 95th-tile Q	1.6	0.7	0.7	1.3

HCM Signalized Intersection Capacity Analysis

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (vph)	32	784	568	68	592	11	327	24	17	11	47	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.95	0.95	1.00		1.00	
Frpb, ped/bikes	1.00	1.00	0.99	1.00	1.00		1.00	1.00	0.98		0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00		1.00	1.00	0.85		0.95	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.99	
Satd. Flow (prot)	1770	3539	1563	1770	3528		1681	1696	1556		1750	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.96	1.00		0.93	
Satd. Flow (perm)	1770	3539	1563	1770	3528		1681	1696	1556		1629	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	784	568	68	592	11	327	24	17	11	47	29
RTOR Reduction (vph)	0	0	318	0	0	0	0	0	13	0	0	0
Lane Group Flow (vph)	32	784	250	68	603	0	173	178	4	0	87	0
Confl. Peds. (#/hr)			1			11			7	6		5
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Perm	NA	
Protected Phases	7	4		3	8		2	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)	1.6	29.5	29.5	4.6	32.5		13.7	13.7	13.7		4.6	
Effective Green, g (s)	3.1	31.0	31.0	6.1	34.0		15.2	15.2	15.2		6.1	
Actuated g/C Ratio	0.04	0.44	0.44	0.09	0.48		0.22	0.22	0.22		0.09	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	77	1558	688	153	1703		362	366	335		141	
v/s Ratio Prot	0.02	c0.22		c0.04	c0.17		0.10	c0.10				
v/s Ratio Perm			0.16						0.00		c0.05	
v/c Ratio	0.42	0.50	0.36	0.44	0.35		0.48	0.49	0.01		0.62	
Uniform Delay, d1	32.8	14.2	13.1	30.5	11.4		24.1	24.2	21.7		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	3.6	0.3	0.3	2.1	0.1		1.0	1.0	0.0		7.8	
Delay (s)	36.4	14.4	13.5	32.6	11.5		25.1	25.2	21.7		38.8	
Level of Service	D	B	B	C	B		C	C	C		D	
Approach Delay (s)		14.5			13.6			25.0			38.8	
Approach LOS		B			B			C			D	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			70.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			54.5%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (vph)	63	561	507	464	342	7	129	12	48	12	222	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	0.91	0.91	0.97	0.95			0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99	0.98	1.00	1.00			1.00		1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Frt	1.00	0.96	0.85	1.00	1.00			0.96		1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (prot)	1770	3250	1407	3433	3527			3277		1770	3430	
Flt Permitted	0.95	1.00	1.00	0.95	1.00			0.97		0.95	1.00	
Satd. Flow (perm)	1770	3250	1407	3433	3527			3277		1770	3430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	561	507	464	342	7	129	12	48	12	222	49
RTOR Reduction (vph)	0	18	214	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	63	720	116	464	349	0	0	189	0	12	271	0
Confl. Peds. (#/hr)			10			8			8			10
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									
Actuated Green, G (s)	7.3	30.4	30.4	18.3	41.4			11.1		13.1	13.1	
Effective Green, g (s)	8.8	31.9	31.9	19.8	42.9			12.6		14.6	14.6	
Actuated g/C Ratio	0.10	0.35	0.35	0.22	0.47			0.14		0.16	0.16	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5			4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)	171	1140	493	747	1664			454		284	550	
v/s Ratio Prot	0.04	c0.22		c0.14	0.10			c0.06		0.01	c0.08	
v/s Ratio Perm			0.08									
v/c Ratio	0.37	0.63	0.23	0.62	0.21			0.42		0.04	0.49	
Uniform Delay, d1	38.4	24.6	20.9	32.2	14.1			35.8		32.2	34.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00		1.00	1.00	
Incremental Delay, d2	1.3	1.2	0.2	1.6	0.1			0.6		0.1	0.7	
Delay (s)	39.8	25.8	21.1	33.8	14.1			36.4		32.3	35.5	
Level of Service	D	C	C	C	B			D		C	D	
Approach Delay (s)		25.2			25.3			36.4			35.3	
Approach LOS		C			C			D			D	
Intersection Summary												
HCM 2000 Control Delay			27.3			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			90.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (vph)	104	530	655	239	293	16	160	116	456	70	447	131
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95	1.00	0.97	0.95		1.00	0.91	0.91	1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	1.00		1.00	0.98	0.97	1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.90	0.85	1.00	0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3539	1541	3433	3506		1770	2990	1396	1770	3398	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	530	655	239	293	16	160	116	456	70	447	131
RTOR Reduction (vph)	0	0	271	0	0	0	0	154	154	0	22	0
Lane Group Flow (vph)	104	530	384	239	309	0	160	190	74	70	556	0
Confl. Peds. (#/hr)			14			23			21			16
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA	Perm	Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4						2			
Actuated Green, G (s)	11.4	29.7	29.7	12.5	30.8		14.6	30.3	30.3	7.9	23.6	
Effective Green, g (s)	12.9	31.2	31.2	14.0	32.3		16.1	31.8	31.8	9.4	25.1	
Actuated g/C Ratio	0.13	0.32	0.32	0.14	0.33		0.16	0.32	0.32	0.10	0.26	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	232	1122	488	488	1150		289	966	451	169	866	
v/s Ratio Prot	0.06	0.15		c0.07	0.09		c0.09	0.06		0.04	c0.16	
v/s Ratio Perm			c0.25						0.05			
v/c Ratio	0.45	0.47	0.79	0.49	0.27		0.55	0.20	0.16	0.41	0.64	
Uniform Delay, d1	39.5	27.0	30.6	38.9	24.3		37.8	24.1	23.8	41.9	32.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.3	8.2	0.8	0.1		2.3	0.1	0.2	1.6	1.6	
Delay (s)	40.8	27.3	38.7	39.7	24.5		40.1	24.2	24.0	43.6	34.3	
Level of Service	D	C	D	D	C		D	C	C	D	C	
Approach Delay (s)		34.2			31.1			27.6			35.3	
Approach LOS		C			C			C			D	
Intersection Summary												
HCM 2000 Control Delay			32.4			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			98.4			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			79.4%			ICU Level of Service			D			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	1312	681	64	743	50	317	83	70	186	109	37
Future Volume (vph)	233	1312	681	64	743	50	317	83	70	186	109	37
Ideal Flow (vphpl)	1500	1500	1600	1900	1500	1900	1300	1900	1900	1900	1300	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.91		0.97	1.00			1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00		1.00	0.99			1.00	0.95
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (prot)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.97	1.00
Satd. Flow (perm)	1397	2794	1260	1770	3962		2349	1714			1236	1498
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	233	1312	681	64	743	50	317	83	70	186	109	37
RTOR Reduction (vph)	0	0	275	0	0	0	0	0	0	0	0	29
Lane Group Flow (vph)	233	1312	406	64	793	0	317	153	0	0	295	8
Confl. Peds. (#/hr)			37			9			11			35
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4									6
Actuated Green, G (s)	17.6	51.9	51.9	8.4	42.7		21.4	21.4			26.7	26.7
Effective Green, g (s)	19.1	53.4	53.4	9.9	44.2		22.9	22.9			28.2	28.2
Actuated g/C Ratio	0.15	0.42	0.42	0.08	0.35		0.18	0.18			0.22	0.22
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5			4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0			3.0	3.0
Lane Grp Cap (vph)	211	1180	532	138	1385		425	310			275	334
v/s Ratio Prot	c0.17	c0.47		0.04	0.20		c0.13	0.09			c0.24	
v/s Ratio Perm			0.32									0.01
v/c Ratio	1.10	1.11	0.76	0.46	0.57		0.75	0.49			1.07	0.02
Uniform Delay, d1	53.7	36.5	31.1	55.7	33.4		49.0	46.5			49.1	38.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	92.7	62.5	6.4	2.5	0.6		7.0	1.2			74.9	0.0
Delay (s)	146.3	99.0	37.5	58.2	34.0		56.0	47.8			124.0	38.4
Level of Service	F	F	D	E	C		E	D			F	D
Approach Delay (s)		85.2			35.8			53.3			114.5	
Approach LOS		F			D			D			F	
Intersection Summary												
HCM 2000 Control Delay			72.9			HCM 2000 Level of Service		E				
HCM 2000 Volume to Capacity ratio			1.05									
Actuated Cycle Length (s)			126.4			Sum of lost time (s)		12.0				
Intersection Capacity Utilization			104.8%			ICU Level of Service		G				
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (vph)	155	655	142	118	371	213	211	139	172	248	175	286
Ideal Flow (vphpl)	1900	1700	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95		1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.98	1.00	1.00	0.96	1.00	0.97		1.00	1.00	0.94
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.92		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1770	1667	1545	1770	1863	1513	1770	3138		1770	1863	1484
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	155	655	142	118	371	213	211	139	172	248	175	286
RTOR Reduction (vph)	0	0	81	0	0	139	0	0	0	0	0	235
Lane Group Flow (vph)	155	655	61	118	371	74	211	311	0	248	175	51
Confl. Peds. (#/hr)			12			17			11			18
Confl. Bikes (#/hr)			6			13			8			8
Turn Type	Prot	NA	Perm	Prot	NA	Perm	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4			8						6
Actuated Green, G (s)	12.1	38.8	38.8	6.8	33.5	33.5	16.9	15.0		18.9	17.0	17.0
Effective Green, g (s)	12.6	39.3	39.3	7.3	34.0	34.0	17.4	15.5		19.4	17.5	17.5
Actuated g/C Ratio	0.13	0.40	0.40	0.07	0.35	0.35	0.18	0.16		0.20	0.18	0.18
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	228	671	622	132	649	527	315	498		352	334	266
v/s Ratio Prot	0.09	c0.39		c0.07	0.20		0.12	c0.10		c0.14	0.09	
v/s Ratio Perm			0.04			0.05						0.03
v/c Ratio	0.68	0.98	0.10	0.89	0.57	0.14	0.67	0.62		0.70	0.52	0.19
Uniform Delay, d1	40.5	28.6	18.1	44.7	25.8	21.7	37.4	38.3		36.4	36.2	34.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	7.8	28.6	0.1	47.5	1.2	0.1	5.3	2.4		6.3	1.5	0.4
Delay (s)	48.3	57.2	18.2	92.2	27.0	21.9	42.7	40.7		42.7	37.7	34.4
Level of Service	D	E	B	F	C	C	D	D		D	D	C
Approach Delay (s)		49.9			36.4			41.5			38.1	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			42.2									
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			97.5									
Intersection Capacity Utilization			87.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

6: Norfolk St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Future Volume (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
Ideal Flow (vphpl)	1900	2200	2200	1700	2200	2200	2200	1900	1900	1900	1900	2200
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	*1.00	*1.00	1.00	*1.00		*1.00	1.00		1.00	*1.00	*1.00
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.99		1.00	0.97		1.00	0.99	0.96
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Frt	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	3433	6466	2065	1583	6433		4098	1814		1770	1840	1758
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	204	2291	369	112	1131	71	255	125	106	68	141	241
RTOR Reduction (vph)	0	1	58	0	4	0	0	15	0	0	8	157
Lane Group Flow (vph)	204	2327	274	112	1198	0	255	216	0	68	193	24
Confl. Peds. (#/hr)			8			25			21			13
Confl. Bikes (#/hr)			4			2						1
Turn Type	Prot	NA	custom	Prot	NA		Split	NA		Split	NA	Perm
Protected Phases	5	2 7		1	6 7		8	8		4	4	
Permitted Phases			2									4
Actuated Green, G (s)	21.5	117.3	57.4	16.1	111.9		28.0	28.0		26.1	26.1	26.1
Effective Green, g (s)	23.0	120.3	58.9	17.6	114.9		29.5	29.5		27.6	27.6	27.6
Actuated g/C Ratio	0.11	0.57	0.28	0.08	0.55		0.14	0.14		0.13	0.13	0.13
Clearance Time (s)	4.5		4.5	4.5			4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0			3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	375	3704	579	132	3519		575	254		232	241	231
v/s Ratio Prot	0.06	c0.36		c0.07	0.19		0.06	c0.12		0.04	c0.11	
v/s Ratio Perm			0.13									0.01
v/c Ratio	0.54	0.63	0.47	0.85	0.34		0.44	0.85		0.29	0.80	0.10
Uniform Delay, d1	88.5	29.9	62.7	94.9	26.5		82.7	88.1		82.4	88.5	80.3
Progression Factor	1.02	1.00	1.03	1.00	1.00		1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.3	36.9	0.1		0.5	23.0		0.7	17.2	0.2
Delay (s)	90.3	29.9	64.7	131.8	26.5		83.3	111.1		83.1	105.7	80.5
Level of Service	F	C	E	F	C		F	F		F	F	F
Approach Delay (s)		38.2			35.5			96.5			92.2	
Approach LOS		D			D			F			F	
Intersection Summary												
HCM 2000 Control Delay			47.8			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.71									
Actuated Cycle Length (s)			210.0			Sum of lost time (s)				15.0		
Intersection Capacity Utilization			84.2%			ICU Level of Service				E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

7: Humboldt St/Humbolt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (vph)	7	670	151	196	808	139	66	27	260	95	129	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes	1.00	0.99		1.00	1.00	0.96		0.98			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Frt	1.00	0.97		1.00	1.00	0.85		0.90			0.99	
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.99			0.98	
Satd. Flow (prot)	1770	3403		1770	1863	1519		1630			1805	
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.90			0.64	
Satd. Flow (perm)	1770	3403		1770	1863	1519		1476			1178	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	7	670	151	196	808	139	66	27	260	95	129	15
RTOR Reduction (vph)	0	0	0	0	0	32	0	106	0	0	3	0
Lane Group Flow (vph)	7	821	0	196	808	107	0	247	0	0	236	0
Confl. Peds. (#/hr)			20			8	11		9			19
Confl. Bikes (#/hr)			2			3			3			1
Turn Type	Prot	NA		Prot	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	7	4		3	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	0.8	28.9		13.2	41.3	41.3		20.2			20.2	
Effective Green, g (s)	2.3	30.4		14.7	42.8	42.8		21.7			21.7	
Actuated g/C Ratio	0.03	0.40		0.19	0.56	0.56		0.29			0.29	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5		4.5			4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)	53	1364		343	1051	857		422			337	
v/s Ratio Prot	0.00	0.24		c0.11	c0.43							
v/s Ratio Perm						0.07		0.17			c0.20	
v/c Ratio	0.13	0.60		0.57	0.77	0.13		0.58			0.70	
Uniform Delay, d1	35.8	17.9		27.7	12.7	7.7		23.2			24.2	
Progression Factor	1.00	1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2	1.1	0.8		2.3	3.4	0.1		2.1			6.4	
Delay (s)	36.9	18.7		30.0	16.1	7.8		25.3			30.6	
Level of Service	D	B		C	B	A		C			C	
Approach Delay (s)		18.8			17.5			25.3			30.6	
Approach LOS		B			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			20.2									
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			75.8									
Intersection Capacity Utilization			81.6%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (vph)	56	276	39	80	433	100	49	255	13	195	157	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	12	12	10	10	10	9	10	10	9	10	10
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.99		1.00	1.00		1.00	0.97	
Flpb, ped/bikes	1.00	1.00		0.98	1.00		0.94	1.00		0.98	1.00	
Frt	1.00	0.98		1.00	0.97		1.00	0.99		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1652	1802		1615	1674		1495	1721		1567	1628	
Flt Permitted	0.28	1.00		0.48	1.00		0.58	1.00		0.52	1.00	
Satd. Flow (perm)	480	1802		808	1674		910	1721		860	1628	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	56	276	39	80	433	100	49	255	13	195	157	56
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	56	315	0	80	533	0	49	268	0	195	213	0
Confl. Peds. (#/hr)	31		36	16		11	36		16	11		31
Confl. Bikes (#/hr)									1			1
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	35.5	35.5		35.5	35.5		35.5	35.5		35.5	35.5	
Effective Green, g (s)	37.0	37.0		37.0	37.0		37.0	37.0		37.0	37.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46		0.46	0.46		0.46	0.46	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lane Grp Cap (vph)	222	833		373	774		420	795		397	752	
v/s Ratio Prot		0.17			c0.32			0.16			0.13	
v/s Ratio Perm	0.12			0.10			0.05			c0.23		
v/c Ratio	0.25	0.38		0.21	0.69		0.12	0.34		0.49	0.28	
Uniform Delay, d1	13.1	14.0		12.8	17.0		12.2	13.7		15.0	13.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	2.7	1.3		1.3	5.0		0.6	1.1		4.3	0.9	
Delay (s)	15.8	15.3		14.1	21.9		12.8	14.8		19.2	14.2	
Level of Service	B	B		B	C		B	B		B	B	
Approach Delay (s)		15.4			20.9			14.5			16.6	
Approach LOS		B			C			B			B	
Intersection Summary												
HCM 2000 Control Delay		17.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.59										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		71.7%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

9: Humboldt St & 3rd Ave

06/12/2020



Movement	WBL	WBT	WBR	NBL	NBT	SBT	SBR	SWL	SWR	SWR2
Lane Configurations		←↑↑			↑	↑	↑	↑	↑	↑
Traffic Volume (vph)	206	815	261	3	94	293	47	263	362	67
Future Volume (vph)	206	815	261	3	94	293	47	263	362	67
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1000	1000	1000	1900	1900
Lane Width	12	12	12	12	10	10	12	12	12	12
Grade (%)		-3%			0%	0%		0%		
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		0.91			1.00	1.00	1.00	1.00	*1.00	
Frpb, ped/bikes		0.99			1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes		0.99			1.00	1.00	1.00	1.00	1.00	
Frt		0.97			1.00	1.00	0.85	0.97	1.00	
Flt Protected		0.99			1.00	1.00	1.00	0.96	1.00	
Satd. Flow (prot)		3853			100	700	120	915	1863	
Flt Permitted		0.99			0.99	1.00	1.00	0.96	1.00	
Satd. Flow (perm)		3853			500	915	120	915	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	206	815	261	3	94	293	47	263	362	67
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1282	0	0	97	293	47	328	364	0
Confl. Peds. (#/hr)	36		18				6			
Confl. Bikes (#/hr)			3				3			
Turn Type	Perm	NA		Perm	NA	NA	Perm	Prot	Perm	
Protected Phases		3			2	6		4		
Permitted Phases	3			2			6		4	
Actuated Green, G (s)		40.5			24.5	24.5	24.5	30.5	30.5	
Effective Green, g (s)		42.0			26.0	26.0	26.0	32.0	32.0	
Actuated g/C Ratio		0.39			0.24	0.24	0.24	0.29	0.29	
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		1484			119	166	28	268	546	
v/s Ratio Prot						c0.42		c0.36		
v/s Ratio Perm		0.33			0.19		0.39		0.20	
v/c Ratio		0.86			0.82	1.77	1.68	1.22	0.67	
Uniform Delay, d1		30.9			39.2	41.5	41.5	38.5	33.8	
Progression Factor		1.00			1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		5.5			33.2	367.7	420.8	129.3	3.1	
Delay (s)		36.3			72.4	409.2	462.3	167.8	36.9	
Level of Service		D			E	F	F	F	D	
Approach Delay (s)		36.3			72.4	416.5		99.0		
Approach LOS		D			E	F		F		
Intersection Summary										
HCM 2000 Control Delay		109.4			HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio		1.21								
Actuated Cycle Length (s)		109.0			Sum of lost time (s)			9.0		
Intersection Capacity Utilization		116.6%			ICU Level of Service			H		
Analysis Period (min)		15								
c Critical Lane Group										

HCM Signalized Intersection Capacity Analysis

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  							 		 	
Traffic Volume (vph)	28	1683	11	0	0	0	0	71	332	411	354	0
Future Volume (vph)	28	1683	11	0	0	0	0	71	332	411	354	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.91						0.95	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00						0.98	0.97	1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00	1.00	1.00	1.00	
Frt	1.00	1.00						0.90	0.85	1.00	1.00	
Flt Protected	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1770	3208						825	1455	1681	922	
Flt Permitted	0.95	1.00						1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1770	3208						825	1455	1681	922	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	29	1753	11	0	0	0	0	74	346	428	369	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	59	66	0	0	0
Lane Group Flow (vph)	29	1764	0	0	0	0	0	143	152	330	467	0
Confl. Peds. (#/hr)	10		7						10			
Confl. Bikes (#/hr)			2						1			
Turn Type	Split	NA						NA	Perm	Split	NA	
Protected Phases	4	4						2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	45.5	45.5						16.0	16.0	30.5	30.5	
Effective Green, g (s)	47.0	47.0						17.5	17.5	32.0	32.0	
Actuated g/C Ratio	0.45	0.45						0.17	0.17	0.30	0.30	
Clearance Time (s)	4.5	4.5						4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	788	1429						136	241	509	279	
v/s Ratio Prot	0.02	c0.55						c0.17		0.20	c0.51	
v/s Ratio Perm									0.10			
v/c Ratio	0.04	1.23						1.05	0.63	0.65	1.67	
Uniform Delay, d1	16.5	29.2						44.0	41.0	31.9	36.8	
Progression Factor	1.00	1.00						1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.0	111.8						91.1	11.9	2.8	318.5	
Delay (s)	16.5	141.0						135.1	52.9	34.7	355.2	
Level of Service	B	F						F	D	C	F	
Approach Delay (s)		139.0			0.0			92.4			222.5	
Approach LOS		F			A			F			F	
Intersection Summary												
HCM 2000 Control Delay		154.6			HCM 2000 Level of Service			F				
HCM 2000 Volume to Capacity ratio		1.34										
Actuated Cycle Length (s)		105.5			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		121.8%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (vph)	95	116	188	160	272	55	296	155	43	21	129	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		0.95	0.95	1.00	1.00	1.00	
Frpb, ped/bikes	1.00	0.97		1.00	0.99		1.00	1.00	0.96	1.00	0.99	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.91		1.00	0.97		1.00	1.00	0.85	1.00	0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (prot)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	0.98	1.00	0.95	1.00	
Satd. Flow (perm)	1770	3130		1770	3402		1681	1741	1515	1770	1795	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	95	116	188	160	272	55	296	155	43	21	129	30
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	33	0	0	0
Lane Group Flow (vph)	95	304	0	160	327	0	222	229	10	21	159	0
Confl. Peds. (#/hr)			34			30			34			30
Confl. Bikes (#/hr)			1			2			1			6
Turn Type	Prot	NA		Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases									2			
Actuated Green, G (s)	7.1	13.8		10.4	17.1		15.1	15.1	15.1	11.8	11.8	
Effective Green, g (s)	8.6	15.3		11.9	18.6		16.6	16.6	16.6	13.3	13.3	
Actuated g/C Ratio	0.12	0.22		0.17	0.27		0.24	0.24	0.24	0.19	0.19	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	220	693		304	915		403	418	363	340	345	
v/s Ratio Prot	0.05	c0.10		c0.09	0.10		c0.13	0.13		0.01	c0.09	
v/s Ratio Perm									0.01			
v/c Ratio	0.43	0.44		0.53	0.36		0.55	0.55	0.03	0.06	0.46	
Uniform Delay, d1	28.0	23.2		26.0	20.4		23.0	23.0	20.1	22.8	24.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	1.4	0.4		1.6	0.2		1.6	1.5	0.0	0.1	1.0	
Delay (s)	29.4	23.6		27.7	20.7		24.6	24.4	20.1	22.9	25.7	
Level of Service	C	C		C	C		C	C	C	C	C	
Approach Delay (s)		25.0			23.0			24.1			25.4	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			24.1			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			69.1			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (vph)	0	683	132	206	412	0	0	0	0	506	0	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Util. Factor		1.00	1.00	1.00	1.00					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.95	1.00	1.00					1.00	1.00	0.96
Flpb, ped/bikes		1.00	1.00	1.00	1.00					1.00	1.00	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (prot)		1863	1506	1770	1863					1681	1681	1528
Flt Permitted		1.00	1.00	0.95	1.00					0.95	0.95	1.00
Satd. Flow (perm)		1863	1506	1770	1863					1681	1681	1528
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	683	132	206	412	0	0	0	0	506	0	63
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	683	132	206	412	0	0	0	0	253	253	63
Confl. Peds. (#/hr)			9									2
Confl. Bikes (#/hr)			3									9
Turn Type		NA	Perm	Prot	NA					Split	NA	Perm
Protected Phases		4		3	8					6	6	
Permitted Phases			4									6
Actuated Green, G (s)		51.0	51.0	18.2	73.7					37.3	37.3	37.3
Effective Green, g (s)		52.5	52.5	19.7	75.2					38.8	38.8	38.8
Actuated g/C Ratio		0.44	0.44	0.16	0.63					0.32	0.32	0.32
Clearance Time (s)		4.5	4.5	4.5	4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0	3.0	3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		815	658	290	1167					543	543	494
v/s Ratio Prot		c0.37		c0.12	0.22					c0.15	0.15	
v/s Ratio Perm			0.09									0.04
v/c Ratio		0.84	0.20	0.71	0.35					0.47	0.47	0.13
Uniform Delay, d1		30.0	20.8	47.5	10.7					32.3	32.3	28.7
Progression Factor		0.80	0.71	1.00	1.00					1.00	1.00	1.00
Incremental Delay, d2		6.4	0.1	7.9	0.2					2.9	2.9	0.5
Delay (s)		30.4	14.9	55.4	10.9					35.2	35.2	29.2
Level of Service		C	B	E	B					D	D	C
Approach Delay (s)		27.9			25.7			0.0			34.5	
Approach LOS		C			C			A			C	
Intersection Summary												
HCM 2000 Control Delay			29.1			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.68									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			77.4%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

13: US 101 NB Off Ramp & Hillsdale Blvd

06/12/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↖↗	↖↗
Traffic Volume (vph)	1312	0	0	1394	286	1553
Future Volume (vph)	1312	0	0	1394	286	1553
Ideal Flow (vphpl)	1260	1900	1900	1800	1200	1750
Total Lost time (s)	3.0			3.0	3.0	3.0
Lane Util. Factor	0.95			0.95	0.97	0.88
Frt	1.00			1.00	1.00	0.85
Flt Protected	1.00			1.00	0.95	1.00
Satd. Flow (prot)	2347			3353	2168	2567
Flt Permitted	1.00			1.00	0.95	1.00
Satd. Flow (perm)	2347			3353	2168	2567
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1312	0	0	1394	286	1553
RTOR Reduction (vph)	0	0	0	0	0	17
Lane Group Flow (vph)	1312	0	0	1394	286	1536
Turn Type	NA			NA	Prot	custom
Protected Phases	2			6 2	8	6
Permitted Phases						8 6
Actuated Green, G (s)	44.5			82.5	13.5	47.0
Effective Green, g (s)	46.0			84.0	15.0	50.0
Actuated g/C Ratio	0.44			0.80	0.14	0.48
Clearance Time (s)	4.5				4.5	4.5
Vehicle Extension (s)	3.0				3.0	3.0
Lane Grp Cap (vph)	1028			2682	309	1295
v/s Ratio Prot	c0.56			0.42	0.13	c0.40
v/s Ratio Perm						0.20
v/c Ratio	1.28			0.52	0.93	1.19
Uniform Delay, d1	29.5			3.6	44.4	27.5
Progression Factor	0.95			1.13	1.00	1.00
Incremental Delay, d2	128.0			0.7	32.2	91.9
Delay (s)	156.1			4.8	76.7	119.4
Level of Service	F			A	E	F
Approach Delay (s)	156.1			4.8	112.8	
Approach LOS	F			A	F	
Intersection Summary						
HCM 2000 Control Delay	92.1			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio	1.27					
Actuated Cycle Length (s)	105.0			Sum of lost time (s)		9.0
Intersection Capacity Utilization	120.3%			ICU Level of Service		H
Analysis Period (min)	15					
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↑		↑↑					↑↑	↑↑	
Traffic Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
Ideal Flow (vphpl)	1900	1000	1000	1900	1900	1900	1900	1900	1900	1000	1100	1900
Total Lost time (s)		3.0	3.0		3.0					2.5	3.0	
Lane Util. Factor		*0.70	*0.70		*1.00					*0.70	*0.70	
Frpb, ped/bikes		1.00	0.97		1.00					1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	
Frt		1.00	0.85		1.00					1.00	1.00	
Flt Protected		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (prot)		2059	566		3725					1304	1510	
Flt Permitted		1.00	1.00		1.00					0.95	1.00	
Satd. Flow (perm)		2059	566		3725					1304	1510	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1076	92	0	1000	0	0	0	0	402	391	0
RTOR Reduction (vph)	0	0	35	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1076	57	0	1000	0	0	0	0	402	391	0
Confl. Peds. (#/hr)			10									
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm		NA					Prot	NA	
Protected Phases		2			6					7	4	
Permitted Phases			2									
Actuated Green, G (s)		63.9	63.9		63.9					32.1	32.1	
Effective Green, g (s)		65.4	65.4		65.4					34.1	33.6	
Actuated g/C Ratio		0.62	0.62		0.62					0.32	0.32	
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	
Lane Grp Cap (vph)		1282	352		2320					423	483	
v/s Ratio Prot		c0.52			0.27					c0.31	0.26	
v/s Ratio Perm			0.10									
v/c Ratio		0.84	0.16		0.43					0.95	0.81	
Uniform Delay, d1		15.6	8.3		10.2					34.6	32.8	
Progression Factor		1.00	1.00		0.96					1.00	1.00	
Incremental Delay, d2		6.7	1.0		0.5					31.2	9.7	
Delay (s)		22.4	9.3		10.3					65.9	42.4	
Level of Service		C	A		B					E	D	
Approach Delay (s)		21.3			10.3			0.0			54.3	
Approach LOS		C			B			A			D	
Intersection Summary												
HCM 2000 Control Delay			26.4			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.88									
Actuated Cycle Length (s)			105.0			Sum of lost time (s)				6.0		
Intersection Capacity Utilization			120.3%			ICU Level of Service				H		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (vph)	16	563	150	94	655	28	149	94	186	48	113	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Util. Factor	1.00	0.95		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	0.98		1.00	1.00			1.00	0.95		1.00	
Flpb, ped/bikes	1.00	1.00		0.99	1.00			0.99	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1762	3374		1745	1847			1796	1511		1812	
Flt Permitted	0.23	1.00		0.34	1.00			0.77	1.00		0.87	
Satd. Flow (perm)	429	3374		621	1847			1430	1511		1604	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	16	563	150	94	655	28	149	94	186	48	113	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	122	0	0	0
Lane Group Flow (vph)	16	713	0	94	683	0	0	243	64	0	172	0
Confl. Peds. (#/hr)	11		47	34		29	13		52	18		24
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2		2	6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	21.7	21.7		21.7	21.7			13.7	13.7		13.7	
Effective Green, g (s)	23.2	23.2		23.2	23.2			15.2	15.2		15.2	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.34	0.34		0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	224	1762		324	965			489	517		549	
v/s Ratio Prot		0.21			c0.37							
v/s Ratio Perm	0.04			0.15				c0.17	0.04		0.11	
v/c Ratio	0.07	0.40		0.29	0.71			0.50	0.12		0.31	
Uniform Delay, d1	5.3	6.4		6.0	8.0			11.6	10.0		10.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.2		0.5	2.4			0.8	0.1		0.3	
Delay (s)	5.4	6.6		6.5	10.4			12.4	10.1		11.1	
Level of Service	A	A		A	B			B	B		B	
Approach Delay (s)		6.5			9.9			11.4			11.1	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.2			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.62										
Actuated Cycle Length (s)		44.4			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		76.9%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (vph)	18	17	12	122	197	178	32	315	61	85	241	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.99		1.00	0.98		1.00	0.99		1.00	1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.94		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	1724		1770	1702		1770	1801		1770	1828	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	1724		1770	1702		1770	1801		1770	1828	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	18	17	12	122	197	178	32	315	61	85	241	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	18	29	0	122	375	0	32	376	0	85	266	0
Confl. Peds. (#/hr)			17			18			19			16
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases												
Actuated Green, G (s)	2.1	11.3		11.9	21.1		2.4	22.6		7.1	27.3	
Effective Green, g (s)	3.6	12.8		13.4	22.6		3.9	24.1		8.6	28.8	
Actuated g/C Ratio	0.05	0.18		0.19	0.32		0.06	0.34		0.12	0.41	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	89	311		334	542		97	612		214	742	
v/s Ratio Prot	0.01	0.02		c0.07	c0.22		0.02	c0.21		c0.05	0.15	
v/s Ratio Perm												
v/c Ratio	0.20	0.09		0.37	0.69		0.33	0.61		0.40	0.36	
Uniform Delay, d1	32.3	24.2		25.0	21.1		32.2	19.5		28.8	14.6	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.1	0.1		0.7	3.8		2.0	1.8		1.2	0.3	
Delay (s)	33.4	24.3		25.7	24.9		34.2	21.4		30.0	14.9	
Level of Service	C	C		C	C		C	C		C	B	
Approach Delay (s)		27.8			25.1			22.4			18.6	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			22.6			HCM 2000 Level of Service			C			
HCM 2000 Volume to Capacity ratio			0.60									
Actuated Cycle Length (s)			70.9			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			57.4%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	65	0	265	280	466	92	51	349	0	0	519	30
Future Volume (vph)	65	0	265	280	466	92	51	349	0	0	519	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1000	1000	1900	1900	1400	1400
Total Lost time (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Util. Factor	1.00		1.00	1.00	0.95		1.00	0.95			0.95	
Frpb, ped/bikes	1.00		0.84	1.00	0.99		1.00	1.00			1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Frt	1.00		0.85	1.00	0.98		1.00	1.00			0.99	
Flt Protected	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1380		1042	1770	3406		931	1863			2575	
Flt Permitted	0.95		1.00	0.95	1.00		0.95	1.00			1.00	
Satd. Flow (perm)	1380		1042	1770	3406		931	1863			2575	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	65	0	265	280	466	92	51	349	0	0	519	30
RTOR Reduction (vph)	0	0	219	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	65	0	46	280	558	0	51	349	0	0	549	0
Confl. Peds. (#/hr)			83			70			95			58
Confl. Bikes (#/hr)			4			1			1			4
Bus Blockages (#/hr)	55	0	55	0	0	0	0	0	0	0	0	0
Turn Type	Prot		Perm	Split	NA		Prot	NA			NA	
Protected Phases	4			8	8		5	2			6	
Permitted Phases			4									
Actuated Green, G (s)	9.7		9.7	20.3	20.3		4.4	29.2			20.3	
Effective Green, g (s)	14.2		14.2	24.8	24.8		5.9	33.7			24.8	
Actuated g/C Ratio	0.17		0.17	0.30	0.30		0.07	0.41			0.30	
Clearance Time (s)	7.5		7.5	7.5	7.5		4.5	7.5			7.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	239		181	537	1033		67	768			781	
v/s Ratio Prot	c0.05			0.16	c0.16		c0.05	0.19			c0.21	
v/s Ratio Perm			0.04									
v/c Ratio	0.27		0.25	0.52	0.54		0.76	0.45			0.70	
Uniform Delay, d1	29.3		29.2	23.5	23.7		37.2	17.4			25.2	
Progression Factor	1.00		1.00	1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.6		0.7	3.6	2.0		39.2	0.4			2.9	
Delay (s)	29.9		29.9	27.1	25.7		76.4	17.8			28.1	
Level of Service	C		C	C	C		E	B			C	
Approach Delay (s)		29.9			26.2			25.3			28.1	
Approach LOS		C			C			C			C	
Intersection Summary												
HCM 2000 Control Delay			27.1			HCM 2000 Level of Service					C	
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			81.7			Sum of lost time (s)			12.0			
Intersection Capacity Utilization			68.4%			ICU Level of Service					C	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	766	28	0	0	0	47	374	203	371	500	142
Future Volume (vph)	37	766	28	0	0	0	47	374	203	371	500	142
Ideal Flow (vphpl)	1900	1500	1900	1900	1900	1900	1900	1650	1900	1300	1000	1900
Total Lost time (s)		3.0					3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95					1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00					1.00	0.97		1.00	0.98	
Flpb, ped/bikes		1.00					1.00	1.00		1.00	1.00	
Frt		0.99					1.00	0.95		1.00	0.97	
Flt Protected		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (prot)		2765					1770	2830		1211	1757	
Flt Permitted		1.00					0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2765					1770	2830		1211	1757	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	766	28	0	0	0	47	374	203	371	500	142
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	831	0	0	0	0	47	577	0	371	642	0
Confl. Peds. (#/hr)	16		41						41			33
Confl. Bikes (#/hr)			4						3			3
Turn Type	Perm	NA					Prot	NA		Prot	NA	
Protected Phases		4					5	2		1	6	
Permitted Phases	4											
Actuated Green, G (s)		24.0					5.4	15.8		32.5	42.9	
Effective Green, g (s)		28.5					6.9	20.3		34.0	47.4	
Actuated g/C Ratio		0.31					0.08	0.22		0.37	0.52	
Clearance Time (s)		7.5					4.5	7.5		4.5	7.5	
Vehicle Extension (s)		3.0					3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		858					133	625		448	907	
v/s Ratio Prot							0.03	c0.20		c0.31	0.37	
v/s Ratio Perm		0.30										
v/c Ratio		0.97					0.35	0.92		0.83	0.71	
Uniform Delay, d1		31.2					40.3	35.0		26.2	16.9	
Progression Factor		1.00					1.00	1.00		1.00	1.00	
Incremental Delay, d2		24.0					1.6	19.4		16.0	2.5	
Delay (s)		55.2					41.9	54.3		42.3	19.5	
Level of Service		E					D	D		D	B	
Approach Delay (s)		55.2			0.0			53.4			27.8	
Approach LOS		E			A			D			C	
Intersection Summary												
HCM 2000 Control Delay		43.5					HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio		0.90										
Actuated Cycle Length (s)		91.8					Sum of lost time (s)			9.0		
Intersection Capacity Utilization		90.1%					ICU Level of Service			E		
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	299	83	14	163	45	66	480	14	15	325	164
Future Volume (vph)	96	299	83	14	163	45	66	480	14	15	325	164
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1350	1900	1900	1000	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	3.0
Lane Util. Factor		1.00			1.00			1.00			1.00	1.00
Frpb, ped/bikes		0.98			0.99			1.00			1.00	0.89
Flpb, ped/bikes		1.00			1.00			1.00			1.00	1.00
Frt		0.98			0.97			1.00			1.00	0.85
Flt Protected		0.99			1.00			0.99			1.00	1.00
Satd. Flow (prot)		929			941			1304			978	1404
Flt Permitted		0.90			0.96			0.92			0.97	1.00
Satd. Flow (perm)		840			908			1208			951	1404
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	96	299	83	14	163	45	66	480	14	15	325	164
RTOR Reduction (vph)	0	0	0	0	0	0	0	1	0	0	0	82
Lane Group Flow (vph)	0	478	0	0	222	0	0	559	0	0	340	82
Confl. Peds. (#/hr)	16		36	21		31	15		36	15		31
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		6
Actuated Green, G (s)		29.5			29.5			35.5			35.5	35.5
Effective Green, g (s)		34.0			34.0			40.0			40.0	40.0
Actuated g/C Ratio		0.42			0.42			0.50			0.50	0.50
Clearance Time (s)		7.5			7.5			7.5			7.5	7.5
Vehicle Extension (s)		3.0			3.0			3.0			3.0	3.0
Lane Grp Cap (vph)		357			385			604			475	702
v/s Ratio Prot												
v/s Ratio Perm		c0.57			0.24			c0.46			0.36	0.06
v/c Ratio		1.34			0.58			0.93			0.72	0.12
Uniform Delay, d1		23.0			17.5			18.6			15.6	10.6
Progression Factor		1.00			1.00			1.00			1.00	1.00
Incremental Delay, d2		170.4			2.1			22.3			8.9	0.3
Delay (s)		193.4			19.6			40.9			24.5	11.0
Level of Service		F			B			D			C	B
Approach Delay (s)		193.4			19.6			40.9			20.1	
Approach LOS		F			B			D			C	
Intersection Summary												
HCM 2000 Control Delay		73.6			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		1.12										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		163.0%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	301	90	59	189	17	66	435	64	14	392	79
Future Volume (vph)	120	301	90	59	189	17	66	435	64	14	392	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			1.00			0.99			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.99			0.98			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1772			1814			1806			1802	
Flt Permitted		0.88			0.86			0.92			0.98	
Satd. Flow (perm)		1572			1579			1668			1773	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	120	301	90	59	189	17	66	435	64	14	392	79
RTOR Reduction (vph)	0	13	0	0	4	0	0	8	0	0	12	0
Lane Group Flow (vph)	0	498	0	0	261	0	0	557	0	0	473	0
Confl. Peds. (#/hr)	12		28	19		30	9		37	18		21
Confl. Bikes (#/hr)			3			4			5			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		20.3			20.3			21.0			21.0	
Effective Green, g (s)		21.8			21.8			22.5			22.5	
Actuated g/C Ratio		0.43			0.43			0.45			0.45	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		681			684			746			793	
v/s Ratio Prot												
v/s Ratio Perm		c0.32			0.17			c0.33			0.27	
v/c Ratio		0.73			0.38			0.75			0.60	
Uniform Delay, d1		11.8			9.7			11.5			10.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		4.0			0.4			4.1			1.2	
Delay (s)		15.9			10.0			15.6			11.7	
Level of Service		B			B			B			B	
Approach Delay (s)		15.9			10.0			15.6			11.7	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		13.8			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.74										
Actuated Cycle Length (s)		50.3			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		104.1%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (vph)	189	258	210	206	378	169	209	507	112	163	412	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		0.97	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.92	1.00	0.98		1.00	0.99		1.00	0.97	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.95		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3539	1449	1770	3299		3433	3407		1770	3312	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	189	258	210	206	378	169	209	507	112	163	412	143
RTOR Reduction (vph)	0	0	162	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	189	258	48	206	547	0	209	619	0	163	555	0
Confl. Peds. (#/hr)			73			55			43			85
Confl. Bikes (#/hr)			3			7			4			4
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Effective Green, g (s)	15.3	20.8	20.8	16.1	21.6		10.8	23.1		13.6	25.9	
Actuated g/C Ratio	0.17	0.23	0.23	0.18	0.24		0.12	0.25		0.15	0.28	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	295	803	329	311	777		404	859		262	936	
v/s Ratio Prot	0.11	0.07		c0.12	c0.17		0.06	c0.18		c0.09	c0.17	
v/s Ratio Perm			0.03									
v/c Ratio	0.64	0.32	0.14	0.66	0.70		0.52	0.72		0.62	0.59	
Uniform Delay, d1	35.6	29.5	28.3	35.2	32.1		38.0	31.3		36.6	28.3	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	4.7	0.2	0.2	5.2	2.9		1.1	3.0		4.5	1.0	
Delay (s)	40.3	29.7	28.5	40.4	35.0		39.1	34.3		41.1	29.3	
Level of Service	D	C	C	D	C		D	C		D	C	
Approach Delay (s)		32.4			36.5			35.5			32.0	
Approach LOS		C			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			34.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.69									
Actuated Cycle Length (s)			91.6			Sum of lost time (s)			18.0			
Intersection Capacity Utilization			78.8%			ICU Level of Service			D			
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (vph)	0	31	128	749	33	0	40	0	619	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0	3.0			4.0	3.0			
Lane Util. Factor		1.00		0.95	0.95			1.00	0.88			
Frpb, ped/bikes		0.99		1.00	1.00			1.00	0.98			
Flpb, ped/bikes		1.00		1.00	1.00			1.00	1.00			
Frt		0.89		1.00	1.00			1.00	0.85			
Flt Protected		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (prot)		1643		1681	1692			1770	2724			
Flt Permitted		1.00		0.95	0.96			0.95	1.00			
Satd. Flow (perm)		1643		1681	1692			1770	2724			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	31	128	749	33	0	40	0	619	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	498	0	0	0
Lane Group Flow (vph)	0	159	0	389	393	0	0	40	121	0	0	0
Confl. Peds. (#/hr)			1						1			
Confl. Bikes (#/hr)						3						3
Turn Type		NA		Split	NA	Perm	Split	NA	Perm			
Protected Phases		4		8	8		2	2		6	6	
Permitted Phases	4					8			2			
Actuated Green, G (s)		11.9		21.5	21.5			9.5	9.5			
Effective Green, g (s)		13.4		23.0	23.0			10.0	11.0			
Actuated g/C Ratio		0.24		0.41	0.41			0.18	0.20			
Clearance Time (s)		4.5		4.5	4.5			4.5	4.5			
Vehicle Extension (s)		3.0		3.0	3.0			3.0	3.0			
Lane Grp Cap (vph)		390		685	690			313	531			
v/s Ratio Prot		c0.10		0.23	c0.23			0.02				
v/s Ratio Perm									c0.04			
v/c Ratio		0.41		0.57	0.57			0.13	0.23			
Uniform Delay, d1		18.1		12.9	12.9			19.5	19.1			
Progression Factor		1.00		1.00	1.00			1.00	1.00			
Incremental Delay, d2		0.7		1.1	1.1			0.2	0.2			
Delay (s)		18.8		14.0	14.0			19.7	19.3			
Level of Service		B		B	B			B	B			
Approach Delay (s)		18.8			14.0			19.4			0.0	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay			16.7			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.50									
Actuated Cycle Length (s)			56.4			Sum of lost time (s)			14.0			
Intersection Capacity Utilization			45.4%			ICU Level of Service			A			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (vph)	41	179	33	162	0	296	0	86	152	364	130	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95		0.97	1.00	
Frpb, ped/bikes		1.00	0.92	1.00		0.97		0.97		1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Frt		1.00	0.85	1.00		0.85		0.90		1.00	1.00	
Flt Protected		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		900	1459	1770		1528		1050		1900	1863	
Flt Permitted		0.99	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (perm)		1846	1459	1770		1528		3098		3433	1863	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	41	179	33	162	0	296	0	86	152	364	130	0
RTOR Reduction (vph)	0	0	0	0	0	250	0	0	0	0	0	0
Lane Group Flow (vph)	0	220	33	162	0	46	0	238	0	364	130	0
Confl. Peds. (#/hr)			27			12			23			
Confl. Bikes (#/hr)			5			7			5			
Turn Type	Split	NA	Perm	Prot		Perm		NA		Prot	NA	
Protected Phases	4	4		8				2		1	6	
Permitted Phases			4			8						
Actuated Green, G (s)		27.0	27.0	14.9		14.9		25.6		20.5	50.6	
Effective Green, g (s)		28.5	28.5	16.4		16.4		27.1		22.0	52.1	
Actuated g/C Ratio		0.27	0.27	0.15		0.15		0.26		0.21	0.49	
Clearance Time (s)		4.5	4.5	4.5		4.5		4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		241	392	273		236		268		394	915	
v/s Ratio Prot		c0.24		c0.09				c0.23		c0.19	0.07	
v/s Ratio Perm			0.02			0.03						
v/c Ratio		0.91	0.08	0.59		0.19		0.89		0.92	0.14	
Uniform Delay, d1		37.5	29.0	41.7		39.0		38.0		41.2	14.7	
Progression Factor		1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		35.3	0.1	3.4		0.4		27.8		27.0	0.1	
Delay (s)		72.8	29.1	45.1		39.4		65.7		68.2	14.8	
Level of Service		E	C	D		D		E		E	B	
Approach Delay (s)		67.1			41.5			65.7			54.2	
Approach LOS		E			D			E			D	
Intersection Summary												
HCM 2000 Control Delay			54.3			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.85									
Actuated Cycle Length (s)			106.0			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			65.6%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (vph)	233	344	89	0	0	0	0	530	396	418	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0					3.0	2.5	3.0	3.0	
Lane Util. Factor	0.95	0.91	0.95					0.91	0.91	0.91	0.91	
Frpb, ped/bikes	1.00	1.00	0.97					0.99	0.96	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85					0.97	0.85	1.00	1.00	
Flt Protected	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (prot)	1681	1683	1462					3278	1389	1610	3350	
Flt Permitted	0.95	1.00	1.00					1.00	1.00	0.95	0.99	
Satd. Flow (perm)	1681	1683	1462					3278	1389	1610	3350	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	233	344	89	0	0	0	0	530	396	418	439	0
RTOR Reduction (vph)	0	1	56	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	210	375	24	0	0	0	0	645	281	280	577	0
Confl. Peds. (#/hr)			14						25			
Confl. Bikes (#/hr)			6						6			
Turn Type	Perm	NA	Perm					NA	Perm	Split	NA	
Protected Phases		4						2		6	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)	21.9	21.9	21.9					23.2	23.2	18.4	18.4	
Effective Green, g (s)	23.4	23.4	23.4					24.7	25.2	19.9	19.9	
Actuated g/C Ratio	0.30	0.30	0.30					0.32	0.33	0.26	0.26	
Clearance Time (s)	4.5	4.5	4.5					4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	510	511	444					1051	454	416	865	
v/s Ratio Prot								0.20		c0.17	0.17	
v/s Ratio Perm	0.12	0.22	0.02						c0.20			
v/c Ratio	0.41	0.73	0.05					0.61	0.62	0.67	0.67	
Uniform Delay, d1	21.3	24.0	19.0					22.1	21.8	25.6	25.6	
Progression Factor	1.00	1.00	1.00					1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.5	5.4	0.1					1.1	2.5	4.3	2.0	
Delay (s)	21.9	29.4	19.0					23.2	24.4	29.9	27.5	
Level of Service	C	C	B					C	C	C	C	
Approach Delay (s)		25.8			0.0			23.5			28.3	
Approach LOS		C			A			C			C	
Intersection Summary												
HCM 2000 Control Delay		25.8			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		77.0			Sum of lost time (s)			9.0				
Intersection Capacity Utilization		67.7%			ICU Level of Service			C				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (vph)	1	1	4	133	0	499	1	699	125	213	488	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00			1.00	1.00		0.95	1.00	1.00	0.95	
Frpb, ped/bikes		0.97			1.00	0.97		1.00	0.97	1.00	1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Frt		0.91			1.00	0.85		1.00	0.85	1.00	1.00	
Flt Protected		0.99			0.95	1.00		1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1629			1763	1530		3539	1535	1770	3536	
Flt Permitted		0.97			0.75	1.00		0.95	1.00	0.95	1.00	
Satd. Flow (perm)		1591			1399	1530		3378	1535	1770	3536	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	1	1	4	133	0	499	1	699	125	213	488	2
RTOR Reduction (vph)	0	0	0	0	0	319	0	0	80	0	0	0
Lane Group Flow (vph)	0	6	0	0	133	180	0	700	45	213	490	0
Confl. Peds. (#/hr)	5		27	5		21	22		21			27
Confl. Bikes (#/hr)			18			9			5			17
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA	Perm	Prot	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4			8		8	2		2			
Actuated Green, G (s)		13.4			13.4	13.4		19.6	19.6	11.8	35.9	
Effective Green, g (s)		14.9			14.9	14.9		21.1	21.1	13.3	37.4	
Actuated g/C Ratio		0.26			0.26	0.26		0.36	0.36	0.23	0.64	
Clearance Time (s)		4.5			4.5	4.5		4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		406			357	391		1222	555	403	2268	
v/s Ratio Prot										c0.12	0.14	
v/s Ratio Perm		0.00			0.10	c0.12		c0.21	0.03			
v/c Ratio		0.01			0.37	0.46		0.57	0.08	0.53	0.22	
Uniform Delay, d1		16.2			17.9	18.3		15.0	12.2	19.7	4.3	
Progression Factor		1.00			1.00	1.00		1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.0			0.7	0.9		0.7	0.1	1.3	0.0	
Delay (s)		16.2			18.5	19.2		15.6	12.3	21.0	4.4	
Level of Service		B			B	B		B	B	C	A	
Approach Delay (s)		16.2			19.0			15.1			9.4	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		14.4										
HCM 2000 Volume to Capacity ratio		0.53										
Actuated Cycle Length (s)		58.3										
Intersection Capacity Utilization		76.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

26: Delaware St & 25th Ave

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	←←	→		↑↑	↑	→→
Traffic Volume (vph)	502	221	143	305	146	483
Future Volume (vph)	502	221	143	305	146	483
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0
Lane Util. Factor	0.97	1.00		0.95	1.00	0.88
Frpb, ped/bikes	1.00	0.96		1.00	1.00	0.95
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.85		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.98	1.00	1.00
Satd. Flow (prot)	3433	1519		3483	1863	2650
Flt Permitted	0.95	1.00		0.83	1.00	1.00
Satd. Flow (perm)	3433	1519		2921	1863	2650
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	502	221	143	305	146	483
RTOR Reduction (vph)	0	0	0	0	0	291
Lane Group Flow (vph)	502	221	0	448	146	192
Confl. Peds. (#/hr)		4	2			15
Confl. Bikes (#/hr)		20				21
Turn Type	Prot	Perm	Perm	NA	NA	Perm
Protected Phases	4			2	6	
Permitted Phases		4	2			6
Actuated Green, G (s)	10.8	10.8		10.6	10.6	10.6
Effective Green, g (s)	12.3	12.3		12.1	12.1	12.1
Actuated g/C Ratio	0.40	0.40		0.40	0.40	0.40
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	1389	614		1162	741	1054
v/s Ratio Prot	c0.15				0.08	
v/s Ratio Perm		0.15		c0.15		0.07
v/c Ratio	0.36	0.36		0.39	0.20	0.18
Uniform Delay, d1	6.3	6.3		6.5	6.0	5.9
Progression Factor	1.00	1.00		1.00	1.00	1.00
Incremental Delay, d2	0.2	0.4		0.2	0.1	0.1
Delay (s)	6.5	6.7		6.7	6.1	6.0
Level of Service	A	A		A	A	A
Approach Delay (s)	6.5			6.7	6.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		6.4		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.37				
Actuated Cycle Length (s)		30.4		Sum of lost time (s)		6.0
Intersection Capacity Utilization		49.9%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (vph)	85	134	234	378	232	163	46	271	54	131	313	34
Ideal Flow (vphpl)	2200	2200	2200	2200	2200	2200	1900	1900	1900	1100	1100	1100
Total Lost time (s)	3.0	3.0	3.0	3.0	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	*1.00	*1.00	*1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00	0.97	1.00	0.97		1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	2049	2157	3555	4098	3939		1770	3409		1025	2007	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	85	134	234	378	232	163	46	271	54	131	313	34
RTOR Reduction (vph)	0	0	208	0	98	0	0	9	0	0	3	0
Lane Group Flow (vph)	85	134	26	378	297	0	46	316	0	131	344	0
Confl. Peds. (#/hr)			1			33			40			33
Confl. Bikes (#/hr)			8						1			
Turn Type	Prot	NA	Perm	Prot	NA		Prot	NA		Prot	NA	
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			4									
Actuated Green, G (s)	11.2	14.2	14.2	18.2	21.2		7.9	66.1		23.5	81.7	
Effective Green, g (s)	12.7	15.7	15.7	19.7	23.2		9.4	68.1		25.0	83.7	
Actuated g/C Ratio	0.09	0.11	0.11	0.14	0.17		0.07	0.49		0.18	0.60	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	185	241	398	576	652		118	1658		183	1199	
v/s Ratio Prot	0.04	c0.06		c0.09	0.08		0.03	0.09		c0.13	c0.17	
v/s Ratio Perm			0.01									
v/c Ratio	0.46	0.56	0.07	0.66	0.45		0.39	0.19		0.72	0.29	
Uniform Delay, d1	60.4	58.8	55.6	56.9	52.7		62.6	20.4		54.2	13.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.16	1.08		1.00	1.00	
Incremental Delay, d2	1.8	2.8	0.1	2.7	0.5		1.9	0.2		12.5	0.6	
Delay (s)	62.2	61.6	55.7	59.6	53.2		74.4	22.2		66.7	14.3	
Level of Service	E	E	E	E	D		E	C		E	B	
Approach Delay (s)		58.7			56.3			28.7			28.6	
Approach LOS		E			E			C			C	
Intersection Summary												
HCM 2000 Control Delay			45.5			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			140.0			Sum of lost time (s)				11.5		
Intersection Capacity Utilization			70.7%			ICU Level of Service				C		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

28: Saratoga Dr & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  		 	  				 	 	 	
Traffic Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Future Volume (vph)	71	875	0	163	527	235	28	60	236	370	178	314
Ideal Flow (vphpl)	1000	1000	1000	1000	1900	1900	1000	1000	1100	1000	1000	1900
Total Lost time (s)	3.0	3.0		3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	*0.50	*0.80		*0.60	0.91	1.00		*0.95	0.88	*0.65	*0.70	0.91
Frpb, ped/bikes	1.00	1.00		1.00	1.00	0.97		1.00	0.96	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00		1.00	1.00	0.85		1.00	0.85	1.00	0.93	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (prot)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Flt Permitted	0.95	1.00		0.95	1.00	1.00		0.98	1.00	0.95	1.00	1.00
Satd. Flow (perm)	466	2353		1118	5085	1535		917	1547	1211	1276	1441
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	875	0	163	527	235	28	60	236	370	178	314
RTOR Reduction (vph)	0	0	0	0	0	165	0	0	192	0	46	113
Lane Group Flow (vph)	71	875	0	163	527	71	0	88	44	370	289	44
Confl. Peds. (#/hr)						12			22			
Turn Type	Prot	NA		Prot	NA	Perm	Split	NA	Perm	Split	NA	Perm
Protected Phases	5	2		1	6		8	8		4	4	
Permitted Phases						6			8			4
Actuated Green, G (s)	18.7	36.2		24.0	40.2	40.2		24.5	24.5	37.0	37.0	37.0
Effective Green, g (s)	21.0	38.0		25.0	42.0	42.0		26.2	26.2	38.8	38.8	38.8
Actuated g/C Ratio	0.15	0.27		0.18	0.30	0.30		0.19	0.19	0.28	0.28	0.28
Clearance Time (s)	5.3	4.8		4.0	4.8	4.8		4.7	4.7	4.8	4.8	4.8
Vehicle Extension (s)	3.0	6.0		3.0	6.0	6.0		4.0	4.0	6.0	6.0	6.0
Lane Grp Cap (vph)	69	638		199	1525	460		171	289	335	353	399
v/s Ratio Prot	0.15	c0.37		c0.15	0.10			c0.10		c0.31	0.23	
v/s Ratio Perm						0.05			0.03			0.03
v/c Ratio	1.03	1.37		0.82	0.35	0.15		0.51	0.15	1.10	0.82	0.11
Uniform Delay, d1	59.5	51.0		55.3	38.3	36.0		51.2	47.6	50.6	47.3	37.7
Progression Factor	1.00	1.00		1.00	1.00	1.00		0.21	0.21	0.78	0.71	0.75
Incremental Delay, d2	116.6	177.0		22.4	0.6	0.7		3.2	0.3	79.4	15.4	0.3
Delay (s)	176.1	228.0		77.7	38.9	36.7		14.0	10.5	119.1	49.2	28.4
Level of Service	F	F		E	D	D		B	B	F	D	C
Approach Delay (s)		224.1			45.2			11.4			75.4	
Approach LOS		F			D			B			E	
Intersection Summary												
HCM 2000 Control Delay			105.5				HCM 2000 Level of Service			F		
HCM 2000 Volume to Capacity ratio			1.01									
Actuated Cycle Length (s)			140.0				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			92.1%				ICU Level of Service			F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (vph)	10	73	27	23	71	49	26	183	48	73	161	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.87			0.85			0.90			0.96	
Flpb, ped/bikes		0.99			0.97			0.98			0.95	
Frt		0.97			0.95			0.97			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1535			1451			1598			1652	
Flt Permitted		0.97			0.95			0.96			0.85	
Satd. Flow (perm)		1503			1391			1536			1430	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	73	27	23	71	49	26	183	48	73	161	20
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	110	0	0	143	0	0	257	0	0	254	0
Confl. Peds. (#/hr)	99		289	112		240	177		253	141		276
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		601			556			789			735	
v/s Ratio Prot												
v/s Ratio Perm		0.07			c0.10			0.17			c0.18	
v/c Ratio		0.18			0.26			0.33			0.35	
Uniform Delay, d1		13.6			14.0			9.9			10.0	
Progression Factor		1.00			1.00			0.75			1.00	
Incremental Delay, d2		0.7			1.1			1.0			1.3	
Delay (s)		14.3			15.2			8.5			11.3	
Level of Service		B			B			A			B	
Approach Delay (s)		14.3			15.2			8.5			11.3	
Approach LOS		B			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		11.5			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.31										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		53.1%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (vph)	32	149	49	22	105	40	42	185	57	33	151	29
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.89			0.87			0.89			0.93	
Flpb, ped/bikes		0.98			0.99			0.96			0.97	
Frt		0.97			0.97			0.97			0.98	
Flt Protected		0.99			0.99			0.99			0.99	
Satd. Flow (prot)		1562			1539			1548			1627	
Flt Permitted		0.95			0.95			0.94			0.93	
Satd. Flow (perm)		1488			1465			1458			1520	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	32	149	49	22	105	40	42	185	57	33	151	29
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	230	0	0	167	0	0	284	0	0	213	0
Confl. Peds. (#/hr)	96		246	88		248	158		240	152		254
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			31.5			31.5	
Effective Green, g (s)		28.0			28.0			36.0			36.0	
Actuated g/C Ratio		0.40			0.40			0.51			0.51	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		595			586			749			781	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.11			c0.19			0.14	
v/c Ratio		0.39			0.28			0.38			0.27	
Uniform Delay, d1		14.9			14.2			10.3			9.6	
Progression Factor		1.00			1.00			1.00			0.65	
Incremental Delay, d2		1.9			1.2			1.5			0.8	
Delay (s)		16.8			15.4			11.7			7.1	
Level of Service		B			B			B			A	
Approach Delay (s)		16.8			15.4			11.7			7.1	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.6			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.38										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		47.7%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	148	61	105	338	119	29	136	32	40	150	100
Future Volume (vph)	45	148	61	105	338	119	29	136	32	40	150	100
Ideal Flow (vphpl)	1900	1000	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Util. Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Frpb, ped/bikes		0.88		1.00	1.00	0.49		0.94			0.81	
Flpb, ped/bikes		0.97		0.91	1.00	1.00		0.97			0.98	
Frt		0.97		1.00	1.00	0.85		0.98			0.95	
Flt Protected		0.99		0.95	1.00	1.00		0.99			0.99	
Satd. Flow (prot)		803		1614	980	780		865			736	
Flt Permitted		0.90		0.58	1.00	1.00		0.93			0.94	
Satd. Flow (perm)		729		993	980	780		808			696	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	45	148	61	105	338	119	29	136	32	40	150	100
RTOR Reduction (vph)	0	0	0	0	0	60	0	0	0	0	0	0
Lane Group Flow (vph)	0	254	0	105	338	59	0	197	0	0	290	0
Confl. Peds. (#/hr)	131		272	76		244	196		189	113		327
Confl. Bikes (#/hr)			8			4			4			6
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8		8	2			6		
Actuated Green, G (s)		27.5		27.5	27.5	27.5		22.5			22.5	
Effective Green, g (s)		32.0		32.0	32.0	32.0		27.0			27.0	
Actuated g/C Ratio		0.49		0.49	0.49	0.49		0.42			0.42	
Clearance Time (s)		7.5		7.5	7.5	7.5		7.5			7.5	
Vehicle Extension (s)		3.0		3.0	3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		358		488	482	384		335			289	
v/s Ratio Prot					0.34							
v/s Ratio Perm		c0.35		0.11		0.08		0.24			c0.42	
v/c Ratio		0.71		0.22	0.70	0.15		0.59			1.00	
Uniform Delay, d1		12.9		9.4	12.8	9.1		14.7			19.0	
Progression Factor		1.00		1.00	1.00	1.00		1.00			1.00	
Incremental Delay, d2		6.3		1.0	8.3	0.8		7.4			53.8	
Delay (s)		19.2		10.4	21.1	9.9		22.1			72.8	
Level of Service		B		B	C	A		C			E	
Approach Delay (s)		19.2			16.7			22.1			72.8	
Approach LOS		B			B			C			E	
Intersection Summary												
HCM 2000 Control Delay			30.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.84									
Actuated Cycle Length (s)			65.0				Sum of lost time (s)			6.0		
Intersection Capacity Utilization			115.9%				ICU Level of Service			H		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	562	48	12	190	22	39	131	81	67	114	115
Future Volume (vph)	37	562	48	12	190	22	39	131	81	67	114	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	1000	1900
Total Lost time (s)		2.5			2.5			3.0			2.5	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.95			0.90			0.85	
Flpb, ped/bikes		0.99			1.00			0.99			0.97	
Frt		0.99			0.99			0.96			0.95	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3360			911			822			755	
Flt Permitted		0.93			0.96			0.92			0.88	
Satd. Flow (perm)		3123			877			760			672	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	562	48	12	190	22	39	131	81	67	114	115
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	647	0	0	224	0	0	251	0	0	296	0
Confl. Peds. (#/hr)	93		161	74		251	87		232	158		180
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		34.5			34.5			30.5			30.5	
Effective Green, g (s)		39.5			39.5			35.0			35.5	
Actuated g/C Ratio		0.49			0.49			0.44			0.44	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		1541			433			332			298	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.26			0.33			c0.44	
v/c Ratio		0.42			0.52			0.76			0.99	
Uniform Delay, d1		12.9			13.8			18.9			22.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			4.4			14.8			50.5	
Delay (s)		13.8			18.1			33.7			72.6	
Level of Service		B			B			C			E	
Approach Delay (s)		13.8			18.1			33.7			72.6	
Approach LOS		B			B			C			E	
Intersection Summary												
HCM 2000 Control Delay		30.3			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.75										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			5.5				
Intersection Capacity Utilization		99.8%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	375	55	47	286	55	38	161	109	29	127	34
Future Volume (vph)	38	375	55	47	286	55	38	161	109	29	127	34
Ideal Flow (vphpl)	1900	1500	1900	1900	1000	1900	1900	1300	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.98			0.97			0.92			0.97	
Flpb, ped/bikes		1.00			1.00			0.99			0.99	
Frt		0.98			0.98			0.95			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		1404			927			1107			1737	
Flt Permitted		0.95			0.91			0.95			0.92	
Satd. Flow (perm)		1337			848			1054			1616	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	38	375	55	47	286	55	38	161	109	29	127	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	468	0	0	388	0	0	308	0	0	190	0
Confl. Peds. (#/hr)	28		90	38		74	52		84	46		80
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			24.5			24.5	
Effective Green, g (s)		35.0			35.0			29.0			29.0	
Actuated g/C Ratio		0.50			0.50			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		668			424			436			669	
v/s Ratio Prot												
v/s Ratio Perm		0.35			c0.46			c0.29			0.12	
v/c Ratio		0.70			0.92			0.71			0.28	
Uniform Delay, d1		13.5			16.1			17.0			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		6.0			26.9			9.3			1.1	
Delay (s)		19.5			43.0			26.3			14.7	
Level of Service		B			D			C			B	
Approach Delay (s)		19.5			43.0			26.3			14.7	
Approach LOS		B			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		27.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.82										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		100.3%			ICU Level of Service			G				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (vph)	63	182	57	26	101	34	9	76	26	28	239	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.90			0.93			0.90			0.89	
Flpb, ped/bikes		0.98			0.98			0.99			0.99	
Frt		0.97			0.97			0.97			0.97	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1584			1644			1601			1577	
Flt Permitted		0.91			0.92			0.97			0.97	
Satd. Flow (perm)		1454			1530			1556			1543	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	63	182	57	26	101	34	9	76	26	28	239	82
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	302	0	0	161	0	0	111	0	0	349	0
Confl. Peds. (#/hr)	74		242	105		143	137		174	69		211
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.5			30.5			34.5			34.5	
Effective Green, g (s)		35.0			35.0			39.0			39.0	
Actuated g/C Ratio		0.44			0.44			0.49			0.49	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		636			669			758			752	
v/s Ratio Prot												
v/s Ratio Perm		c0.21			0.11			0.07			c0.23	
v/c Ratio		0.47			0.24			0.15			0.46	
Uniform Delay, d1		16.0			14.1			11.3			13.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.5			0.9			0.4			2.1	
Delay (s)		18.5			15.0			11.7			15.6	
Level of Service		B			B			B			B	
Approach Delay (s)		18.5			15.0			11.7			15.6	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay		16.0			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.47										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		59.3%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (vph)	25	165	38	18	224	65	10	69	12	20	217	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		0.97			0.97			0.98			0.98	
Flpb, ped/bikes		0.99			0.99			0.99			0.99	
Frt		0.98			0.97			0.98			0.98	
Flt Protected		0.99			1.00			0.99			1.00	
Satd. Flow (prot)		1734			1732			1764			1769	
Flt Permitted		0.94			0.97			0.95			0.98	
Satd. Flow (perm)		1641			1692			1686			1732	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	165	38	18	224	65	10	69	12	20	217	36
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	228	0	0	307	0	0	91	0	0	273	0
Confl. Peds. (#/hr)	142		166	166		142	123		107	107		123
Confl. Bikes (#/hr)						2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		13.2			13.2			12.1			12.1	
Effective Green, g (s)		17.7			17.7			16.6			16.6	
Actuated g/C Ratio		0.44			0.44			0.41			0.41	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		720			743			694			713	
v/s Ratio Prot												
v/s Ratio Perm		0.14			0.18			0.05			0.16	
v/c Ratio		0.32			0.41			0.13			0.38	
Uniform Delay, d1		7.4			7.7			7.4			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.4			0.1			0.3	
Delay (s)		7.6			8.1			7.5			8.6	
Level of Service		A			A			A			A	
Approach Delay (s)		7.6			8.1			7.5			8.6	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.1			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.40										
Actuated Cycle Length (s)		40.3			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		46.2%			ICU Level of Service			A				
Analysis Period (min)		15										

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (vph)	19	274	29	102	296	290	12	450	195	209	439	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	2.5	2.5	2.5	2.5	2.5	2.5		2.5	2.5		2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00		0.95	1.00		0.95	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.93		1.00	0.93		0.99	
Flpb, ped/bikes	0.99	1.00	1.00	0.99	1.00	1.00		1.00	1.00		0.99	
Frt	1.00	1.00	0.85	1.00	1.00	0.85		1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00		1.00	1.00		0.98	
Satd. Flow (prot)	1747	1863	1511	1751	1863	1477		3534	1470		3423	
Flt Permitted	0.50	1.00	1.00	0.52	1.00	1.00		0.94	1.00		0.66	
Satd. Flow (perm)	918	1863	1511	958	1863	1477		3313	1470		2286	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	274	29	102	296	290	12	450	195	209	439	36
RTOR Reduction (vph)	0	0	15	0	0	117	0	0	108	0	0	0
Lane Group Flow (vph)	19	274	14	102	296	173	0	462	87	0	684	0
Confl. Peds. (#/hr)	17		24	13		41	11		37	24		28
Confl. Bikes (#/hr)			5			4			4			6
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		
Actuated Green, G (s)	37.5	37.5	37.5	37.5	37.5	37.5		33.5	33.5		33.5	
Effective Green, g (s)	39.5	39.5	39.5	39.5	39.5	39.5		35.5	35.5		35.5	
Actuated g/C Ratio	0.49	0.49	0.49	0.49	0.49	0.49		0.44	0.44		0.44	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	
Lane Grp Cap (vph)	453	919	746	473	919	729		1470	652		1014	
v/s Ratio Prot		0.15			c0.16							
v/s Ratio Perm	0.02		0.01	0.11		0.12		0.14	0.06		c0.30	
v/c Ratio	0.04	0.30	0.02	0.22	0.32	0.24		0.31	0.13		0.67	
Uniform Delay, d1	10.5	12.0	10.3	11.5	12.2	11.6		14.4	13.2		17.7	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	
Incremental Delay, d2	0.2	0.8	0.0	1.0	0.9	0.8		0.6	0.4		3.6	
Delay (s)	10.6	12.9	10.4	12.5	13.1	12.4		14.9	13.6		21.3	
Level of Service	B	B	B	B	B	B		B	B		C	
Approach Delay (s)		12.5			12.7			14.5			21.3	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay			15.7				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			80.0				Sum of lost time (s)			5.0		
Intersection Capacity Utilization			66.3%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (vph)	43	266	32	90	224	65	25	596	75	108	430	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			0.99			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.98			0.98			0.99	
Flt Protected		0.99			0.99			1.00			0.99	
Satd. Flow (prot)		3455			1786			3462			3454	
Flt Permitted		0.89			0.85			0.93			0.73	
Satd. Flow (perm)		3088			1540			3212			2545	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	266	32	90	224	65	25	596	75	108	430	41
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	341	0	0	379	0	0	696	0	0	579	0
Confl. Peds. (#/hr)	9		29	15		25	14		31	16		23
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.6			19.6			16.3			16.3	
Effective Green, g (s)		21.1			21.1			17.8			17.8	
Actuated g/C Ratio		0.47			0.47			0.40			0.40	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1451			723			1273			1008	
v/s Ratio Prot												
v/s Ratio Perm		0.11			0.25			0.22			0.23	
v/c Ratio		0.24			0.52			0.55			0.57	
Uniform Delay, d1		7.1			8.4			10.4			10.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.7			0.5			0.8	
Delay (s)		7.2			9.1			10.9			11.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.2			9.1			10.9			11.4	
Approach LOS		A			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		10.1			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.55										
Actuated Cycle Length (s)		44.9			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		83.9%			ICU Level of Service			E				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (vph)	177	206	63	25	161	49	13	170	51	63	249	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0			3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes	1.00	0.95			0.98			0.97		1.00	0.94	
Flpb, ped/bikes	0.97	1.00			0.99			1.00		0.97	1.00	
Frt	1.00	0.96			0.97			0.97		1.00	0.95	
Flt Protected	0.95	1.00			0.99			1.00		0.95	1.00	
Satd. Flow (prot)	1719	1706			1756			1736		1725	1658	
Flt Permitted	0.58	1.00			0.95			0.97		0.58	1.00	
Satd. Flow (perm)	1050	1706			1681			1694		1051	1658	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	177	206	63	25	161	49	13	170	51	63	249	121
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	177	269	0	0	235	0	0	234	0	63	370	0
Confl. Peds. (#/hr)	34		109	51		55	58		72	21		92
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	27.5	27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)	32.0	32.0			32.0			32.0		32.0	32.0	
Actuated g/C Ratio	0.46	0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)	7.5	7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)	480	779			768			774		480	757	
v/s Ratio Prot		0.16									c0.22	
v/s Ratio Perm	c0.17				0.14			0.14		0.06		
v/c Ratio	0.37	0.35			0.31			0.30		0.13	0.49	
Uniform Delay, d1	12.4	12.2			12.0			12.0		11.0	13.3	
Progression Factor	1.00	1.00			1.00			0.83		1.00	1.00	
Incremental Delay, d2	2.2	1.2			1.0			1.0		0.6	2.3	
Delay (s)	14.6	13.5			13.0			10.9		11.5	15.5	
Level of Service	B	B			B			B		B	B	
Approach Delay (s)		13.9			13.0			10.9			15.0	
Approach LOS		B			B			B			B	
Intersection Summary												
HCM 2000 Control Delay			13.6									
HCM 2000 Volume to Capacity ratio			0.43									
Actuated Cycle Length (s)			70.0									
Intersection Capacity Utilization			77.2%									
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (vph)	33	202	73	30	200	40	22	125	28	42	240	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5		2.5	2.5	
Lane Util. Factor		1.00			1.00			1.00		1.00	1.00	
Frpb, ped/bikes		0.87			0.93			0.92		1.00	0.90	
Flpb, ped/bikes		0.98			0.98			0.99		0.86	1.00	
Frt		0.97			0.98			0.98		1.00	0.97	
Flt Protected		0.99			0.99			0.99		0.95	1.00	
Satd. Flow (prot)		1539			1647			1635		1514	1624	
Flt Permitted		0.95			0.94			0.94		0.63	1.00	
Satd. Flow (perm)		1467			1563			1552		1009	1624	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	33	202	73	30	200	40	22	125	28	42	240	59
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	308	0	0	270	0	0	175	0	42	299	0
Confl. Peds. (#/hr)	149		268	177		245	91		273	96		240
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		27.5			27.5			27.5		27.5	27.5	
Effective Green, g (s)		32.5			32.5			32.5		32.5	32.5	
Actuated g/C Ratio		0.46			0.46			0.46		0.46	0.46	
Clearance Time (s)		7.5			7.5			7.5		7.5	7.5	
Lane Grp Cap (vph)		681			725			720		468	754	
v/s Ratio Prot												c0.18
v/s Ratio Perm		c0.21			0.17			0.11		0.04		
v/c Ratio		0.45			0.37			0.24		0.09	0.40	
Uniform Delay, d1		12.7			12.1			11.3		10.5	12.3	
Progression Factor		1.00			1.00			1.00		0.71	0.65	
Incremental Delay, d2		2.2			1.5			0.8		0.3	1.4	
Delay (s)		14.9			13.6			12.1		7.8	9.5	
Level of Service		B			B			B		A	A	
Approach Delay (s)		14.9			13.6			12.1			9.3	
Approach LOS		B			B			B			A	
Intersection Summary												
HCM 2000 Control Delay		12.4			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		70.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		59.5%			ICU Level of Service			B				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

40: San Mateo Dr & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (vph)	43	320	48	30	160	31	6	110	37	109	164	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frpb, ped/bikes		0.94			0.96			0.94			0.94	
Flpb, ped/bikes		0.97			0.97			1.00			0.98	
Frt		0.98			0.98			0.97			0.97	
Flt Protected		0.99			0.99			1.00			0.98	
Satd. Flow (prot)		3132			3213			1679			1643	
Flt Permitted		0.90			0.87			0.99			0.86	
Satd. Flow (perm)		2831			2804			1661			1429	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	43	320	48	30	160	31	6	110	37	109	164	64
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	411	0	0	221	0	0	153	0	0	337	0
Confl. Peds. (#/hr)	128		217	124		196	93		192	68		221
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.5			23.5			41.5			41.5	
Effective Green, g (s)		28.0			28.0			46.0			46.0	
Actuated g/C Ratio		0.35			0.35			0.58			0.58	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Lane Grp Cap (vph)		990			981			955			821	
v/s Ratio Prot												
v/s Ratio Perm		c0.15			0.08			0.09			c0.24	
v/c Ratio		0.42			0.23			0.16			0.41	
Uniform Delay, d1		19.8			18.3			8.0			9.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.3			0.5			0.4			1.5	
Delay (s)		21.1			18.9			8.3			11.0	
Level of Service		C			B			A			B	
Approach Delay (s)		21.1			18.9			8.3			11.0	
Approach LOS		C			B			A			B	
Intersection Summary												
HCM 2000 Control Delay		15.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.41										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			6.0				
Intersection Capacity Utilization		68.3%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	103	367	271	112	146	104
Future Volume (vph)	103	367	271	112	146	104
Ideal Flow (vphpl)	1000	1500	1900	1900	1000	1900
Total Lost time (s)	6.0	6.0	6.0		6.0	6.0
Lane Util. Factor	1.00	1.00	1.00		1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.97		1.00	0.90
Flpb, ped/bikes	0.95	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.96		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	886	1471	1737		931	1420
Flt Permitted	0.52	1.00	1.00		0.95	1.00
Satd. Flow (perm)	489	1471	1737		931	1420
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	103	367	271	112	146	104
RTOR Reduction (vph)	0	0	0	0	0	76
Lane Group Flow (vph)	103	367	383	0	146	28
Confl. Peds. (#/hr)	55			53	32	55
Turn Type	Perm	NA	NA		Prot	Perm
Protected Phases		4	8		6	
Permitted Phases	4					6
Actuated Green, G (s)	18.0	18.0	18.0		10.1	10.1
Effective Green, g (s)	19.5	19.5	19.5		11.6	11.6
Actuated g/C Ratio	0.45	0.45	0.45		0.27	0.27
Clearance Time (s)	7.5	7.5	7.5		7.5	7.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	221	665	785		250	382
v/s Ratio Prot		c0.25	0.22		c0.16	
v/s Ratio Perm	0.21					0.02
v/c Ratio	0.47	0.55	0.49		0.58	0.07
Uniform Delay, d1	8.2	8.6	8.3		13.7	11.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	6.9	3.3	2.2		3.5	0.1
Delay (s)	15.1	11.9	10.5		17.1	11.8
Level of Service	B	B	B		B	B
Approach Delay (s)		12.6	10.5		14.9	
Approach LOS		B	B		B	
Intersection Summary						
HCM 2000 Control Delay			12.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.56			
Actuated Cycle Length (s)			43.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			63.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

42: El Camino Real & Peninsula Ave & Pard Rd

06/12/2020

												
Movement	WBL	WBR	WBR2	NBT	NBR	NBR2	SBL2	SBL	SBT	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Future Volume (vph)	133	115	12	914	151	154	1	78	879	3	88	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0					3.0		3.0	
Lane Util. Factor	1.00			0.95					0.95		0.97	
Frpb, ped/bikes	0.97			0.99					1.00		1.00	
Flpb, ped/bikes	1.00			1.00					1.00		1.00	
Frt	0.93			0.96					1.00		1.00	
Flt Protected	0.98			1.00					1.00		0.95	
Satd. Flow (prot)	1651			3371					3525		3426	
Flt Permitted	0.98			1.00					0.70		0.95	
Satd. Flow (perm)	1651			3371					2475		3426	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	133	115	12	914	151	154	1	78	879	3	88	3
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	260	0	0	1219	0	0	0	0	958	0	94	0
Confl. Peds. (#/hr)		9	9		16	8					7	9
Turn Type	Prot			NA			Perm	Perm	NA	Prot	Prot	
Protected Phases	3			2					6	4	4	
Permitted Phases							6	6				
Actuated Green, G (s)	16.7			39.3					39.3		6.0	
Effective Green, g (s)	18.2			40.8					40.8		7.5	
Actuated g/C Ratio	0.24			0.54					0.54		0.10	
Clearance Time (s)	4.5			4.5					4.5		4.5	
Vehicle Extension (s)	3.0			3.0					3.0		3.0	
Lane Grp Cap (vph)	397			1821					1337		340	
v/s Ratio Prot	c0.16			0.36							c0.03	
v/s Ratio Perm									c0.39			
v/c Ratio	0.65			0.67					0.72		0.28	
Uniform Delay, d1	25.8			12.5					13.0		31.5	
Progression Factor	1.00			1.00					1.00		1.00	
Incremental Delay, d2	3.9			0.9					1.9		0.4	
Delay (s)	29.7			13.4					14.9		31.9	
Level of Service	C			B					B		C	
Approach Delay (s)	29.7			13.4					14.9		31.9	
Approach LOS	C			B					B		C	
Intersection Summary												
HCM 2000 Control Delay			16.3									
HCM 2000 Volume to Capacity ratio			0.65									
Actuated Cycle Length (s)			75.5						9.0			
Intersection Capacity Utilization			98.0%						F			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5		2.5	2.5		3.0	2.5		3.0	2.5	
Lane Util. Factor		1.00		1.00	1.00		1.00	0.95		1.00	0.95	
Frpb, ped/bikes		0.99		1.00	0.98		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00		0.99	1.00		1.00	1.00		1.00	1.00	
Frt		0.96		1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1760		1759	1649		1770	3470		1770	3534	
Flt Permitted		0.95		0.62	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1688		1152	1649		1770	3470		1770	3534	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	19	56	31	200	31	64	34	1244	145	105	1126	9
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	106	0	200	95	0	34	1389	0	105	1135	0
Confl. Peds. (#/hr)	7		7	7		7			6			4
Confl. Bikes (#/hr)						1						1
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		25.7		25.7	25.7		4.7	56.1		12.5	63.9	
Effective Green, g (s)		27.7		27.7	27.7		6.2	58.1		14.0	65.9	
Actuated g/C Ratio		0.26		0.26	0.26		0.06	0.54		0.13	0.61	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		433		296	423		101	1870		229	2160	
v/s Ratio Prot					0.06		0.02	c0.40		c0.06	0.32	
v/s Ratio Perm		0.06		c0.17								
v/c Ratio		0.24		0.68	0.22		0.34	0.74		0.46	0.53	
Uniform Delay, d1		31.8		36.0	31.6		48.8	19.1		43.4	12.0	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.3		6.0	0.3		2.0	1.6		1.5	0.2	
Delay (s)		32.1		42.0	31.9		50.8	20.7		44.8	12.2	
Level of Service		C		D	C		D	C		D	B	
Approach Delay (s)		32.1			38.7			21.5			15.0	
Approach LOS		C			D			C			B	
Intersection Summary												
HCM 2000 Control Delay		20.9										
HCM 2000 Volume to Capacity ratio		0.68										
Actuated Cycle Length (s)		107.8										
Intersection Capacity Utilization		72.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		2.5			2.5			2.5			2.5	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		1.00			1.00			1.00			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.98			0.98			0.99			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1780			1772			3481			3508	
Flt Permitted		0.86			0.73			0.94			0.92	
Satd. Flow (perm)		1554			1329			3275			3231	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	71	110	37	104	72	29	14	1458	126	18	1231	53
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	218	0	0	205	0	0	1598	0	0	1302	0
Confl. Peds. (#/hr)	16		5	5		16	15		14	14		15
Confl. Bikes (#/hr)			1			1						
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.6			15.6			40.4			40.4	
Effective Green, g (s)		17.6			17.6			42.4			42.4	
Actuated g/C Ratio		0.27			0.27			0.65			0.65	
Clearance Time (s)		4.5			4.5			4.5			4.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		420			359			2136			2107	
v/s Ratio Prot												
v/s Ratio Perm		0.14			c0.15			c0.49			0.40	
v/c Ratio		0.52			0.57			0.75			0.62	
Uniform Delay, d1		20.1			20.4			7.7			6.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.1			2.2			1.5			0.5	
Delay (s)		21.2			22.6			9.1			7.1	
Level of Service		C			C			A			A	
Approach Delay (s)		21.2			22.6			9.1			7.1	
Approach LOS		C			C			A			A	
Intersection Summary												
HCM 2000 Control Delay		10.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.70										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			5.0				
Intersection Capacity Utilization		79.5%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

45: El Camino Real & Crystal Springs Rd

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	257	74	77	1139	1269	201
Future Volume (vph)	257	74	77	1139	1269	201
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	1.00		1.00	0.95	0.95	
Frpb, ped/bikes	0.99		1.00	1.00	0.99	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.97		1.00	1.00	0.98	
Flt Protected	0.96		0.95	1.00	1.00	
Satd. Flow (prot)	1724		1770	3539	3442	
Flt Permitted	0.96		0.95	1.00	1.00	
Satd. Flow (perm)	1724		1770	3539	3442	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	257	74	77	1139	1269	201
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	331	0	77	1139	1470	0
Confl. Peds. (#/hr)		21				11
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	19.4		4.7	49.6	40.4	
Effective Green, g (s)	20.9		6.2	51.1	41.9	
Actuated g/C Ratio	0.27		0.08	0.66	0.54	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	461		140	2318	1848	
v/s Ratio Prot	c0.19		c0.04	0.32	c0.43	
v/s Ratio Perm						
v/c Ratio	0.72		0.55	0.49	0.80	
Uniform Delay, d1	25.9		34.6	6.8	14.6	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	5.3		4.6	0.2	2.5	
Delay (s)	31.2		39.2	7.0	17.0	
Level of Service	C		D	A	B	
Approach Delay (s)	31.2			9.0	17.0	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay			15.4		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.75			
Actuated Cycle Length (s)			78.0		Sum of lost time (s)	9.0
Intersection Capacity Utilization			75.1%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

46: El Camino Real & 2nd Ave

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			 			 
Traffic Volume (vph)	276	118	1404	282	74	1208
Future Volume (vph)	276	118	1404	282	74	1208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frpb, ped/bikes	1.00	0.95	1.00	0.91	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	0.85	1.00	1.00
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1770	1507	3539	1445	1770	3539
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1770	1507	3539	1445	1770	3539
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	276	118	1404	282	74	1208
RTOR Reduction (vph)	0	87	0	137	0	0
Lane Group Flow (vph)	276	31	1404	145	74	1208
Confl. Peds. (#/hr)	11	50		41		
Turn Type	Prot	Perm	NA	Perm	Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3		2		
Actuated Green, G (s)	15.2	15.2	31.2	31.2	3.7	39.4
Effective Green, g (s)	16.7	16.7	32.7	32.7	5.2	40.9
Actuated g/C Ratio	0.26	0.26	0.51	0.51	0.08	0.64
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	464	395	1819	742	144	2275
v/s Ratio Prot	c0.16		c0.40		0.04	c0.34
v/s Ratio Perm		0.02		0.10		
v/c Ratio	0.59	0.08	0.77	0.20	0.51	0.53
Uniform Delay, d1	20.5	17.7	12.4	8.3	28.0	6.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	2.0	0.1	2.1	0.1	3.1	0.2
Delay (s)	22.5	17.7	14.5	8.5	31.1	6.4
Level of Service	C	B	B	A	C	A
Approach Delay (s)	21.1		13.5			7.8
Approach LOS	C		B			A
Intersection Summary						
HCM 2000 Control Delay			12.2		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.70			
Actuated Cycle Length (s)			63.6		Sum of lost time (s)	9.0
Intersection Capacity Utilization			73.4%		ICU Level of Service	D
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	119	193	189	137	103	105	1568	171	72	1309	119
Future Volume (vph)	119	119	193	189	137	103	105	1568	171	72	1309	119
Ideal Flow (vphpl)	1900	1600	1900	1000	1600	1900	1900	2500	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	2.5	2.5	2.5	3.0	2.5		3.0	2.5	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.89	1.00	1.00	0.86	1.00	0.96		1.00	0.98	
Flpb, ped/bikes	0.96	1.00	1.00	0.94	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1701	1569	1410	875	1569	1363	1770	6357		1770	4946	
Flt Permitted	0.59	1.00	1.00	0.63	1.00	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1052	1569	1410	578	1569	1363	1770	6357		1770	4946	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	119	119	193	189	137	103	105	1568	171	72	1309	119
RTOR Reduction (vph)	0	0	130	0	0	73	0	0	0	0	0	0
Lane Group Flow (vph)	119	119	63	189	137	30	105	1739	0	72	1428	0
Confl. Peds. (#/hr)	45		88	67		114			136			66
Confl. Bikes (#/hr)			2			4			2			3
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8						
Actuated Green, G (s)	29.6	29.6	29.6	29.6	29.6	29.6	10.7	57.7		7.2	54.2	
Effective Green, g (s)	31.1	31.1	31.1	31.6	31.6	31.6	12.2	59.7		8.7	56.2	
Actuated g/C Ratio	0.29	0.29	0.29	0.29	0.29	0.29	0.11	0.55		0.08	0.52	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	302	451	406	169	459	398	199	3514		142	2573	
v/s Ratio Prot		0.08			0.09		c0.06	0.27		0.04	c0.29	
v/s Ratio Perm	0.11		0.04	c0.33		0.02						
v/c Ratio	0.39	0.26	0.16	1.12	0.30	0.08	0.53	0.49		0.51	0.55	
Uniform Delay, d1	30.9	29.6	28.7	38.2	29.6	27.6	45.2	14.9		47.6	17.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.9	0.3	0.2	104.5	0.4	0.1	2.5	0.5		2.8	0.3	
Delay (s)	31.7	29.9	28.8	142.7	30.0	27.7	47.7	15.4		50.4	17.7	
Level of Service	C	C	C	F	C	C	D	B		D	B	
Approach Delay (s)		29.9			79.1			17.2			19.3	
Approach LOS		C			E			B			B	
Intersection Summary												
HCM 2000 Control Delay			25.6				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			108.0				Sum of lost time (s)			8.5		
Intersection Capacity Utilization			90.7%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	54	74	62	267	49	87	21	1595	230	187	1543	30
Future Volume (vph)	54	74	62	267	49	87	21	1595	230	187	1543	30
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1000	2500	1900	2500	2500	1900
Total Lost time (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		1.00	0.93	1.00	0.96		1.00	0.99		1.00	1.00	
Flpb, ped/bikes		0.99	1.00	0.97	1.00		1.00	1.00		1.00	1.00	
Frt		1.00	0.85	1.00	0.90		1.00	0.98		1.00	1.00	
Flt Protected		0.98	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		949	1471	1708	2119		931	6494		2328	6642	
Flt Permitted		0.84	1.00	0.62	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		817	1471	1120	2119		931	6494		2328	6642	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	54	74	62	267	49	87	21	1595	230	187	1543	30
RTOR Reduction (vph)	0	0	38	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	128	24	267	136	0	21	1825	0	187	1573	0
Confl. Peds. (#/hr)	37		82	45		60			68			74
Turn Type	Perm	NA	pm+ov	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4	5		8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)		26.6	32.1	26.6	26.6		5.5	42.6		12.9	50.0	
Effective Green, g (s)		28.1	35.1	28.1	28.1		7.0	44.1		14.4	51.5	
Actuated g/C Ratio		0.29	0.37	0.29	0.29		0.07	0.46		0.15	0.54	
Clearance Time (s)		4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		240	586	329	622		68	2995		350	3578	
v/s Ratio Prot			0.00		0.06		0.02	c0.28		c0.08	0.24	
v/s Ratio Perm		0.16	0.01	c0.24								
v/c Ratio		0.53	0.04	0.81	0.22		0.31	0.61		0.53	0.44	
Uniform Delay, d1		28.3	19.4	31.3	25.5		42.0	19.3		37.5	13.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		2.3	0.0	14.1	0.2		11.4	0.9		1.6	0.1	
Delay (s)		30.5	19.5	45.4	25.6		53.4	20.2		39.1	13.4	
Level of Service		C	B	D	C		D	C		D	B	
Approach Delay (s)		26.9		38.7			20.6			16.1		
Approach LOS		C		D			C			B		
Intersection Summary												
HCM 2000 Control Delay			20.8			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			95.6			Sum of lost time (s)				9.0		
Intersection Capacity Utilization			97.0%			ICU Level of Service				F		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

49: El Camino Real & Barneson Ave

06/12/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	154	48	44	1861	1532	67
Future Volume (vph)	154	48	44	1861	1532	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0			3.0	3.0	
Lane Util. Factor	1.00			0.91	0.91	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.97			1.00	0.99	
Flt Protected	0.96			1.00	1.00	
Satd. Flow (prot)	1722			5079	5041	
Flt Permitted	0.96			0.86	1.00	
Satd. Flow (perm)	1722			4351	5041	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	154	48	44	1861	1532	67
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	202	0	0	1905	1599	0
Confl. Peds. (#/hr)		33	18			18
Turn Type	Prot		Perm	NA	NA	
Protected Phases	4			2	6	
Permitted Phases			2			
Actuated Green, G (s)	13.9			43.4	43.4	
Effective Green, g (s)	15.4			44.9	44.9	
Actuated g/C Ratio	0.23			0.68	0.68	
Clearance Time (s)	4.5			4.5	4.5	
Vehicle Extension (s)	3.0			3.0	3.0	
Lane Grp Cap (vph)	399			2946	3413	
v/s Ratio Prot	c0.12				0.32	
v/s Ratio Perm				c0.44		
v/c Ratio	0.51			0.65	0.47	
Uniform Delay, d1	22.1			6.1	5.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.0			0.5	0.1	
Delay (s)	23.2			6.6	5.2	
Level of Service	C			A	A	
Approach Delay (s)	23.2			6.6	5.2	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.9		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			66.3		Sum of lost time (s)	6.0
Intersection Capacity Utilization			92.6%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.96	1.00	0.98		1.00	0.98		1.00	1.00	
Flpb, ped/bikes	0.98	1.00	1.00	0.98	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1738	1863	1526	1735	1704		1770	4878		1770	5049	
Flt Permitted	0.62	1.00	1.00	0.66	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1131	1863	1526	1213	1704		1770	4878		1770	5049	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	104	95	307	195	68	50	256	1772	274	86	1470	57
RTOR Reduction (vph)	0	0	235	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	104	95	72	195	118	0	256	2046	0	86	1527	0
Confl. Peds. (#/hr)	23		27	25		46			48			25
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8								
Actuated Green, G (s)	20.5	20.5	20.5	20.5	20.5		18.4	52.7		7.0	41.3	
Effective Green, g (s)	22.0	22.0	22.0	22.0	22.0		19.9	54.2		8.5	42.8	
Actuated g/C Ratio	0.23	0.23	0.23	0.23	0.23		0.21	0.58		0.09	0.46	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	265	437	358	284	400		375	2821		160	2306	
v/s Ratio Prot		0.05			0.07		c0.14	c0.42		0.05	0.30	
v/s Ratio Perm	0.09		0.05	c0.16								
v/c Ratio	0.39	0.22	0.20	0.69	0.29		0.68	0.73		0.54	0.66	
Uniform Delay, d1	30.2	28.9	28.8	32.7	29.5		34.0	14.3		40.7	19.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	0.3	0.3	6.7	0.4		5.1	0.9		3.4	0.7	
Delay (s)	31.2	29.2	29.1	39.4	29.9		39.1	15.3		44.2	20.5	
Level of Service	C	C	C	D	C		D	B		D	C	
Approach Delay (s)		29.5			35.8			17.9			21.8	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			21.7				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.73									
Actuated Cycle Length (s)			93.7				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			79.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95			1.00	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.98			1.00	0.95	1.00	1.00		1.00	0.99	
Flpb, ped/bikes	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	0.94			1.00	0.85	1.00	1.00		1.00	0.98	
Flt Protected	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1605			1813	1500	1770	5062		1770	4955	
Flt Permitted	0.95	0.98			0.97	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1605			1813	1500	1770	5062		1770	4955	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	442	86	135	88	71	204	85	1393	29	101	1333	149
RTOR Reduction (vph)	0	0	0	0	0	154	0	0	0	0	0	0
Lane Group Flow (vph)	336	327	0	0	159	50	85	1422	0	101	1482	0
Confl. Peds. (#/hr)			24			29			17			26
Confl. Bikes (#/hr)						3						5
Turn Type	Split	NA		Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8						
Actuated Green, G (s)	31.2	31.2			17.2	17.2	11.5	47.7		13.5	49.7	
Effective Green, g (s)	32.7	32.7			18.7	18.7	13.0	49.2		15.0	51.2	
Actuated g/C Ratio	0.26	0.26			0.15	0.15	0.10	0.39		0.12	0.40	
Clearance Time (s)	4.5	4.5			4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0			3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	430	411			265	219	180	1951		208	1988	
v/s Ratio Prot	0.20	c0.20			c0.09		0.05	c0.28		0.06	c0.30	
v/s Ratio Perm						0.03						
v/c Ratio	0.78	0.80			0.60	0.23	0.47	0.73		0.49	0.75	
Uniform Delay, d1	44.1	44.3			51.0	48.1	54.1	33.5		52.7	32.6	
Progression Factor	1.00	1.00			1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.9	10.2			3.6	0.5	2.0	1.4		1.8	1.6	
Delay (s)	53.1	54.5			54.6	48.6	56.0	34.9		54.5	34.2	
Level of Service	D	D			D	D	E	C		D	C	
Approach Delay (s)		53.8			51.2			36.1			35.5	
Approach LOS		D			D			D			D	
Intersection Summary												
HCM 2000 Control Delay			40.0		HCM 2000 Level of Service					D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			127.6		Sum of lost time (s)					12.0		
Intersection Capacity Utilization			88.0%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.90	1.00	0.99		1.00	0.99	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Flt Permitted	0.95	1.00	1.00	0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1763	1499	1681	1732	1423	1770	4872		1770	4946	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	178	30	316	128	147	78	1206	336	204	1102	102
RTOR Reduction (vph)	0	0	26	0	0	119	0	0	0	0	0	0
Lane Group Flow (vph)	137	193	4	218	226	28	78	1542	0	204	1204	0
Confl. Peds. (#/hr)			19			72			21			70
Confl. Bikes (#/hr)			1			5			1			5
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)	15.9	15.9	15.9	22.3	22.3	22.3	19.4	50.4		16.8	47.8	
Effective Green, g (s)	17.4	17.4	17.4	23.8	23.8	23.8	20.9	51.9		18.3	49.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.19	0.19	0.19	0.17	0.42		0.15	0.40	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	237	248	211	324	334	274	299	2049		262	1975	
v/s Ratio Prot	0.08	c0.11		0.13	c0.13		0.04	c0.32		c0.12	0.24	
v/s Ratio Perm			0.00			0.02						
v/c Ratio	0.58	0.78	0.02	0.67	0.68	0.10	0.26	0.75		0.78	0.61	
Uniform Delay, d1	49.6	51.1	45.7	46.2	46.2	41.0	44.5	30.3		50.6	29.4	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	3.4	14.2	0.0	5.4	5.4	0.2	0.5	1.6		13.6	0.5	
Delay (s)	53.0	65.4	45.7	51.6	51.6	41.2	45.0	31.9		64.2	30.0	
Level of Service	D	E	D	D	D	D	D	C		E	C	
Approach Delay (s)		59.0			49.0			32.5			34.9	
Approach LOS		E			D			C			C	
Intersection Summary												
HCM 2000 Control Delay			38.2				HCM 2000 Level of Service			D		
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			123.4				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.8%				ICU Level of Service			E		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor		0.95			1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes		0.99			0.96		1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.90		1.00	1.00		1.00	0.99	
Flt Protected		0.97			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		3175			1585		1770	5085		1770	5028	
Flt Permitted		0.81			0.92		0.95	1.00		0.95	1.00	
Satd. Flow (perm)		2632			1469		1770	5085		1770	5028	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	160	0	121	2	0	6	133	1528	0	32	1338	81
RTOR Reduction (vph)	0	95	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	186	0	0	8	0	133	1528	0	32	1419	0
Confl. Peds. (#/hr)			29	15		24			39			14
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)		10.3			10.3		10.8	41.7		2.8	33.7	
Effective Green, g (s)		11.8			11.8		12.3	43.2		4.3	35.2	
Actuated g/C Ratio		0.17			0.17		0.18	0.63		0.06	0.52	
Clearance Time (s)		4.5			4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		454			253		318	3216		111	2591	
v/s Ratio Prot							c0.08	0.30		0.02	c0.28	
v/s Ratio Perm		c0.07			0.01							
v/c Ratio		0.41			0.03		0.42	0.48		0.29	0.55	
Uniform Delay, d1		25.1			23.5		24.8	6.6		30.5	11.2	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.6			0.1		0.9	0.1		1.4	0.2	
Delay (s)		25.8			23.5		25.7	6.7		32.0	11.4	
Level of Service		C			C		C	A		C	B	
Approach Delay (s)		25.8			23.5			8.2			11.9	
Approach LOS		C			C			A			B	
Intersection Summary												
HCM 2000 Control Delay			11.3				HCM 2000 Level of Service			B		
HCM 2000 Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			68.3				Sum of lost time (s)			9.0		
Intersection Capacity Utilization			66.0%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	SBL	SBT	SBR	NWR
Lane Configurations												
Traffic Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Future Volume (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Util. Factor	0.95	0.95	1.00		0.95		1.00	0.91	1.00	0.86		1.00
Frpb, ped/bikes	1.00	1.00	0.88		0.98		1.00	1.00	1.00	0.99		1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Frt	1.00	1.00	0.85		0.96		1.00	1.00	1.00	0.98		1.00
Flt Protected	0.95	0.96	1.00		0.98		0.95	1.00	0.95	1.00		1.00
Satd. Flow (prot)	1681	1694	1400		3289		1770	5085	1770	6194		1863
Flt Permitted	0.95	0.96	1.00		0.79		0.95	1.00	0.95	1.00		1.00
Satd. Flow (perm)	1681	1694	1400		2658		1770	5085	1770	6194		1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	274	15	209	62	62	42	135	1075	106	1402	263	410
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	145	144	209	0	166	0	135	1075	106	1665	0	410
Confl. Peds. (#/hr)			63			34					51	
Confl. Bikes (#/hr)			1			6					7	
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA	Prot	NA		Prot
Protected Phases	3	3			4		5	2!	1	6		2!
Permitted Phases			3	4								
Actuated Green, G (s)	25.9	25.9	25.9		13.7		15.1	51.0	10.7	46.6		51.0
Effective Green, g (s)	27.4	27.4	27.4		15.2		16.6	52.5	12.2	48.1		52.5
Actuated g/C Ratio	0.23	0.23	0.23		0.13		0.14	0.44	0.10	0.40		0.44
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5	4.5	4.5		4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0	3.0	3.0		3.0
Lane Grp Cap (vph)	386	389	321		338		246	2237	181	2497		819
v/s Ratio Prot	0.09	0.09					0.08	0.21	0.06	c0.27		c0.22
v/s Ratio Perm			c0.15		c0.06							
v/c Ratio	0.38	0.37	0.65		0.49		0.55	0.48	0.59	0.67		0.50
Uniform Delay, d1	38.7	38.7	41.6		48.5		47.9	23.7	51.1	29.1		24.0
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00	1.00	1.00		1.00
Incremental Delay, d2	0.6	0.6	4.7		1.1		2.5	0.2	4.8	0.7		0.5
Delay (s)	39.4	39.3	46.3		49.6		50.4	23.9	55.9	29.7		24.5
Level of Service	D	D	D		D		D	C	E	C		C
Approach Delay (s)		42.2			49.6			26.8		31.3		
Approach LOS		D			D			C		C		
Intersection Summary												
HCM 2000 Control Delay			31.1				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.62									
Actuated Cycle Length (s)			119.3				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			89.4%				ICU Level of Service			E		
Analysis Period (min)			15									
! Phase conflict between lane groups.												
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

54: El Camino Real & El Camino Real NB Ramp & 31st Ave

06/12/2020



Movement	NWR2
Lane Configurations	LT
Traffic Volume (vph)	98
Future Volume (vph)	98
Ideal Flow (vphpl)	1900
Total Lost time (s)	3.0
Lane Util. Factor	1.00
Frpb, ped/bikes	1.00
Flpb, ped/bikes	1.00
Frt	0.85
Flt Protected	1.00
Satd. Flow (prot)	1583
Flt Permitted	1.00
Satd. Flow (perm)	1583
Peak-hour factor, PHF	1.00
Adj. Flow (vph)	98
RTOR Reduction (vph)	54
Lane Group Flow (vph)	44
Confl. Peds. (#/hr)	
Confl. Bikes (#/hr)	
Turn Type	Perm
Protected Phases	
Permitted Phases	2
Actuated Green, G (s)	51.0
Effective Green, g (s)	52.5
Actuated g/C Ratio	0.44
Clearance Time (s)	4.5
Vehicle Extension (s)	3.0
Lane Grp Cap (vph)	696
v/s Ratio Prot	
v/s Ratio Perm	0.03
v/c Ratio	0.06
Uniform Delay, d1	19.2
Progression Factor	1.00
Incremental Delay, d2	0.0
Delay (s)	19.3
Level of Service	B
Approach Delay (s)	
Approach LOS	
Intersection Summary	

HCM Signalized Intersection Capacity Analysis

55: El Camino Real NB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			 			 	 			
Traffic Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Future Volume (vph)	180	689	0	0	693	262	133	28	319	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	2200	2200	1900	2200	2200	1900	1900	1900
Total Lost time (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Util. Factor		0.91			*1.00	1.00	0.95	*1.00	1.00			
Frpb, ped/bikes		1.00			1.00	0.59	1.00	1.00	1.00			
Flpb, ped/bikes		1.00			1.00	1.00	1.00	1.00	1.00			
Frt		1.00			1.00	1.00	1.00	1.00	1.00			
Flt Protected		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (prot)		5033			4314	1275	1681	2089	2157			
Flt Permitted		0.99			1.00	1.00	0.95	0.97	1.00			
Satd. Flow (perm)		5033			4314	1275	1681	2089	2157			
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	180	689	0	0	693	262	133	28	319	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	184	0	0	291	0	0	0
Lane Group Flow (vph)	0	869	0	0	693	78	80	81	28	0	0	0
Confl. Peds. (#/hr)						105						
Confl. Bikes (#/hr)						4						
Turn Type	Split	NA			NA	Perm	Split	NA	Perm			
Protected Phases	5	5			6		8	8				
Permitted Phases						6			8			
Actuated Green, G (s)		63.5			34.1	34.1	8.9	8.9	8.9			
Effective Green, g (s)		65.0			35.6	35.6	10.4	10.4	10.4			
Actuated g/C Ratio		0.54			0.30	0.30	0.09	0.09	0.09			
Clearance Time (s)		4.5			4.5	4.5	4.5	4.5	4.5			
Vehicle Extension (s)		3.0			3.0	3.0	3.0	3.0	3.0			
Lane Grp Cap (vph)		2726			1279	378	145	181	186			
v/s Ratio Prot		c0.17			c0.16		c0.05	0.04				
v/s Ratio Perm						0.06			0.01			
v/c Ratio		0.32			0.54	0.21	0.55	0.45	0.15			
Uniform Delay, d1		15.2			35.4	31.6	52.6	52.1	50.7			
Progression Factor		0.04			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2		0.2			1.7	1.2	4.5	1.8	0.4			
Delay (s)		0.9			37.0	32.8	57.0	53.8	51.1			
Level of Service		A			D	C	E	D	D			
Approach Delay (s)		0.9			35.9			52.5			0.0	
Approach LOS		A			D			D			A	
Intersection Summary												
HCM 2000 Control Delay		26.1			HCM 2000 Level of Service			C				
HCM 2000 Volume to Capacity ratio		0.42										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			13.5				
Intersection Capacity Utilization		51.3%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

56: El Camino Real SB Ramp & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  			  						 	
Traffic Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Future Volume (vph)	0	637	145	321	504	0	0	0	0	256	114	144
Ideal Flow (vphpl)	1900	1300	1900	1300	1300	1300	1900	1900	1900	1300	1400	1900
Total Lost time (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Util. Factor		0.91	1.00		0.91					0.95	0.95	1.00
Frpb, ped/bikes		1.00	0.85		1.00					1.00	1.00	0.95
Flpb, ped/bikes		1.00	1.00		1.00					1.00	1.00	1.00
Frt		1.00	0.85		1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (prot)		3479	1351		3413					1150	1279	1501
Flt Permitted		1.00	1.00		0.98					0.95	0.98	1.00
Satd. Flow (perm)		3479	1351		3413					1150	1279	1501
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	637	145	321	504	0	0	0	0	256	114	144
RTOR Reduction (vph)	0	0	71	0	0	0	0	0	0	0	0	103
Lane Group Flow (vph)	0	637	74	0	825	0	0	0	0	182	188	41
Confl. Peds. (#/hr)			49									26
Confl. Bikes (#/hr)			3									
Turn Type		NA	Perm	Split	NA					Split	NA	Perm
Protected Phases		2		1	1					4	4	
Permitted Phases			2									4
Actuated Green, G (s)		28.5	28.5		45.5					32.5	32.5	32.5
Effective Green, g (s)		30.0	30.0		47.0					34.0	34.0	34.0
Actuated g/C Ratio		0.25	0.25		0.39					0.28	0.28	0.28
Clearance Time (s)		4.5	4.5		4.5					4.5	4.5	4.5
Vehicle Extension (s)		3.0	3.0		3.0					3.0	3.0	3.0
Lane Grp Cap (vph)		869	337		1336					325	362	425
v/s Ratio Prot		c0.18			c0.24					c0.16	0.15	
v/s Ratio Perm			0.05									0.03
v/c Ratio		0.73	0.22		0.62					0.56	0.52	0.10
Uniform Delay, d1		41.3	35.7		29.3					36.6	36.1	31.7
Progression Factor		1.00	1.00		0.19					1.00	1.00	1.00
Incremental Delay, d2		5.4	1.5		1.8					2.2	1.3	0.1
Delay (s)		46.8	37.2		7.3					38.8	37.4	31.8
Level of Service		D	D		A					D	D	C
Approach Delay (s)		45.0			7.3			0.0			36.3	
Approach LOS		D			A			A			D	
Intersection Summary												
HCM 2000 Control Delay			28.2			HCM 2000 Level of Service				C		
HCM 2000 Volume to Capacity ratio			0.66									
Actuated Cycle Length (s)			120.0			Sum of lost time (s)				13.5		
Intersection Capacity Utilization			70.8%			ICU Level of Service				C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

57: El Camino Real & 41st Ave

06/12/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	WT		WT	TT	TTT	WT
Traffic Volume (vph)	103	54	30	1361	1427	107
Future Volume (vph)	103	54	30	1361	1427	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	
Lane Util. Factor	0.97		1.00	0.95	0.91	
Frpb, ped/bikes	0.99		1.00	1.00	1.00	
Flpb, ped/bikes	1.00		1.00	1.00	1.00	
Frt	0.95		1.00	1.00	0.99	
Flt Protected	0.97		0.95	1.00	1.00	
Satd. Flow (prot)	3286		1770	3539	5016	
Flt Permitted	0.97		0.95	1.00	1.00	
Satd. Flow (perm)	3286		1770	3539	5016	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	103	54	30	1361	1427	107
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	157	0	30	1361	1534	0
Confl. Peds. (#/hr)		27				19
Turn Type	Prot		Prot	NA	NA	
Protected Phases	4		5	2	6	
Permitted Phases						
Actuated Green, G (s)	8.6		1.9	42.8	36.4	
Effective Green, g (s)	10.1		3.4	44.3	37.9	
Actuated g/C Ratio	0.17		0.06	0.73	0.63	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	549		99	2595	3147	
v/s Ratio Prot	c0.05		0.02	c0.38	0.31	
v/s Ratio Perm						
v/c Ratio	0.29		0.30	0.52	0.49	
Uniform Delay, d1	22.0		27.4	3.5	6.0	
Progression Factor	1.00		1.00	1.00	1.00	
Incremental Delay, d2	0.3		1.7	0.2	0.1	
Delay (s)	22.3		29.1	3.7	6.2	
Level of Service	C		C	A	A	
Approach Delay (s)	22.3			4.2	6.2	
Approach LOS	C			A	A	
Intersection Summary						
HCM 2000 Control Delay			6.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.51			
Actuated Cycle Length (s)			60.4		Sum of lost time (s)	9.0
Intersection Capacity Utilization			60.9%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.95	0.95	1.00	0.95	0.95	1.00	1.00	0.95	1.00	1.00	0.91	
Frpb, ped/bikes	1.00	1.00	0.95	1.00	1.00	0.99	1.00	1.00	0.98	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Flt Permitted	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)	1681	1764	1511	1681	1763	1560	1770	3539	1559	1770	5014	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	138	22	123	149	219	42	1147	165	260	1128	82
RTOR Reduction (vph)	0	0	19	0	0	185	0	0	88	0	0	0
Lane Group Flow (vph)	77	147	3	111	161	34	42	1147	77	260	1210	0
Confl. Peds. (#/hr)			16			2			3			15
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA	Perm	Prot	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases			4			8			2			
Actuated Green, G (s)	15.3	15.3	15.3	17.3	17.3	17.3	4.1	45.7	45.7	23.2	64.8	
Effective Green, g (s)	16.8	16.8	16.8	18.8	18.8	18.8	5.6	47.2	47.2	24.7	66.3	
Actuated g/C Ratio	0.14	0.14	0.14	0.16	0.16	0.16	0.05	0.39	0.39	0.21	0.55	
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	236	247	212	264	277	245	82	1397	615	365	2781	
v/s Ratio Prot	0.05	c0.08		0.07	c0.09		0.02	c0.32		c0.15	0.24	
v/s Ratio Perm			0.00			0.02			0.05			
v/c Ratio	0.33	0.60	0.01	0.42	0.58	0.14	0.51	0.82	0.12	0.71	0.44	
Uniform Delay, d1	46.3	48.2	44.2	45.4	46.7	43.4	55.6	32.4	23.0	44.1	15.6	
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.8	3.8	0.0	1.1	3.1	0.3	5.3	4.0	0.1	6.4	0.1	
Delay (s)	47.1	52.0	44.2	46.5	49.8	43.7	60.9	36.4	23.1	50.5	15.7	
Level of Service	D	D	D	D	D	D	E	D	C	D	B	
Approach Delay (s)		49.7			46.3			35.5			21.9	
Approach LOS		D			D			D			C	
Intersection Summary												
HCM 2000 Control Delay			32.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.72									
Actuated Cycle Length (s)			119.5				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			75.6%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (vph)	234	1	329	5	7	4	311	451	3	2	267	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Util. Factor	0.95	0.95	1.00		1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes	1.00	1.00	0.98		0.97		1.00	1.00		1.00	0.98	
Flpb, ped/bikes	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Frt	1.00	1.00	0.85		0.97		1.00	1.00		1.00	0.94	
Flt Protected	0.95	0.95	1.00		0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1681	1686	1544		1722		1770	1859		1770	1727	
Flt Permitted	0.95	0.95	1.00		0.85		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1681	1686	1544		1485		1770	1859		1770	1727	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	234	1	329	5	7	4	311	451	3	2	267	169
RTOR Reduction (vph)	0	0	273	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	117	118	56	0	16	0	311	454	0	2	436	0
Confl. Peds. (#/hr)			2			74			38			38
Turn Type	Split	NA	Perm	Perm	NA		Prot	NA		Prot	NA	
Protected Phases	4	4			8		5	2		1	6	
Permitted Phases			4	8								
Actuated Green, G (s)	13.4	13.4	13.4		2.3		21.5	53.4		0.7	32.6	
Effective Green, g (s)	14.9	14.9	14.9		3.8		23.0	54.9		2.2	34.1	
Actuated g/C Ratio	0.17	0.17	0.17		0.04		0.26	0.63		0.03	0.39	
Clearance Time (s)	4.5	4.5	4.5		4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0		3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	285	286	262		64		463	1162		44	670	
v/s Ratio Prot	0.07	c0.07					c0.18	0.24		0.00	c0.25	
v/s Ratio Perm			0.04		c0.01							
v/c Ratio	0.41	0.41	0.21		0.25		0.67	0.39		0.05	0.65	
Uniform Delay, d1	32.5	32.5	31.4		40.6		29.0	8.2		41.8	22.0	
Progression Factor	1.00	1.00	1.00		1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	1.0	1.0	0.4		2.1		3.8	0.2		0.4	2.3	
Delay (s)	33.5	33.5	31.8		42.7		32.8	8.4		42.2	24.2	
Level of Service	C	C	C		D		C	A		D	C	
Approach Delay (s)		32.5			42.7			18.3			24.3	
Approach LOS		C			D			B			C	
Intersection Summary												
HCM 2000 Control Delay			24.5				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			87.8				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			71.1%				ICU Level of Service			C		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

60: Alameda De Las Pulgas & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (vph)	86	30	11	59	1	172	13	544	118	347	714	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00	1.00	1.00	0.95		1.00	0.95	
Frpb, ped/bikes		1.00	0.98		1.00	0.98	1.00	1.00		1.00	1.00	
Flpb, ped/bikes		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Frt		1.00	0.85		1.00	0.85	1.00	0.97		1.00	1.00	
Flt Protected		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1796	1551		1775	1551	1770	3431		1770	3532	
Flt Permitted		0.96	1.00		0.95	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (perm)		1796	1551		1775	1551	1770	3431		1770	3532	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	86	30	11	59	1	172	13	544	118	347	714	8
RTOR Reduction (vph)	0	0	10	0	0	151	0	0	0	0	0	0
Lane Group Flow (vph)	0	116	1	0	60	21	13	662	0	347	722	0
Confl. Peds. (#/hr)			9			9			11			7
Turn Type	Split	NA	Perm	Split	NA	Perm	Prot	NA		Prot	NA	
Protected Phases	8	8		4	4		5	2		1	6	
Permitted Phases			8			4						
Actuated Green, G (s)		8.6	8.6		8.2	8.2	0.8	24.8		19.5	43.5	
Effective Green, g (s)		10.1	10.1		9.7	9.7	2.3	26.3		21.0	45.0	
Actuated g/C Ratio		0.13	0.13		0.12	0.12	0.03	0.33		0.27	0.57	
Clearance Time (s)		4.5	4.5		4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0	3.0		3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		229	198		217	190	51	1140		469	2009	
v/s Ratio Prot		c0.06			c0.03		0.01	c0.19		c0.20	0.20	
v/s Ratio Perm			0.00			0.01						
v/c Ratio		0.51	0.01		0.28	0.11	0.25	0.58		0.74	0.36	
Uniform Delay, d1		32.2	30.1		31.5	30.9	37.6	21.8		26.6	9.2	
Progression Factor		1.00	1.00		1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.8	0.0		0.7	0.3	2.6	0.8		6.0	0.1	
Delay (s)		33.9	30.1		32.2	31.1	40.2	22.6		32.6	9.3	
Level of Service		C	C		C	C	D	C		C	A	
Approach Delay (s)		33.6			31.4			22.9			16.9	
Approach LOS		C			C			C			B	
Intersection Summary												
HCM 2000 Control Delay			21.4				HCM 2000 Level of Service			C		
HCM 2000 Volume to Capacity ratio			0.57									
Actuated Cycle Length (s)			79.1				Sum of lost time (s)			12.0		
Intersection Capacity Utilization			63.6%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	195	929	562	51	103	437
Future Volume (vph)	195	929	562	51	103	437
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	2.5	2.5		2.5	2.5
Lane Util. Factor	0.97	0.95	0.95		1.00	0.88
Frpb, ped/bikes	1.00	1.00	1.00		1.00	0.97
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	1.00	0.99		1.00	0.85
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	3433	3539	3491		1770	2713
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	3433	3539	3491		1770	2713
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	195	929	562	51	103	437
RTOR Reduction (vph)	0	0	0	0	0	335
Lane Group Flow (vph)	195	929	613	0	103	102
Confl. Peds. (#/hr)				3		3
Turn Type	Prot	NA	NA		Prot	Perm
Protected Phases	7	4	8		6	
Permitted Phases						6
Actuated Green, G (s)	8.4	27.6	14.7		8.6	8.6
Effective Green, g (s)	9.9	29.6	16.7		10.6	10.6
Actuated g/C Ratio	0.22	0.65	0.37		0.23	0.23
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	751	2317	1289		415	636
v/s Ratio Prot	0.06	c0.26	c0.18		c0.06	
v/s Ratio Perm						0.04
v/c Ratio	0.26	0.40	0.48		0.25	0.16
Uniform Delay, d1	14.6	3.7	10.9		14.1	13.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	0.2	0.1	0.3		0.3	0.1
Delay (s)	14.8	3.8	11.2		14.4	13.9
Level of Service	B	A	B		B	B
Approach Delay (s)		5.7	11.2		14.0	
Approach LOS		A	B		B	
Intersection Summary						
HCM 2000 Control Delay			9.1		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.40			
Actuated Cycle Length (s)			45.2		Sum of lost time (s)	8.0
Intersection Capacity Utilization			39.7%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

62: Bayshore Blvd & Peninsula Ave

06/12/2020

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↘	↑↑	↘	↗
Traffic Volume (vph)	646	350	215	833	246	72
Future Volume (vph)	646	350	215	833	246	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0		3.0	3.0	3.0	3.0
Lane Util. Factor	0.95		1.00	0.95	1.00	1.00
Frpb, ped/bikes	0.99		1.00	1.00	1.00	0.98
Flpb, ped/bikes	1.00		1.00	1.00	1.00	1.00
Frt	0.95		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	3318		1770	3539	1770	1555
Flt Permitted	1.00		0.95	1.00	0.95	1.00
Satd. Flow (perm)	3318		1770	3539	1770	1555
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	646	350	215	833	246	72
RTOR Reduction (vph)	0	0	0	0	0	53
Lane Group Flow (vph)	996	0	215	833	246	19
Confl. Peds. (#/hr)		4				3
Confl. Bikes (#/hr)		4				3
Turn Type	NA		Prot	NA	Prot	Perm
Protected Phases	4		3	8	2	
Permitted Phases						2
Actuated Green, G (s)	18.2		9.7	32.4	12.6	12.6
Effective Green, g (s)	19.7		11.2	33.9	14.1	14.1
Actuated g/C Ratio	0.36		0.21	0.63	0.26	0.26
Clearance Time (s)	4.5		4.5	4.5	4.5	4.5
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	1210		367	2221	462	406
v/s Ratio Prot	c0.30		c0.12	0.24	c0.14	
v/s Ratio Perm						0.01
v/c Ratio	0.82		0.59	0.38	0.53	0.05
Uniform Delay, d1	15.6		19.3	4.9	17.1	14.9
Progression Factor	1.00		1.00	1.00	1.00	1.00
Incremental Delay, d2	4.7		2.4	0.1	1.2	0.0
Delay (s)	20.2		21.7	5.0	18.3	15.0
Level of Service	C		C	A	B	B
Approach Delay (s)	20.2			8.4	17.5	
Approach LOS	C			A	B	
Intersection Summary						
HCM 2000 Control Delay		14.6		HCM 2000 Level of Service		B
HCM 2000 Volume to Capacity ratio		0.67				
Actuated Cycle Length (s)		54.0		Sum of lost time (s)		9.0
Intersection Capacity Utilization		64.8%		ICU Level of Service		C
Analysis Period (min)		15				
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

63: Peninsula Ave/Coyote Point Dr & Airport Blvd

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	←←	↑	↑	↑	←	↑
Traffic Volume (vph)	648	64	91	39	35	1136
Future Volume (vph)	648	64	91	39	35	1136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	1.00	1.00	0.97	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	3433	1863	1863	1540	1770	1583
Flt Permitted	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	3433	1863	1863	1540	1770	1583
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	648	64	91	39	35	1136
RTOR Reduction (vph)	0	0	0	34	0	0
Lane Group Flow (vph)	648	64	91	5	35	1136
Confl. Peds. (#/hr)				19		21
Turn Type	Prot	NA	NA	Perm	Prot	pt+ov
Protected Phases	7	4	8		6	6 7
Permitted Phases				8		
Actuated Green, G (s)	16.1	28.0	7.4	7.4	34.8	55.4
Effective Green, g (s)	17.6	29.5	8.9	8.9	36.3	56.9
Actuated g/C Ratio	0.25	0.41	0.12	0.12	0.51	0.79
Clearance Time (s)	4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	841	765	230	190	894	1254
v/s Ratio Prot	0.19	0.03	c0.05		0.02	c0.72
v/s Ratio Perm				0.00		
v/c Ratio	0.77	0.08	0.40	0.03	0.04	0.91
Uniform Delay, d1	25.2	12.9	29.0	27.6	9.0	5.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	4.4	0.0	1.1	0.1	0.0	9.5
Delay (s)	29.6	13.0	30.1	27.7	9.0	15.0
Level of Service	C	B	C	C	A	B
Approach Delay (s)		28.1	29.4		14.8	
Approach LOS		C	C		B	
Intersection Summary						
HCM 2000 Control Delay			20.4		HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio			0.88			
Actuated Cycle Length (s)			71.8		Sum of lost time (s)	9.0
Intersection Capacity Utilization			91.7%		ICU Level of Service	F
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

64: Airport Blvd & US 101 NB

06/12/2020



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	514	578	103	486	53
Future Volume (vph)	44	514	578	103	486	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor	1.00	1.00	0.95	0.95	0.95	
Frpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	
Frt	1.00	0.85	1.00	1.00	0.99	
Flt Protected	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (prot)	1770	1583	1681	1710	3482	
Flt Permitted	0.95	1.00	0.95	0.97	1.00	
Satd. Flow (perm)	1770	1583	1681	1710	3482	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	44	514	578	103	486	53
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	44	514	335	346	539	0
Confl. Bikes (#/hr)		4				4
Turn Type	Prot	pt+ov	Split	NA	NA	
Protected Phases	4	4 1	1	1	2	
Permitted Phases						
Actuated Green, G (s)	17.4	44.0	22.1	22.1	16.7	
Effective Green, g (s)	18.9	45.5	23.6	23.6	18.2	
Actuated g/C Ratio	0.27	0.65	0.34	0.34	0.26	
Clearance Time (s)	4.5		4.5	4.5	4.5	
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Lane Grp Cap (vph)	479	1033	569	578	909	
v/s Ratio Prot	0.02	c0.32	0.20	c0.20	c0.15	
v/s Ratio Perm						
v/c Ratio	0.09	0.50	0.59	0.60	0.59	
Uniform Delay, d1	19.0	6.2	19.0	19.1	22.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2	0.1	0.4	1.6	1.7	1.0	
Delay (s)	19.1	6.6	20.6	20.8	23.6	
Level of Service	B	A	C	C	C	
Approach Delay (s)	7.6			20.7	23.6	
Approach LOS	A			C	C	
Intersection Summary						
HCM 2000 Control Delay			17.5		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.57			
Actuated Cycle Length (s)			69.7		Sum of lost time (s)	9.0
Intersection Capacity Utilization			53.6%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

HCM Signalized Intersection Capacity Analysis

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)												
Lane Util. Factor												
Frt												
Flt Protected												
Satd. Flow (prot)												
Flt Permitted												
Satd. Flow (perm)												
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type												
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)												
Effective Green, g (s)												
Actuated g/C Ratio												
Clearance Time (s)												
Vehicle Extension (s)												
Lane Grp Cap (vph)												
v/s Ratio Prot												
v/s Ratio Perm												
v/c Ratio												
Uniform Delay, d1												
Progression Factor												
Incremental Delay, d2												
Delay (s)												
Level of Service												
Approach Delay (s)		0.0			0.0			0.0			0.0	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		0.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.00										
Actuated Cycle Length (s)		25.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		0.0%			ICU Level of Service			A				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

66: Claremont St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	53	480	76	32	298	12	56	78	31	46	66	58
Future Volume (vph)	53	480	76	32	298	12	56	78	31	46	66	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	53	480	76	32	298	12	56	78	31	46	66	58
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	609	342	165	170								
Volume Left (vph)	53	32	56	46								
Volume Right (vph)	76	12	31	58								
Hadj (s)	-0.02	0.03	-0.01	-0.12								
Departure Headway (s)	5.8	6.3	7.3	7.1								
Degree Utilization, x	0.98	0.60	0.33	0.34								
Capacity (veh/h)	614	549	462	476								
Control Delay (s)	56.3	18.5	13.8	13.7								
Approach Delay (s)	56.3	18.5	13.8	13.7								
Approach LOS	F	C	B	B								
Intersection Summary												
Delay				35.2								
Level of Service				E								
Intersection Capacity Utilization				63.0%	ICU Level of Service	B						
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	24	1398	13	0	0	0	0	84	115	243	108	0
Future Volume (vph)	24	1398	13	0	0	0	0	84	115	243	108	0
Ideal Flow (vphpl)	1900	1200	1900	1900	1900	1900	1900	1000	1900	1900	1900	1900
Total Lost time (s)		4.0						4.0			4.0	
Lane Util. Factor		0.95						1.00			1.00	
Frpb, ped/bikes		1.00						0.98			1.00	
Flpb, ped/bikes		1.00						1.00			1.00	
Frt		1.00						0.92			1.00	
Flt Protected		1.00						1.00			0.97	
Satd. Flow (prot)		2227						890			1800	
Flt Permitted		1.00						1.00			0.61	
Satd. Flow (perm)		2227						890			1142	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	1398	13	0	0	0	0	84	115	243	108	0
RTOR Reduction (vph)	0	1	0	0	0	0	0	22	0	0	0	0
Lane Group Flow (vph)	0	1434	0	0	0	0	0	177	0	0	351	0
Confl. Peds. (#/hr)	17		32						11			
Confl. Bikes (#/hr)			1						1			
Turn Type	Perm	NA						NA		Perm	NA	
Protected Phases		4						2			6	
Permitted Phases	4								6			
Actuated Green, G (s)		41.5						23.8			23.8	
Effective Green, g (s)		42.0						24.3			24.3	
Actuated g/C Ratio		0.57						0.33			0.33	
Clearance Time (s)		4.5						4.5			4.5	
Vehicle Extension (s)		3.0						3.0			3.0	
Lane Grp Cap (vph)		1258						291			373	
v/s Ratio Prot								0.20				
v/s Ratio Perm		0.64									c0.31	
v/c Ratio		1.14						0.61			0.94	
Uniform Delay, d1		16.1						21.0			24.3	
Progression Factor		1.00						1.00			1.00	
Incremental Delay, d2		73.1						3.6			31.7	
Delay (s)		89.2						24.6			56.0	
Level of Service		F						C			E	
Approach Delay (s)		89.2			0.0			24.6			56.0	
Approach LOS		F			A			C			E	
Intersection Summary												
HCM 2000 Control Delay		76.9										
HCM 2000 Volume to Capacity ratio		1.07										
Actuated Cycle Length (s)		74.3							8.0			
Intersection Capacity Utilization		114.5%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	328	13	109	233	130	13	155	253	92	90	48
Future Volume (vph)	57	328	13	109	233	130	13	155	253	92	90	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Frpb, ped/bikes		1.00		1.00	0.98		1.00	0.96		1.00	0.98	
Flpb, ped/bikes		1.00		0.99	1.00		0.98	1.00		0.99	1.00	
Frt		1.00		1.00	0.95		1.00	0.91		1.00	0.95	
Flt Protected		0.99		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1835		1761	1720		1726	1628		1744	1722	
Flt Permitted		0.91		0.53	1.00		0.67	1.00		0.41	1.00	
Satd. Flow (perm)		1676		981	1720		1215	1628		759	1722	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	57	328	13	109	233	130	13	155	253	92	90	48
RTOR Reduction (vph)	0	2	0	0	30	0	0	110	0	0	31	0
Lane Group Flow (vph)	0	396	0	109	333	0	13	298	0	92	107	0
Confl. Peds. (#/hr)	19		40	10		46	30		37	27		49
Confl. Bikes (#/hr)			1			2			2			3
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.5		14.5	14.5		12.6	12.6		12.6	12.6	
Effective Green, g (s)		15.0		15.0	15.0		13.1	13.1		13.1	13.1	
Actuated g/C Ratio		0.42		0.42	0.42		0.36	0.36		0.36	0.36	
Clearance Time (s)		4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)		3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		696		407	714		440	590		275	624	
v/s Ratio Prot					0.19			c0.18			0.06	
v/s Ratio Perm		c0.24		0.11			0.01			0.12		
v/c Ratio		0.57		0.27	0.47		0.03	0.50		0.33	0.17	
Uniform Delay, d1		8.1		6.9	7.6		7.4	9.0		8.3	7.8	
Progression Factor		1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.1		0.4	0.5		0.0	0.7		0.7	0.1	
Delay (s)		9.2		7.3	8.1		7.4	9.7		9.1	7.9	
Level of Service		A		A	A		A	A		A	A	
Approach Delay (s)		9.2			7.9			9.6			8.4	
Approach LOS		A			A			A			A	
Intersection Summary												
HCM 2000 Control Delay		8.8										
HCM 2000 Volume to Capacity ratio		0.54										
Actuated Cycle Length (s)		36.1										
Intersection Capacity Utilization		86.9%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.0		4.0		4.0	4.0		4.0	
Lane Util. Factor				0.97		0.88		0.91	1.00		0.91	
Frpb, ped/bikes				1.00		0.98		1.00	0.96		0.98	
Flpb, ped/bikes				1.00		1.00		1.00	1.00		1.00	
Frt				1.00		0.85		1.00	0.85		0.96	
Flt Protected				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (prot)				3433		2728		5085	1525		4774	
Flt Permitted				0.95		1.00		1.00	1.00		1.00	
Satd. Flow (perm)				3433		2728		5085	1525		4774	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	392	0	718	0	1601	275	0	1498	567
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	108	0	52	0
Lane Group Flow (vph)	0	0	0	392	0	718	0	1601	167	0	2013	0
Confl. Peds. (#/hr)						10			10			13
Turn Type				Prot		Perm		NA	Perm		NA	
Protected Phases				3				2			6	
Permitted Phases						3			2			
Actuated Green, G (s)				36.8		36.8		69.2	69.2		69.2	
Effective Green, g (s)				37.3		37.3		69.7	69.7		69.7	
Actuated g/C Ratio				0.32		0.32		0.61	0.61		0.61	
Clearance Time (s)				4.5		4.5		4.5	4.5		4.5	
Vehicle Extension (s)				3.0		3.0		3.0	3.0		3.0	
Lane Grp Cap (vph)				1113		884		3081	924		2893	
v/s Ratio Prot				0.11				0.31			c0.42	
v/s Ratio Perm						c0.26			0.11			
v/c Ratio				0.35		0.81		0.52	0.18		0.70	
Uniform Delay, d1				29.6		35.6		13.0	10.0		15.4	
Progression Factor				1.00		1.00		1.00	1.00		1.00	
Incremental Delay, d2				0.2		5.7		0.6	0.4		1.4	
Delay (s)				29.8		41.4		13.7	10.4		16.8	
Level of Service				C		D		B	B		B	
Approach Delay (s)		0.0			37.3			13.2			16.8	
Approach LOS		A			D			B			B	
Intersection Summary												
HCM 2000 Control Delay			20.0			HCM 2000 Level of Service			B			
HCM 2000 Volume to Capacity ratio			0.74									
Actuated Cycle Length (s)			115.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			63.8%			ICU Level of Service			B			
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

71: El Camino Real & SR 92 EB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0			4.0	4.0
Lane Util. Factor	0.97		0.88					0.91			0.91	1.00
Flpb, ped/bikes	1.00		0.96					0.98			1.00	0.95
Flpb, ped/bikes	1.00		1.00					1.00			1.00	1.00
Frt	1.00		0.85					0.96			1.00	0.85
Flt Protected	0.95		1.00					1.00			1.00	1.00
Satd. Flow (prot)	3433		2673					4806			5085	1508
Flt Permitted	0.95		1.00					1.00			1.00	1.00
Satd. Flow (perm)	3433		2673					4806			5085	1508
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	346	0	201	0	0	0	0	1505	547	0	1493	384
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	77
Lane Group Flow (vph)	346	0	201	0	0	0	0	2052	0	0	1493	307
Confl. Peds. (#/hr)			14						9			14
Turn Type	Prot		Perm					NA			NA	Perm
Protected Phases	7							2			6	
Permitted Phases			7									6
Actuated Green, G (s)	19.6		19.6					111.4			111.4	111.4
Effective Green, g (s)	20.1		20.1					111.9			111.9	111.9
Actuated g/C Ratio	0.14		0.14					0.80			0.80	0.80
Clearance Time (s)	4.5		4.5					4.5			4.5	4.5
Vehicle Extension (s)	3.0		3.0					3.0			3.0	3.0
Lane Grp Cap (vph)	492		383					3841			4064	1205
v/s Ratio Prot	c0.10							c0.43			0.29	
v/s Ratio Perm			0.08									0.20
v/c Ratio	0.70		0.52					0.53			0.37	0.25
Uniform Delay, d1	57.1		55.5					4.9			4.0	3.5
Progression Factor	1.00		1.00					1.00			1.00	1.00
Incremental Delay, d2	4.5		1.3					0.5			0.3	0.5
Delay (s)	61.6		56.8					5.5			4.2	4.1
Level of Service	E		E					A			A	A
Approach Delay (s)		59.9			0.0			5.5			4.2	
Approach LOS		E			A			A			A	
Intersection Summary												
HCM 2000 Control Delay			11.6					HCM 2000 Level of Service			B	
HCM 2000 Volume to Capacity ratio			0.56									
Actuated Cycle Length (s)			140.0					Sum of lost time (s)			8.0	
Intersection Capacity Utilization			58.1%					ICU Level of Service			B	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

72: Delaware St & Sunnybrae Blvd

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	26	15	487	95	17	369
Future Volume (Veh/h)	26	15	487	95	17	369
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	26	15	487	95	17	369
Pedestrians	15		1			
Lane Width (ft)	12.0		12.0			
Walking Speed (ft/s)	3.5		3.5			
Percent Blockage	1		0			
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	954	550			597	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	954	550			597	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	97			98	
cM capacity (veh/h)	278	527			966	
Direction, Lane #	WB 1	WB 2	NB 1	SB 1		
Volume Total	26	15	582	386		
Volume Left	26	0	0	17		
Volume Right	0	15	95	0		
cSH	278	527	1700	966		
Volume to Capacity	0.09	0.03	0.34	0.02		
Queue Length 95th (ft)	8	2	0	1		
Control Delay (s)	19.3	12.0	0.0	0.6		
Lane LOS	C	B		A		
Approach Delay (s)	16.6		0.0	0.6		
Approach LOS	C					
Intersection Summary						
Average Delay			0.9			
Intersection Capacity Utilization			43.2%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

73: Delaware St & 16th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control	Stop				Stop			Stop			Stop	
Traffic Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15
Future Volume (vph)	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	16	30	213	21	23	13	161	551	16	14	364	15
Direction, Lane #	EB 1	EB 2	WB 1	NB 1	NB 2	SB 1	SB 2					
Volume Total (vph)	16	243	57	161	567	14	379					
Volume Left (vph)	16	0	21	161	0	14	0					
Volume Right (vph)	0	213	13	0	16	0	15					
Hadj (s)	0.53	-0.58	-0.03	0.53	0.01	0.53	0.01					
Departure Headway (s)	8.1	7.0	8.1	6.9	6.4	7.3	6.8					
Degree Utilization, x	0.04	0.47	0.13	0.31	1.00	0.03	0.71					
Capacity (veh/h)	431	503	415	511	567	481	521					
Control Delay (s)	10.2	14.9	12.2	11.7	61.7	9.3	23.8					
Approach Delay (s)	14.6		12.2	50.7		23.3						
Approach LOS	B		B	F		C						
Intersection Summary												
Delay			35.1									
Level of Service			E									
Intersection Capacity Utilization			65.2%	ICU Level of Service				C				
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (vph)	6	0	11	50	0	20	4	654	68	37	629	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0	4.0	4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes		0.94			0.97		1.00	1.00	0.94	1.00	1.00	
Flpb, ped/bikes		0.99			1.00		0.98	1.00	1.00	0.99	1.00	
Frt		0.91			0.96		1.00	1.00	0.85	1.00	1.00	
Flt Protected		0.98			0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1563			1672		1741	1863	1492	1749	1857	
Flt Permitted		0.92			0.78		0.39	1.00	1.00	0.39	1.00	
Satd. Flow (perm)		1464			1347		722	1863	1492	710	1857	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	6	0	11	50	0	20	4	654	68	37	629	8
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	70	0	4	654	68	37	637	0
Confl. Peds. (#/hr)	10		17	1		27	16		18	17		26
Confl. Bikes (#/hr)			3			7			8			3
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2				6
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)		9.1			9.1		81.9	81.9	81.9	81.9	81.9	
Effective Green, g (s)		9.6			9.6		82.4	82.4	82.4	82.4	82.4	
Actuated g/C Ratio		0.10			0.10		0.82	0.82	0.82	0.82	0.82	
Clearance Time (s)		4.5			4.5		4.5	4.5	4.5	4.5	4.5	
Vehicle Extension (s)		3.0			3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		140			129		594	1535	1229	585	1530	
v/s Ratio Prot								c0.35				0.34
v/s Ratio Perm		0.01			c0.05		0.01		0.05	0.05		
v/c Ratio		0.12			0.54		0.01	0.43	0.06	0.06	0.42	
Uniform Delay, d1		41.3			43.1		1.6	2.4	1.6	1.6	2.4	
Progression Factor		1.00			1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4			4.6		0.0	0.9	0.1	0.2	0.8	
Delay (s)		41.7			47.7		1.6	3.3	1.7	1.8	3.2	
Level of Service		D			D		A	A	A	A	A	
Approach Delay (s)		41.7			47.7			3.1			3.1	
Approach LOS		D			D			A			A	
Intersection Summary												
HCM 2000 Control Delay		5.7										
HCM 2000 Volume to Capacity ratio		0.44										
Actuated Cycle Length (s)		100.0										
Intersection Capacity Utilization		55.3%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (vph)	12	2	3	238	4	56	1	863	238	37	479	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	4.0		4.0			4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95			0.95	
Frpb, ped/bikes		0.97			1.00	0.94		0.98			1.00	
Flpb, ped/bikes		1.00			1.00	1.00		1.00			1.00	
Frt		0.98			1.00	0.85		0.97			1.00	
Flt Protected		0.97			0.95	1.00		1.00			1.00	
Satd. Flow (prot)		1709			1775	1486		3366			3507	
Flt Permitted		0.97			0.95	1.00		0.95			0.84	
Satd. Flow (perm)		1709			1775	1486		3214			2940	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	12	2	3	238	4	56	1	863	238	37	479	11
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	17	0	0	242	56	0	1102	0	0	527	0
Confl. Peds. (#/hr)			30			13	14		29	13		14
Confl. Bikes (#/hr)			14			7			11			6
Turn Type	Split	NA		Split	NA	Perm	Perm	NA		Perm	NA	
Protected Phases	4	4		8	8			2			6	
Permitted Phases						8	2			6		
Actuated Green, G (s)		1.6			18.6	18.6		46.3			46.3	
Effective Green, g (s)		2.1			19.1	19.1		46.8			46.8	
Actuated g/C Ratio		0.03			0.24	0.24		0.58			0.58	
Clearance Time (s)		4.5			4.5	4.5		4.5			4.5	
Vehicle Extension (s)		3.0			3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)		44			423	354		1880			1719	
v/s Ratio Prot		c0.01			c0.14							
v/s Ratio Perm						0.04		c0.34			0.18	
v/c Ratio		0.39			0.57	0.16		0.59			0.31	
Uniform Delay, d1		38.3			26.8	24.1		10.5			8.4	
Progression Factor		1.00			1.00	1.00		1.00			1.00	
Incremental Delay, d2		5.6			1.9	0.2		1.3			0.5	
Delay (s)		43.9			28.7	24.3		11.8			8.9	
Level of Service		D			C	C		B			A	
Approach Delay (s)		43.9			27.9			11.8			8.9	
Approach LOS		D			C			B			A	
Intersection Summary												
HCM 2000 Control Delay		13.8										
HCM 2000 Volume to Capacity ratio		0.58										
Actuated Cycle Length (s)		80.0										
Intersection Capacity Utilization		65.7%										
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

76: Ginnever St & Bermuda Dr

06/12/2020

																		
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR						
Lane Configurations																		
Sign Control	Stop			Stop			Stop			Stop								
Traffic Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Future Volume (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00						
Hourly flow rate (vph)	186	58	4	0	33	58	6	17	0	84	20	256						
Direction, Lane #	EB 1	WB 1	WB 2	NB 1	SB 1	SB 2												
Volume Total (vph)	248	33	58	23	104	256												
Volume Left (vph)	186	0	0	6	84	0												
Volume Right (vph)	4	0	58	0	0	256												
Hadj (s)	0.17	0.03	-0.67	0.09	0.44	-0.67												
Departure Headway (s)	5.7	5.8	5.1	6.0	5.9	4.8												
Degree Utilization, x	0.39	0.05	0.08	0.04	0.17	0.34												
Capacity (veh/h)	600	571	647	548	578	713												
Control Delay (s)	12.4	8.0	7.4	9.3	8.9	9.1												
Approach Delay (s)	12.4	7.6		9.3	9.1													
Approach LOS	B	A		A	A													
Intersection Summary																		
Delay				10.0														
Level of Service				B														
Intersection Capacity Utilization				44.0%	ICU Level of Service			A										
Analysis Period (min)				15														

HCM Signalized Intersection Capacity Analysis

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (vph)	4	756	24	17	395	40	36	0	30	130	8	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	0.87		1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00		1.00	0.99			1.00	0.85		0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.95	1.00		0.96	
Satd. Flow (prot)	1770	1851		1770	1832			1763	1373		1758	
Flt Permitted	0.42	1.00		0.19	1.00			0.69	1.00		0.74	
Satd. Flow (perm)	784	1851		345	1832			1283	1373		1351	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	4	756	24	17	395	40	36	0	30	130	8	14
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	4	780	0	17	435	0	0	36	30	0	152	0
Confl. Peds. (#/hr)			15	13			2		13			2
Confl. Bikes (#/hr)			4			13			4			13
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2		2	6		
Actuated Green, G (s)	68.9	68.9		68.9	68.9			42.1	42.1		42.1	
Effective Green, g (s)	69.4	69.4		69.4	69.4			42.6	42.6		42.6	
Actuated g/C Ratio	0.58	0.58		0.58	0.58			0.36	0.36		0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.5	4.5		4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	453	1070		199	1059			455	487		479	
v/s Ratio Prot		c0.42			0.24							
v/s Ratio Perm	0.01			0.05				0.03	0.02		c0.11	
v/c Ratio	0.01	0.73		0.09	0.41			0.08	0.06		0.32	
Uniform Delay, d1	10.7	18.4		11.2	14.0			25.7	25.5		28.1	
Progression Factor	1.00	1.00		0.88	0.74			1.00	1.00		1.00	
Incremental Delay, d2	0.0	2.5		0.2	0.3			0.3	0.2		1.7	
Delay (s)	10.7	21.0		10.0	10.6			26.0	25.8		29.9	
Level of Service	B	C		B	B			C	C		C	
Approach Delay (s)		20.9			10.6			25.9			29.9	
Approach LOS		C			B			C			C	
Intersection Summary												
HCM 2000 Control Delay		18.9			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.57										
Actuated Cycle Length (s)		120.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		77.1%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

88: Humboldt St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	244	64	5	0	21	10	4	32	0	19	47	139
Future Volume (vph)	244	64	5	0	21	10	4	32	0	19	47	139
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	244	64	5	0	21	10	4	32	0	19	47	139
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	313	31	36	205								
Volume Left (vph)	244	0	4	19								
Volume Right (vph)	5	10	0	139								
Hadj (s)	0.18	-0.16	0.06	-0.35								
Departure Headway (s)	4.7	4.7	5.1	4.4								
Degree Utilization, x	0.41	0.04	0.05	0.25								
Capacity (veh/h)	732	701	648	753								
Control Delay (s)	10.9	7.9	8.3	8.9								
Approach Delay (s)	10.9	7.9	8.3	8.9								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay	9.9											
Level of Service	A											
Intersection Capacity Utilization	46.2%			ICU Level of Service			A					
Analysis Period (min)	15											

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations					 							
Traffic Volume (vph)	0	0	0	64	901	264	11	83	0	0	271	34
Future Volume (vph)	0	0	0	64	901	264	11	83	0	0	271	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1000	1900	1900	1000	1900	1900	2500	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	
Lane Util. Factor					0.95	1.00		1.00			1.00	
Frpb, ped/bikes					1.00	0.92		1.00			0.99	
Flpb, ped/bikes					1.00	1.00		1.00			1.00	
Frt					1.00	0.85		1.00			0.98	
Flt Protected					1.00	1.00		0.99			1.00	
Satd. Flow (prot)					1849	1456		973			2397	
Flt Permitted					1.00	1.00		0.94			1.00	
Satd. Flow (perm)					1849	1456		923			2397	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	64	901	264	11	83	0	0	271	34
RTOR Reduction (vph)	0	0	0	0	0	94	0	0	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	965	170	0	94	0	0	298	0
Confl. Peds. (#/hr)				38		36	25					51
Confl. Bikes (#/hr)						3						3
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					38.3	38.3		12.8			12.8	
Effective Green, g (s)					38.8	38.8		13.3			13.3	
Actuated g/C Ratio					0.65	0.65		0.22			0.22	
Clearance Time (s)					4.5	4.5		4.5			4.5	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1193	939		204			530	
v/s Ratio Prot											c0.12	
v/s Ratio Perm					0.52	0.12		0.10				
v/c Ratio					0.81	0.18		0.46			0.56	
Uniform Delay, d1					7.9	4.3		20.3			20.8	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					4.1	0.1		1.6			1.4	
Delay (s)					12.0	4.4		21.9			22.2	
Level of Service					B	A		C			C	
Approach Delay (s)		0.0			10.4			21.9			22.2	
Approach LOS		A			B			C			C	
Intersection Summary												
HCM 2000 Control Delay			13.3		HCM 2000 Level of Service						B	
HCM 2000 Volume to Capacity ratio			0.75									
Actuated Cycle Length (s)			60.1		Sum of lost time (s)						8.0	
Intersection Capacity Utilization			83.4%		ICU Level of Service						E	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

113: US 101 SB

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Traffic Volume (vph)	584	0	0	0	0	0
Future Volume (vph)	584	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0					
Lane Util. Factor	0.95					
Frt	1.00					
Flt Protected	1.00					
Satd. Flow (prot)	3539					
Flt Permitted	1.00					
Satd. Flow (perm)	3539					
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	584	0	0	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	584	0	0	0	0	0
Turn Type	NA					Perm
Protected Phases	4					
Permitted Phases						2
Actuated Green, G (s)	1.0					
Effective Green, g (s)	19.0					
Actuated g/C Ratio	0.67					
Clearance Time (s)	22.0					
Lane Grp Cap (vph)	2359					
v/s Ratio Prot	c0.17					
v/s Ratio Perm						
v/c Ratio	0.25					
Uniform Delay, d1	1.9					
Progression Factor	1.00					
Incremental Delay, d2	0.3					
Delay (s)	2.1					
Level of Service	A					
Approach Delay (s)	2.1			0.0	0.0	
Approach LOS	A			A	A	
Intersection Summary						
HCM 2000 Control Delay		2.1		HCM 2000 Level of Service		A
HCM 2000 Volume to Capacity ratio		0.21				
Actuated Cycle Length (s)		28.5		Sum of lost time (s)		6.0
Intersection Capacity Utilization		19.5%		ICU Level of Service		A
Analysis Period (min)		15				
c Critical Lane Group						

Intersection has too many legs for HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
Ideal Flow (vphpl)	1900	1270	1900	1900	1900	1900	1900	1100	1100	1900	1300	1900
Total Lost time (s)		4.0			4.0			4.0	4.0		4.0	
Lane Util. Factor		0.95			0.95			1.00	1.00		1.00	
Frpb, ped/bikes		1.00			1.00			1.00	0.97		0.99	
Flpb, ped/bikes		1.00			1.00			1.00	1.00		0.99	
Frt		0.99			0.99			1.00	0.85		0.95	
Flt Protected		1.00			1.00			0.97	1.00		0.98	
Satd. Flow (prot)		2346			3516			1044	890		1170	
Flt Permitted		0.95			0.95			0.83	1.00		0.88	
Satd. Flow (perm)		2238			3342			897	890		1054	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	2	1003	48	5	835	29	36	22	44	15	5	11
RTOR Reduction (vph)	0	4	0	0	3	0	0	0	25	0	9	0
Lane Group Flow (vph)	0	1049	0	0	866	0	0	58	19	0	22	0
Confl. Peds. (#/hr)	14		12	12		14	4		24	24		4
Confl. Bikes (#/hr)			1			1			1			
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)		31.1			31.1			10.9	10.9		10.9	
Effective Green, g (s)		31.6			31.6			11.4	11.4		11.4	
Actuated g/C Ratio		0.62			0.62			0.22	0.22		0.22	
Clearance Time (s)		4.5			4.5			4.5	4.5		4.5	
Vehicle Extension (s)		3.0			3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)		1386			2070			200	198		235	
v/s Ratio Prot												
v/s Ratio Perm		c0.47			0.26			c0.06	0.02		0.02	
v/c Ratio		0.76			0.42			0.29	0.10		0.10	
Uniform Delay, d1		6.9			5.0			16.4	15.7		15.7	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		3.9			0.6			0.8	0.2		0.2	
Delay (s)		10.8			5.6			17.2	15.9		15.9	
Level of Service		B			A			B	B		B	
Approach Delay (s)		10.8			5.6			16.7			15.9	
Approach LOS		B			A			B			B	
Intersection Summary												
HCM 2000 Control Delay		9.0			HCM 2000 Level of Service			A				
HCM 2000 Volume to Capacity ratio		0.63										
Actuated Cycle Length (s)		51.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		73.6%			ICU Level of Service			D				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

188: Hillsdale EB Off-Ramp & Hillsdale Blvd

06/12/2020

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑↑		
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)	902			317		
pX, platoon unblocked						
vC, conflicting volume			0		0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			0		0	0
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	100
cM capacity (veh/h)			1622		1023	1084
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Signalized Intersection Capacity Analysis

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	128	67	61	539	39	34	134	35	18	140	34
Future Volume (vph)	10	128	67	61	539	39	34	134	35	18	140	34
Ideal Flow (vphpl)	1900	1000	1900	1900	2500	1900	1900	2500	1900	1900	1000	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			0.95			1.00			1.00	
Frpb, ped/bikes		0.93			0.99			0.96			0.98	
Flpb, ped/bikes		1.00			0.99			1.00			0.99	
Frt		0.96			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			1.00	
Satd. Flow (prot)		869			4492			2267			929	
Flt Permitted		0.97			0.90			0.93			0.96	
Satd. Flow (perm)		842			4072			2121			899	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	128	67	61	539	39	34	134	35	18	140	34
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	205	0	0	639	0	0	203	0	0	192	0
Confl. Peds. (#/hr)	44		77	54		80	23		90	36		67
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		38.5			38.5			26.5			26.5	
Effective Green, g (s)		42.0			42.0			30.0			30.0	
Actuated g/C Ratio		0.52			0.52			0.38			0.38	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		442			2137			795			337	
v/s Ratio Prot												
v/s Ratio Perm		c0.24			0.16			0.10			c0.21	
v/c Ratio		0.46			0.30			0.26			0.57	
Uniform Delay, d1		11.9			10.7			17.3			19.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		3.5			0.4			0.2			6.8	
Delay (s)		15.4			11.1			17.5			26.7	
Level of Service		B			B			B			C	
Approach Delay (s)		15.4			11.1			17.5			26.7	
Approach LOS		B			B			B			C	
Intersection Summary												
HCM 2000 Control Delay		15.3			HCM 2000 Level of Service			B				
HCM 2000 Volume to Capacity ratio		0.51										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		69.2%			ICU Level of Service			C				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

210: Saratoga Dr & Hillsdale EB Off-Ramp

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Future Volume (vph)	10	7	7	9	0	75	0	380	10	109	293	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0		4.0		4.0			4.0	
Lane Util. Factor		1.00	1.00	1.00		1.00		0.95			0.95	
Frpb, ped/bikes		1.00	0.93	1.00		0.98		1.00			1.00	
Flpb, ped/bikes		1.00	1.00	1.00		1.00		1.00			1.00	
Frt		1.00	0.85	1.00		0.85		1.00			1.00	
Flt Protected		0.97	1.00	0.95		1.00		1.00			0.99	
Satd. Flow (prot)		1810	1479	1770		1557		3518			3492	
Flt Permitted		0.97	1.00	0.75		1.00		1.00			0.54	
Satd. Flow (perm)		1810	1479	1390		1557		3518			1919	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	10	7	7	9	0	75	0	380	10	109	293	0
RTOR Reduction (vph)	0	0	5	0	0	55	0	2	0	0	0	0
Lane Group Flow (vph)	0	17	2	9	0	20	0	388	0	0	402	0
Confl. Peds. (#/hr)			18			3			30			
Turn Type	Perm	NA	Perm	D.Pm		Perm		NA		Perm	NA	
Protected Phases		2						8			4 1	
Permitted Phases	2		2	2		2			4 1			
Actuated Green, G (s)		36.2	36.2	36.2		36.2		24.5			61.0	
Effective Green, g (s)		37.0	37.0	37.0		37.0		25.2			62.6	
Actuated g/C Ratio		0.26	0.26	0.26		0.26		0.18			0.45	
Clearance Time (s)		4.8	4.8	4.8		4.8		4.7				
Vehicle Extension (s)		6.0	6.0	6.0		6.0		4.0				
Lane Grp Cap (vph)		478	390	367		411		633			858	
v/s Ratio Prot								c0.11				
v/s Ratio Perm		0.01	0.00	0.01		c0.01					c0.21	
v/c Ratio		0.04	0.00	0.02		0.05		0.61			0.47	
Uniform Delay, d1		38.2	37.9	38.1		38.4		52.9			27.1	
Progression Factor		1.00	1.00	1.00		1.00		1.00			0.38	
Incremental Delay, d2		0.1	0.0	0.1		0.2		2.0			0.8	
Delay (s)		38.4	38.0	38.3		38.6		54.9			11.1	
Level of Service		D	D	D		D		D			B	
Approach Delay (s)		38.3			38.6			54.9			11.1	
Approach LOS		D			D			D			B	
Intersection Summary												
HCM 2000 Control Delay			33.4									
HCM 2000 Volume to Capacity ratio			0.38									
Actuated Cycle Length (s)			140.0								18.1	
Intersection Capacity Utilization			75.3%								D	
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	164	74	155	132	111	106	1833	256	112	1520	101
Future Volume (vph)	59	164	74	155	132	111	106	1833	256	112	1520	101
Ideal Flow (vphpl)	2000	2500	1900	2500	2500	1900	1900	1350	1900	2500	2500	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	1.00		1.00	1.00		1.00	0.91		1.00	0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.97		1.00	0.98		1.00	0.99	
Flpb, ped/bikes	0.96	1.00		0.96	1.00		1.00	1.00		1.00	1.00	
Frt	1.00	0.95		1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1795	2271		2241	2219		1770	3468		2328	6561	
Flt Permitted	0.31	1.00		0.33	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	591	2271		768	2219		1770	3468		2328	6561	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	59	164	74	155	132	111	106	1833	256	112	1520	101
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	59	238	0	155	243	0	106	2089	0	112	1621	0
Confl. Peds. (#/hr)	72		90	69		51			69			72
Confl. Bikes (#/hr)			3			8			4			7
Turn Type	Perm	NA		Perm	NA		Prot	NA		Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8								
Actuated Green, G (s)	12.6	12.6		12.6	12.6		8.5	45.7		7.7	44.9	
Effective Green, g (s)	13.1	13.1		13.1	13.1		9.0	46.2		8.2	45.4	
Actuated g/C Ratio	0.16	0.16		0.16	0.16		0.11	0.58		0.10	0.57	
Clearance Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	97	374		126	365		200	2015		240	3746	
v/s Ratio Prot		0.10			0.11		c0.06	c0.60		0.05	0.25	
v/s Ratio Perm	0.10			c0.20								
v/c Ratio	0.61	0.64		1.23	0.67		0.53	1.04		0.47	0.43	
Uniform Delay, d1	30.8	31.0		33.2	31.1		33.3	16.6		33.6	9.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.3	3.5		154.7	4.5		2.7	30.3		1.4	0.4	
Delay (s)	41.2	34.5		187.9	35.7		35.9	46.9		35.0	10.1	
Level of Service	D	C		F	D		D	D		D	B	
Approach Delay (s)		35.8			95.0			46.4			11.7	
Approach LOS		D			F			D			B	
Intersection Summary												
HCM 2000 Control Delay			36.9			HCM 2000 Level of Service				D		
HCM 2000 Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			79.5			Sum of lost time (s)				12.0		
Intersection Capacity Utilization			105.8%			ICU Level of Service				G		
Analysis Period (min)			15									

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	683	33	7	114	22	7	146	86	119	132	25
Future Volume (vph)	25	683	33	7	114	22	7	146	86	119	132	25
Ideal Flow (vphpl)	1900	1100	2500	1900	1000	1900	1000	1000	1000	1900	1000	1900
Lane Width	10	10	10	12	12	12	12	12	12	12	12	12
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			1.00			1.00			1.00	
Frpb, ped/bikes		0.99			0.98			0.96			1.00	
Flpb, ped/bikes		1.00			1.00			1.00			0.98	
Frt		0.99			0.98			0.95			0.99	
Flt Protected		1.00			1.00			1.00			0.98	
Satd. Flow (prot)		1886			938			892			930	
Flt Permitted		0.94			0.96			0.99			0.77	
Satd. Flow (perm)		1778			901			884			735	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	25	683	33	7	114	22	7	146	86	119	132	25
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	741	0	0	143	0	0	239	0	0	276	0
Confl. Peds. (#/hr)	6		41	36		42	5		72	36		11
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		29.5			29.5			35.5			35.5	
Effective Green, g (s)		31.0			31.0			37.0			37.0	
Actuated g/C Ratio		0.39			0.39			0.46			0.46	
Clearance Time (s)		7.5			7.5			7.5			7.5	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		688			349			408			339	
v/s Ratio Prot												
v/s Ratio Perm		c0.42			0.16			0.27			c0.38	
v/c Ratio		1.08			0.41			0.59			0.81	
Uniform Delay, d1		24.5			17.8			15.9			18.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		56.9			0.8			6.0			19.0	
Delay (s)		81.4			18.6			21.9			37.5	
Level of Service		F			B			C			D	
Approach Delay (s)		81.4			18.6			21.9			37.5	
Approach LOS		F			B			C			D	
Intersection Summary												
HCM 2000 Control Delay		56.2			HCM 2000 Level of Service			E				
HCM 2000 Volume to Capacity ratio		0.93										
Actuated Cycle Length (s)		80.0			Sum of lost time (s)			12.0				
Intersection Capacity Utilization		115.3%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

HCM Unsignalized Intersection Capacity Analysis

217: Claremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	89	403	28	36	296	23	16	152	33	35	124	42
Future Volume (vph)	89	403	28	36	296	23	16	152	33	35	124	42
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Hourly flow rate (vph)	114	517	36	45	370	29	23	217	47	44	155	53
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	667	444	287	252								
Volume Left (vph)	114	45	23	44								
Volume Right (vph)	36	29	47	53								
Hadj (s)	0.04	0.02	-0.05	-0.06								
Departure Headway (s)	7.8	7.7	8.4	8.6								
Degree Utilization, x	1.45	0.95	0.67	0.60								
Capacity (veh/h)	470	458	412	394								
Control Delay (s)	234.9	59.1	26.7	23.5								
Approach Delay (s)	234.9	59.1	26.7	23.5								
Approach LOS	F	F	D	C								
Intersection Summary												
Delay				119.1								
Level of Service				F								
Intersection Capacity Utilization				70.8%	ICU Level of Service				C			
Analysis Period (min)				15								

HCM Signalized Intersection Capacity Analysis

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	152	77	9	1	15	66	6	292	7	32	236	86
Future Volume (vph)	152	77	9	1	15	66	6	292	7	32	236	86
Ideal Flow (vphpl)	1900	1300	1900	1900	1800	1900	1900	1450	1900	1900	2500	1900
Total Lost time (s)		3.0			3.0			3.0			3.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frpb, ped/bikes		1.00			0.91			1.00			0.99	
Flpb, ped/bikes		1.00			1.00			1.00			1.00	
Frt		0.99			0.89			1.00			0.97	
Flt Protected		0.97			1.00			1.00			1.00	
Satd. Flow (prot)		1227			1434			1414			2333	
Flt Permitted		0.97			1.00			1.00			1.00	
Satd. Flow (perm)		1227			1434			1414			2333	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	152	77	9	1	15	66	6	292	7	32	236	86
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	238	0	0	82	0	0	305	0	0	354	0
Confl. Peds. (#/hr)	6		6	9		9	6		9	9		6
Confl. Bikes (#/hr)						1						
Turn Type	Split	NA		Split	NA		Split	NA		Split	NA	
Protected Phases	4	4		8	8		2	2		6	6	
Permitted Phases												
Actuated Green, G (s)		2.0			0.7			2.0			2.0	
Effective Green, g (s)		2.0			0.7			2.0			2.0	
Actuated g/C Ratio		0.11			0.04			0.11			0.11	
Clearance Time (s)		3.0			3.0			3.0			3.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		131			53			151			249	
v/s Ratio Prot		c0.19			c0.06			c0.22			c0.15	
v/s Ratio Perm												
v/c Ratio		1.82			1.55			2.02			1.42	
Uniform Delay, d1		8.3			9.0			8.3			8.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		395.9			320.1			481.4			211.6	
Delay (s)		404.3			329.1			489.8			220.0	
Level of Service		F			F			F			F	
Approach Delay (s)		404.3			329.1			489.8			220.0	
Approach LOS		F			F			F			F	
Intersection Summary												
HCM 2000 Control Delay		358.0										
HCM 2000 Volume to Capacity ratio		1.73										
Actuated Cycle Length (s)		18.7										
Intersection Capacity Utilization		59.5%										
Analysis Period (min)		15										
c Critical Lane Group												

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

223: Saratoga Dr & Poinsettia Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Future Volume (Veh/h)	118	4	5	1	2	24	5	260	3	38	232	34
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	118	4	5	1	2	24	5	260	3	38	232	34
Pedestrians		8			28			5			8	
Lane Width (ft)		12.0			12.0			12.0			12.0	
Walking Speed (ft/s)		3.5			3.5			3.5			3.5	
Percent Blockage		1			3			0			1	
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											297	
pX, platoon unblocked	0.92	0.92	0.92	0.92	0.92		0.92					
vC, conflicting volume	506	634	262	636	650	168	274			291		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	418	557	152	560	574	168	165			291		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	73	99	99	100	99	97	100			97		
cM capacity (veh/h)	431	374	786	342	366	818	1286			1234		
Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1							
Volume Total	127	27	135	133	304							
Volume Left	118	1	5	0	38							
Volume Right	5	24	0	3	34							
cSH	436	716	1286	1700	1234							
Volume to Capacity	0.29	0.04	0.00	0.08	0.03							
Queue Length 95th (ft)	30	3	0	0	2							
Control Delay (s)	16.6	10.2	0.3	0.0	1.3							
Lane LOS	C	B	A		A							
Approach Delay (s)	16.6	10.2	0.2		1.3							
Approach LOS	C	B										
Intersection Summary												
Average Delay			3.9									
Intersection Capacity Utilization			51.2%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Signalized Intersection Capacity Analysis

226: El Camino Real & 9th Ave

06/12/2020



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	146	142	1999	173	150	1680
Future Volume (vph)	146	142	1999	173	150	1680
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.91		1.00	0.91
Frpb, ped/bikes	1.00	0.95	1.00		1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00		1.00	1.00
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1507	5006		1770	5085
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1507	5006		1770	5085
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	146	142	1999	173	150	1680
RTOR Reduction (vph)	0	118	9	0	0	0
Lane Group Flow (vph)	146	24	2163	0	150	1680
Confl. Peds. (#/hr)	2	21		15		
Turn Type	Prot	Perm	NA		Prot	NA
Protected Phases	8		2		1	6
Permitted Phases		8				
Actuated Green, G (s)	10.9	10.9	31.8		10.9	47.2
Effective Green, g (s)	11.4	11.4	32.3		11.4	47.7
Actuated g/C Ratio	0.17	0.17	0.48		0.17	0.71
Clearance Time (s)	4.5	4.5	4.5		4.5	4.5
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	300	256	2409		300	3614
v/s Ratio Prot	c0.08		c0.43		0.08	c0.33
v/s Ratio Perm		0.02				
v/c Ratio	0.49	0.09	0.90		0.50	0.46
Uniform Delay, d1	25.2	23.5	15.9		25.3	4.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.2	0.2	4.9		1.3	0.1
Delay (s)	26.4	23.7	20.8		26.6	4.3
Level of Service	C	C	C		C	A
Approach Delay (s)	25.1		20.8			6.1
Approach LOS	C		C			A
Intersection Summary						
HCM 2000 Control Delay			14.8		HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.74			
Actuated Cycle Length (s)			67.1		Sum of lost time (s)	12.0
Intersection Capacity Utilization			69.0%		ICU Level of Service	C
Analysis Period (min)			15			
c Critical Lane Group						

HCM Unsignalized Intersection Capacity Analysis

228: 5th Ave & Ellsworth Ave

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	51	363	289	31	36	137
Future Volume (Veh/h)	51	363	289	31	36	137
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	51	363	289	31	36	137
Pedestrians		36	22		36	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		3.5	3.5		3.5	
Percent Blockage		3	2		3	
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		366	310			
pX, platoon unblocked					0.95	
vC, conflicting volume	356				828	376
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	356				794	376
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				88	78
cM capacity (veh/h)	1161				307	625
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total	414	320	173			
Volume Left	51	0	36			
Volume Right	0	31	137			
cSH	1161	1700	514			
Volume to Capacity	0.04	0.19	0.34			
Queue Length 95th (ft)	3	0	37			
Control Delay (s)	1.4	0.0	15.5			
Lane LOS	A		C			
Approach Delay (s)	1.4	0.0	15.5			
Approach LOS			C			
Intersection Summary						
Average Delay			3.6			
Intersection Capacity Utilization			62.4%		ICU Level of Service	
Analysis Period (min)			15		B	

HCM Unsignalized Intersection Capacity Analysis

229: 5th Ave & Idaho St

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	0	0	0	0								
Volume Left (vph)	0	0	0	0								
Volume Right (vph)	0	0	0	0								
Hadj (s)	0.00	0.00	0.00	0.00								
Departure Headway (s)	3.9	3.9	3.9	3.9								
Degree Utilization, x	0.00	0.00	0.00	0.00								
Capacity (veh/h)	917	917	917	917								
Control Delay (s)	6.9	6.9	6.9	6.9								
Approach Delay (s)	0.0	0.0	0.0	0.0								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay				0.0								
Level of Service				A								
Intersection Capacity Utilization				0.0%	ICU Level of Service				A			
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis

231: Fremont St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	110	179	5	0	109	29	13	92	3	15	77	47
Future Volume (vph)	110	179	5	0	109	29	13	92	3	15	77	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	110	179	5	0	109	29	13	92	3	15	77	47
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	294	138	108	139								
Volume Left (vph)	110	0	13	15								
Volume Right (vph)	5	29	3	47								
Hadj (s)	0.10	-0.09	0.04	-0.15								
Departure Headway (s)	4.8	4.8	5.2	5.0								
Degree Utilization, x	0.39	0.19	0.16	0.19								
Capacity (veh/h)	706	686	625	654								
Control Delay (s)	10.9	9.0	9.2	9.2								
Approach Delay (s)	10.9	9.0	9.2	9.2								
Approach LOS	B	A	A	A								
Intersection Summary												
Delay				9.9								
Level of Service				A								
Intersection Capacity Utilization				46.8%	ICU Level of Service	A						
Analysis Period (min)				15								

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

237: US 101 SB Off Diag & Idaho St

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations			↩			↩
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh						
Upstream signal (ft)		382				
pX, platoon unblocked						
vC, conflicting volume	0				0	0
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0				0	0
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1623				1023	1085
Direction, Lane #	WB 1	SB 1				
Volume Total	0	0				
Volume Left	0	0				
Volume Right	0	0				
cSH	1700	1700				
Volume to Capacity	0.00	0.00				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.0				
Lane LOS		A				
Approach Delay (s)	0.0	0.0				
Approach LOS		A				
Intersection Summary						
Average Delay		0.0				
Intersection Capacity Utilization		0.0%		ICU Level of Service		A
Analysis Period (min)		15				

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Intersection has too many legs for HCM analysis.

HCM Signalized Intersection Capacity Analysis

245: US 101 NB On Diag

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT	NWL	NWR
Lane Configurations								
Traffic Volume (vph)	0	0	657	0	0	0	0	572
Future Volume (vph)	0	0	657	0	0	0	0	572
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0					4.0
Lane Util. Factor			1.00					1.00
Frt			1.00					0.86
Flt Protected			1.00					1.00
Satd. Flow (prot)			1863					1611
Flt Permitted			1.00					1.00
Satd. Flow (perm)			1863					1611
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	657	0	0	0	0	572
RTOR Reduction (vph)	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	657	0	0	0	0	572
Turn Type		Perm	NA					Perm
Protected Phases			2					
Permitted Phases		4						3
Actuated Green, G (s)			1.0					1.0
Effective Green, g (s)			1.0					1.0
Actuated g/C Ratio			0.06					0.06
Clearance Time (s)			4.0					4.0
Lane Grp Cap (vph)			120					103
v/s Ratio Prot			c0.35					
v/s Ratio Perm								c0.35
v/c Ratio			5.47					5.55
Uniform Delay, d1			7.2					7.2
Progression Factor			1.00					1.00
Incremental Delay, d2			2031.9					2070.1
Delay (s)			2039.2					2077.4
Level of Service			F					F
Approach Delay (s)	0.0		2039.2			0.0	2077.4	
Approach LOS	A		F			A	F	
Intersection Summary								
HCM 2000 Control Delay			2057.0			HCM 2000 Level of Service		F
HCM 2000 Volume to Capacity ratio			1.99					
Actuated Cycle Length (s)			15.5			Sum of lost time (s)		10.0
Intersection Capacity Utilization			83.3%			ICU Level of Service		E
Analysis Period (min)			15					
c Critical Lane Group								

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

HCM Signalized Intersection Capacity Analysis

251:

06/12/2020

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	298
Future Volume (vph)	0	0	0	0	0	298
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)						4.0
Lane Util. Factor						1.00
Frt						1.00
Flt Protected						1.00
Satd. Flow (prot)						1863
Flt Permitted						1.00
Satd. Flow (perm)						1863
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	0	0	0	0	298
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	0	298
Turn Type	Prot					NA
Protected Phases	8					6
Permitted Phases						
Actuated Green, G (s)						1.1
Effective Green, g (s)						1.5
Actuated g/C Ratio						0.14
Clearance Time (s)						4.4
Lane Grp Cap (vph)						254
v/s Ratio Prot						c0.16
v/s Ratio Perm						
v/c Ratio						1.17
Uniform Delay, d1						4.8
Progression Factor						1.00
Incremental Delay, d2						111.5
Delay (s)						116.3
Level of Service						F
Approach Delay (s)	0.0		0.0			116.3
Approach LOS	A		A			F
Intersection Summary						
HCM 2000 Control Delay			116.3		HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio			0.59			
Actuated Cycle Length (s)			11.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			58.5%		ICU Level of Service	B
Analysis Period (min)			15			
c Critical Lane Group						

Intersection Sign configuration not allowed in HCM analysis.

HCM Unsignalized Intersection Capacity Analysis

255: Norfolk St & 2nd Ave

06/12/2020

																				
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR								
Lane Configurations																				
Sign Control		Stop			Stop			Stop			Stop									
Traffic Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21								
Future Volume (vph)	2	2	163	41	39	2	78	164	117	2	137	21								
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00								
Hourly flow rate (vph)	2	2	163	41	39	2	78	164	117	2	137	21								
Direction, Lane #	EB 1	WB 1	NB 1	SB 1																
Volume Total (vph)	167	82	359	160																
Volume Left (vph)	2	41	78	2																
Volume Right (vph)	163	2	117	21																
Hadj (s)	-0.55	0.12	-0.12	-0.04																
Departure Headway (s)	4.7	5.5	4.6	5.0																
Degree Utilization, x	0.22	0.13	0.46	0.22																
Capacity (veh/h)	681	576	743	672																
Control Delay (s)	9.1	9.3	11.6	9.4																
Approach Delay (s)	9.1	9.3	11.6	9.4																
Approach LOS	A	A	B	A																
Intersection Summary																				
Delay			10.3																	
Level of Service			B																	
Intersection Capacity Utilization			60.3%	ICU Level of Service					B											
Analysis Period (min)			15																	

HCM 2010 Signalized Intersection Summary

1: Mariners Island Blvd & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Future Volume (veh/h)	32	784	568	68	592	11	327	24	17	11	47	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	32	784	250	68	592	11	344	0	4	11	47	29
Adj No. of Lanes	1	2	1	1	2	0	2	0	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1422	636	154	1512	28	687	0	303	21	89	55
Arrive On Green	0.06	0.40	0.40	0.09	0.43	0.43	0.19	0.00	0.19	0.10	0.10	0.10
Sat Flow, veh/h	1774	3539	1582	1774	3554	66	3548	0	1566	220	938	579
Grp Volume(v), veh/h	32	784	250	68	295	308	344	0	4	87	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1582	1774	1770	1850	1774	0	1566	1737	0	0
Q Serve(g_s), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Cycle Q Clear(g_c), s	0.9	9.2	6.1	2.0	6.2	6.2	4.7	0.0	0.1	2.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	0.13		0.33
Lane Grp Cap(c), veh/h	112	1422	636	154	753	787	687	0	303	166	0	0
V/C Ratio(X)	0.29	0.55	0.39	0.44	0.39	0.39	0.50	0.00	0.01	0.53	0.00	0.00
Avail Cap(c_a), veh/h	214	2657	1188	263	1378	1440	2072	0	914	258	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	24.1	12.4	11.5	23.4	10.7	10.7	19.4	0.0	17.6	23.2	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.3	0.4	2.0	0.3	0.3	0.6	0.0	0.0	2.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	4.5	2.7	1.0	3.0	3.2	2.3	0.0	0.0	1.4	0.0	0.0
LnGrp Delay(d),s/veh	25.5	12.7	11.9	25.3	11.0	11.0	20.0	0.0	17.6	25.8	0.0	0.0
LnGrp LOS	C	B	B	C	B	B	B		B	C		
Approach Vol, veh/h	1066				671				348			87
Approach Delay, s/veh	12.9				12.5				20.0			25.8
Approach LOS	B				B				B			C
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		3	4	6		7	8				
Phs Duration (G+Y+Rc), s	13.4		7.7	24.7	8.1		6.4	26.0				
Change Period (Y+Rc), s	4.5		4.5	4.5	4.5		4.5	4.5				
Max Green Setting (Gmax), s	30.0		6.5	39.0	6.5		5.0	40.5				
Max Q Clear Time (g_c+I1), s	6.7		4.0	11.2	4.6		2.9	8.2				
Green Ext Time (p_c), s	1.2		0.0	7.2	0.1		0.0	4.0				
Intersection Summary												
HCM 2010 Ctrl Delay	14.4											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

2: Baker Way & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Future Volume (veh/h)	63	561	507	464	342	7	129	12	48	12	222	49
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.99	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	63	561	275	464	342	7	129	12	48	12	222	49
Adj No. of Lanes	1	2	1	2	2	0	0	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	131	1089	458	677	1474	30	284	52	207	307	499	108
Arrive On Green	0.07	0.29	0.29	0.20	0.42	0.42	0.16	0.16	0.16	0.17	0.17	0.17
Sat Flow, veh/h	1774	3725	1567	3442	3547	72	1774	322	1290	1774	2886	624
Grp Volume(v), veh/h	63	561	275	464	170	179	129	0	60	12	134	137
Grp Sat Flow(s),veh/h/ln	1774	1863	1567	1721	1770	1849	1774	0	1612	1774	1770	1740
Q Serve(g_s), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Cycle Q Clear(g_c), s	2.3	8.5	10.2	8.4	4.2	4.2	4.4	0.0	2.2	0.4	4.6	4.8
Prop In Lane	1.00		1.00	1.00		0.04	1.00		0.80	1.00		0.36
Lane Grp Cap(c), veh/h	131	1089	458	677	735	769	284	0	258	307	306	301
V/C Ratio(X)	0.48	0.51	0.60	0.69	0.23	0.23	0.45	0.00	0.23	0.04	0.44	0.45
Avail Cap(c_a), veh/h	604	2042	859	1173	970	1014	972	0	884	815	813	799
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	19.9	20.5	25.2	12.8	12.8	25.7	0.0	24.7	23.2	25.0	25.1
Incr Delay (d2), s/veh	2.7	0.4	1.3	1.2	0.2	0.2	1.1	0.0	0.5	0.1	1.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	4.4	4.5	4.1	2.1	2.2	2.3	0.0	1.0	0.2	2.3	2.4
LnGrp Delay(d),s/veh	32.8	20.3	21.8	26.4	12.9	12.9	26.8	0.0	25.2	23.3	26.0	26.1
LnGrp LOS	C	C	C	C	B	B	C		C	C	C	C
Approach Vol, veh/h		899			813			189			283	
Approach Delay, s/veh		21.6			20.6			26.3			25.9	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		13.8	16.3	22.7		14.7	8.0	31.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		35.5	21.5	35.5		29.5	21.5	35.5				
Max Q Clear Time (g_c+I1), s		6.4	10.4	12.2		6.8	4.3	6.2				
Green Ext Time (p_c), s		1.1	1.3	5.0		1.6	0.1	2.1				
Intersection Summary												
HCM 2010 Ctrl Delay				22.2								
HCM 2010 LOS				C								
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

3: Mariners Island Blvd & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Future Volume (veh/h)	104	530	655	239	293	16	160	116	456	70	447	131
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.98	1.00		0.98	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	104	530	384	239	293	16	160	116	148	70	447	109
Adj No. of Lanes	1	2	1	2	2	0	1	1	2	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	166	1144	505	400	1179	64	232	640	1069	124	796	193
Arrive On Green	0.09	0.32	0.32	0.12	0.35	0.35	0.13	0.34	0.34	0.07	0.28	0.28
Sat Flow, veh/h	1774	3539	1563	3442	3410	185	1774	1863	3109	1774	2817	681
Grp Volume(v), veh/h	104	530	384	239	151	158	160	116	148	70	279	277
Grp Sat Flow(s),veh/h/ln	1774	1770	1563	1721	1770	1826	1774	1863	1554	1774	1770	1729
Q Serve(g_s), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Cycle Q Clear(g_c), s	4.6	9.7	18.0	5.4	5.0	5.0	7.0	3.6	2.7	3.1	11.0	11.1
Prop In Lane	1.00		1.00	1.00		0.10	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	166	1144	505	400	612	631	232	640	1069	124	500	489
V/C Ratio(X)	0.63	0.46	0.76	0.60	0.25	0.25	0.69	0.18	0.14	0.57	0.56	0.57
Avail Cap(c_a), veh/h	478	1388	613	928	694	716	631	799	1334	631	759	742
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	22.0	24.8	34.2	19.1	19.1	33.9	18.7	18.4	36.8	24.9	25.0
Incr Delay (d2), s/veh	3.8	0.3	4.5	1.4	0.2	0.2	3.6	0.1	0.1	4.0	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	4.8	8.3	2.6	2.5	2.6	3.7	1.9	1.2	1.7	5.5	5.4
LnGrp Delay(d),s/veh	39.4	22.3	29.3	35.7	19.3	19.3	37.5	18.9	18.5	40.8	25.9	26.0
LnGrp LOS	D	C	C	D	B	B	D	B	B	D	C	C
Approach Vol, veh/h	1018				548			424			626	
Approach Delay, s/veh	26.7				26.4			25.8			27.6	
Approach LOS	C				C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.7	31.0	12.5	29.4	13.7	26.1	10.7	31.2				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	27.5	33.5	20.5	30.5	27.5	33.5	20.5	30.5				
Max Q Clear Time (g_c+I1), s	15.1	5.6	7.4	20.0	9.0	13.1	6.6	7.0				
Green Ext Time (p_c), s	0.1	1.2	0.6	3.7	0.4	3.4	0.2	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay	26.7											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: Norfolk St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	1312	681	64	743	50	317	83	70	186	109	37
Future Volume (veh/h)	233	1312	681	64	743	50	317	83	70	186	109	37
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.99	1.00		0.98	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1471	1471	1569	1863	1471	1900	1275	1863	1900	1900	1275	1863
Adj Flow Rate, veh/h	233	1312	406	64	743	50	317	83	70	186	109	8
Adj No. of Lanes	1	2	1	1	3	0	2	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1217	566	104	1298	87	417	164	138	179	105	348
Arrive On Green	0.16	0.44	0.44	0.06	0.34	0.34	0.18	0.18	0.18	0.23	0.23	0.23
Sat Flow, veh/h	1401	2794	1299	1774	3840	257	2355	926	781	779	457	1511
Grp Volume(v), veh/h	233	1312	406	64	517	276	317	0	153	295	0	8
Grp Sat Flow(s),veh/h/ln	1401	1397	1299	1774	1338	1421	1177	0	1707	1236	0	1511
Q Serve(g_s), s	19.0	53.0	31.2	4.3	19.3	19.4	15.6	0.0	9.9	28.0	0.0	0.5
Cycle Q Clear(g_c), s	19.0	53.0	31.2	4.3	19.3	19.4	15.6	0.0	9.9	28.0	0.0	0.5
Prop In Lane	1.00		1.00	1.00		0.18	1.00		0.46	0.63		1.00
Lane Grp Cap(c), veh/h	219	1217	566	104	904	480	417	0	303	284	0	348
V/C Ratio(X)	1.07	1.08	0.72	0.62	0.57	0.58	0.76	0.00	0.51	1.04	0.00	0.02
Avail Cap(c_a), veh/h	219	1217	566	219	1078	572	522	0	379	284	0	348
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.3	34.3	28.2	56.0	33.1	33.1	47.6	0.0	45.2	46.8	0.0	36.3
Incr Delay (d2), s/veh	79.3	49.6	4.3	5.8	0.6	1.1	5.0	0.0	1.3	63.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	28.7	11.8	2.3	7.2	7.7	5.4	0.0	4.7	14.5	0.0	0.2
LnGrp Delay(d),s/veh	130.6	83.9	32.5	61.8	33.6	34.2	52.6	0.0	46.5	110.3	0.0	36.3
LnGrp LOS	F	F	C	E	C	C	D		D	F		D
Approach Vol, veh/h	1951			857			470			303		
Approach Delay, s/veh	78.8			35.9			50.6			108.4		
Approach LOS	E			D			D			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		24.6	10.1	56.0		31.0	22.0	44.1				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		25.5	13.5	51.5		26.5	17.5	47.5				
Max Q Clear Time (g_c+I1), s		17.6	6.3	55.0		30.0	21.0	21.4				
Green Ext Time (p_c), s		1.4	0.1	0.0		0.0	0.0	5.7				
Intersection Summary												
HCM 2010 Ctrl Delay	67.3											
HCM 2010 LOS	E											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

5: Norfolk St & Fashion Island Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Future Volume (veh/h)	155	655	142	118	371	213	211	139	172	248	175	286
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		1.00	1.00		0.93	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1667	1863	1863	1863	1863	1863	1863	1900	1863	1863	1863
Adj Flow Rate, veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	0	1	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	196	677	628	133	691	588	258	325	272	298	384	326
Arrive On Green	0.11	0.41	0.41	0.08	0.37	0.00	0.15	0.18	0.18	0.17	0.21	0.00
Sat Flow, veh/h	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Grp Volume(v), veh/h	155	655	62	118	371	0	211	139	172	248	175	0
Grp Sat Flow(s),veh/h/ln	1774	1667	1545	1774	1863	1583	1774	1770	1478	1774	1863	1583
Q Serve(g_s), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Cycle Q Clear(g_c), s	8.2	36.9	2.4	6.3	15.0	0.0	11.1	6.7	10.3	13.0	7.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	196	677	628	133	691	588	258	325	272	298	384	326
V/C Ratio(X)	0.79	0.97	0.10	0.89	0.54	0.00	0.82	0.43	0.63	0.83	0.46	0.00
Avail Cap(c_a), veh/h	244	677	628	133	691	588	468	467	390	601	631	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	27.8	17.6	44.0	23.7	0.0	39.8	34.7	36.4	38.6	33.4	0.0
Incr Delay (d2), s/veh	13.1	26.5	0.1	45.7	0.8	0.0	6.3	0.9	2.4	6.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	21.9	1.0	4.8	7.9	0.0	5.8	3.3	4.4	6.8	4.1	0.0
LnGrp Delay(d),s/veh	54.7	54.3	17.7	89.7	24.5	0.0	46.0	35.6	38.8	44.7	34.2	0.0
LnGrp LOS	D	D	B	F	C		D	D	D	D	C	
Approach Vol, veh/h		872			489			522			423	
Approach Delay, s/veh		51.8			40.2			40.9			40.3	
Approach LOS		D			D			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.1	21.6	11.2	43.0	18.0	23.8	14.6	39.6				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	32.0	24.8	6.7	38.5	24.8	32.0	12.7	32.5				
Max Q Clear Time (g_c+11.5), s	11.5	12.3	8.3	38.9	13.1	9.9	10.2	17.0				
Green Ext Time (p_c), s	0.6	1.5	0.0	0.0	0.4	0.9	0.1	2.0				
Intersection Summary												
HCM 2010 Ctrl Delay			44.8									
HCM 2010 LOS			D									

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary

7: Humboldt St/Humboldt St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Future Volume (veh/h)	7	670	151	196	808	139	66	27	260	95	129	15
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.97	0.98		0.97	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	7	670	151	196	808	107	66	27	154	95	129	12
Adj No. of Lanes	1	2	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	1187	267	298	1021	843	165	68	246	227	247	20
Arrive On Green	0.04	0.42	0.42	0.17	0.55	0.55	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1774	2844	640	1774	1863	1537	326	275	995	538	998	82
Grp Volume(v), veh/h	7	417	404	196	808	107	247	0	0	236	0	0
Grp Sat Flow(s),veh/h/ln	1774	1770	1714	1774	1863	1537	1596	0	0	1618	0	0
Q Serve(g_s), s	0.2	9.7	9.7	5.6	18.6	1.8	0.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.2	9.7	9.7	5.6	18.6	1.8	6.8	0.0	0.0	6.4	0.0	0.0
Prop In Lane	1.00		0.37	1.00		1.00	0.27		0.62	0.40		0.05
Lane Grp Cap(c), veh/h	66	739	716	298	1021	843	480	0	0	494	0	0
V/C Ratio(X)	0.11	0.56	0.57	0.66	0.79	0.13	0.52	0.00	0.00	0.48	0.00	0.00
Avail Cap(c_a), veh/h	214	1252	1213	672	1799	1484	729	0	0	750	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	25.1	11.9	12.0	21.0	9.7	5.9	17.8	0.0	0.0	17.6	0.0	0.0
Incr Delay (d2), s/veh	0.7	0.7	0.7	2.5	1.4	0.1	0.9	0.0	0.0	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	4.8	4.6	2.9	9.8	0.8	3.3	0.0	0.0	3.1	0.0	0.0
LnGrp Delay(d),s/veh	25.8	12.6	12.7	23.4	11.1	6.0	18.7	0.0	0.0	18.3	0.0	0.0
LnGrp LOS	C	B	B	C	B	A	B			B		
Approach Vol, veh/h		828			1111			247			236	
Approach Delay, s/veh		12.8			12.8			18.7			18.3	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		16.3	12.0	25.5		16.3	5.0	32.5				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		21.0	18.9	36.6		21.0	5.0	50.5				
Max Q Clear Time (g_c+I1), s		8.8	7.6	11.7		8.4	2.2	20.6				
Green Ext Time (p_c), s		1.2	0.4	5.8		1.1	0.0	7.4				
Intersection Summary												
HCM 2010 Ctrl Delay				13.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

8: Humboldt St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Future Volume (veh/h)	56	276	39	80	433	100	49	255	13	195	157	56
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	0.99		0.98	0.98		0.94	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1788	1863	1900	1788	1863	1900
Adj Flow Rate, veh/h	56	276	39	80	433	100	49	255	13	195	157	56
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	295	734	104	457	675	156	517	810	41	479	597	213
Arrive On Green	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46	0.46
Sat Flow, veh/h	868	1588	224	1050	1459	337	1100	1751	89	1048	1291	460
Grp Volume(v), veh/h	56	0	315	80	0	533	49	0	268	195	0	213
Grp Sat Flow(s),veh/h/ln	868	0	1812	1050	0	1796	1100	0	1840	1048	0	1751
Q Serve(g_s), s	4.2	0.0	9.0	4.3	0.0	18.1	2.3	0.0	7.3	11.5	0.0	6.0
Cycle Q Clear(g_c), s	22.4	0.0	9.0	13.3	0.0	18.1	8.2	0.0	7.3	18.8	0.0	6.0
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.05	1.00		0.26
Lane Grp Cap(c), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
V/C Ratio(X)	0.19	0.00	0.38	0.18	0.00	0.64	0.09	0.00	0.31	0.41	0.00	0.26
Avail Cap(c_a), veh/h	295	0	838	457	0	831	517	0	851	479	0	810
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.0	0.0	14.0	18.3	0.0	16.4	15.7	0.0	13.5	19.5	0.0	13.2
Incr Delay (d2), s/veh	1.4	0.0	1.3	0.8	0.0	3.8	0.4	0.0	1.0	2.6	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	4.8	1.4	0.0	9.8	0.7	0.0	4.0	3.6	0.0	3.0
LnGrp Delay(d),s/veh	26.4	0.0	15.3	19.2	0.0	20.2	16.0	0.0	14.5	22.0	0.0	13.9
LnGrp LOS	C		B	B		C	B		B	C		B
Approach Vol, veh/h	371				613				317		408	
Approach Delay, s/veh	17.0				20.1				14.7		17.8	
Approach LOS	B				C				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	40.0		40.0		40.0		40.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	35.5		35.5		35.5		35.5					
Max Q Clear Time (g_c+I1), s	10.2		24.4		20.8		20.1					
Green Ext Time (p_c), s	1.9		1.7		1.9		3.5					
Intersection Summary												
HCM 2010 Ctrl Delay	17.9											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 Signalized Intersection Summary

10: Humboldt St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↩ ↑ ↑ ↩							↩ ↩ ↩		↩ ↩ ↩		
Traffic Volume (veh/h)	28	1683	11	0	0	0	0	71	332	411	354	0
Future Volume (veh/h)	28	1683	11	0	0	0	0	71	332	411	354	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1176	1900				0	980	1863	1863	980	0
Adj Flow Rate, veh/h	29	1753	11				0	181	145	398	410	0
Adj No. of Lanes	1	3	0				0	1	1	1	1	0
Peak Hour Factor	0.96	0.96	0.96				0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	834	1547	10				0	118	183	568	314	0
Arrive On Green	0.47	0.47	0.47				0.00	0.12	0.12	0.32	0.32	0.00
Sat Flow, veh/h	1774	3293	21				0	980	1523	1774	980	0
Grp Volume(v), veh/h	29	1140	624				0	181	145	398	410	0
Grp Sat Flow(s), veh/h/ln	1774	1071	1172				0	980	1523	1774	980	0
Q Serve(g_s), s	0.9	47.0	47.0				0.0	12.0	9.3	19.7	32.0	0.0
Cycle Q Clear(g_c), s	0.9	47.0	47.0				0.0	12.0	9.3	19.7	32.0	0.0
Prop In Lane	1.00		0.02				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	834	1006	551				0	118	183	568	314	0
V/C Ratio(X)	0.03	1.13	1.13				0.00	1.54	0.79	0.70	1.31	0.00
Avail Cap(c_a), veh/h	834	1006	551				0	118	183	568	314	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	14.3	26.5	26.5				0.0	44.0	42.8	29.8	34.0	0.0
Incr Delay (d2), s/veh	0.0	72.3	80.5				0.0	280.1	28.9	3.8	159.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	23.9	27.5				0.0	12.4	5.4	10.2	22.5	0.0
LnGrp Delay(d),s/veh	14.3	98.8	107.0				0.0	324.1	71.7	33.6	193.3	0.0
LnGrp LOS	B	F	F					F	E	C	F	
Approach Vol, veh/h		1793						326			808	
Approach Delay, s/veh		100.3						211.8			114.6	
Approach LOS		F						F			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		15.0		50.0		35.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		10.5		45.5		30.5						
Max Q Clear Time (g_c+I1), s		14.0		49.0		34.0						
Green Ext Time (p_c), s		0.0		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			116.7									
HCM 2010 LOS			F									
Notes												

User approved pedestrian interval to be less than phase max green.
User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

11: Grant St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Future Volume (veh/h)	95	116	188	160	272	55	296	155	43	21	129	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		0.93	1.00		0.95	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	95	116	188	160	272	55	226	254	10	21	129	30
Adj No. of Lanes	1	2	0	1	2	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	159	478	407	234	909	180	423	444	357	338	275	64
Arrive On Green	0.09	0.27	0.27	0.13	0.31	0.31	0.24	0.24	0.24	0.19	0.19	0.19
Sat Flow, veh/h	1774	1770	1505	1774	2906	575	1774	1863	1497	1774	1441	335
Grp Volume(v), veh/h	95	116	188	160	163	164	226	254	10	21	0	159
Grp Sat Flow(s),veh/h/ln	1774	1770	1505	1774	1770	1711	1774	1863	1497	1774	0	1776
Q Serve(g_s), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Cycle Q Clear(g_c), s	3.7	3.6	7.4	6.1	5.0	5.2	7.9	8.5	0.4	0.7	0.0	5.7
Prop In Lane	1.00		1.00	1.00		0.34	1.00		1.00	1.00		0.19
Lane Grp Cap(c), veh/h	159	478	407	234	554	535	423	444	357	338	0	338
V/C Ratio(X)	0.60	0.24	0.46	0.68	0.29	0.31	0.53	0.57	0.03	0.06	0.00	0.47
Avail Cap(c_a), veh/h	297	660	561	312	675	653	612	642	516	612	0	613
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	31.1	20.2	21.6	29.4	18.5	18.5	23.6	23.9	20.8	23.6	0.0	25.6
Incr Delay (d2), s/veh	3.6	0.3	0.8	3.8	0.3	0.3	1.1	1.2	0.0	0.1	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.8	3.2	3.2	2.4	2.5	4.0	4.5	0.2	0.3	0.0	2.9
LnGrp Delay(d),s/veh	34.7	20.5	22.4	33.2	18.8	18.9	24.7	25.0	20.8	23.6	0.0	26.6
LnGrp LOS	C	C	C	C	B	B	C	C	C	C		C
Approach Vol, veh/h		399			487			490			180	
Approach Delay, s/veh		24.8			23.6			24.8			26.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2	3	4		6	7	8				
Phs Duration (G+Y+Rc), s		19.9	12.4	22.2		16.5	9.4	25.2				
Change Period (Y+Rc), s		4.5	4.5	4.5		4.5	4.5	4.5				
Max Green Setting (Gmax), s		23.0	11.0	25.0		23.0	10.4	25.6				
Max Q Clear Time (g_c+I1), s		10.5	8.1	9.4		7.7	5.7	7.2				
Green Ext Time (p_c), s		1.8	0.1	1.7		0.8	0.1	1.8				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

12: US 101 SB & 19th Ave/Fashion Island Blvd

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑					↑	↑	↑
Traffic Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Future Volume (veh/h)	0	683	132	206	412	0	0	0	0	506	0	63
Number	7	4	14	3	8	18				1	6	16
Initial Q (Qb), veh	0	66	0	0	0	0				43	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	1863	1863	1863	1863	0				1863	1863	1863
Adj Flow Rate, veh/h	0	683	132	206	412	0				506	0	63
Adj No. of Lanes	0	1	1	1	1	0				2	0	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	2	2	0				2	2	2
Cap, veh/h	0	916	699	255	1164	0				1279	0	497
Arrive On Green	0.00	0.77	0.77	0.14	0.55	0.00				0.40	0.00	0.40
Sat Flow, veh/h	0	1863	1529	1774	1863	0				3548	0	1534
Grp Volume(v), veh/h	0	683	132	206	412	0				506	0	63
Grp Sat Flow(s),veh/h/ln	0	1863	1529	1774	1863	0				1774	0	1534
Q Serve(g_s), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Cycle Q Clear(g_c), s	0.0	37.8	2.9	13.5	15.2	0.0				12.1	0.0	3.1
Prop In Lane	0.00		1.00	1.00		0.00				1.00		1.00
Lane Grp Cap(c), veh/h	0	916	699	255	1164	0				1279	0	497
V/C Ratio(X)	0.00	0.75	0.19	0.81	0.35	0.00				0.40	0.00	0.13
Avail Cap(c_a), veh/h	0	916	752	340	1319	0				1403	0	607
HCM Platoon Ratio	1.00	2.00	2.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.64	0.64	1.00	1.00	0.00				1.00	0.00	1.00
Uniform Delay (d), s/veh	0.0	1.0	3.3	49.8	11.0	0.0				31.2	0.0	28.7
Incr Delay (d2), s/veh	0.0	2.2	0.1	10.1	0.2	0.0				0.9	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	145.0	0.0	0.0	0.0	0.0				13.5	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	38.0	0.5	7.4	6.6	0.0				12.1	0.0	1.5
LnGrp Delay(d),s/veh	0.0	148.2	3.4	59.9	11.2	0.0				45.6	0.0	29.2
LnGrp LOS		F	A	E	B					D		C
Approach Vol, veh/h		815			618						569	
Approach Delay, s/veh		124.7			27.4						43.8	
Approach LOS		F			C						D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs			3	4		6		8				
Phs Duration (G+Y+Rc), s			20.3	49.3		50.5		69.5				
Change Period (Y+Rc), s			4.5	4.5		4.5		4.5				
Max Green Setting (Gmax), s			21.5	57.5		27.5		83.5				
Max Q Clear Time (g_c+I1), s			15.5	39.8		14.1		17.2				
Green Ext Time (p_c), s			0.3	5.0		1.8		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			71.7									
HCM 2010 LOS			E									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 analysis does not support custom phasing.

HCM 2010 Signalized Intersection Summary
14: US 101 SB/Franklin Pkwy & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑↑	↑		↑↑					↑↑↑	↑↑	
Traffic Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Future Volume (veh/h)	0	1076	92	0	1000	0	0	0	0	402	391	0
Number	5	2	12	1	6	16				7	4	14
Initial Q (Qb), veh	0	92	22	0	0	0				20	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	0	980	980	0	1863	0				980	1078	0
Adj Flow Rate, veh/h	0	1076	57	0	1000	0				402	391	0
Adj No. of Lanes	0	3	1	0	2	0				2	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Percent Heavy Veh, %	0	2	2	0	2	0				2	2	0
Cap, veh/h	0	1275	350	0	2306	0				430	489	0
Arrive On Green	0.00	0.62	0.62	0.00	0.62	0.00				0.33	0.32	0.00
Sat Flow, veh/h	0	2353	566	0	3725	0				1307	1833	0
Grp Volume(v), veh/h	0	1076	57	0	1000	0				402	391	0
Grp Sat Flow(s),veh/h/ln	0	686	566	0	1863	0				654	755	0
Q Serve(g_s), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Cycle Q Clear(g_c), s	0.0	43.8	4.5	0.0	14.7	0.0				31.3	24.8	0.0
Prop In Lane	0.00		1.00	0.00		0.00				1.00		0.00
Lane Grp Cap(c), veh/h	0	1275	350	0	2306	0				430	489	0
V/C Ratio(X)	0.00	0.84	0.16	0.00	0.43	0.00				0.94	0.80	0.00
Avail Cap(c_a), veh/h	0	1275	350	0	2306	0				430	489	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	0.09	0.09	0.00	1.00	0.00				1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	20.0	11.9	0.0	10.4	0.0				35.2	32.4	0.0
Incr Delay (d2), s/veh	0.0	0.7	0.1	0.0	0.6	0.0				28.0	9.2	0.0
Initial Q Delay(d3),s/veh	0.0	189.8	33.9	0.0	0.0	0.0				138.8	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	34.6	6.8	0.0	7.7	0.0				16.2	5.8	0.0
LnGrp Delay(d),s/veh	0.0	210.5	45.9	0.0	11.0	0.0				202.0	41.6	0.0
LnGrp LOS		F	D		B					F	D	
Approach Vol, veh/h		1133			1000						793	
Approach Delay, s/veh		202.2			11.0						122.9	
Approach LOS		F			B						F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		68.0		37.0		68.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		63.5		32.5		63.5						
Max Q Clear Time (g_c+I1), s		45.8		33.3		16.7						
Green Ext Time (p_c), s		7.0		0.0		8.4						
Intersection Summary												
HCM 2010 Ctrl Delay			115.4									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary

15: Delaware St & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Future Volume (veh/h)	16	563	150	94	655	28	149	94	186	48	113	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	0.99		0.97	0.97		0.95	0.97		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	16	563	150	94	655	28	149	94	64	48	113	11
Adj No. of Lanes	1	2	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	344	1385	367	454	896	38	424	234	518	216	436	37
Arrive On Green	0.51	0.51	0.51	0.51	0.51	0.51	0.34	0.34	0.34	0.34	0.34	0.34
Sat Flow, veh/h	752	2737	726	723	1771	76	811	684	1511	293	1272	107
Grp Volume(v), veh/h	16	363	350	94	0	683	243	0	64	172	0	0
Grp Sat Flow(s),veh/h/ln	752	1770	1693	723	0	1846	1494	0	1511	1672	0	0
Q Serve(g_s), s	0.7	5.1	5.1	3.7	0.0	11.5	1.8	0.0	1.2	0.0	0.0	0.0
Cycle Q Clear(g_c), s	12.2	5.1	5.1	8.8	0.0	11.5	4.5	0.0	1.2	2.7	0.0	0.0
Prop In Lane	1.00		0.43	1.00		0.04	0.61		1.00	0.28		0.06
Lane Grp Cap(c), veh/h	344	896	857	454	0	934	659	0	518	689	0	0
V/C Ratio(X)	0.05	0.41	0.41	0.21	0.00	0.73	0.37	0.00	0.12	0.25	0.00	0.00
Avail Cap(c_a), veh/h	550	1381	1321	653	0	1440	992	0	875	1064	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.5	6.1	6.1	8.8	0.0	7.7	9.9	0.0	9.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.3	0.3	0.2	0.0	1.1	0.3	0.0	0.1	0.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	2.5	2.4	0.8	0.0	6.0	2.1	0.0	0.5	1.4	0.0	0.0
LnGrp Delay(d),s/veh	12.5	6.4	6.4	9.1	0.0	8.8	10.3	0.0	9.1	9.7	0.0	0.0
LnGrp LOS	B	A	A	A		A	B		A	A		
Approach Vol, veh/h		729			777			307			172	
Approach Delay, s/veh		6.5			8.8			10.0			9.7	
Approach LOS		A			A			B			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		16.6		23.1		16.6		23.1				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		21.5		29.5		21.5		29.5				
Max Q Clear Time (g_c+I1), s		6.5		14.2		4.7		13.5				
Green Ext Time (p_c), s		1.5		4.2		0.8		5.1				
Intersection Summary												
HCM 2010 Ctrl Delay				8.3								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

16: Delaware St & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Future Volume (veh/h)	18	17	12	122	197	178	32	315	61	85	241	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	18	17	12	122	197	178	32	315	61	85	241	25
Adj No. of Lanes	1	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	90	249	176	207	281	254	114	468	91	171	567	59
Arrive On Green	0.05	0.25	0.25	0.12	0.31	0.31	0.06	0.31	0.31	0.10	0.34	0.34
Sat Flow, veh/h	1774	1008	712	1774	895	809	1774	1508	292	1774	1656	172
Grp Volume(v), veh/h	18	0	29	122	0	375	32	0	376	85	0	266
Grp Sat Flow(s),veh/h/ln	1774	0	1720	1774	0	1703	1774	0	1800	1774	0	1828
Q Serve(g_s), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Cycle Q Clear(g_c), s	0.5	0.0	0.7	3.4	0.0	10.1	0.9	0.0	9.5	2.4	0.0	5.9
Prop In Lane	1.00		0.41	1.00		0.47	1.00		0.16	1.00		0.09
Lane Grp Cap(c), veh/h	90	0	426	207	0	534	114	0	558	171	0	626
V/C Ratio(X)	0.20	0.00	0.07	0.59	0.00	0.70	0.28	0.00	0.67	0.50	0.00	0.43
Avail Cap(c_a), veh/h	474	0	985	474	0	976	474	0	1031	474	0	1047
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	23.8	0.0	15.1	21.9	0.0	15.8	23.4	0.0	15.8	22.5	0.0	13.3
Incr Delay (d2), s/veh	1.1	0.0	0.1	2.6	0.0	1.7	1.3	0.0	1.4	2.2	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.3	1.8	0.0	4.9	0.5	0.0	4.9	1.3	0.0	3.0
LnGrp Delay(d),s/veh	24.9	0.0	15.2	24.6	0.0	17.5	24.7	0.0	17.2	24.7	0.0	13.7
LnGrp LOS	C		B	C		B	C		B	C		B
Approach Vol, veh/h	47		497				408			351		
Approach Delay, s/veh	18.9		19.2				17.8			16.4		
Approach LOS	B		B				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	8.0	19.2	9.1	16.0	6.4	20.9	5.7	19.4				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	12.5	28.5	12.5	28.5	12.5	28.5	12.5	28.5				
Max Q Clear Time (g_c+14.4), s	11.5	11.5	5.4	2.7	2.9	7.9	2.5	12.1				
Green Ext Time (p_c), s	0.1	2.2	0.2	0.1	0.0	1.6	0.0	2.2				
Intersection Summary												
HCM 2010 Ctrl Delay			18.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

17: Delaware St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	65	0	265	280	466	92	51	349	0	0	519	30
Future Volume (veh/h)	65	0	265	280	466	92	51	349	0	0	519	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.94	1.00		1.00	1.00		0.90
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863	1863	1863	1900	980	980	0	0	1373	1400
Adj Flow Rate, veh/h	65	0	97	280	466	92	51	349	0	0	519	30
Adj No. of Lanes	1	0	1	1	2	0	1	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2	2	2	2	2	2	0	0	2	2
Cap, veh/h	0	0	0	860	1414	277	75	739	0	0	640	37
Arrive On Green	0.09	0.00	0.09	0.48	0.48	0.43	0.08	0.40	0.00	0.00	0.26	0.20
Sat Flow, veh/h		0		1774	2917	571	934	1912	0	0	2557	143
Grp Volume(v), veh/h		0.0		280	281	277	51	349	0	0	271	278
Grp Sat Flow(s),veh/h/ln				1774	1770	1718	934	931	0	0	1304	1328
Q Serve(g_s), s				4.9	4.9	5.2	2.7	7.0	0.0	0.0	9.9	10.0
Cycle Q Clear(g_c), s				4.9	4.9	5.2	2.7	7.0	0.0	0.0	9.9	10.0
Prop In Lane				1.00		0.33	1.00		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				860	858	833	75	739	0	0	335	341
V/C Ratio(X)				0.33	0.33	0.33	0.68	0.47	0.00	0.00	0.81	0.81
Avail Cap(c_a), veh/h				860	858	833	175	940	0	0	335	341
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				8.0	8.0	8.4	22.6	11.3	0.0	0.0	17.6	17.8
Incr Delay (d2), s/veh				1.0	1.0	1.1	10.3	0.5	0.0	0.0	13.7	14.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.6	2.6	2.7	0.9	1.8	0.0	0.0	4.8	5.0
LnGrp Delay(d),s/veh				9.0	9.0	9.4	32.9	11.8	0.0	0.0	31.3	31.8
LnGrp LOS				A	A	A	C	B			C	C
Approach Vol, veh/h					838			400			549	
Approach Delay, s/veh					9.1			14.5			31.5	
Approach LOS					A			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		23.1			7.1	16.0		27.5				
Change Period (Y+Rc), s		7.5			4.5	7.5		7.5				
Max Green Setting (Gmax), s		21.0			8.0	8.5		20.0				
Max Q Clear Time (g_c+I1), s		9.0			4.7	12.0		7.2				
Green Ext Time (p_c), s		1.8			0.0	0.0		3.6				
Intersection Summary												
HCM 2010 Ctrl Delay			17.2									
HCM 2010 LOS			B									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

18: Delaware St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	766	28	0	0	0	47	374	203	371	500	142
Future Volume (veh/h)	37	766	28	0	0	0	47	374	203	371	500	142
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94				1.00		0.91	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900				1863	1618	1900	1275	980	1900
Adj Flow Rate, veh/h	37	766	28				47	374	203	371	500	142
Adj No. of Lanes	0	2	0				1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				2	2	2	2	2	2
Cap, veh/h	39	850	33				98	386	204	459	748	211
Arrive On Green	0.32	0.32	0.28				0.06	0.21	0.17	0.38	0.53	0.49
Sat Flow, veh/h	124	2683	103				1774	1876	994	1214	1415	399
Grp Volume(v), veh/h	438	0	393				47	305	272	371	328	314
Grp Sat Flow(s),veh/h/ln	1464	0	1445				1774	1537	1333	1214	931	883
Q Serve(g_s), s	26.2	0.0	23.0				2.3	17.7	18.4	24.7	23.1	23.8
Cycle Q Clear(g_c), s	26.2	0.0	23.0				2.3	17.7	18.4	24.7	23.1	23.8
Prop In Lane	0.08		0.07				1.00		0.75	1.00		0.45
Lane Grp Cap(c), veh/h	464	0	458				98	316	274	459	492	466
V/C Ratio(X)	0.94	0.00	0.86				0.48	0.96	0.99	0.81	0.67	0.67
Avail Cap(c_a), veh/h	464	0	458				296	316	274	459	492	466
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	29.0				41.3	35.4	36.8	25.1	15.5	16.1
Incr Delay (d2), s/veh	29.9	0.0	18.6				3.6	41.0	52.5	14.3	3.4	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.0	11.5				1.2	11.0	10.7	10.1	6.4	6.2
LnGrp Delay(d),s/veh	59.9	0.0	47.5				44.9	76.5	89.3	39.4	18.9	19.9
LnGrp LOS	E		D				D	E	F	D	B	B
Approach Vol, veh/h		831						624			1013	
Approach Delay, s/veh		54.1						79.7			26.7	
Approach LOS		D						E			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6						
Phs Duration (G+Y+Rc), s	37.0	21.5		31.5	8.0	50.5						
Change Period (Y+Rc), s	4.5	7.5		7.5	4.5	7.5						
Max Green Setting (Gmax), s	32.5	14.0		24.0	13.5	33.0						
Max Q Clear Time (g_c+20.7), s	20.7	20.4		28.2	4.3	25.8						
Green Ext Time (p_c), s	0.6	0.0		0.0	0.0	2.4						
Intersection Summary												
HCM 2010 Ctrl Delay			49.3									
HCM 2010 LOS			D									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

19: Delaware St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	96	299	83	14	163	45	66	480	14	15	325	164
Future Volume (veh/h)	96	299	83	14	163	45	66	480	14	15	325	164
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	1.00		0.98	1.00		0.96	1.00		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	980	1900	1900	1324	1900	1900	980	1863
Adj Flow Rate, veh/h	96	299	83	14	163	45	66	480	14	15	325	94
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	1
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	236	62	59	295	78	83	397	11	56	455	767
Arrive On Green	0.43	0.43	0.39	0.43	0.43	0.39	0.50	0.50	0.46	0.50	0.50	0.50
Sat Flow, veh/h	139	555	146	26	693	183	66	794	22	17	911	1534
Grp Volume(v), veh/h	478	0	0	222	0	0	560	0	0	340	0	94
Grp Sat Flow(s),veh/h/ln	840	0	0	902	0	0	882	0	0	928	0	1534
Q Serve(g_s), s	19.7	0.0	0.0	0.0	0.0	0.0	18.8	0.0	0.0	0.0	0.0	2.6
Cycle Q Clear(g_c), s	34.0	0.0	0.0	14.3	0.0	0.0	40.0	0.0	0.0	21.2	0.0	2.6
Prop In Lane	0.20		0.17	0.06		0.20	0.12		0.02	0.04		1.00
Lane Grp Cap(c), veh/h	411	0	0	431	0	0	491	0	0	511	0	767
V/C Ratio(X)	1.16	0.00	0.00	0.51	0.00	0.00	1.14	0.00	0.00	0.67	0.00	0.12
Avail Cap(c_a), veh/h	411	0	0	431	0	0	491	0	0	511	0	767
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	0.0	17.6	0.0	0.0	23.1	0.0	0.0	15.3	0.0	10.7
Incr Delay (d2), s/veh	97.2	0.0	0.0	1.1	0.0	0.0	85.1	0.0	0.0	6.7	0.0	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.1	0.0	0.0	3.8	0.0	0.0	22.4	0.0	0.0	6.6	0.0	1.2
LnGrp Delay(d),s/veh	122.6	0.0	0.0	18.6	0.0	0.0	108.2	0.0	0.0	22.0	0.0	11.0
LnGrp LOS	F			B			F			C		B
Approach Vol, veh/h	478				222		560				434	
Approach Delay, s/veh	122.6				18.6		108.2				19.6	
Approach LOS	F				B		F				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	42.0		36.0		23.2		16.3					
Green Ext Time (p_c), s	0.0		0.0		2.0		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay 77.8												
HCM 2010 LOS E												

HCM 2010 Signalized Intersection Summary

20: Delaware St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	120	301	90	59	189	17	66	435	64	14	392	79
Future Volume (veh/h)	120	301	90	59	189	17	66	435	64	14	392	79
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.95	0.99		0.94	0.99		0.93	0.99		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	120	301	90	59	189	17	66	435	64	14	392	79
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	441	121	206	575	46	153	600	84	98	631	125
Arrive On Green	0.42	0.42	0.42	0.42	0.42	0.42	0.43	0.43	0.43	0.43	0.43	0.43
Sat Flow, veh/h	294	1038	285	234	1356	109	130	1393	195	21	1466	289
Grp Volume(v), veh/h	511	0	0	265	0	0	565	0	0	485	0	0
Grp Sat Flow(s),veh/h/ln	1617	0	0	1699	0	0	1718	0	0	1776	0	0
Q Serve(g_s), s	6.7	0.0	0.0	0.0	0.0	0.0	2.2	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.7	0.0	0.0	4.0	0.0	0.0	11.0	0.0	0.0	8.7	0.0	0.0
Prop In Lane	0.23		0.18	0.22		0.06	0.12		0.11	0.03		0.16
Lane Grp Cap(c), veh/h	794	0	0	827	0	0	837	0	0	854	0	0
V/C Ratio(X)	0.64	0.00	0.00	0.32	0.00	0.00	0.68	0.00	0.00	0.57	0.00	0.00
Avail Cap(c_a), veh/h	1149	0	0	1175	0	0	1195	0	0	1239	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	9.8	0.0	0.0	8.0	0.0	0.0	9.8	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	0.9	0.0	0.0	0.2	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	0.0	2.0	0.0	0.0	5.6	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	10.7	0.0	0.0	8.2	0.0	0.0	10.7	0.0	0.0	9.8	0.0	0.0
LnGrp LOS	B			A			B			A		
Approach Vol, veh/h	511				265				565			
Approach Delay, s/veh	10.7				8.2				10.7			
Approach LOS	B				A				B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	20.8		20.6		20.8		20.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	25.5		25.5		25.5		25.5					
Max Q Clear Time (g_c+I1), s	13.0		12.7		10.7		6.0					
Green Ext Time (p_c), s	3.4		3.0		2.9		1.7					
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

21: Delaware St & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Future Volume (veh/h)	189	258	210	206	378	169	209	507	112	163	412	143
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.91	1.00		0.93	1.00		0.94	1.00		0.91
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	189	258	48	206	378	169	209	507	112	163	412	143
Adj No. of Lanes	1	2	1	1	2	0	2	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	228	950	385	246	650	285	289	804	176	200	782	267
Arrive On Green	0.13	0.27	0.27	0.14	0.28	0.29	0.08	0.28	0.30	0.11	0.31	0.33
Sat Flow, veh/h	1774	3539	1434	1774	2337	1022	3442	2852	626	1774	2520	859
Grp Volume(v), veh/h	189	258	48	206	284	263	209	313	306	163	287	268
Grp Sat Flow(s),veh/h/ln	1774	1770	1434	1774	1770	1590	1721	1770	1708	1774	1770	1610
Q Serve(g_s), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Cycle Q Clear(g_c), s	9.4	5.2	2.3	10.3	12.5	12.9	5.4	14.0	14.1	8.1	12.1	12.4
Prop In Lane	1.00		1.00	1.00		0.64	1.00		0.37	1.00		0.53
Lane Grp Cap(c), veh/h	228	950	385	246	492	442	289	499	481	200	549	500
V/C Ratio(X)	0.83	0.27	0.12	0.84	0.58	0.59	0.72	0.63	0.64	0.82	0.52	0.54
Avail Cap(c_a), veh/h	413	1094	443	421	555	498	471	586	565	343	685	624
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.5	26.2	25.1	38.0	28.1	27.8	40.5	28.4	28.2	39.3	25.7	25.5
Incr Delay (d2), s/veh	7.5	0.2	0.1	7.4	1.2	1.5	3.4	1.6	1.8	7.9	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	2.6	0.9	5.5	6.2	5.8	2.7	7.0	6.9	4.4	6.0	5.6
LnGrp Delay(d),s/veh	46.0	26.3	25.2	45.4	29.3	29.4	43.9	30.0	30.0	47.2	26.5	26.4
LnGrp LOS	D	C	C	D	C	C	D	C	C	D	C	C
Approach Vol, veh/h		495			753			828			718	
Approach Delay, s/veh		33.7			33.7			33.5			31.2	
Approach LOS		C			C			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	4.7	30.0	17.1	28.8	12.1	32.6	16.2	29.7				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	30.0	21.5	28.0	12.4	35.1	21.1	28.4				
Max Q Clear Time (g_c+11Q), s	16.1	16.1	12.3	7.2	7.4	14.4	11.4	14.9				
Green Ext Time (p_c), s	0.2	3.3	0.4	1.7	0.3	3.5	0.3	2.9				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

22: SR 92 WB Ramps & Concar Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Future Volume (veh/h)	0	31	128	749	33	0	40	0	619	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	0	31	128	773	0	0	40	0	0	0	0	0
Adj No. of Lanes	0	1	0	2	0	1	0	1	2	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	56	229	1318	0	542	286	0	530	0	5	0
Arrive On Green	0.00	0.17	0.17	0.37	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0	318	1311	3548	0	1583	1774	0	2787	0	1863	0
Grp Volume(v), veh/h	0	0	159	773	0	0	40	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	0	1629	1774	0	1583	1774	0	1393	0	1863	0
Q Serve(g_s), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	3.1	6.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.81	1.00		1.00	1.00		1.00	0.00		0.00
Lane Grp Cap(c), veh/h	0	0	285	1318	0	542	286	0	530	0	5	0
V/C Ratio(X)	0.00	0.00	0.56	0.59	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	0	953	4154	0	1807	1220	0	1998	0	409	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	12.9	8.6	0.0	0.0	11.9	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.7	0.4	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	1.5	3.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	14.6	9.0	0.0	0.0	12.1	0.0	0.0	0.0	0.0	0.0
LnGrp LOS			B	A			B					
Approach Vol, veh/h	159				773		40				0	
Approach Delay, s/veh	14.6				9.0		12.1				0.0	
Approach LOS	B				A		B					
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	9.5		9.0		0.0		15.7					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	23.0		18.5		7.0		38.5					
Max Q Clear Time (g_c+I1), s	2.6		5.1		0.0		8.0					
Green Ext Time (p_c), s	0.1		0.7		0.0		3.2					
Intersection Summary												
HCM 2010 Ctrl Delay			10.1									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

23: Ginnever St/Grant St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘	↖		↗		↖		↗	↘	↖
Traffic Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Future Volume (veh/h)	41	179	33	162	0	296	0	86	152	364	130	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.93	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1863	0	1863	0	1863	1900	1863	1863	0
Adj Flow Rate, veh/h	41	179	33	162	0	296	0	86	152	364	130	0
Adj No. of Lanes	0	1	1	1	0	1	0	2	0	2	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	0	2	0	2	2	2	2	0
Cap, veh/h	98	429	420	0	0	0	0	457	392	735	1029	0
Arrive On Green	0.29	0.29	0.29	0.04	0.00	0.04	0.00	0.26	0.26	0.21	0.55	0.00
Sat Flow, veh/h	344	1502	1469		0		0	1863	1516	3442	1863	0
Grp Volume(v), veh/h	220	0	33		0.0		0	86	152	364	130	0
Grp Sat Flow(s),veh/h/ln	1846	0	1469				0	1770	1516	1721	1863	0
Q Serve(g_s), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Cycle Q Clear(g_c), s	3.6	0.0	0.6				0.0	1.4	3.1	3.5	1.2	0.0
Prop In Lane	0.19		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	528	0	420				0	457	392	735	1029	0
V/C Ratio(X)	0.42	0.00	0.08				0.00	0.19	0.39	0.50	0.13	0.00
Avail Cap(c_a), veh/h	1415	0	1126				0	1285	1101	2037	2606	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	10.8	0.0	9.7				0.0	10.7	11.4	12.9	4.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.1				0.0	0.2	0.6	0.5	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.3				0.0	0.7	1.3	1.7	0.6	0.0
LnGrp Delay(d),s/veh	11.3	0.0	9.8				0.0	10.9	12.0	13.4	4.1	0.0
LnGrp LOS	B		A					B	B	B	A	
Approach Vol, veh/h		253						238			494	
Approach Delay, s/veh		11.1						11.6			10.9	
Approach LOS		B						B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6						
Phs Duration (G+Y+Rc), s	10.9	12.6		13.6		23.5						
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5						
Max Green Setting (Gmax), s	20.5	25.5		27.0		50.5						
Max Q Clear Time (g_c+I), s	15.5	5.1		5.6		3.2						
Green Ext Time (p_c), s	1.1	1.4		1.3		0.8						
Intersection Summary												
HCM 2010 Ctrl Delay			11.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

24: Delaware St & 19th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Future Volume (veh/h)	233	344	89	0	0	0	0	530	396	418	439	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97				1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863				0	1863	1863	1863	1863	0
Adj Flow Rate, veh/h	233	344	32				0	661	309	286	624	0
Adj No. of Lanes	1	1	1				0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	492	516	425				0	1235	517	451	948	0
Arrive On Green	0.28	0.28	0.28				0.00	0.33	0.34	0.25	0.25	0.00
Sat Flow, veh/h	1774	1863	1533				0	3725	1524	1774	3725	0
Grp Volume(v), veh/h	233	344	32				0	661	309	286	624	0
Grp Sat Flow(s), veh/h/ln	1774	1863	1533				0	1863	1524	1774	1863	0
Q Serve(g_s), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Cycle Q Clear(g_c), s	7.2	10.8	1.0				0.0	9.5	11.1	9.4	9.9	0.0
Prop In Lane	1.00		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	492	516	425				0	1235	517	451	948	0
V/C Ratio(X)	0.47	0.67	0.08				0.00	0.54	0.60	0.63	0.66	0.00
Avail Cap(c_a), veh/h	769	807	665				0	1728	718	593	1246	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	19.8	21.1	17.5				0.0	17.9	18.0	21.8	22.0	0.0
Incr Delay (d2), s/veh	0.7	1.5	0.1				0.0	0.4	1.1	1.5	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	5.8	0.4				0.0	4.9	4.8	4.8	5.1	0.0
LnGrp Delay(d),s/veh	20.5	22.6	17.6				0.0	18.2	19.1	23.3	22.7	0.0
LnGrp LOS	C	C	B					B	B	C	C	
Approach Vol, veh/h		609						970			910	
Approach Delay, s/veh		21.5						18.5			22.9	
Approach LOS		C						B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		24.8		21.2		19.7						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		29.0		27.0		20.5						
Max Q Clear Time (g_c+I1), s		13.1		12.8		11.9						
Green Ext Time (p_c), s		5.2		2.5		3.4						
Intersection Summary												
HCM 2010 Ctrl Delay			20.9									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

25: Delaware St & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Future Volume (veh/h)	1	1	4	133	0	499	1	699	125	213	488	2
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.95	0.97		0.96	0.98		0.97	1.00		0.95
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	1	1	4	133	0	180	1	699	45	213	488	2
Adj No. of Lanes	0	1	0	0	1	1	0	2	1	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	117	113	297	535	0	439	70	1243	548	317	2150	9
Arrive On Green	0.29	0.29	0.29	0.29	0.00	0.29	0.36	0.36	0.36	0.18	0.59	0.59
Sat Flow, veh/h	124	390	1028	1370	0	1520	1	3471	1531	1774	3614	15
Grp Volume(v), veh/h	6	0	0	133	0	180	375	325	45	213	239	251
Grp Sat Flow(s),veh/h/ln	1543	0	0	1370	0	1520	1862	1610	1531	1774	1770	1859
Q Serve(g_s), s	0.0	0.0	0.0	3.8	0.0	4.9	0.0	8.4	1.0	5.8	3.3	3.3
Cycle Q Clear(g_c), s	0.1	0.0	0.0	3.9	0.0	4.9	8.4	8.4	1.0	5.8	3.3	3.3
Prop In Lane	0.17		0.67	1.00		1.00	0.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	527	0	0	535	0	439	737	577	548	317	1053	1106
V/C Ratio(X)	0.01	0.00	0.00	0.25	0.00	0.41	0.51	0.56	0.08	0.67	0.23	0.23
Avail Cap(c_a), veh/h	887	0	0	867	0	809	1059	857	815	549	1592	1673
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.1	0.0	0.0	14.4	0.0	14.8	13.3	13.3	11.0	19.8	4.9	4.9
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.2	0.0	0.6	0.5	0.9	0.1	2.5	0.1	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	0.0	1.5	0.0	2.1	4.4	3.8	0.4	3.1	1.6	1.7
LnGrp Delay(d),s/veh	13.1	0.0	0.0	14.7	0.0	15.4	13.9	14.2	11.0	22.3	5.0	5.0
LnGrp LOS	B			B		B	B	B	B	C	A	A
Approach Vol, veh/h		6			313			745			703	
Approach Delay, s/veh		13.1			15.1			13.8			10.2	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	2.2	21.5		17.9		33.8		17.9				
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s	4.5	26.0		26.0		45.0		26.0				
Max Q Clear Time (g_c+17), s	10.4			2.1		5.3		6.9				
Green Ext Time (p_c), s	0.3	4.1		0.0		3.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				12.6								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

26: Delaware St & 25th Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	502	221	143	305	146	483		
Future Volume (veh/h)	502	221	143	305	146	483		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	0.99			0.94		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1863		
Adj Flow Rate, veh/h	502	221	143	305	146	192		
Adj No. of Lanes	2	1	0	2	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1244	572	493	871	708	996		
Arrive On Green	0.36	0.36	0.38	0.38	0.38	0.38		
Sat Flow, veh/h	3442	1583	646	2377	1863	2621		
Grp Volume(v), veh/h	502	221	239	209	146	192		
Grp Sat Flow(s),veh/h/ln	1721	1583	1328	1610	1863	1311		
Q Serve(g_s), s	2.5	2.4	1.5	2.1	1.2	1.1		
Cycle Q Clear(g_c), s	2.5	2.4	2.7	2.1	1.2	1.1		
Prop In Lane	1.00	1.00	0.60			1.00		
Lane Grp Cap(c), veh/h	1244	572	753	612	708	996		
V/C Ratio(X)	0.40	0.39	0.32	0.34	0.21	0.19		
Avail Cap(c_a), veh/h	3189	1467	1491	1561	1806	2541		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	5.5	5.5	5.2	5.1	4.8	4.8		
Incr Delay (d2), s/veh	0.2	0.4	0.2	0.3	0.1	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.2	1.1	1.1	1.0	0.6	0.4		
LnGrp Delay(d),s/veh	5.7	5.9	5.4	5.5	5.0	4.9		
LnGrp LOS	A	A	A	A	A	A		
Approach Vol, veh/h	723			448	338			
Approach Delay, s/veh	5.8			5.5	4.9			
Approach LOS	A			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	2		4		6			
Phs Duration (G+Y+Rc), s	11.8		11.4		11.8			
Change Period (Y+Rc), s	4.5		4.5		4.5			
Max Green Setting (Gmax), s	21.0		20.0		21.0			
Max Q Clear Time (g_c+l1), s	4.7		4.5		3.2			
Green Ext Time (p_c), s	2.6		2.4		1.5			
Intersection Summary								
HCM 2010 Ctrl Delay			5.5					
HCM 2010 LOS			A					
Notes								

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

27: Franklin Pkwy & Saratoga Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Future Volume (veh/h)	85	134	234	378	232	163	46	271	54	131	313	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	8	20	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.97	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	2157	2157	2157	2157	2157	2200	1863	1863	1900	1078	1078	1100
Adj Flow Rate, veh/h	85	134	26	378	232	65	46	271	45	131	313	31
Adj No. of Lanes	1	1	2	2	2	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	133	198	325	504	493	133	79	1656	271	172	1251	114
Arrive On Green	0.06	0.09	0.09	0.12	0.15	0.15	0.01	0.18	0.18	0.15	0.66	0.66
Sat Flow, veh/h	2054	2157	3540	4108	3217	871	1774	3029	495	1027	1882	185
Grp Volume(v), veh/h	85	134	26	378	153	144	46	157	159	131	169	175
Grp Sat Flow(s),veh/h/ln	2054	2157	1770	2054	2157	1931	1774	1770	1755	1027	1025	1042
Q Serve(g_s), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Cycle Q Clear(g_c), s	5.7	8.4	0.9	12.4	9.0	9.6	3.6	10.4	10.7	17.4	9.5	9.6
Prop In Lane	1.00		1.00	1.00		0.45	1.00		0.28	1.00		0.18
Lane Grp Cap(c), veh/h	133	198	325	504	331	296	79	968	959	172	675	689
V/C Ratio(X)	0.64	0.68	0.08	0.75	0.46	0.49	0.58	0.16	0.17	0.76	0.25	0.25
Avail Cap(c_a), veh/h	470	478	784	939	485	434	317	981	973	183	675	687
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.84	0.84	0.84	1.00	1.00	1.00
Uniform Delay (d), s/veh	63.9	61.6	58.2	59.4	54.0	54.3	67.7	30.3	30.4	57.7	10.9	10.9
Incr Delay (d2), s/veh	5.0	4.0	0.1	2.3	1.0	1.2	5.6	0.3	0.3	16.2	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	66.0	2.1	2.0
%ile BackOfQ(50%),veh/ln	3.4	5.2	0.5	7.2	5.5	5.2	1.9	5.2	5.3	10.2	5.1	5.2
LnGrp Delay(d),s/veh	68.9	65.6	58.3	61.6	55.0	55.6	73.3	30.6	30.7	139.8	13.9	13.8
LnGrp LOS	E	E	E	E	E	E	E	C	C	F	B	B
Approach Vol, veh/h	245		675				362			475		
Approach Delay, s/veh	66.0		58.8				36.1			48.6		
Approach LOS	E		E				D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	33.9	80.1	20.2	15.9	9.2	94.8	12.1	24.0				
Change Period (Y+Rc), s	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	23.5	38.5	30.5	29.5	23.5	38.5	30.5	29.5				
Max Q Clear Time (g_c+119.4), s	119.4	12.7	14.4	10.4	5.6	11.6	7.7	11.6				
Green Ext Time (p_c), s	0.1	1.9	1.2	0.7	0.1	2.1	0.2	1.6				
Intersection Summary												
HCM 2010 Ctrl Delay	52.4											
HCM 2010 LOS	D											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

29: B St & 1st Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Future Volume (veh/h)	10	73	27	23	71	49	26	183	48	73	161	20
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.79		0.68	0.80		0.66	0.86		0.75	0.84		0.71
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	10	73	27	23	71	49	26	183	48	73	161	20
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	437	150	116	307	190	104	629	155	246	511	59
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	1.00	1.00	0.94	0.51	0.51	0.47
Sat Flow, veh/h	64	1093	376	142	768	474	92	1224	302	349	994	115
Grp Volume(v), veh/h	110	0	0	143	0	0	257	0	0	254	0	0
Grp Sat Flow(s),veh/h/ln	1533	0	0	1383	0	0	1618	0	0	1458	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Cycle Q Clear(g_c), s	3.2	0.0	0.0	4.6	0.0	0.0	0.2	0.0	0.0	6.0	0.0	0.0
Prop In Lane	0.09		0.25	0.16		0.34	0.10		0.19	0.29		0.08
Lane Grp Cap(c), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
V/C Ratio(X)	0.16	0.00	0.00	0.23	0.00	0.00	0.29	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	613	0	0	889	0	0	816	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.8	0.0	0.0	14.3	0.0	0.0	0.2	0.0	0.0	9.7	0.0	0.0
Incr Delay (d2), s/veh	0.5	0.0	0.0	0.9	0.0	0.0	0.8	0.0	0.0	1.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.0	0.0	2.0	0.0	0.0	0.3	0.0	0.0	3.0	0.0	0.0
LnGrp Delay(d),s/veh	14.3	0.0	0.0	15.2	0.0	0.0	1.0	0.0	0.0	10.7	0.0	0.0
LnGrp LOS	B			B			A			B		
Approach Vol, veh/h		110			143			257			254	
Approach Delay, s/veh		14.3			15.2			1.0			10.7	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.0		31.0		39.0		31.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		31.5		23.5		31.5		23.5				
Max Q Clear Time (g_c+I1), s		2.2		5.2		8.0		6.6				
Green Ext Time (p_c), s		1.8		0.6		1.8		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	8.8											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

30: B St & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Future Volume (veh/h)	32	149	49	22	105	40	42	185	57	33	151	29
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.86		0.68	0.87		0.71	0.89		0.79	0.94		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	32	149	49	22	105	40	42	185	57	33	151	29
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	429	130	104	418	146	141	571	164	148	629	113
Arrive On Green	0.40	0.40	0.36	0.40	0.40	0.36	0.51	0.51	0.47	0.51	0.51	0.47
Sat Flow, veh/h	129	1071	325	115	1045	366	159	1111	319	173	1223	220
Grp Volume(v), veh/h	230	0	0	167	0	0	284	0	0	213	0	0
Grp Sat Flow(s),veh/h/ln	1525	0	0	1526	0	0	1589	0	0	1616	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	4.9	0.0	0.0	6.9	0.0	0.0	4.8	0.0	0.0
Prop In Lane	0.14		0.21	0.13		0.24	0.15		0.20	0.15		0.14
Lane Grp Cap(c), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
V/C Ratio(X)	0.34	0.00	0.00	0.25	0.00	0.00	0.32	0.00	0.00	0.24	0.00	0.00
Avail Cap(c_a), veh/h	669	0	0	669	0	0	876	0	0	890	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.0	0.0	0.0	14.3	0.0	0.0	10.1	0.0	0.0	9.5	0.0	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.9	0.0	0.0	1.0	0.0	0.0	0.6	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	2.3	0.0	0.0	3.4	0.0	0.0	2.4	0.0	0.0
LnGrp Delay(d),s/veh	16.4	0.0	0.0	15.2	0.0	0.0	11.1	0.0	0.0	10.2	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h	230			167			284			213		
Approach Delay, s/veh	16.4			15.2			11.1			10.2		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	39.0		31.0		39.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	31.5		23.5		31.5		23.5					
Max Q Clear Time (g_c+I1), s	8.9		9.1		6.8		6.9					
Green Ext Time (p_c), s	1.9		1.3		1.4		0.9					
Intersection Summary												
HCM 2010 Ctrl Delay	13.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

31: B St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	148	61	105	338	119	29	136	32	40	150	100
Future Volume (veh/h)	45	148	61	105	338	119	29	136	32	40	150	100
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.69	1.00		0.73	1.00		0.72	0.93		0.64
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1863	980	1863	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	45	148	61	105	338	59	29	136	32	40	150	100
Adj No. of Lanes	0	1	0	1	1	1	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	95	184	67	358	483	573	92	252	55	91	175	107
Arrive On Green	0.49	0.49	0.45	0.49	0.49	0.49	0.42	0.42	0.37	0.42	0.42	0.37
Sat Flow, veh/h	60	373	137	1168	980	1164	69	607	131	67	422	258
Grp Volume(v), veh/h	254	0	0	105	338	59	197	0	0	290	0	0
Grp Sat Flow(s),veh/h/ln	569	0	0	1168	980	1164	808	0	0	748	0	0
Q Serve(g_s), s	11.1	0.0	0.0	0.0	17.4	1.8	0.0	0.0	0.0	12.8	0.0	0.0
Cycle Q Clear(g_c), s	28.5	0.0	0.0	11.0	17.4	1.8	11.1	0.0	0.0	23.9	0.0	0.0
Prop In Lane	0.18		0.24	1.00		1.00	0.15		0.16	0.14		0.34
Lane Grp Cap(c), veh/h	345	0	0	358	483	573	399	0	0	374	0	0
V/C Ratio(X)	0.74	0.00	0.00	0.29	0.70	0.10	0.49	0.00	0.00	0.78	0.00	0.00
Avail Cap(c_a), veh/h	345	0	0	358	483	573	399	0	0	374	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	0.96	0.96	0.96	0.57	0.00	0.00	0.97	0.00	0.00
Uniform Delay (d), s/veh	15.9	0.0	0.0	11.2	12.8	8.8	14.5	0.0	0.0	18.4	0.0	0.0
Incr Delay (d2), s/veh	7.6	0.0	0.0	2.0	7.9	0.3	2.5	0.0	0.0	14.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	1.5	5.7	0.6	2.9	0.0	0.0	6.4	0.0	0.0
LnGrp Delay(d),s/veh	23.5	0.0	0.0	13.2	20.7	9.2	17.0	0.0	0.0	32.6	0.0	0.0
LnGrp LOS	C			B	C	A	B			C		
Approach Vol, veh/h	254			502			197			290		
Approach Delay, s/veh	23.5			17.8			17.0			32.6		
Approach LOS	C			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	30.0		35.0		30.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	22.5		27.5		22.5		27.5					
Max Q Clear Time (g_c+I1), s	13.1		30.5		25.9		19.4					
Green Ext Time (p_c), s	0.8		0.0		0.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	22.3											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

32: B St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	562	48	12	190	22	39	131	81	67	114	115
Future Volume (veh/h)	37	562	48	12	190	22	39	131	81	67	114	115
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.81	0.97		0.77	1.00		0.85	1.00		0.76
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	980	1900	1900	980	1900	1900	980	1900
Adj Flow Rate, veh/h	37	562	48	12	190	22	39	131	81	67	114	115
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	110	1480	124	58	392	44	87	192	108	111	138	123
Arrive On Green	0.49	0.49	0.43	0.49	0.49	0.43	0.44	0.44	0.38	0.44	0.44	0.38
Sat Flow, veh/h	121	2998	250	21	795	89	79	439	247	127	310	278
Grp Volume(v), veh/h	344	0	303	224	0	0	251	0	0	296	0	0
Grp Sat Flow(s),veh/h/ln	1787	0	1583	904	0	0	765	0	0	714	0	0
Q Serve(g_s), s	0.0	0.0	9.7	0.0	0.0	0.0	0.0	0.0	0.0	10.4	0.0	0.0
Cycle Q Clear(g_c), s	9.2	0.0	9.7	12.9	0.0	0.0	21.3	0.0	0.0	31.8	0.0	0.0
Prop In Lane	0.11		0.16	0.05		0.10	0.16		0.32	0.23		0.39
Lane Grp Cap(c), veh/h	932	0	782	494	0	0	387	0	0	372	0	0
V/C Ratio(X)	0.37	0.00	0.39	0.45	0.00	0.00	0.65	0.00	0.00	0.80	0.00	0.00
Avail Cap(c_a), veh/h	932	0	782	494	0	0	387	0	0	372	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.6	0.0	13.0	13.7	0.0	0.0	18.8	0.0	0.0	21.9	0.0	0.0
Incr Delay (d2), s/veh	1.1	0.0	1.5	3.0	0.0	0.0	8.2	0.0	0.0	16.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	4.6	3.7	0.0	0.0	5.5	0.0	0.0	7.8	0.0	0.0
LnGrp Delay(d),s/veh	13.7	0.0	14.4	16.7	0.0	0.0	27.0	0.0	0.0	37.9	0.0	0.0
LnGrp LOS	B		B	B			C			D		
Approach Vol, veh/h		647			224			251			296	
Approach Delay, s/veh		14.0			16.7			27.0			37.9	
Approach LOS		B			B			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		30.5		34.5		30.5		34.5				
Max Q Clear Time (g_c+I1), s		23.3		11.7		33.8		14.9				
Green Ext Time (p_c), s		0.9		4.5		0.0		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

33: B St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	375	55	47	286	55	38	161	109	29	127	34
Future Volume (veh/h)	38	375	55	47	286	55	38	161	109	29	127	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.90	1.00		0.92	0.94		0.89	1.00		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1471	1900	1900	980	1900	1900	1275	1900	1900	1863	1900
Adj Flow Rate, veh/h	38	375	55	47	286	55	38	161	109	29	127	34
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	88	556	78	93	346	63	94	257	160	127	505	125
Arrive On Green	0.50	0.50	0.46	0.50	0.50	0.46	0.41	0.41	0.37	0.41	0.41	0.37
Sat Flow, veh/h	66	1111	157	70	693	126	86	621	387	163	1218	301
Grp Volume(v), veh/h	468	0	0	388	0	0	308	0	0	190	0	0
Grp Sat Flow(s),veh/h/ln	1334	0	0	888	0	0	1094	0	0	1682	0	0
Q Serve(g_s), s	0.0	0.0	0.0	8.3	0.0	0.0	5.8	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	18.2	0.0	0.0	26.5	0.0	0.0	15.8	0.0	0.0	5.0	0.0	0.0
Prop In Lane	0.08		0.12	0.12		0.14	0.12		0.35	0.15		0.18
Lane Grp Cap(c), veh/h	722	0	0	502	0	0	511	0	0	756	0	0
V/C Ratio(X)	0.65	0.00	0.00	0.77	0.00	0.00	0.60	0.00	0.00	0.25	0.00	0.00
Avail Cap(c_a), veh/h	722	0	0	502	0	0	511	0	0	756	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	13.3	0.0	0.0	15.3	0.0	0.0	17.0	0.0	0.0	13.7	0.0	0.0
Incr Delay (d2), s/veh	4.5	0.0	0.0	11.0	0.0	0.0	5.2	0.0	0.0	0.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.7	0.0	0.0	8.0	0.0	0.0	5.6	0.0	0.0	2.6	0.0	0.0
LnGrp Delay(d),s/veh	17.7	0.0	0.0	26.3	0.0	0.0	22.2	0.0	0.0	14.4	0.0	0.0
LnGrp LOS	B			C			C			B		
Approach Vol, veh/h	468				388				308		190	
Approach Delay, s/veh	17.7				26.3				22.2		14.4	
Approach LOS	B				C				C		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	32.0		38.0		32.0		38.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	24.5		30.5		24.5		30.5					
Max Q Clear Time (g_c+I1), s	17.8		20.2		7.0		28.5					
Green Ext Time (p_c), s	1.1		2.3		1.0		0.5					
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

34: Ellsworth Ave & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Future Volume (veh/h)	63	182	57	26	101	34	9	76	26	28	239	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.90		0.71	0.92		0.82	0.95		0.81	0.87		0.77
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	63	182	57	26	101	34	9	76	26	28	239	82
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	432	125	130	469	146	82	575	186	85	565	185
Arrive On Green	0.44	0.44	0.40	0.44	0.44	0.40	0.49	0.49	0.45	0.49	0.49	0.45
Sat Flow, veh/h	243	988	286	178	1072	335	68	1179	382	74	1158	379
Grp Volume(v), veh/h	302	0	0	161	0	0	111	0	0	349	0	0
Grp Sat Flow(s),veh/h/ln	1517	0	0	1585	0	0	1629	0	0	1611	0	0
Q Serve(g_s), s	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	4.7	0.0	0.0	2.9	0.0	0.0	11.1	0.0	0.0
Prop In Lane	0.21		0.19	0.16		0.21	0.08		0.23	0.08		0.23
Lane Grp Cap(c), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
V/C Ratio(X)	0.42	0.00	0.00	0.22	0.00	0.00	0.13	0.00	0.00	0.42	0.00	0.00
Avail Cap(c_a), veh/h	718	0	0	746	0	0	843	0	0	834	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	15.7	0.0	0.0	14.2	0.0	0.0	11.5	0.0	0.0	13.6	0.0	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	1.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.0	0.0	0.0	2.4	0.0	0.0	1.4	0.0	0.0	5.4	0.0	0.0
LnGrp Delay(d),s/veh	17.5	0.0	0.0	14.9	0.0	0.0	11.8	0.0	0.0	15.1	0.0	0.0
LnGrp LOS	B			B			B			B		
Approach Vol, veh/h		302			161			111			349	
Approach Delay, s/veh		17.5			14.9			11.8			15.1	
Approach LOS		B			B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.0		38.0		42.0		38.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		34.5		30.5		34.5		30.5				
Max Q Clear Time (g_c+I1), s		4.9		12.5		13.1		6.7				
Green Ext Time (p_c), s		0.7		2.0		2.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			15.5									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

35: Ellsworth Ave & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Future Volume (veh/h)	25	165	38	18	224	65	10	69	12	20	217	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.91		0.80	0.89		0.78	0.92		0.81	0.88		0.81
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	25	165	38	18	224	65	10	69	12	20	217	36
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	607	131	97	595	166	113	563	91	103	579	92
Arrive On Green	0.48	0.48	0.42	0.48	0.48	0.42	0.41	0.41	0.35	0.41	0.41	0.35
Sat Flow, veh/h	97	1275	275	49	1252	349	86	1381	223	70	1420	226
Grp Volume(v), veh/h	228	0	0	307	0	0	91	0	0	273	0	0
Grp Sat Flow(s),veh/h/ln	1647	0	0	1650	0	0	1690	0	0	1715	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.2	0.0	0.0	6.1	0.0	0.0	1.7	0.0	0.0	5.7	0.0	0.0
Prop In Lane	0.11		0.17	0.06		0.21	0.11		0.13	0.07		0.13
Lane Grp Cap(c), veh/h	861	0	0	859	0	0	767	0	0	775	0	0
V/C Ratio(X)	0.26	0.00	0.00	0.36	0.00	0.00	0.12	0.00	0.00	0.35	0.00	0.00
Avail Cap(c_a), veh/h	1060	0	0	1062	0	0	986	0	0	1002	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.3	0.0	0.0	8.9	0.0	0.0	9.7	0.0	0.0	10.9	0.0	0.0
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.0	0.0	2.9	0.0	0.0	0.8	0.0	0.0	2.8	0.0	0.0
LnGrp Delay(d),s/veh	8.5	0.0	0.0	9.1	0.0	0.0	9.7	0.0	0.0	11.1	0.0	0.0
LnGrp LOS	A			A			A			B		
Approach Vol, veh/h	228				307				91		273	
Approach Delay, s/veh	8.5				9.1				9.7		11.1	
Approach LOS	A				A				A		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	24.0		27.5		24.0		27.5					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	23.5		26.5		23.5		26.5					
Max Q Clear Time (g_c+I1), s	3.7		6.2		7.7		8.1					
Green Ext Time (p_c), s	0.4		1.4		1.5		1.9					
Intersection Summary												
HCM 2010 Ctrl Delay			9.6									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

36: San Mateo Dr & Peninsula Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Future Volume (veh/h)	19	274	29	102	296	290	12	450	195	209	439	36
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.96	1.00		0.96	0.99		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	19	274	14	102	296	174	12	450	85	209	439	36
Adj No. of Lanes	1	1	1	1	1	1	0	2	1	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	453	920	760	529	920	752	62	1511	676	344	771	66
Arrive On Green	0.49	0.49	0.49	0.49	0.49	0.49	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	913	1863	1538	1080	1863	1523	33	3405	1522	598	1737	148
Grp Volume(v), veh/h	19	274	14	102	296	174	246	216	85	282	0	402
Grp Sat Flow(s),veh/h/ln	913	1863	1538	1080	1863	1523	1828	1610	1522	825	0	1658
Q Serve(g_s), s	1.0	7.0	0.4	5.0	7.7	5.2	0.0	6.9	2.6	19.2	0.0	14.3
Cycle Q Clear(g_c), s	8.7	7.0	0.4	11.9	7.7	5.2	6.8	6.9	2.6	26.1	0.0	14.3
Prop In Lane	1.00		1.00	1.00		1.00	0.05		1.00	0.74		0.09
Lane Grp Cap(c), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
V/C Ratio(X)	0.04	0.30	0.02	0.19	0.32	0.23	0.29	0.30	0.13	0.63	0.00	0.55
Avail Cap(c_a), veh/h	453	920	760	529	920	752	858	715	676	444	0	736
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	14.8	12.0	10.3	15.6	12.2	11.6	14.3	14.3	13.1	22.2	0.0	16.4
Incr Delay (d2), s/veh	0.2	0.8	0.0	0.8	0.9	0.7	0.8	1.1	0.4	6.7	0.0	2.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	3.8	0.2	1.6	4.1	2.3	3.7	3.3	1.2	6.3	0.0	7.1
LnGrp Delay(d),s/veh	15.0	12.8	10.4	16.4	13.1	12.3	15.1	15.4	13.5	28.9	0.0	19.3
LnGrp LOS	B	B	B	B	B	B	B	B	B	C		B
Approach Vol, veh/h		307			572			547			684	
Approach Delay, s/veh		12.9			13.4			15.0			23.2	
Approach LOS		B			B			B			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		38.0		42.0		38.0		42.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		33.5		37.5		33.5		37.5				
Max Q Clear Time (g_c+I1), s		8.9		10.7		28.1		13.9				
Green Ext Time (p_c), s		3.2		1.8		2.2		2.9				
Intersection Summary												
HCM 2010 Ctrl Delay				16.9								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

37: San Mateo Dr & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Future Volume (veh/h)	43	266	32	90	224	65	25	596	75	108	430	41
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.98	0.99		0.98	0.99		0.98	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	266	32	90	224	65	25	596	75	108	430	41
Adj No. of Lanes	0	2	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	1088	126	234	414	108	135	1309	162	281	994	97
Arrive On Green	0.39	0.39	0.39	0.39	0.39	0.39	0.44	0.44	0.44	0.44	0.44	0.44
Sat Flow, veh/h	233	2782	323	271	1058	275	56	2997	371	314	2275	221
Grp Volume(v), veh/h	180	0	161	379	0	0	368	0	328	273	0	306
Grp Sat Flow(s),veh/h/ln	1709	0	1629	1604	0	0	1804	0	1620	1161	0	1649
Q Serve(g_s), s	0.0	0.0	2.3	2.6	0.0	0.0	0.0	0.0	5.0	1.3	0.0	4.5
Cycle Q Clear(g_c), s	2.3	0.0	2.3	6.2	0.0	0.0	4.8	0.0	5.0	6.2	0.0	4.5
Prop In Lane	0.24		0.20	0.24		0.17	0.07		0.23	0.40		0.13
Lane Grp Cap(c), veh/h	796	0	637	755	0	0	898	0	708	651	0	720
V/C Ratio(X)	0.23	0.00	0.25	0.50	0.00	0.00	0.41	0.00	0.46	0.42	0.00	0.42
Avail Cap(c_a), veh/h	1131	0	981	1079	0	0	3530	0	3160	2440	0	3216
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	7.2	0.0	7.2	8.2	0.0	0.0	6.9	0.0	6.9	6.7	0.0	6.8
Incr Delay (d2), s/veh	0.1	0.0	0.2	0.5	0.0	0.0	0.3	0.0	0.5	0.4	0.0	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	0.0	1.1	3.0	0.0	0.0	2.5	0.0	2.3	2.0	0.0	2.0
LnGrp Delay(d),s/veh	7.3	0.0	7.4	8.8	0.0	0.0	7.2	0.0	7.4	7.2	0.0	7.2
LnGrp LOS	A		A	A			A		A	A		A
Approach Vol, veh/h		341			379			696			579	
Approach Delay, s/veh		7.3			8.8			7.3			7.2	
Approach LOS		A			A			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		18.2		16.6		18.2		16.6				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		66.5		19.5		66.5		19.5				
Max Q Clear Time (g_c+I1), s		7.0		4.3		8.2		8.2				
Green Ext Time (p_c), s		5.2		1.8		4.8		1.9				
Intersection Summary												
HCM 2010 Ctrl Delay				7.5								
HCM 2010 LOS				A								

HCM 2010 Signalized Intersection Summary

38: San Mateo Dr & 2nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Future Volume (veh/h)	177	206	63	25	161	49	13	170	51	63	249	121
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.87	0.95		0.93	0.97		0.91	0.95		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	177	206	63	25	161	49	13	170	51	63	249	121
Adj No. of Lanes	1	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	617	602	184	102	568	161	74	594	171	614	518	252
Arrive On Green	0.46	0.46	0.41	0.46	0.46	0.41	0.91	0.91	0.83	0.46	0.46	0.41
Sat Flow, veh/h	1122	1317	403	98	1242	353	43	1299	374	1093	1134	551
Grp Volume(v), veh/h	177	0	269	235	0	0	234	0	0	63	0	370
Grp Sat Flow(s),veh/h/ln	1122	0	1720	1694	0	0	1716	0	0	1093	0	1685
Q Serve(g_s), s	1.2	0.0	7.1	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	10.9
Cycle Q Clear(g_c), s	7.1	0.0	7.1	5.9	0.0	0.0	1.3	0.0	0.0	1.6	0.0	10.9
Prop In Lane	1.00		0.23	0.11		0.21	0.06		0.22	1.00		0.33
Lane Grp Cap(c), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
V/C Ratio(X)	0.29	0.00	0.34	0.28	0.00	0.00	0.28	0.00	0.00	0.10	0.00	0.48
Avail Cap(c_a), veh/h	617	0	786	831	0	0	839	0	0	614	0	770
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.2	0.0	12.5	12.1	0.0	0.0	2.1	0.0	0.0	10.7	0.0	13.6
Incr Delay (d2), s/veh	1.2	0.0	1.2	0.9	0.0	0.0	0.8	0.0	0.0	0.3	0.0	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	3.6	3.0	0.0	0.0	0.7	0.0	0.0	0.7	0.0	5.5
LnGrp Delay(d),s/veh	13.4	0.0	13.7	13.0	0.0	0.0	2.9	0.0	0.0	11.1	0.0	15.8
LnGrp LOS	B		B	B			A			B		B
Approach Vol, veh/h		446			235			234			433	
Approach Delay, s/veh		13.6			13.0			2.9			15.1	
Approach LOS		B			B			A			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		35.0		35.0		35.0				
Change Period (Y+Rc), s		7.5		7.5		7.5		7.5				
Max Green Setting (Gmax), s		27.5		27.5		27.5		27.5				
Max Q Clear Time (g_c+I1), s		3.3		9.1		12.9		7.9				
Green Ext Time (p_c), s		1.4		2.4		2.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay			12.1									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

39: San Mateo Dr & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Future Volume (veh/h)	33	202	73	30	200	40	22	125	28	42	240	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.82		0.73	0.93		0.70	0.92		0.71	0.85		0.72
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	33	202	73	30	200	40	22	125	28	42	240	59
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	103	500	170	106	591	111	113	565	118	605	617	152
Arrive On Green	0.46	0.46	0.41	0.93	0.93	0.83	0.46	0.46	0.41	0.46	0.46	0.41
Sat Flow, veh/h	99	1076	365	105	1273	240	120	1218	255	1045	1330	327
Grp Volume(v), veh/h	308	0	0	270	0	0	175	0	0	42	0	299
Grp Sat Flow(s),veh/h/ln	1540	0	0	1617	0	0	1592	0	0	1045	0	1657
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4
Cycle Q Clear(g_c), s	8.9	0.0	0.0	1.4	0.0	0.0	4.4	0.0	0.0	1.2	0.0	8.4
Prop In Lane	0.11		0.24	0.11		0.15	0.13		0.16	1.00		0.20
Lane Grp Cap(c), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
V/C Ratio(X)	0.40	0.00	0.00	0.33	0.00	0.00	0.22	0.00	0.00	0.07	0.00	0.39
Avail Cap(c_a), veh/h	772	0	0	808	0	0	797	0	0	605	0	769
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	12.7	0.0	0.0	1.7	0.0	0.0	11.4	0.0	0.0	10.4	0.0	12.5
Incr Delay (d2), s/veh	1.5	0.0	0.0	1.1	0.0	0.0	0.6	0.0	0.0	0.2	0.0	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	0.0	0.8	0.0	0.0	2.2	0.0	0.0	0.5	0.0	4.1
LnGrp Delay(d),s/veh	14.2	0.0	0.0	2.8	0.0	0.0	12.0	0.0	0.0	10.6	0.0	14.0
LnGrp LOS	B			A			B			B		B
Approach Vol, veh/h	308				270				175		341	
Approach Delay, s/veh	14.2				2.8				12.0		13.6	
Approach LOS	B				A				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	35.0		35.0		35.0		35.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	27.5		27.5		27.5		27.5					
Max Q Clear Time (g_c+I1), s	6.4		10.9		10.4		3.4					
Green Ext Time (p_c), s	1.1		2.0		2.0		1.8					
Intersection Summary												
HCM 2010 Ctrl Delay	10.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

40: San Mateo Dr & 4th Ave

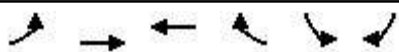
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Future Volume (veh/h)	43	320	48	30	160	31	6	110	37	109	164	64
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.80		0.74	0.96		0.69	0.97		0.89	0.94		0.89
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	43	320	48	30	160	31	6	110	37	109	164	64
Adj No. of Lanes	0	2	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	887	129	155	755	143	60	734	238	309	450	164
Arrive On Green	0.35	0.35	0.31	0.35	0.35	0.31	0.57	0.57	0.54	0.57	0.57	0.54
Sat Flow, veh/h	223	2536	367	281	2158	409	24	1276	415	435	783	285
Grp Volume(v), veh/h	218	0	193	115	0	106	153	0	0	337	0	0
Grp Sat Flow(s),veh/h/ln	1649	0	1477	1446	0	1403	1715	0	0	1503	0	0
Q Serve(g_s), s	0.0	0.0	7.9	0.2	0.0	4.3	0.0	0.0	0.0	5.0	0.0	0.0
Cycle Q Clear(g_c), s	6.9	0.0	7.9	8.1	0.0	4.3	3.4	0.0	0.0	9.2	0.0	0.0
Prop In Lane	0.20		0.25	0.26		0.29	0.04		0.24	0.32		0.19
Lane Grp Cap(c), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
V/C Ratio(X)	0.35	0.00	0.37	0.20	0.00	0.22	0.15	0.00	0.00	0.36	0.00	0.00
Avail Cap(c_a), veh/h	631	0	517	563	0	491	1033	0	0	924	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.1	0.0	19.7	18.0	0.0	18.6	8.1	0.0	0.0	9.2	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	2.1	0.8	0.0	1.0	0.3	0.0	0.0	1.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	3.5	1.9	0.0	1.8	1.7	0.0	0.0	4.3	0.0	0.0
LnGrp Delay(d),s/veh	20.6	0.0	21.8	18.9	0.0	19.6	8.4	0.0	0.0	10.3	0.0	0.0
LnGrp LOS	C		C	B		B	A			B		
Approach Vol, veh/h	411				221		153				337	
Approach Delay, s/veh	21.2				19.2		8.4				10.3	
Approach LOS	C				B		A				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	49.0		31.0		49.0		31.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	41.5		23.5		41.5		23.5					
Max Q Clear Time (g_c+I1), s	5.4		9.9		11.2		10.1					
Green Ext Time (p_c), s	1.0		2.3		2.6		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay	15.8											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

41: 5th Ave & San Mateo Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	103	367	271	112	146	104		
Future Volume (veh/h)	103	367	271	112	146	104		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	0.97			0.94	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	980	1471	1863	1900	980	1863		
Adj Flow Rate, veh/h	103	367	271	112	146	28		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	349	657	548	227	204	346		
Arrive On Green	0.45	0.45	0.45	0.45	0.22	0.22		
Sat Flow, veh/h	511	1471	1228	508	934	1583		
Grp Volume(v), veh/h	103	367	0	383	146	28		
Grp Sat Flow(s),veh/h/ln	511	1471	0	1736	934	1583		
Q Serve(g_s), s	6.4	6.6	0.0	5.6	5.2	0.5		
Cycle Q Clear(g_c), s	12.0	6.6	0.0	5.6	5.2	0.5		
Prop In Lane	1.00			0.29	1.00	1.00		
Lane Grp Cap(c), veh/h	349	657	0	775	204	346		
V/C Ratio(X)	0.30	0.56	0.00	0.49	0.72	0.08		
Avail Cap(c_a), veh/h	349	657	0	775	964	1635		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	7.3	0.0	7.0	13.0	11.1		
Incr Delay (d2), s/veh	2.1	3.4	0.0	2.2	4.6	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.1	3.3	0.0	3.1	1.6	0.2		
LnGrp Delay(d),s/veh	13.5	10.7	0.0	9.3	17.6	11.2		
LnGrp LOS	B	B		A	B	B		
Approach Vol, veh/h		470	383		174			
Approach Delay, s/veh		11.3	9.3		16.6			
Approach LOS		B	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6		8
Phs Duration (G+Y+Rc), s				22.0		13.8		22.0
Change Period (Y+Rc), s				7.5		7.5		7.5
Max Green Setting (Gmax), s				14.5		35.5		14.5
Max Q Clear Time (g_c+I1), s				14.0		7.2		7.6
Green Ext Time (p_c), s				0.2		0.5		1.4
Intersection Summary								
HCM 2010 Ctrl Delay			11.5					
HCM 2010 LOS			B					

HCM 2010 analysis does not support current phasing, requires strict NEMA phasing (2-4-6-8) arranged clockwise.

HCM 2010 Signalized Intersection Summary

43: El Camino Real & Poplar Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Future Volume (veh/h)	19	56	31	200	31	64	34	1244	145	105	1126	9
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.99	0.99		0.98	1.00		0.99	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	19	56	31	200	31	64	34	1244	145	105	1126	9
Adj No. of Lanes	0	1	0	1	1	0	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	101	227	109	417	118	244	102	1791	208	175	2167	17
Arrive On Green	0.22	0.22	0.21	0.22	0.22	0.21	0.06	0.56	0.55	0.10	0.60	0.59
Sat Flow, veh/h	171	1027	495	1295	534	1103	1774	3194	371	1774	3598	29
Grp Volume(v), veh/h	106	0	0	200	0	95	34	687	702	105	554	581
Grp Sat Flow(s),veh/h/ln	1693	0	0	1295	0	1638	1774	1770	1795	1774	1770	1857
Q Serve(g_s), s	0.0	0.0	0.0	4.8	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Cycle Q Clear(g_c), s	3.3	0.0	0.0	8.1	0.0	3.2	1.2	18.7	18.9	3.8	12.2	12.2
Prop In Lane	0.18		0.29	1.00		0.67	1.00		0.21	1.00		0.02
Lane Grp Cap(c), veh/h	437	0	0	417	0	362	102	992	1007	175	1066	1119
V/C Ratio(X)	0.24	0.00	0.00	0.48	0.00	0.26	0.33	0.69	0.70	0.60	0.52	0.52
Avail Cap(c_a), veh/h	1236	0	0	1048	0	1160	352	1991	2020	502	2142	2247
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.7	0.0	0.0	23.2	0.0	21.8	30.4	10.6	10.7	29.0	7.7	7.7
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.4	1.9	0.9	0.9	3.3	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.0	0.0	3.4	0.0	1.5	0.7	9.2	9.4	2.0	6.0	6.3
LnGrp Delay(d),s/veh	22.0	0.0	0.0	24.1	0.0	22.1	32.3	11.5	11.5	32.2	8.1	8.1
LnGrp LOS	C			C		C	C	B	B	C	A	A
Approach Vol, veh/h	106			295			1423			1240		
Approach Delay, s/veh	22.0			23.5			12.0			10.1		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	40.1		17.3	6.8	42.9		17.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	7.5	73.5		45.5	11.8	79.2		45.5				
Max Q Clear Time (g_c+1.5), s	15.8	20.9		5.3	3.2	14.2		10.1				
Green Ext Time (p_c), s	0.2	14.7		0.6	0.0	10.3		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	12.7											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

44: El Camino Real & El Cerrito Ave/Tilton Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Future Volume (veh/h)	71	110	37	104	72	29	14	1458	126	18	1231	53
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.97	0.99		0.97	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	71	110	37	104	72	29	14	1458	126	18	1231	53
Adj No. of Lanes	0	1	0	0	1	0	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	195	235	70	273	165	55	76	2102	180	81	2170	93
Arrive On Green	0.25	0.25	0.24	0.25	0.25	0.24	0.66	0.66	0.65	0.66	0.66	0.65
Sat Flow, veh/h	427	955	282	693	669	224	10	3188	273	17	3292	141
Grp Volume(v), veh/h	218	0	0	205	0	0	840	0	758	674	0	628
Grp Sat Flow(s),veh/h/ln	1664	0	0	1586	0	0	1829	0	1643	1781	0	1668
Q Serve(g_s), s	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	15.5	0.0	0.0	10.9
Cycle Q Clear(g_c), s	5.5	0.0	0.0	5.2	0.0	0.0	14.8	0.0	15.5	10.2	0.0	10.9
Prop In Lane	0.33		0.17	0.51		0.14	0.02		0.17	0.03		0.08
Lane Grp Cap(c), veh/h	500	0	0	493	0	0	1275	0	1083	1244	0	1100
V/C Ratio(X)	0.44	0.00	0.00	0.42	0.00	0.00	0.66	0.00	0.70	0.54	0.00	0.57
Avail Cap(c_a), veh/h	883	0	0	844	0	0	1743	0	1520	1682	0	1543
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	17.2	0.0	0.0	17.0	0.0	0.0	5.6	0.0	5.7	4.8	0.0	4.9
Incr Delay (d2), s/veh	0.6	0.0	0.0	0.6	0.0	0.0	0.6	0.0	0.8	0.4	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	2.6	0.0	0.0	7.7	0.0	7.0	5.2	0.0	5.0
LnGrp Delay(d),s/veh	17.8	0.0	0.0	17.6	0.0	0.0	6.2	0.0	6.6	5.2	0.0	5.4
LnGrp LOS	B			B			A		A	A		A
Approach Vol, veh/h	218				205		1598				1302	
Approach Delay, s/veh	17.8				17.6		6.4				5.3	
Approach LOS	B				B		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.4		15.6		37.4		15.6					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	47.0		24.0		47.0		24.0					
Max Q Clear Time (g_c+I1), s	17.5		7.5		12.9		7.2					
Green Ext Time (p_c), s	15.4		1.1		12.3		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			7.4									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

45: El Camino Real & Crystal Springs Rd

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	257	74	77	1139	1269	201		
Future Volume (veh/h)	257	74	77	1139	1269	201		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.97	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	257	74	77	1139	1269	201		
Adj No. of Lanes	0	0	1	2	2	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	334	96	138	2342	1655	260		
Arrive On Green	0.25	0.25	0.08	0.66	0.54	0.54		
Sat Flow, veh/h	1329	383	1774	3632	3154	481		
Grp Volume(v), veh/h	332	0	77	1139	730	740		
Grp Sat Flow(s),veh/h/ln	1717	0	1774	1770	1770	1772		
Q Serve(g_s), s	12.4	0.0	2.9	11.1	22.2	22.7		
Cycle Q Clear(g_c), s	12.4	0.0	2.9	11.1	22.2	22.7		
Prop In Lane	0.77	0.22	1.00			0.27		
Lane Grp Cap(c), veh/h	431	0	138	2342	957	958		
V/C Ratio(X)	0.77	0.00	0.56	0.49	0.76	0.77		
Avail Cap(c_a), veh/h	623	0	206	3030	1232	1234		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	0.0	30.6	5.8	12.4	12.5		
Incr Delay (d2), s/veh	3.6	0.0	3.5	0.2	2.1	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	1.5	5.4	11.3	11.5		
LnGrp Delay(d),s/veh	27.6	0.0	34.2	6.0	14.5	14.8		
LnGrp LOS	C		C	A	B	B		
Approach Vol, veh/h	332			1216	1470			
Approach Delay, s/veh	27.6			7.8	14.7			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		48.6		20.3	8.4	40.3		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		57.5		23.5	6.5	46.5		
Max Q Clear Time (g_c+I1), s		13.1		14.4	4.9	24.7		
Green Ext Time (p_c), s		10.6		0.7	0.0	11.0		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

46: El Camino Real & 2nd Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	276	118	1404	282	74	1208		
Future Volume (veh/h)	276	118	1404	282	74	1208		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.96	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	276	31	1404	145	74	1208		
Adj No. of Lanes	1	1	2	1	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	392	350	1865	802	157	2371		
Arrive On Green	0.22	0.22	0.53	0.53	0.09	0.67		
Sat Flow, veh/h	1774	1583	3632	1522	1774	3632		
Grp Volume(v), veh/h	276	31	1404	145	74	1208		
Grp Sat Flow(s),veh/h/ln	1774	1583	1770	1522	1774	1770		
Q Serve(g_s), s	7.9	0.9	17.2	2.7	2.2	9.4		
Cycle Q Clear(g_c), s	7.9	0.9	17.2	2.7	2.2	9.4		
Prop In Lane	1.00	1.00		1.00	1.00			
Lane Grp Cap(c), veh/h	392	350	1865	802	157	2371		
V/C Ratio(X)	0.70	0.09	0.75	0.18	0.47	0.51		
Avail Cap(c_a), veh/h	981	875	2181	938	209	2791		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.8	17.1	10.2	6.8	23.9	4.6		
Incr Delay (d2), s/veh	2.3	0.1	1.3	0.1	2.2	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.4	8.5	1.2	1.2	4.6		
LnGrp Delay(d),s/veh	22.1	17.2	11.5	6.9	26.1	4.7		
LnGrp LOS	C	B	B	A	C	A		
Approach Vol, veh/h	307		1549			1282		
Approach Delay, s/veh	21.6		11.1			6.0		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.9	32.1				40.0		15.2
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	5.0	32.5				42.0		29.0
Max Q Clear Time (g_c+14), s	14.2	19.2				11.4		9.9
Green Ext Time (p_c), s	0.0	8.4				10.5		0.9
Intersection Summary								
HCM 2010 Ctrl Delay			10.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

47: 3rd Ave & El Camino Real

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	119	193	189	137	103	105	1568	171	72	1309	119
Future Volume (veh/h)	119	119	193	189	137	103	105	1568	171	72	1309	119
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.90	0.94		0.87	1.00		0.86	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1569	1863	980	1569	1863	1863	2451	1900	1863	1863	1900
Adj Flow Rate, veh/h	119	119	63	189	137	30	105	1568	171	72	1309	119
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	320	459	416	210	466	411	156	3378	367	117	2539	231
Arrive On Green	0.29	0.29	0.29	0.30	0.30	0.30	0.09	0.56	0.56	0.07	0.54	0.53
Sat Flow, veh/h	1117	1569	1422	592	1569	1382	1774	6016	654	1774	4705	428
Grp Volume(v), veh/h	119	119	63	189	137	30	105	1162	577	72	943	485
Grp Sat Flow(s),veh/h/ln	1117	1569	1422	592	1569	1382	1774	2230	2209	1774	1695	1742
Q Serve(g_s), s	9.8	6.2	3.5	25.3	7.1	1.7	6.1	16.4	16.5	4.2	18.8	18.8
Cycle Q Clear(g_c), s	16.9	6.2	3.5	31.5	7.1	1.7	6.1	16.4	16.5	4.2	18.8	18.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.30	1.00		0.25
Lane Grp Cap(c), veh/h	320	459	416	210	466	411	156	2505	1240	117	1829	940
V/C Ratio(X)	0.37	0.26	0.15	0.90	0.29	0.07	0.67	0.46	0.47	0.62	0.52	0.52
Avail Cap(c_a), veh/h	320	459	416	210	466	411	234	2505	1240	184	1829	940
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	28.7	27.8	43.5	28.7	26.8	46.9	13.8	13.8	48.2	15.6	15.6
Incr Delay (d2), s/veh	0.7	0.3	0.2	36.6	0.3	0.1	5.0	0.6	1.3	5.2	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	2.7	1.4	7.6	3.1	0.6	3.2	10.2	10.4	2.2	8.8	9.2
LnGrp Delay(d),s/veh	36.3	29.0	27.9	80.1	29.0	26.8	51.9	14.4	15.1	53.4	15.8	16.1
LnGrp LOS	D	C	C	F	C	C	D	B	B	D	B	B
Approach Vol, veh/h		301			356			1844			1500	
Approach Delay, s/veh		31.7			55.9			16.8			17.7	
Approach LOS		C			E			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	0.0	62.0		34.0	12.3	59.7		34.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	9.5	57.5		29.5	12.5	54.5		29.5				
Max Q Clear Time (g_c+16), s	16.2	18.5		18.9	8.1	20.8		33.5				
Green Ext Time (p_c), s	0.0	18.7		1.0	0.1	13.1		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				21.7								
HCM 2010 LOS				C								

HCM 2010 Signalized Intersection Summary

48: El Camino Real & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	54	74	62	267	49	87	21	1595	230	187	1543	30
Future Volume (veh/h)	54	74	62	267	49	87	21	1595	230	187	1543	30
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.92	0.95		0.94	1.00		0.96	1.00		0.93
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1863	1863	2451	1900	980	2451	1900	2451	2451	1900
Adj Flow Rate, veh/h	54	74	24	267	49	87	21	1595	230	187	1543	30
Adj No. of Lanes	0	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	151	576	283	238	423	70	2787	400	270	3473	68
Arrive On Green	0.31	0.31	0.31	0.31	0.31	0.31	0.08	0.47	0.47	0.23	0.51	0.51
Sat Flow, veh/h	284	482	1459	1228	762	1353	934	5874	844	2334	6746	131
Grp Volume(v), veh/h	128	0	24	267	0	136	21	1210	615	187	1020	553
Grp Sat Flow(s),veh/h/ln	766	0	1459	1228	0	2115	934	2230	2257	2334	2230	2416
Q Serve(g_s), s	9.1	0.0	0.9	15.5	0.0	4.4	2.0	18.1	18.3	6.8	13.3	13.3
Cycle Q Clear(g_c), s	13.5	0.0	0.9	29.0	0.0	4.4	2.0	18.1	18.3	6.8	13.3	13.3
Prop In Lane	0.42		1.00	1.00		0.64	1.00		0.37	1.00		0.05
Lane Grp Cap(c), veh/h	295	0	576	283	0	661	70	2116	1071	270	2296	1244
V/C Ratio(X)	0.43	0.00	0.04	0.94	0.00	0.21	0.30	0.57	0.57	0.69	0.44	0.44
Avail Cap(c_a), veh/h	295	0	576	283	0	661	70	2116	1071	705	3126	1693
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.6	0.0	17.7	40.4	0.0	23.4	40.5	17.6	17.6	34.1	14.2	14.2
Incr Delay (d2), s/veh	1.0	0.0	0.0	38.1	0.0	0.2	10.5	1.1	2.2	3.1	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.4	9.7	0.0	2.6	0.7	11.4	11.9	4.6	8.3	9.0
LnGrp Delay(d),s/veh	27.7	0.0	17.7	78.5	0.0	23.6	51.0	18.7	19.9	37.3	14.3	14.4
LnGrp LOS	C		B	E		C	D	B	B	D	B	B
Approach Vol, veh/h	152				403				1846		1760	
Approach Delay, s/veh	26.1				59.9				19.5		16.8	
Approach LOS	C				E				B		B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	3.7	47.0			32.0	10.0	50.7	32.0				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	26.5	42.5			27.5	5.5	63.5	27.5				
Max Q Clear Time (g_c+I), s	19.8	20.3			15.5	4.0	15.3	31.0				
Green Ext Time (p_c), s	0.5	13.9			0.6	0.0	15.9	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			22.5									
HCM 2010 LOS			C									
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

49: El Camino Real & Barneson Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	154	48	44	1861	1532	67		
Future Volume (veh/h)	154	48	44	1861	1532	67		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	0.96	1.00			0.99		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1900	1863	1863	1900		
Adj Flow Rate, veh/h	154	48	44	1861	1532	67		
Adj No. of Lanes	0	0	0	3	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	0	0	2	2	2	2		
Cap, veh/h	310	97	101	3047	3284	144		
Arrive On Green	0.24	0.24	0.66	0.66	0.66	0.66		
Sat Flow, veh/h	1294	403	54	4785	5160	218		
Grp Volume(v), veh/h	203	0	658	1247	1040	559		
Grp Sat Flow(s),veh/h/ln	1706	0	1601	1543	1695	1821		
Q Serve(g_s), s	6.0	0.0	0.0	13.6	8.8	8.8		
Cycle Q Clear(g_c), s	6.0	0.0	10.9	13.6	8.8	8.8		
Prop In Lane	0.76	0.24	0.07			0.12		
Lane Grp Cap(c), veh/h	408	0	1119	2030	2230	1198		
V/C Ratio(X)	0.50	0.00	0.59	0.61	0.47	0.47		
Avail Cap(c_a), veh/h	818	0	1541	2958	3251	1746		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	19.2	0.0	5.3	5.7	4.9	4.9		
Incr Delay (d2), s/veh	0.9	0.0	0.5	0.3	0.2	0.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.9	0.0	5.6	5.6	4.1	4.4		
LnGrp Delay(d),s/veh	20.1	0.0	5.8	6.0	5.1	5.2		
LnGrp LOS	C		A	A	A	A		
Approach Vol, veh/h	203			1905	1599			
Approach Delay, s/veh	20.1			6.0	5.1			
Approach LOS	C			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4		6		
Phs Duration (G+Y+Rc), s		41.4		17.0		41.4		
Change Period (Y+Rc), s		4.5		4.5		4.5		
Max Green Setting (Gmax), s		54.5		26.5		54.5		
Max Q Clear Time (g_c+l1), s		15.6		8.0		10.8		
Green Ext Time (p_c), s		21.4		0.6		15.9		
Intersection Summary								
HCM 2010 Ctrl Delay			6.4					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

50: El Camino Real & Bovet Rd/17th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Future Volume (veh/h)	104	95	307	195	68	50	256	1772	274	86	1470	57
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.96		0.97	0.98		0.95	1.00		0.95	1.00		0.98
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	104	95	72	195	68	50	256	1772	274	86	1470	57
Adj No. of Lanes	1	1	1	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	552	457	384	290	213	320	2343	359	137	2145	83
Arrive On Green	0.30	0.30	0.30	0.30	0.30	0.30	0.18	0.53	0.53	0.08	0.43	0.43
Sat Flow, veh/h	1223	1863	1540	1189	977	718	1774	4420	676	1774	5020	195
Grp Volume(v), veh/h	104	95	72	195	0	118	256	1355	691	86	993	534
Grp Sat Flow(s),veh/h/ln	1223	1863	1540	1189	0	1695	1774	1695	1706	1774	1695	1824
Q Serve(g_s), s	6.6	3.6	3.2	13.7	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Cycle Q Clear(g_c), s	11.5	3.6	3.2	17.2	0.0	4.9	13.0	29.4	30.0	4.4	22.3	22.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.40	1.00		0.11
Lane Grp Cap(c), veh/h	375	552	457	384	0	502	320	1798	904	137	1448	779
V/C Ratio(X)	0.28	0.17	0.16	0.51	0.00	0.23	0.80	0.75	0.76	0.63	0.69	0.69
Avail Cap(c_a), veh/h	436	645	533	443	0	587	482	2061	1037	215	1552	835
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.3	24.5	24.4	30.9	0.0	25.0	36.9	17.3	17.4	42.0	21.8	21.8
Incr Delay (d2), s/veh	0.4	0.1	0.2	1.0	0.0	0.2	5.6	1.4	3.0	4.6	1.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.8	1.4	4.6	0.0	2.3	6.8	13.9	14.8	2.3	10.6	11.6
LnGrp Delay(d),s/veh	29.7	24.6	24.5	31.9	0.0	25.2	42.5	18.7	20.4	46.6	22.9	23.9
LnGrp LOS	C	C	C	C		C	D	B	C	D	C	C
Approach Vol, veh/h	271		313			2302			1613			
Approach Delay, s/veh	26.6		29.4			21.8			24.5			
Approach LOS	C		C			C			C			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	4		5	6	8					
Phs Duration (G+Y+Rc), s	0.3	52.8	30.8		19.9	43.1	30.8					
Change Period (Y+Rc), s	4.5	4.5	4.5		4.5	4.5	4.5					
Max Green Setting (Gmax), s	0.9	55.6	31.0		24.0	41.5	31.0					
Max Q Clear Time (g_c+16, s)	16.4	32.0	13.5		15.0	24.3	19.2					
Green Ext Time (p_c), s	0.0	16.2	1.0		0.5	9.6	1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

51: El Camino Real & 20th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Future Volume (veh/h)	442	86	135	88	71	204	85	1393	29	101	1333	149
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.94	1.00		0.98	1.00		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	332	241	135	88	71	50	85	1393	29	101	1333	149
Adj No. of Lanes	1	1	0	0	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	451	282	158	177	143	261	130	1909	40	166	1809	202
Arrive On Green	0.25	0.25	0.25	0.18	0.18	0.18	0.07	0.37	0.37	0.09	0.39	0.39
Sat Flow, veh/h	1774	1110	622	1003	809	1482	1774	5125	107	1774	4610	515
Grp Volume(v), veh/h	332	0	376	159	0	50	85	922	500	101	980	502
Grp Sat Flow(s),veh/h/ln	1774	0	1732	1813	0	1482	1774	1695	1841	1774	1695	1735
Q Serve(g_s), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Cycle Q Clear(g_c), s	19.9	0.0	24.0	9.2	0.0	3.3	5.4	27.2	27.2	6.3	28.7	28.7
Prop In Lane	1.00		0.36	0.55		1.00	1.00		0.06	1.00		0.30
Lane Grp Cap(c), veh/h	451	0	441	319	0	261	130	1263	686	166	1331	681
V/C Ratio(X)	0.74	0.00	0.85	0.50	0.00	0.19	0.65	0.73	0.73	0.61	0.74	0.74
Avail Cap(c_a), veh/h	489	0	478	500	0	409	260	1958	1063	260	1958	1002
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	0.0	41.2	43.1	0.0	40.7	52.3	31.4	31.4	50.5	30.1	30.1
Incr Delay (d2), s/veh	5.3	0.0	13.2	1.2	0.0	0.4	5.4	0.8	1.5	3.6	0.8	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	13.1	4.7	0.0	1.4	2.8	12.8	14.1	3.3	13.5	14.0
LnGrp Delay(d),s/veh	44.9	0.0	54.4	44.3	0.0	41.1	57.7	32.2	32.9	54.1	30.9	31.7
LnGrp LOS	D		D	D		D	E	C	C	D	C	C
Approach Vol, veh/h	708			209			1507			1583		
Approach Delay, s/veh	49.9			43.6			33.9			32.7		
Approach LOS	D			D			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	3.8	46.2		32.5	11.5	48.5		23.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	15.5	65.5		30.5	15.5	65.5		30.5				
Max Q Clear Time (g_c+1/3), s	19.3	29.2		26.0	7.4	30.7		11.2				
Green Ext Time (p_c), s	0.1	12.5		1.6	0.1	13.4		1.0				
Intersection Summary												
HCM 2010 Ctrl Delay	36.7											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

52: El Camino Real & 25th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Future Volume (veh/h)	152	178	30	316	128	147	78	1206	336	204	1102	102
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.90	1.00		0.95	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	152	178	4	222	260	28	78	1206	336	204	1102	102
Adj No. of Lanes	1	1	1	1	1	1	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	222	233	187	425	446	339	385	1545	430	251	1500	139
Arrive On Green	0.13	0.13	0.13	0.24	0.24	0.24	0.22	0.40	0.40	0.14	0.32	0.32
Sat Flow, veh/h	1774	1863	1491	1774	1863	1418	1774	3909	1089	1774	4698	434
Grp Volume(v), veh/h	152	178	4	222	260	28	78	1046	496	204	795	409
Grp Sat Flow(s),veh/h/ln	1774	1863	1491	1774	1863	1418	1774	1695	1608	1774	1695	1742
Q Serve(g_s), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Cycle Q Clear(g_c), s	9.9	11.2	0.3	13.2	14.9	1.9	4.4	32.7	32.7	13.5	25.3	25.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		0.25
Lane Grp Cap(c), veh/h	222	233	187	425	446	339	385	1340	635	251	1082	556
V/C Ratio(X)	0.68	0.76	0.02	0.52	0.58	0.08	0.20	0.78	0.78	0.81	0.73	0.74
Avail Cap(c_a), veh/h	264	277	222	476	500	380	385	1637	776	278	1746	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	51.2	46.5	40.1	40.7	35.8	38.8	32.0	32.1	50.5	36.7	36.7
Incr Delay (d2), s/veh	5.7	10.0	0.0	1.0	1.4	0.1	0.3	2.0	4.2	15.5	1.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	6.4	0.1	6.6	7.8	0.7	2.2	15.6	15.2	7.7	12.0	12.5
LnGrp Delay(d),s/veh	56.4	61.2	46.5	41.1	42.1	35.9	39.1	34.1	36.3	65.9	37.7	38.6
LnGrp LOS	E	E	D	D	D	D	D	C	D	E	D	D
Approach Vol, veh/h	334		510				1620			1408		
Approach Delay, s/veh	58.8		41.3				35.0			42.0		
Approach LOS	E		D				C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	30.1	50.9			32.0	29.3	41.7	18.2				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	7.5	57.0			31.0	13.6	60.9	16.5				
Max Q Clear Time (g_c+1/5), s	11.5	34.7			16.9	6.4	27.3	13.2				
Green Ext Time (p_c), s	0.1	11.7			2.0	0.1	9.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	40.4											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

53: El Camino Real & 28th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		EB			WB		NB	NT		SB	ST	
Traffic Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Future Volume (veh/h)	160	0	121	2	0	6	133	1528	0	32	1338	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.97	0.97		0.97	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	160	0	26	2	0	6	133	1528	0	32	1338	81
Adj No. of Lanes	0	2	0	0	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	490	0	388	140	34	317	208	2694	0	100	2298	139
Arrive On Green	0.28	0.00	0.28	0.28	0.00	0.28	0.12	0.53	0.00	0.06	0.47	0.47
Sat Flow, veh/h	1373	0	1396	259	122	1143	1774	5253	0	1774	4899	297
Grp Volume(v), veh/h	160	0	26	8	0	0	133	1528	0	32	926	493
Grp Sat Flow(s),veh/h/ln	1373	0	1396	1524	0	0	1774	1695	0	1774	1695	1805
Q Serve(g_s), s	6.0	0.0	0.9	0.0	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Cycle Q Clear(g_c), s	6.3	0.0	0.9	0.2	0.0	0.0	4.7	13.3	0.0	1.1	13.2	13.2
Prop In Lane	1.00		1.00	0.25		0.75	1.00		0.00	1.00		0.16
Lane Grp Cap(c), veh/h	490	0	388	491	0	0	208	2694	0	100	1590	847
V/C Ratio(X)	0.33	0.00	0.07	0.02	0.00	0.00	0.64	0.57	0.00	0.32	0.58	0.58
Avail Cap(c_a), veh/h	773	0	676	798	0	0	322	7463	0	322	4975	2649
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	17.6	17.3	0.0	0.0	27.9	10.4	0.0	30.0	12.8	12.8
Incr Delay (d2), s/veh	0.4	0.0	0.1	0.0	0.0	0.0	3.3	0.2	0.0	1.8	0.3	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.4	0.1	0.0	0.0	2.5	6.3	0.0	0.6	6.1	6.6
LnGrp Delay(d),s/veh	19.9	0.0	17.6	17.3	0.0	0.0	31.1	10.6	0.0	31.8	13.2	13.5
LnGrp LOS	B		B	B			C	B		C	B	B
Approach Vol, veh/h	186			8			1661			1451		
Approach Delay, s/veh	19.5			17.3			12.3			13.7		
Approach LOS	B			B			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	38.0		21.4	10.7	34.0		21.4				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	10.5	95.5		30.5	10.5	95.5		30.5				
Max Q Clear Time (g_c+I), s	13.1	15.3		8.3	6.7	15.2		2.2				
Green Ext Time (p_c), s	0.0	17.8		1.1	0.1	14.3		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	13.3											
HCM 2010 LOS	B											

HCM 2010 methodology does not support more than 4 approaches.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

57: El Camino Real & 41st Ave

06/12/2020

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations	TTT		T	TTT	TTT	T		
Traffic Volume (veh/h)	103	54	30	1361	1427	107		
Future Volume (veh/h)	103	54	30	1361	1427	107		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			0.98		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1900		
Adj Flow Rate, veh/h	78	80	30	1361	1427	107		
Adj No. of Lanes	1	1	1	2	3	0		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	0	2	2	2	2		
Cap, veh/h	238	216	124	2569	2823	212		
Arrive On Green	0.13	0.13	0.07	0.73	0.59	0.59		
Sat Flow, veh/h	1774	1615	1774	3632	4988	361		
Grp Volume(v), veh/h	78	80	30	1361	1004	530		
Grp Sat Flow(s),veh/h/ln	1774	1615	1774	1770	1695	1792		
Q Serve(g_s), s	1.7	1.9	0.7	7.3	7.5	7.5		
Cycle Q Clear(g_c), s	1.7	1.9	0.7	7.3	7.5	7.5		
Prop In Lane	1.00	1.00	1.00			0.20		
Lane Grp Cap(c), veh/h	238	216	124	2569	1985	1049		
V/C Ratio(X)	0.33	0.37	0.24	0.53	0.51	0.51		
Avail Cap(c_a), veh/h	1285	1170	290	4383	3406	1800		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	16.8	16.9	18.8	2.6	5.2	5.2		
Incr Delay (d2), s/veh	0.8	1.0	1.0	0.2	0.2	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.9	1.8	0.4	3.5	3.4	3.6		
LnGrp Delay(d),s/veh	17.6	17.9	19.8	2.8	5.4	5.6		
LnGrp LOS	B	B	B	A	A	A		
Approach Vol, veh/h	158			1391	1534			
Approach Delay, s/veh	17.8			3.2	5.5			
Approach LOS	B			A	A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		34.1		8.7	6.0	28.1		
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		
Max Green Setting (Gmax), s		51.5		29.5	5.5	41.5		
Max Q Clear Time (g_c+l1), s		9.3		3.9	2.7	9.5		
Green Ext Time (p_c), s		14.6		0.4	0.0	14.1		
Intersection Summary								
HCM 2010 Ctrl Delay			5.1					
HCM 2010 LOS			A					
Notes								

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

58: El Camino Real & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Future Volume (veh/h)	86	138	22	123	149	219	42	1147	165	260	1128	82
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	86	138	3	123	149	34	42	1147	77	260	1128	82
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	211	221	180	239	251	212	95	1498	669	330	2686	195
Arrive On Green	0.12	0.12	0.12	0.13	0.13	0.13	0.05	0.42	0.42	0.19	0.56	0.56
Sat Flow, veh/h	1774	1863	1519	1774	1863	1576	1774	3539	1580	1774	4834	351
Grp Volume(v), veh/h	86	138	3	123	149	34	42	1147	77	260	791	419
Grp Sat Flow(s),veh/h/ln	1774	1863	1519	1774	1863	1576	1774	1770	1580	1774	1695	1795
Q Serve(g_s), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Cycle Q Clear(g_c), s	3.9	6.2	0.2	5.6	6.6	1.7	2.0	24.2	2.6	12.2	11.8	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.20
Lane Grp Cap(c), veh/h	211	221	180	239	251	212	95	1498	669	330	1883	997
V/C Ratio(X)	0.41	0.62	0.02	0.51	0.59	0.16	0.44	0.77	0.12	0.79	0.42	0.42
Avail Cap(c_a), veh/h	446	469	382	649	682	577	142	2105	940	548	2792	1479
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.7	36.7	34.0	35.2	35.6	33.4	40.1	21.5	15.3	33.9	11.3	11.3
Incr Delay (d2), s/veh	1.3	2.9	0.0	1.7	2.2	0.3	3.2	1.1	0.1	4.2	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	3.4	0.1	2.9	3.5	0.7	1.1	12.0	1.1	6.4	5.5	5.9
LnGrp Delay(d),s/veh	37.0	39.5	34.1	36.9	37.8	33.8	43.3	22.6	15.4	38.1	11.4	11.5
LnGrp LOS	D	D	C	D	D	C	D	C	B	D	B	B
Approach Vol, veh/h	227				306		1266				1470	
Approach Delay, s/veh	38.5				37.0		22.9				16.2	
Approach LOS	D				D		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	19.3	40.0			13.4	7.7	51.6	14.8				
Change Period (Y+Rc), s	4.5	4.5			4.5	4.5	4.5	4.5				
Max Green Setting (Gmax), s	25.5	50.5			20.5	5.5	70.5	30.5				
Max Q Clear Time (g_c+14.2), s	14.2	26.2			8.2	4.0	13.8	8.6				
Green Ext Time (p_c), s	0.6	9.3			0.7	0.0	10.7	1.2				
Intersection Summary												
HCM 2010 Ctrl Delay	22.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

59: Pacific Blvd & 42nd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169
Future Volume (veh/h)	234	1	329	5	7	4	311	451	3	2	267	169
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.99	1.00		0.87	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	235	0	56	5	7	4	311	451	3	2	267	169
Adj No. of Lanes	2	0	1	0	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	444	0	197	89	124	71	397	961	6	41	336	212
Arrive On Green	0.13	0.00	0.13	0.17	0.17	0.17	0.22	0.52	0.52	0.02	0.32	0.32
Sat Flow, veh/h	3548	0	1571	527	738	422	1774	1848	12	1774	1051	665
Grp Volume(v), veh/h	235	0	56	16	0	0	311	0	454	2	0	436
Grp Sat Flow(s),veh/h/ln	1774	0	1571	1687	0	0	1774	0	1860	1774	0	1716
Q Serve(g_s), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0
Cycle Q Clear(g_c), s	4.6	0.0	2.4	0.6	0.0	0.0	12.1	0.0	11.4	0.1	0.0	17.0
Prop In Lane	1.00		1.00	0.31		0.25	1.00		0.01	1.00		0.39
Lane Grp Cap(c), veh/h	444	0	197	284	0	0	397	0	968	41	0	548
V/C Ratio(X)	0.53	0.00	0.28	0.06	0.00	0.00	0.78	0.00	0.47	0.05	0.00	0.80
Avail Cap(c_a), veh/h	1280	0	567	471	0	0	797	0	1758	159	0	1005
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	30.1	0.0	29.1	25.7	0.0	0.0	26.8	0.0	11.2	35.1	0.0	22.8
Incr Delay (d2), s/veh	1.0	0.0	0.8	0.1	0.0	0.0	3.4	0.0	0.4	0.5	0.0	2.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.0	1.1	0.3	0.0	0.0	6.3	0.0	5.9	0.0	0.0	8.4
LnGrp Delay(d),s/veh	31.1	0.0	29.9	25.7	0.0	0.0	30.2	0.0	11.5	35.6	0.0	25.5
LnGrp LOS	C		C	C			C		B	D		C
Approach Vol, veh/h	291		16				765			438		
Approach Delay, s/veh	30.9		25.7				19.1			25.5		
Approach LOS	C		C				B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.7	41.2		12.2	19.4	26.5		15.3				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	67.9			25.0	31.5	41.5		19.0				
Max Q Clear Time (g_c+I12), s	13.4			6.6	14.1	19.0		2.6				
Green Ext Time (p_c), s	0.0	3.3		0.9	0.9	2.9		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	23.3											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

60: Alameda De Las Pulgas & 20th Ave

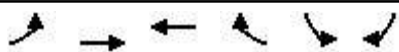
06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↗	↘		↗	↘	↗	↗↘		↗	↗↘	
Traffic Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Future Volume (veh/h)	86	30	11	59	1	172	13	544	118	347	714	8
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.98	1.00		0.98	1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	86	30	1	59	1	21	13	544	118	347	714	8
Adj No. of Lanes	0	1	1	0	1	1	1	2	0	1	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	181	63	210	195	3	173	73	873	189	443	1832	21
Arrive On Green	0.14	0.14	0.14	0.11	0.11	0.11	0.04	0.30	0.30	0.25	0.51	0.51
Sat Flow, veh/h	1332	465	1552	1746	30	1545	1774	2885	623	1774	3585	40
Grp Volume(v), veh/h	116	0	1	60	0	21	13	333	329	347	352	370
Grp Sat Flow(s), veh/h/ln	1796	0	1552	1775	0	1545	1774	1770	1739	1774	1770	1855
Q Serve(g_s), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Cycle Q Clear(g_c), s	3.6	0.0	0.0	1.9	0.0	0.7	0.4	9.7	9.8	10.9	7.3	7.3
Prop In Lane	0.74		1.00	0.98		1.00	1.00		0.36	1.00		0.02
Lane Grp Cap(c), veh/h	243	0	210	198	0	173	73	535	526	443	904	948
V/C Ratio(X)	0.48	0.00	0.00	0.30	0.00	0.12	0.18	0.62	0.63	0.78	0.39	0.39
Avail Cap(c_a), veh/h	765	0	661	756	0	658	193	786	772	604	1197	1255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	22.4	24.5	0.0	24.0	27.7	17.9	18.0	21.0	8.9	8.9
Incr Delay (d2), s/veh	1.4	0.0	0.0	0.8	0.0	0.3	1.1	1.2	1.2	4.7	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	1.0	0.0	0.3	0.2	4.9	4.8	5.9	3.6	3.8
LnGrp Delay(d),s/veh	25.4	0.0	22.4	25.3	0.0	24.3	28.9	19.1	19.2	25.6	9.2	9.2
LnGrp LOS	C		C	C		C	C	B	B	C	A	A
Approach Vol, veh/h	117			81			675			1069		
Approach Delay, s/veh	25.3			25.0			19.3			14.5		
Approach LOS	C			C			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	21.1		9.7	5.5	33.6		11.1				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	18.9	25.1		24.0	5.0	39.0		24.0				
Max Q Clear Time (g_c+1/2g), s	11.8	11.8		3.9	2.4	9.3		5.6				
Green Ext Time (p_c), s	0.6	3.5		0.3	0.0	4.9		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	17.3											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

61: Hillsdale Blvd & Campus Dr

06/12/2020



Movement	EBL	EBT	WBT	WBR	SBL	SBR		
Lane Configurations								
Traffic Volume (veh/h)	195	929	562	51	103	437		
Future Volume (veh/h)	195	929	562	51	103	437		
Number	7	4	8	18	1	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	195	929	562	51	103	98		
Adj No. of Lanes	2	2	2	0	1	2		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	615	2349	1276	116	312	491		
Arrive On Green	0.18	0.66	0.39	0.37	0.18	0.18		
Sat Flow, veh/h	3442	3632	3375	297	1774	2787		
Grp Volume(v), veh/h	195	929	303	310	103	98		
Grp Sat Flow(s),veh/h/ln	1721	1770	1770	1809	1774	1393		
Q Serve(g_s), s	1.5	3.7	3.9	4.0	1.6	0.9		
Cycle Q Clear(g_c), s	1.5	3.7	3.9	4.0	1.6	0.9		
Prop In Lane	1.00			0.16	1.00	1.00		
Lane Grp Cap(c), veh/h	615	2349	688	703	312	491		
V/C Ratio(X)	0.32	0.40	0.44	0.44	0.33	0.20		
Avail Cap(c_a), veh/h	1764	6066	1956	1999	1790	2812		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.2	2.4	7.0	7.1	11.2	11.0		
Incr Delay (d2), s/veh	0.3	0.1	0.4	0.4	0.6	0.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.8	1.7	1.9	2.0	0.8	0.8		
LnGrp Delay(d),s/veh	11.5	2.5	7.5	7.5	11.9	11.2		
LnGrp LOS	B	A	A	A	B	B		
Approach Vol, veh/h		1124	613		201			
Approach Delay, s/veh		4.1	7.5		11.5			
Approach LOS		A	A		B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs				4		6	7	8
Phs Duration (G+Y+Rc), s				23.2		8.0	8.6	14.6
Change Period (Y+Rc), s				4.5		4.5	4.5	4.5
Max Green Setting (Gmax), s				51.5		29.5	14.5	32.5
Max Q Clear Time (g_c+I1), s				5.7		3.6	3.5	6.0
Green Ext Time (p_c), s				8.4		0.7	0.5	4.0
Intersection Summary								
HCM 2010 Ctrl Delay			5.9					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

62: Bayshore Blvd & Peninsula Ave

06/12/2020



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑↑↱		↱	↑↑	↱	↱		
Traffic Volume (veh/h)	646	350	215	833	246	72		
Future Volume (veh/h)	646	350	215	833	246	72		
Number	4	14	3	8	5	12		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		0.97	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1900	1863	1863	1863	1863		
Adj Flow Rate, veh/h	646	350	215	833	246	19		
Adj No. of Lanes	2	0	1	2	1	1		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	869	471	329	2301	377	336		
Arrive On Green	0.40	0.40	0.19	0.65	0.21	0.21		
Sat Flow, veh/h	2286	1188	1774	3632	1774	1583		
Grp Volume(v), veh/h	521	475	215	833	246	19		
Grp Sat Flow(s),veh/h/ln	1770	1612	1774	1770	1774	1583		
Q Serve(g_s), s	11.0	11.0	4.9	4.7	5.5	0.4		
Cycle Q Clear(g_c), s	11.0	11.0	4.9	4.7	5.5	0.4		
Prop In Lane		0.74	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	701	638	329	2301	377	336		
V/C Ratio(X)	0.74	0.74	0.65	0.36	0.65	0.06		
Avail Cap(c_a), veh/h	791	720	488	2798	793	708		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.3	11.3	16.5	3.5	15.7	13.7		
Incr Delay (d2), s/veh	3.4	3.7	2.2	0.1	1.9	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.0	5.5	2.6	2.2	2.9	0.2		
LnGrp Delay(d),s/veh	14.7	15.0	18.7	3.6	17.6	13.8		
LnGrp LOS	B	B	B	A	B	B		
Approach Vol, veh/h	996			1048	265			
Approach Delay, s/veh	14.8			6.7	17.3			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2	3	4				8
Phs Duration (G+Y+Rc), s		12.3	11.1	20.3				31.4
Change Period (Y+Rc), s		4.5	4.5	4.5				4.5
Max Green Setting (Gmax), s		18.0	10.5	18.0				33.0
Max Q Clear Time (g_c+I1), s		7.5	6.9	13.0				6.7
Green Ext Time (p_c), s		0.6	0.2	2.8				6.5
Intersection Summary								
HCM 2010 Ctrl Delay			11.4					
HCM 2010 LOS			B					

HCM 2010 does not allow existing right turn type.

HCM 2010 analysis expects strict NEMA phasing.

HCM 2010 Signalized Intersection Summary

65: Ellsworth Ave & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Future Volume (veh/h)	0	0	0	0	0	0	0	0	0	0	0	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	9999	0	0	9999	0	0	9999	0	0	9999	0
Arrive On Green	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Sat Flow, veh/h	0-72647		0	0-74510		0	0-74510		0	0-74510		0
Grp Volume(v), veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1770	0	0	1863	0	0	1863	0	0	1863	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h	135118356480		0	71114932224		0	71114932224		0	71114932224		0
V/C Ratio(X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap(c_a), veh/h	24996896309248		13156260822464	13156260822464		13156260822464	13156260822464		13156260822464		13156260822464	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp Delay(d),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LnGrp LOS												
Approach Vol, veh/h		0			0			0			0	
Approach Delay, s/veh		0.0			0.0			0.0			0.0	
Approach LOS												
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		0.0		0.0		0.0		0.0				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		18.0		18.0		18.0		18.0				
Max Q Clear Time (g_c+I1), s		0.0		0.0		0.0		0.0				
Green Ext Time (p_c), s		0.0		0.0		0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay				0.0								
HCM 2010 LOS				A								

Intersection

Intersection Delay, s/veh 34.3

Intersection LOS D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	480	76	32	298	12	56	78	31	46	66	58
Future Vol, veh/h	53	480	76	32	298	12	56	78	31	46	66	58
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	480	76	32	298	12	56	78	31	46	66	58
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Approach	EB	WB		NB		SB						
Opposing Approach	WB	EB		SB		NB						
Opposing Lanes	1	1		1		1						
Conflicting Approach Left SB		NB		EB		WB						
Conflicting Lanes Left	1	1		1		1						
Conflicting Approach Right NB		SB		WB		EB						
Conflicting Lanes Right	1	1		1		1						
HCM Control Delay	54.6	18.3		13.8		13.7						
HCM LOS	F	C		B		B						

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	34%	9%	9%	27%
Vol Thru, %	47%	79%	87%	39%
Vol Right, %	19%	12%	4%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	165	609	342	170
LT Vol	56	53	32	46
Through Vol	78	480	298	66
RT Vol	31	76	12	58
Lane Flow Rate	165	609	342	170
Geometry Grp	1	1	1	1
Degree of Util (X)	0.329	0.977	0.597	0.334
Departure Headway (Hd)	7.185	5.778	6.289	7.068
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	498	627	571	507
Service Time	5.265	3.832	4.355	5.146
HCM Lane V/C Ratio	0.331	0.971	0.599	0.335
HCM Control Delay	13.8	54.6	18.3	13.7
HCM Lane LOS	B	F	C	B
HCM 95th-tile Q	1.4	14.2	3.9	1.5

HCM 2010 Signalized Intersection Summary

67: Fremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1398	13	0	0	0	0	84	115	243	108	0
Future Volume (veh/h)	24	1398	13	0	0	0	0	84	115	243	108	0
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95				1.00		0.98	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1176	1900				0	980	1900	1900	1863	0
Adj Flow Rate, veh/h	24	1398	13				0	84	115	243	108	0
Adj No. of Lanes	0	2	0				0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	0	2	0				0	2	2	2	2	0
Cap, veh/h	21	1280	12				0	123	169	207	62	0
Arrive On Green	0.56	0.56	0.55				0.00	0.33	0.33	0.33	0.33	0.00
Sat Flow, veh/h	37	2286	22				0	370	507	378	187	0
Grp Volume(v), veh/h	752	0	683				0	0	199	351	0	0
Grp Sat Flow(s),veh/h/ln	1175	0	1171				0	0	877	565	0	0
Q Serve(g_s), s	42.0	0.0	42.0				0.0	0.0	14.7	10.3	0.0	0.0
Cycle Q Clear(g_c), s	42.0	0.0	42.0				0.0	0.0	14.7	25.0	0.0	0.0
Prop In Lane	0.03		0.02				0.00		0.58	0.69		0.00
Lane Grp Cap(c), veh/h	658	0	656				0	0	292	270	0	0
V/C Ratio(X)	1.14	0.00	1.04				0.00	0.00	0.68	1.30	0.00	0.00
Avail Cap(c_a), veh/h	658	0	656				0	0	292	270	0	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	16.5	0.0	16.5				0.0	0.0	21.7	33.4	0.0	0.0
Incr Delay (d2), s/veh	81.8	0.0	46.3				0.0	0.0	6.3	160.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	28.3	0.0	21.7				0.0	0.0	4.1	17.5	0.0	0.0
LnGrp Delay(d),s/veh	98.3	0.0	62.8				0.0	0.0	28.0	193.6	0.0	0.0
LnGrp LOS	F		F						C		F	
Approach Vol, veh/h		1435						199			351	
Approach Delay, s/veh		81.4						28.0			193.6	
Approach LOS		F						C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		29.0		46.0		29.0						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		24.5		41.5		24.5						
Max Q Clear Time (g_c+I1), s		16.7		44.0		27.0						
Green Ext Time (p_c), s		0.7		0.0		0.0						
Intersection Summary												
HCM 2010 Ctrl Delay			95.9									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary

68: B St & 9th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	328	13	109	233	130	13	155	253	92	90	48
Future Volume (veh/h)	57	328	13	109	233	130	13	155	253	92	90	48
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.97		0.93	0.98		0.92	0.95		0.93	0.98		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1863	1863	1900	1863	1863	1900	1863	1863	1900
Adj Flow Rate, veh/h	57	328	13	109	233	130	13	155	253	92	90	48
Adj No. of Lanes	0	1	0	1	1	0	1	1	0	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	155	548	20	545	416	232	612	252	411	385	457	244
Arrive On Green	0.38	0.38	0.37	0.38	0.38	0.37	0.41	0.41	0.40	0.41	0.41	0.40
Sat Flow, veh/h	131	1430	53	1011	1086	606	1189	609	994	955	1106	590
Grp Volume(v), veh/h	398	0	0	109	0	363	13	0	408	92	0	138
Grp Sat Flow(s),veh/h/ln	1614	0	0	1011	0	1692	1189	0	1603	955	0	1696
Q Serve(g_s), s	1.4	0.0	0.0	0.0	0.0	6.7	0.3	0.0	7.9	3.3	0.0	2.1
Cycle Q Clear(g_c), s	8.1	0.0	0.0	3.4	0.0	6.7	2.3	0.0	7.9	11.2	0.0	2.1
Prop In Lane	0.14		0.03	1.00		0.36	1.00		0.62	1.00		0.35
Lane Grp Cap(c), veh/h	723	0	0	545	0	648	612	0	663	385	0	701
V/C Ratio(X)	0.55	0.00	0.00	0.20	0.00	0.56	0.02	0.00	0.62	0.24	0.00	0.20
Avail Cap(c_a), veh/h	1178	0	0	825	0	1117	1057	0	1263	742	0	1336
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	9.7	0.0	0.0	8.5	0.0	9.6	8.1	0.0	9.2	13.5	0.0	7.4
Incr Delay (d2), s/veh	0.7	0.0	0.0	0.2	0.0	0.8	0.0	0.0	0.9	0.3	0.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	0.8	0.0	3.2	0.1	0.0	3.6	0.9	0.0	1.0
LnGrp Delay(d),s/veh	10.3	0.0	0.0	8.7	0.0	10.4	8.1	0.0	10.2	13.8	0.0	7.6
LnGrp LOS	B			A		B	A		B	B		A
Approach Vol, veh/h	398			472			421			230		
Approach Delay, s/veh	10.3			10.0			10.1			10.1		
Approach LOS	B			A			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	20.3		19.1		20.3		19.1					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.5		25.5		30.5		25.5					
Max Q Clear Time (g_c+I1), s	9.9		10.1		13.2		8.7					
Green Ext Time (p_c), s	2.8		2.4		1.2		2.7					
Intersection Summary												
HCM 2010 Ctrl Delay	10.1											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

70: El Camino Real & SR 92 WB

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Future Volume (veh/h)	0	0	0	392	0	718	0	1601	275	0	1498	567
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1863	0	1863	0	1863	1863	0	1863	1900
Adj Flow Rate, veh/h				392	0	718	0	1601	169	0	1498	515
Adj No. of Lanes				2	0	2	0	3	1	0	3	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	0	2	0	2	2	0	2	2
Cap, veh/h				1032	0	836	0	3206	990	0	2362	799
Arrive On Green				0.30	0.00	0.30	0.00	0.63	0.63	0.00	0.63	0.63
Sat Flow, veh/h				3442	0	2787	0	5253	1571	0	3915	1267
Grp Volume(v), veh/h				392	0	718	0	1601	169	0	1353	660
Grp Sat Flow(s),veh/h/ln				1721	0	1393	0	1695	1571	0	1695	1624
Q Serve(g_s), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Cycle Q Clear(g_c), s				10.3	0.0	27.9	0.0	19.5	5.1	0.0	28.2	29.3
Prop In Lane				1.00		1.00	0.00		1.00	0.00		0.78
Lane Grp Cap(c), veh/h				1032	0	836	0	3206	990	0	2137	1024
V/C Ratio(X)				0.38	0.00	0.86	0.00	0.50	0.17	0.00	0.63	0.64
Avail Cap(c_a), veh/h				1317	0	1066	0	3206	990	0	2137	1024
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	1.00	0.00	0.81	0.81	0.00	0.71	0.71
Uniform Delay (d), s/veh				31.8	0.0	38.0	0.0	11.5	8.8	0.0	13.1	13.4
Incr Delay (d2), s/veh				0.2	0.0	5.9	0.0	0.5	0.3	0.0	1.0	2.2
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.9	0.0	11.4	0.0	9.2	2.3	0.0	13.5	13.7
LnGrp Delay(d),s/veh				32.0	0.0	43.8	0.0	11.9	9.1	0.0	14.1	15.6
LnGrp LOS				C		D		B	A		B	B
Approach Vol, veh/h				1110				1770			2013	
Approach Delay, s/veh				39.6				11.6			14.6	
Approach LOS				D				B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		76.5				76.5		38.5				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		62.5				62.5		43.5				
Max Q Clear Time (g_c+l1), s		21.5				31.3		29.9				
Green Ext Time (p_c), s		17.9				19.5		4.1				
Intersection Summary												
HCM 2010 Ctrl Delay				19.2								
HCM 2010 LOS				B								

HCM 2010 Signalized Intersection Summary

71: El Camino Real & SR 92 EB

06/12/2020

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰		↱					↑↑↑			↑↑↑	↱
Traffic Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Future Volume (veh/h)	346	0	201	0	0	0	0	1505	547	0	1493	384
Number	7	4	14				5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	0	1863				0	1863	1900	0	1863	1863
Adj Flow Rate, veh/h	346	0	201				0	1505	547	0	1493	310
Adj No. of Lanes	2	0	2				0	3	0	0	3	1
Peak Hour Factor	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	0	2				0	2	2	0	2	2
Cap, veh/h	441	0	357				0	3011	1073	0	4143	1279
Arrive On Green	0.13	0.00	0.13				0.00	0.81	0.81	0.00	0.81	0.81
Sat Flow, veh/h	3442	0	2787				0	3863	1317	0	5253	1570
Grp Volume(v), veh/h	346	0	201				0	1378	674	0	1493	310
Grp Sat Flow(s),veh/h/ln	1721	0	1393				0	1695	1622	0	1695	1570
Q Serve(g_s), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Cycle Q Clear(g_c), s	13.6	0.0	9.5				0.0	17.8	18.7	0.0	10.8	6.4
Prop In Lane	1.00		1.00				0.00		0.81	0.00		1.00
Lane Grp Cap(c), veh/h	441	0	357				0	2762	1321	0	4143	1279
V/C Ratio(X)	0.78	0.00	0.56				0.00	0.50	0.51	0.00	0.36	0.24
Avail Cap(c_a), veh/h	737	0	597				0	2762	1321	0	4143	1279
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	0.62	0.62	0.00	0.72	0.72
Uniform Delay (d), s/veh	59.2	0.0	57.4				0.0	4.0	4.2	0.0	3.4	3.0
Incr Delay (d2), s/veh	3.1	0.0	1.4				0.0	0.4	0.9	0.0	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.7	0.0	3.7				0.0	8.4	8.6	0.0	5.0	14.3
LnGrp Delay(d),s/veh	62.3	0.0	58.7				0.0	4.4	5.1	0.0	3.6	3.3
LnGrp LOS	E		E					A	A		A	A
Approach Vol, veh/h		547						2052			1803	
Approach Delay, s/veh		61.0						4.7			3.5	
Approach LOS		E						A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2		4		6						
Phs Duration (G+Y+Rc), s		118.1		21.9		118.1						
Change Period (Y+Rc), s		4.5		4.5		4.5						
Max Green Setting (Gmax), s		101.5		29.5		101.5						
Max Q Clear Time (g_c+l1), s		20.7		15.6		12.8						
Green Ext Time (p_c), s		31.4		1.8		20.5						
Intersection Summary												
HCM 2010 Ctrl Delay			11.2									
HCM 2010 LOS			B									

Intersection						
Int Delay, s/veh	0.8					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	26	15	487	95	17	369
Future Vol, veh/h	26	15	487	95	17	369
Conflicting Peds, #/hr	1	0	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	None
Storage Length	0	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	26	15	487	95	17	369

Major/Minor	Minor1	Major1	Major2			
Conflicting Flow All	954	550	0	0	597	0
Stage 1	550	-	-	-	-	-
Stage 2	404	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	287	535	-	-	980	-
Stage 1	578	-	-	-	-	-
Stage 2	674	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	276	527	-	-	966	-
Mov Cap-2 Maneuver	276	-	-	-	-	-
Stage 1	570	-	-	-	-	-
Stage 2	658	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.7	0	0.4
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT
Capacity (veh/h)	-	- 276 527	966	-
HCM Lane V/C Ratio	-	- 0.094 0.028	0.018	-
HCM Control Delay (s)	-	- 19.4 12	8.8	0
HCM Lane LOS	-	- C B	A	A
HCM 95th %tile Q(veh)	-	- 0.3 0.1	0.1	-

Intersection												
Intersection Delay, s/veh	38.1											
Intersection LOS	E											

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Future Vol, veh/h	16	30	213	21	23	13	161	551	16	14	364	15
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	30	213	21	23	13	161	551	16	14	364	15
Number of Lanes	1	1	0	0	1	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	2	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	2	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	2
HCM Control Delay	16	12.8	54.9	25.3
HCM LOS	C	B	F	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	37%	100%	0%
Vol Thru, %	0%	97%	0%	12%	40%	0%	96%
Vol Right, %	0%	3%	0%	88%	23%	0%	4%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	161	567	16	243	57	14	379
LT Vol	161	0	16	0	21	14	0
Through Vol	0	551	0	30	23	0	364
RT Vol	0	16	0	213	13	0	15
Lane Flow Rate	161	567	16	243	57	14	379
Geometry Grp	7	7	7	7	6	7	7
Degree of Util (X)	0.312	1.014	0.036	0.481	0.132	0.029	0.726
Departure Headway (Hd)	6.97	6.44	8.315	7.13	8.536	7.435	6.894
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	517	567	433	505	422	482	523
Service Time	4.705	4.175	6.015	4.87	6.536	5.174	4.634
HCM Lane V/C Ratio	0.311	1	0.037	0.481	0.135	0.029	0.725
HCM Control Delay	12.8	66.8	11.3	16.3	12.8	10.4	25.9
HCM Lane LOS	B	F	B	C	B	B	D
HCM 95th-tile Q	1.3	15	0.1	2.6	0.5	0.1	6

HCM 2010 Signalized Intersection Summary

74: Delaware St & Charles Ln

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Future Volume (veh/h)	6	0	11	50	0	20	4	654	68	37	629	8
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.92		0.95	0.97		0.86	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1900	1863	1863	1863	1863	1863	1900
Adj Flow Rate, veh/h	6	0	11	50	0	20	4	654	68	37	629	8
Adj No. of Lanes	0	1	0	0	1	0	1	1	1	1	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	20	134	190	10	55	595	1453	1192	552	1431	18
Arrive On Green	0.14	0.00	0.13	0.14	0.00	0.13	0.78	0.78	0.78	0.78	0.78	0.78
Sat Flow, veh/h	383	142	961	917	69	394	787	1863	1528	727	1834	23
Grp Volume(v), veh/h	17	0	0	70	0	0	4	654	68	37	0	637
Grp Sat Flow(s),veh/h/ln	1486	0	0	1381	0	0	787	1863	1528	727	0	1858
Q Serve(g_s), s	0.0	0.0	0.0	3.5	0.0	0.0	0.2	11.9	1.0	1.8	0.0	11.5
Cycle Q Clear(g_c), s	0.9	0.0	0.0	4.4	0.0	0.0	11.6	11.9	1.0	13.7	0.0	11.5
Prop In Lane	0.35		0.65	0.71		0.29	1.00		1.00	1.00		0.01
Lane Grp Cap(c), veh/h	256	0	0	255	0	0	595	1453	1192	552	0	1449
V/C Ratio(X)	0.07	0.00	0.00	0.27	0.00	0.00	0.01	0.45	0.06	0.07	0.00	0.44
Avail Cap(c_a), veh/h	412	0	0	404	0	0	595	1453	1192	552	0	1449
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.64	0.64	0.64	1.00	0.00	1.00
Uniform Delay (d), s/veh	37.5	0.0	0.0	38.9	0.0	0.0	5.6	3.7	2.5	6.0	0.0	3.7
Incr Delay (d2), s/veh	0.1	0.0	0.0	0.6	0.0	0.0	0.0	0.6	0.1	0.2	0.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.0	0.0	1.8	0.0	0.0	0.0	6.3	0.4	0.4	0.0	6.1
LnGrp Delay(d),s/veh	37.6	0.0	0.0	39.5	0.0	0.0	5.6	4.4	2.6	6.3	0.0	4.6
LnGrp LOS	D			D			A	A	A	A		A
Approach Vol, veh/h	17				70				726		674	
Approach Delay, s/veh	37.6				39.5				4.2		4.7	
Approach LOS	D				D				A		A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	82.0		18.0		82.0		18.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	66.5		24.5		66.5		24.5					
Max Q Clear Time (g_c+I1), s	13.9		2.9		15.7		6.4					
Green Ext Time (p_c), s	5.7		0.0		5.6		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay			6.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

75: Delaware St & Bermuda Dr

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Future Volume (veh/h)	12	2	3	238	4	56	1	863	238	37	479	11
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.88	1.00		0.95	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1900	1900	1863	1863	1900	1863	1900	1900	1863	1900
Adj Flow Rate, veh/h	12	2	3	238	4	56	1	863	238	37	479	11
Adj No. of Lanes	0	1	0	0	1	1	0	2	0	0	2	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	132	22	33	240	4	207	45	1597	440	133	1698	40
Arrive On Green	0.11	0.11	0.10	0.14	0.14	0.14	0.60	0.60	0.60	0.60	0.60	0.60
Sat Flow, veh/h	1200	200	300	1746	29	1503	0	2653	730	135	2820	67
Grp Volume(v), veh/h	17	0	0	242	0	56	606	0	496	249	0	278
Grp Sat Flow(s),veh/h/ln	1701	0	0	1775	0	1503	1862	0	1521	1341	0	1681
Q Serve(g_s), s	0.7	0.0	0.0	10.9	0.0	2.7	0.0	0.0	15.5	1.0	0.0	6.3
Cycle Q Clear(g_c), s	0.7	0.0	0.0	10.9	0.0	2.7	15.4	0.0	15.5	16.5	0.0	6.3
Prop In Lane	0.71		0.18	0.98		1.00	0.00		0.48	0.15		0.04
Lane Grp Cap(c), veh/h	188	0	0	244	0	207	1167	0	916	859	0	1012
V/C Ratio(X)	0.09	0.00	0.00	0.99	0.00	0.27	0.52	0.00	0.54	0.29	0.00	0.27
Avail Cap(c_a), veh/h	544	0	0	244	0	207	1167	0	916	859	0	1012
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	0.73	0.00	0.73	0.76	0.00	0.76
Uniform Delay (d), s/veh	32.0	0.0	0.0	34.5	0.0	30.9	9.4	0.0	9.5	7.4	0.0	7.6
Incr Delay (d2), s/veh	0.2	0.0	0.0	55.0	0.0	0.7	1.2	0.0	1.7	0.6	0.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	9.0	0.0	1.1	8.1	0.0	6.8	2.6	0.0	3.1
LnGrp Delay(d),s/veh	32.2	0.0	0.0	89.5	0.0	31.6	10.6	0.0	11.2	8.1	0.0	8.1
LnGrp LOS	C			F		C	B		B	A		A
Approach Vol, veh/h	17			298			1102			527		
Approach Delay, s/veh	32.2			78.6			10.9			8.1		
Approach LOS	C			E			B			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	52.2		12.8		52.2		15.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	30.9		25.1		30.9		10.5					
Max Q Clear Time (g_c+I1), s	17.5		2.7		18.5		12.9					
Green Ext Time (p_c), s	6.3		0.0		2.8		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	20.7											
HCM 2010 LOS	C											

Intersection

Intersection Delay, s/veh 10.6

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Future Vol, veh/h	186	58	4	0	33	58	6	17	0	84	20	256
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	186	58	4	0	33	58	6	17	0	84	20	256
Number of Lanes	0	1	0	0	1	1	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	2	1	2	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	2	1	1	2
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	2	2	1
HCM Control Delay	12.4	8.5	9.3	10
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	26%	75%	0%	0%	81%	0%
Vol Thru, %	74%	23%	100%	0%	19%	0%
Vol Right, %	0%	2%	0%	100%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	248	33	58	104	256
LT Vol	6	186	0	0	84	0
Through Vol	17	58	33	0	20	0
RT Vol	0	4	0	58	0	256
Lane Flow Rate	23	248	33	58	104	256
Geometry Grp	6	6	7	7	7	7
Degree of Util (X)	0.038	0.392	0.053	0.082	0.17	0.34
Departure Headway (Hd)	5.982	5.691	5.773	5.066	5.898	4.787
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	592	627	614	699	605	748
Service Time	4.082	3.764	3.566	2.857	3.661	2.549
HCM Lane V/C Ratio	0.039	0.396	0.054	0.083	0.172	0.342
HCM Control Delay	9.3	12.4	8.9	8.3	9.9	10
HCM Lane LOS	A	B	A	A	A	A
HCM 95th-tile Q	0.1	1.9	0.2	0.3	0.6	1.5

HCM 2010 Signalized Intersection Summary

77: 19th Ave & YMCA Dwy

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Future Volume (veh/h)	4	756	24	17	395	40	36	0	30	130	8	14
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.99		0.96	1.00		0.96	1.00		0.96	0.99		0.97
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1900	1863	1863	1900	1900	1863	1863	1900	1863	1900
Adj Flow Rate, veh/h	4	756	24	17	395	40	36	0	30	130	8	14
Adj No. of Lanes	1	1	0	1	1	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	471	836	27	113	772	78	722	0	712	598	38	59
Arrive On Green	0.47	0.47	0.46	0.93	0.93	0.92	0.47	0.00	0.47	0.47	0.47	0.46
Sat Flow, veh/h	944	1793	57	690	1656	168	1418	0	1525	1162	82	126
Grp Volume(v), veh/h	4	0	780	17	0	435	36	0	30	152	0	0
Grp Sat Flow(s),veh/h/ln	944	0	1850	690	0	1824	1418	0	1525	1369	0	0
Q Serve(g_s), s	0.3	0.0	46.7	2.6	0.0	3.7	0.0	0.0	1.3	7.5	0.0	0.0
Cycle Q Clear(g_c), s	4.0	0.0	46.7	49.3	0.0	3.7	1.5	0.0	1.3	9.0	0.0	0.0
Prop In Lane	1.00		0.03	1.00		0.09	1.00		1.00	0.86		0.09
Lane Grp Cap(c), veh/h	471	0	863	113	0	851	722	0	712	695	0	0
V/C Ratio(X)	0.01	0.00	0.90	0.15	0.00	0.51	0.05	0.00	0.04	0.22	0.00	0.00
Avail Cap(c_a), veh/h	676	0	1264	263	0	1246	722	0	712	695	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.96	0.00	0.96	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	19.2	0.0	29.6	24.6	0.0	2.3	17.4	0.0	17.4	19.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.8	0.6	0.0	0.5	0.1	0.0	0.1	0.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	25.5	0.5	0.0	1.6	0.7	0.0	0.6	3.2	0.0	0.0
LnGrp Delay(d),s/veh	19.2	0.0	36.3	25.2	0.0	2.8	17.6	0.0	17.5	20.5	0.0	0.0
LnGrp LOS	B		D	C		A	B		B	C		
Approach Vol, veh/h	784				452				66		152	
Approach Delay, s/veh	36.3				3.6				17.5		20.5	
Approach LOS	D				A				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	60.0		60.0		60.0		60.0					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	29.5		81.5		29.5		81.5					
Max Q Clear Time (g_c+I1), s	3.5		48.7		11.0		51.3					
Green Ext Time (p_c), s	0.2		6.8		0.7		3.1					
Intersection Summary												
HCM 2010 Ctrl Delay			23.6									
HCM 2010 LOS			C									

Intersection

Intersection Delay, s/veh 9.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	244	64	5	0	21	10	4	32	0	19	47	139
Future Vol, veh/h	244	64	5	0	21	10	4	32	0	19	47	139
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	244	64	5	0	21	10	4	32	0	19	47	139
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	7.9	8.4	9
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	78%	0%	9%
Vol Thru, %	89%	20%	68%	23%
Vol Right, %	0%	2%	32%	68%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	313	31	205
LT Vol	4	244	0	19
Through Vol	32	64	21	47
RT Vol	0	5	10	139
Lane Flow Rate	36	313	31	205
Geometry Grp	1	1	1	1
Degree of Util (X)	0.05	0.406	0.04	0.252
Departure Headway (Hd)	5.037	4.667	4.668	4.426
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	709	770	763	810
Service Time	3.083	2.704	2.719	2.458
HCM Lane V/C Ratio	0.051	0.406	0.041	0.253
HCM Control Delay	8.4	10.9	7.9	9
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.2	2	0.1	1

HCM 2010 Signalized Intersection Summary

111: Fremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	64	901	264	11	83	0	0	271	34
Future Volume (veh/h)	0	0	0	64	901	264	11	83	0	0	271	34
Number				3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		0.95	0.97		1.00	1.00		0.92
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln				1900	980	1863	1900	980	0	0	2451	1900
Adj Flow Rate, veh/h				64	901	170	11	83	0	0	271	34
Adj No. of Lanes				0	2	1	0	1	0	0	1	0
Peak Hour Factor				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				72	1070	899	84	230	0	0	538	68
Arrive On Green				0.60	0.60	0.60	0.25	0.25	0.00	0.00	0.25	0.25
Sat Flow, veh/h				121	1785	1500	43	902	0	0	2114	265
Grp Volume(v), veh/h				516	449	170	94	0	0	0	0	305
Grp Sat Flow(s),veh/h/ln				974	931	1500	946	0	0	0	0	2379
Q Serve(g_s), s				24.7	20.4	2.8	0.0	0.0	0.0	0.0	0.0	6.0
Cycle Q Clear(g_c), s				24.7	20.4	2.8	4.3	0.0	0.0	0.0	0.0	6.0
Prop In Lane				0.12		1.00	0.12		0.00	0.00		0.11
Lane Grp Cap(c), veh/h				584	558	899	314	0	0	0	0	606
V/C Ratio(X)				0.88	0.80	0.19	0.30	0.00	0.00	0.00	0.00	0.50
Avail Cap(c_a), veh/h				711	680	1094	528	0	0	0	0	1172
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	1.00	0.00	0.00	0.00	0.00	1.00
Uniform Delay (d), s/veh				9.4	8.5	5.0	16.8	0.0	0.0	0.0	0.0	17.5
Incr Delay (d2), s/veh				11.0	5.8	0.1	0.5	0.0	0.0	0.0	0.0	0.6
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.2	6.0	1.2	1.2	0.0	0.0	0.0	0.0	4.0
LnGrp Delay(d),s/veh				20.4	14.3	5.1	17.4	0.0	0.0	0.0	0.0	18.1
LnGrp LOS				C	B	A	B					B
Approach Vol, veh/h					1135			94			305	
Approach Delay, s/veh					15.7			17.4			18.1	
Approach LOS					B			B			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs		2				6		8				
Phs Duration (G+Y+Rc), s		18.0				18.0		36.9				
Change Period (Y+Rc), s		4.5				4.5		4.5				
Max Green Setting (Gmax), s		26.5				26.5		39.5				
Max Q Clear Time (g_c+I1), s		6.3				8.0		26.7				
Green Ext Time (p_c), s		0.4				1.8		5.6				
Intersection Summary												
HCM 2010 Ctrl Delay					16.3							
HCM 2010 LOS					B							

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 Signalized Intersection Summary

137: Curtiss St & Hillsdale Blvd

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Future Volume (veh/h)	2	1003	48	5	835	29	36	22	44	15	5	11
Number	5	2	12	1	6	16	3	8	18	7	4	14
Initial Q (Qb), veh	0	10	0	0	0	0	0	0	0	0	10	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.97	0.97		0.95	0.97		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1245	1900	1900	1863	1900	1900	1078	1078	1900	1275	1900
Adj Flow Rate, veh/h	2	1003	45	5	835	27	36	22	16	15	5	1
Adj No. of Lanes	0	2	0	0	2	0	0	1	1	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	71	1058	11	72	1451	49	193	74	341	214	427	3
Arrive On Green	0.65	0.65	0.64	0.65	0.65	0.64	0.19	0.19	0.19	0.19	0.19	0.18
Sat Flow, veh/h	1	2254	101	4	3411	110	489	431	871	528	273	40
Grp Volume(v), veh/h	555	0	495	456	0	411	58	0	16	21	0	0
Grp Sat Flow(s),veh/h/ln	1244	0	1111	1853	0	1672	920	0	871	842	0	0
Q Serve(g_s), s	0.0	0.0	14.4	0.0	0.0	5.8	0.0	0.0	0.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	14.3	0.0	14.4	5.8	0.0	5.8	2.4	0.0	0.8	2.4	0.0	0.0
Prop In Lane	0.00		0.09	0.01		0.07	0.62		1.00	0.71		0.05
Lane Grp Cap(c), veh/h	534	0	420	805	0	768	266	0	341	308	0	0
V/C Ratio(X)	1.04	0.00	1.18	0.57	0.00	0.54	0.22	0.00	0.05	0.07	0.00	0.00
Avail Cap(c_a), veh/h	879	0	722	1276	0	1086	535	0	410	555	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	17.3	0.0	16.0	10.5	0.0	10.6	10.7	0.0	10.3	16.8	0.0	0.0
Incr Delay (d2), s/veh	49.1	0.0	103.3	2.9	0.0	2.7	0.4	0.0	0.1	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	31.8	0.0	35.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.0	22.9	5.0	0.0	4.8	0.6	0.0	0.1	1.5	0.0	0.0
LnGrp Delay(d),s/veh	98.2	0.0	154.8	13.3	0.0	13.3	11.1	0.0	10.3	25.0	0.0	0.0
LnGrp LOS	F		F	B		B	B		B	C		
Approach Vol, veh/h	1050			867			74			21		
Approach Delay, s/veh	124.9			13.3			11.0			25.0		
Approach LOS	F			B			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	37.1		13.9		37.1		13.9					
Change Period (Y+Rc), s	4.5		4.5		4.5		4.5					
Max Green Setting (Gmax), s	18.5		23.5		18.5		23.5					
Max Q Clear Time (g_c+I1), s	16.4		4.4		7.8		4.4					
Green Ext Time (p_c), s	1.3		0.0		4.0		0.3					
Intersection Summary												
HCM 2010 Ctrl Delay				71.6								
HCM 2010 LOS				E								
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

202: Claremont St & 3rd Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	10	128	67	61	539	39	34	134	35	18	140	34
Future Volume (veh/h)	10	128	67	61	539	39	34	134	35	18	140	34
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.98		0.92	0.99		0.92	0.99		0.86	0.93		0.94
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	980	1900	1900	2451	1900	1900	2451	1900	1900	980	1900
Adj Flow Rate, veh/h	10	128	67	61	539	39	34	134	35	18	140	34
Adj No. of Lanes	0	1	0	0	2	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	302	151	225	2009	143	147	593	143	65	265	61
Arrive On Green	0.52	0.52	0.48	0.52	0.52	0.48	0.38	0.38	0.33	0.38	0.38	0.33
Sat Flow, veh/h	16	575	287	326	3828	272	251	1582	382	43	707	161
Grp Volume(v), veh/h	205	0	0	330	0	309	203	0	0	192	0	0
Grp Sat Flow(s),veh/h/ln	879	0	0	2272	0	2153	2216	0	0	912	0	0
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	6.4	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	11.5	0.0	0.0	5.9	0.0	6.4	4.9	0.0	0.0	13.0	0.0	0.0
Prop In Lane	0.05		0.33	0.18		0.13	0.17		0.17	0.09		0.18
Lane Grp Cap(c), veh/h	509	0	0	1246	0	1131	883	0	0	391	0	0
V/C Ratio(X)	0.40	0.00	0.00	0.26	0.00	0.27	0.23	0.00	0.00	0.49	0.00	0.00
Avail Cap(c_a), veh/h	509	0	0	1246	0	1131	883	0	0	391	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.64	0.00	0.00	0.84	0.00	0.84	0.78	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	12.1	0.0	0.0	10.4	0.0	10.7	17.4	0.0	0.0	19.9	0.0	0.0
Incr Delay (d2), s/veh	1.5	0.0	0.0	0.4	0.0	0.5	0.1	0.0	0.0	4.4	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	0.0	0.0	4.1	0.0	4.0	3.1	0.0	0.0	3.8	0.0	0.0
LnGrp Delay(d),s/veh	13.6	0.0	0.0	10.9	0.0	11.2	17.5	0.0	0.0	24.3	0.0	0.0
LnGrp LOS	B			B		B	B			C		
Approach Vol, veh/h	205				639				203		192	
Approach Delay, s/veh	13.6				11.0				17.5		24.3	
Approach LOS	B				B				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	34.0		46.0		34.0		46.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	26.5		38.5		26.5		38.5					
Max Q Clear Time (g_c+I1), s	6.9		13.5		15.0		8.4					
Green Ext Time (p_c), s	1.2		1.3		0.8		4.7					
Intersection Summary												
HCM 2010 Ctrl Delay	14.6											
HCM 2010 LOS	B											

HCM 2010 methodology does not support clustered intersections.

HCM 2010 Signalized Intersection Summary

215: El Camino Real & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	164	74	155	132	111	106	1833	256	112	1520	101
Future Volume (veh/h)	59	164	74	155	132	111	106	1833	256	112	1520	101
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	0.95		0.82	0.93		0.86	1.00		0.92	1.00		0.92
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1961	2451	1900	2451	2451	1900	1863	1324	1900	2451	2451	1900
Adj Flow Rate, veh/h	59	164	74	155	132	111	106	1833	256	112	1520	101
Adj No. of Lanes	1	1	0	1	1	0	1	3	0	1	3	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	163	253	114	188	193	163	149	1897	262	175	3749	249
Arrive On Green	0.17	0.17	0.16	0.17	0.17	0.16	0.08	0.60	0.59	0.08	0.59	0.58
Sat Flow, veh/h	1128	1490	672	1387	1137	956	1774	3173	437	2334	6368	423
Grp Volume(v), veh/h	59	0	238	155	0	243	106	1386	703	112	1065	556
Grp Sat Flow(s),veh/h/ln	1128	0	2162	1387	0	2092	1774	1204	1202	2334	2230	2330
Q Serve(g_s), s	4.0	0.0	7.9	5.1	0.0	8.3	4.4	41.6	43.4	3.6	9.9	9.9
Cycle Q Clear(g_c), s	12.3	0.0	7.9	13.0	0.0	8.3	4.4	41.6	43.4	3.6	9.9	9.9
Prop In Lane	1.00		0.31	1.00		0.46	1.00		0.36	1.00		0.18
Lane Grp Cap(c), veh/h	163	0	368	188	0	356	149	1440	719	175	2626	1372
V/C Ratio(X)	0.36	0.00	0.65	0.83	0.00	0.68	0.71	0.96	0.98	0.64	0.41	0.41
Avail Cap(c_a), veh/h	163	0	368	188	0	356	464	1440	719	611	2626	1372
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	35.6	0.0	29.7	36.7	0.0	29.9	34.1	14.5	15.0	34.3	8.5	8.5
Incr Delay (d2), s/veh	1.3	0.0	3.9	25.1	0.0	5.3	6.1	16.2	28.8	3.9	0.5	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	0.0	5.1	4.5	0.0	5.3	2.4	16.9	19.8	2.5	6.2	6.7
LnGrp Delay(d),s/veh	36.9	0.0	33.6	61.8	0.0	35.2	40.2	30.8	43.8	38.2	9.0	9.4
LnGrp LOS	D		C	E		D	D	C	D	D	A	A
Approach Vol, veh/h	297			398			2195			1733		
Approach Delay, s/veh	34.2			45.5			35.4			11.0		
Approach LOS	C			D			D			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.7	49.7		17.0	10.4	49.0		17.0				
Change Period (Y+Rc), s	4.5	4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s	19.5	44.5		12.5	19.5	44.5		12.5				
Max Q Clear Time (g_c+1.5), s	15.6	45.4		14.3	6.4	11.9		15.0				
Green Ext Time (p_c), s	0.2	0.0		0.0	0.2	14.7		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	27.1											
HCM 2010 LOS	C											
Notes												

User approved pedestrian interval to be less than phase max green.

HCM 2010 Signalized Intersection Summary

216: Claremont St & 4th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	25	683	33	7	114	22	7	146	86	119	132	25
Future Volume (veh/h)	25	683	33	7	114	22	7	146	86	119	132	25
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	24	0	0	35	0
Ped-Bike Adj(A_pbT)	1.00		0.94	1.00		0.94	1.00		0.95	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1078	2500	1900	980	1900	1000	980	1000	1900	980	1900
Adj Flow Rate, veh/h	25	683	33	7	114	22	7	146	86	119	132	25
Adj No. of Lanes	0	2	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	703	34	49	217	40	49	374	63	64	257	12
Arrive On Green	0.41	0.39	0.37	0.41	0.39	0.37	0.49	0.46	0.44	0.49	0.46	0.44
Sat Flow, veh/h	33	1813	87	4	559	102	10	572	327	266	355	62
Grp Volume(v), veh/h	375	0	366	143	0	0	239	0	0	276	0	0
Grp Sat Flow(s),veh/h/ln	973	0	960	665	0	0	909	0	0	683	0	0
Q Serve(g_s), s	0.0	0.0	30.2	1.7	0.0	0.0	0.0	0.0	0.0	14.5	0.0	0.0
Cycle Q Clear(g_c), s	29.4	0.0	30.2	31.9	0.0	0.0	15.3	0.0	0.0	29.7	0.0	0.0
Prop In Lane	0.07		0.09	0.05		0.15	0.03		0.36	0.43		0.09
Lane Grp Cap(c), veh/h	449	0	372	321	0	0	499	0	0	387	0	0
V/C Ratio(X)	0.83	0.00	0.98	0.44	0.00	0.00	0.48	0.00	0.00	0.71	0.00	0.00
Avail Cap(c_a), veh/h	449	0	372	321	0	0	489	0	0	397	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	23.2	0.0	24.3	18.3	0.0	0.0	18.6	0.0	0.0	23.5	0.0	0.0
Incr Delay (d2), s/veh	12.8	0.0	42.1	1.0	0.0	0.0	3.3	0.0	0.0	10.7	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	31.9	0.0	0.0	196.4	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	12.3	2.3	0.0	0.0	11.1	0.0	0.0	30.5	0.0	0.0
LnGrp Delay(d),s/veh	36.0	0.0	66.4	19.3	0.0	0.0	53.7	0.0	0.0	230.5	0.0	0.0
LnGrp LOS	D		E	B			D			F		
Approach Vol, veh/h	741				143		239				276	
Approach Delay, s/veh	51.0				19.3		53.7				230.5	
Approach LOS	D				B		D				F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	43.0		37.0		43.0		37.0					
Change Period (Y+Rc), s	7.5		7.5		7.5		7.5					
Max Green Setting (Gmax), s	35.5		29.5		35.5		29.5					
Max Q Clear Time (g_c+I1), s	17.3		32.2		31.7		33.9					
Green Ext Time (p_c), s	1.4		0.0		0.6		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay			83.7									
HCM 2010 LOS			F									
Notes												

User approved pedestrian interval to be less than phase max green.

Intersection

Intersection Delay, s/veh 18.4

Intersection LOS F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	89	403	28	36	296	23	16	152	33	35	124	42
Future Vol, veh/h	89	403	28	36	296	23	16	152	33	35	124	42
Peak Hour Factor	0.78	0.78	0.78	0.80	0.80	0.80	0.70	0.70	0.70	0.80	0.80	0.80
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	114	517	36	45	370	29	23	217	47	44	155	53
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	230.7	60.2	29	25.6
HCM LOS	F	F	D	D

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	8%	17%	10%	17%
Vol Thru, %	76%	78%	83%	62%
Vol Right, %	16%	5%	6%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	201	520	355	201
LT Vol	16	89	36	35
Through Vol	152	403	296	124
RT Vol	33	28	23	42
Lane Flow Rate	287	667	444	251
Geometry Grp	1	1	1	1
Degree of Util (X)	0.66	1.438	0.941	0.589
Departure Headway (Hd)	9.442	7.763	8.612	9.658
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	385	473	426	377
Service Time	7.442	5.763	6.612	7.658
HCM Lane V/C Ratio	0.745	1.41	1.042	0.666
HCM Control Delay	29	230.7	60.2	25.6
HCM Lane LOS	D	F	F	D
HCM 95th-tile Q	4.5	33	10.7	3.6

HCM 2010 Signalized Intersection Summary

219: Humboldt St & 5th Ave

06/12/2020

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	152	77	9	1	15	66	6	292	7	32	236	86
Future Volume (veh/h)	152	77	9	1	15	66	6	292	7	32	236	86
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.97	1.00		0.93	1.00		0.96	1.00		0.96
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1275	1900	1900	1765	1900	1900	1422	1900	1900	2451	1900
Adj Flow Rate, veh/h	152	77	9	1	15	66	6	292	7	32	236	86
Adj No. of Lanes	0	1	0	0	1	0	0	1	0	0	1	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	82	42	5	1	15	67	3	142	3	22	162	59
Arrive On Green	0.10	0.10	0.10	0.06	0.06	0.06	0.10	0.10	0.10	0.10	0.21	0.10
Sat Flow, veh/h	783	397	46	18	267	1175	28	1353	32	209	1541	562
Grp Volume(v), veh/h	238	0	0	82	0	0	305	0	0	354	0	0
Grp Sat Flow(s),veh/h/ln	1226	0	0	1460	0	0	1413	0	0	2312	0	0
Q Serve(g_s), s	2.0	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Cycle Q Clear(g_c), s	2.0	0.0	0.0	1.1	0.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0
Prop In Lane	0.64		0.04	0.01		0.80	0.02		0.02	0.09		0.24
Lane Grp Cap(c), veh/h	128	0	0	83	0	0	148	0	0	242	0	0
V/C Ratio(X)	1.85	0.00	0.00	0.99	0.00	0.00	2.06	0.00	0.00	1.46	0.00	0.00
Avail Cap(c_a), veh/h	128	0	0	153	0	0	148	0	0	242	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	8.5	0.0	0.0	9.0	0.0	0.0	8.5	0.0	0.0	7.9	0.0	0.0
Incr Delay (d2), s/veh	412.1	0.0	0.0	49.2	0.0	0.0	499.5	0.0	0.0	228.8	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	0.0	0.0	1.5	0.0	0.0	21.3	0.0	0.0	16.6	0.0	0.0
LnGrp Delay(d),s/veh	420.7	0.0	0.0	58.2	0.0	0.0	508.1	0.0	0.0	236.7	0.0	0.0
LnGrp LOS	F			E			F			F		
Approach Vol, veh/h	238			82			305			354		
Approach Delay, s/veh	420.7			58.2			508.1			236.7		
Approach LOS	F			E			F			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	5.0		5.0		5.0		4.1					
Change Period (Y+Rc), s	3.0		3.0		3.0		3.0					
Max Green Setting (Gmax), s	2.0		2.0		2.0		2.0					
Max Q Clear Time (g_c+I1), s	4.0		4.0		4.0		3.1					
Green Ext Time (p_c), s	0.0		0.0		0.0		0.0					
Intersection Summary												
HCM 2010 Ctrl Delay	351.0											
HCM 2010 LOS	F											

Intersection												
Int Delay, s/veh	3.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Future Vol, veh/h	118	4	5	1	2	24	5	260	3	38	232	34
Conflicting Peds, #/hr	8	0	5	5	0	8	8	0	28	28	0	8
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	118	4	5	1	2	24	5	260	3	38	232	34

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	634	262	635	650	168	274	0	0	291	0	0
Stage 1	333	333	-	300	300	-	-	-	-	-	-	-
Stage 2	149	301	-	335	350	-	-	-	-	-	-	-
Critical Hdwy	7.33	6.53	6.23	7.33	6.53	6.93	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.13	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.53	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.519	4.019	3.319	3.519	4.019	3.319	2.219	-	-	2.219	-	-
Pot Cap-1 Maneuver	481	396	776	377	387	847	1288	-	-	1269	-	-
Stage 1	680	643	-	685	665	-	-	-	-	-	-	-
Stage 2	839	664	-	678	632	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	443	367	766	349	358	818	1278	-	-	1235	-	-
Mov Cap-2 Maneuver	443	367	-	349	358	-	-	-	-	-	-	-
Stage 1	671	615	-	663	644	-	-	-	-	-	-	-
Stage 2	802	643	-	642	604	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.2		10.2		0.1		1	
HCM LOS	C		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1278	-	-	448	714	1235	-
HCM Lane V/C Ratio	0.004	-	-	0.283	0.038	0.031	-
HCM Control Delay (s)	7.8	0	-	16.2	10.2	8	0
HCM Lane LOS	A	A	-	C	B	A	A
HCM 95th %tile Q(veh)	0	-	-	1.2	0.1	0.1	-

HCM 2010 Signalized Intersection Summary

226: El Camino Real & 9th Ave

06/12/2020

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	146	142	1999	173	150	1680		
Future Volume (veh/h)	146	142	1999	173	150	1680		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		0.99	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	146	24	1999	173	150	1680		
Adj No. of Lanes	1	1	3	0	1	3		
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	218	195	2586	222	210	3729		
Arrive On Green	0.12	0.12	0.54	0.53	0.12	0.73		
Sat Flow, veh/h	1774	1583	4932	409	1774	5253		
Grp Volume(v), veh/h	146	24	1418	754	150	1680		
Grp Sat Flow(s),veh/h/ln	1774	1583	1695	1784	1774	1695		
Q Serve(g_s), s	4.4	0.8	18.3	18.6	4.5	7.3		
Cycle Q Clear(g_c), s	4.4	0.8	18.3	18.6	4.5	7.3		
Prop In Lane	1.00	1.00		0.23	1.00			
Lane Grp Cap(c), veh/h	218	195	1840	968	210	3729		
V/C Ratio(X)	0.67	0.12	0.77	0.78	0.71	0.45		
Avail Cap(c_a), veh/h	957	854	1950	1026	510	4754		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	23.3	21.7	10.0	10.1	23.6	3.0		
Incr Delay (d2), s/veh	3.5	0.3	1.8	3.7	4.4	0.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.4	0.3	8.9	10.0	2.5	3.3		
LnGrp Delay(d),s/veh	26.9	22.0	11.8	13.8	28.0	3.0		
LnGrp LOS	C	C	B	B	C	A		
Approach Vol, veh/h	170		2172			1830		
Approach Delay, s/veh	26.2		12.5			5.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	34.2				44.8		10.8
Change Period (Y+Rc), s	4.5	4.5				4.5		4.5
Max Green Setting (Gmax), s	15.5	31.5				51.5		29.5
Max Q Clear Time (g_c+I1), s	6.5	20.6				9.3		6.4
Green Ext Time (p_c), s	0.2	9.1				18.2		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			9.8					
HCM 2010 LOS			A					

Intersection

Int Delay, s/veh 3.4

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations 

Traffic Vol, veh/h 51 363 289 31 36 137

Future Vol, veh/h 51 363 289 31 36 137

Conflicting Peds, #/hr 36 0 0 22 22 36

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 100 100 100 100 100 100

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 51 363 289 31 36 137

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 356 0 - 0 828 377

Stage 1 - - - - 341 -

Stage 2 - - - - 487 -

Critical Hdwy 4.12 - - - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy 2.218 - - - 3.518 3.318

Pot Cap-1 Maneuver 1203 - - - 341 670

Stage 1 - - - - 720 -

Stage 2 - - - - 618 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1162 - - - 301 625

Mov Cap-2 Maneuver - - - - 301 -

Stage 1 - - - - 657 -

Stage 2 - - - - 597 -

Approach EB WB SB

HCM Control Delay, s 1 0 15.6

HCM LOS C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 1162 - - - 511

HCM Lane V/C Ratio 0.044 - - - 0.339

HCM Control Delay (s) 8.2 0 - - 15.6

HCM Lane LOS A A - - C

HCM 95th %tile Q(veh) 0.1 - - - 1.5

Intersection	
Intersection Delay, s/veh	0
Intersection LOS	-

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	0	0	0	0
HCM LOS	-	-	-	-

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	0%	0%
Vol Thru, %	100%	100%	100%	100%
Vol Right, %	0%	0%	0%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	0	0	0	0
LT Vol	0	0	0	0
Through Vol	0	0	0	0
RT Vol	0	0	0	0
Lane Flow Rate	0	0	0	0
Geometry Grp	1	1	1	1
Degree of Util (X)	0	0	0	0
Departure Headway (Hd)	3.934	3.934	3.934	3.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	0	0	0	0
Service Time	1.934	1.934	1.934	1.934
HCM Lane V/C Ratio	0	0	0	0
HCM Control Delay	6.9	6.9	6.9	6.9
HCM Lane LOS	N	N	N	N
HCM 95th-tile Q	0	0	0	0

Intersection

Intersection Delay, s/veh 9.9

Intersection LOS A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	110	179	5	0	109	29	13	92	3	15	77	47
Future Vol, veh/h	110	179	5	0	109	29	13	92	3	15	77	47
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	110	179	5	0	109	29	13	92	3	15	77	47
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.9	9	9.2	9.2
HCM LOS	B	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	37%	0%	11%
Vol Thru, %	85%	61%	79%	55%
Vol Right, %	3%	2%	21%	34%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	108	294	138	139
LT Vol	13	110	0	15
Through Vol	92	179	109	77
RT Vol	3	5	29	47
Lane Flow Rate	108	294	138	139
Geometry Grp	1	1	1	1
Degree of Util (X)	0.155	0.391	0.184	0.191
Departure Headway (Hd)	5.162	4.782	4.789	4.934
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	689	747	742	721
Service Time	3.239	2.843	2.86	3.007
HCM Lane V/C Ratio	0.157	0.394	0.186	0.193
HCM Control Delay	9.2	10.9	9	9.2
HCM Lane LOS	A	B	A	A
HCM 95th-tile Q	0.5	1.9	0.7	0.7

Intersection

Int Delay, s/veh -

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	-	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Major2	Minor2
Conflicting Flow All	-	0 - 0
Stage 1	-	- - -
Stage 2	-	- - -
Critical Hdwy	-	- - 6.22
Critical Hdwy Stg 1	-	- - -
Critical Hdwy Stg 2	-	- - -
Follow-up Hdwy	-	- - 3.318
Pot Cap-1 Maneuver	-	0 0 -
Stage 1	-	0 0 -
Stage 2	-	0 0 -
Platoon blocked, %	-	
Mov Cap-1 Maneuver	-	- - -
Mov Cap-2 Maneuver	-	- - -
Stage 1	-	- - -
Stage 2	-	- - -

Approach	WB	SB
HCM Control Delay, s	0	0
HCM LOS		A

Minor Lane/Major Mvmt	WBT	SBLn1
Capacity (veh/h)	-	-
HCM Lane V/C Ratio	-	-
HCM Control Delay (s)	-	0
HCM Lane LOS	-	A
HCM 95th %tile Q(veh)	-	-

Intersection														
Int Delay, s/veh	0													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	SWL	SWR
Lane Configurations		↑↑			↑↑	↔								↔
Traffic Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	-	-	-	-	-	None	-	-
Storage Length	-	-	-	-	-	0	-	-	0	-	-	-	-	80
Veh in Median Storage, #	-	0	-	-	0	-	-	-	-	-	-	-	0	-
Grade, %	-	-3	-	-	0	-	-	0	-	-	0	-	0	-
Peak Hour Factor	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Major/Minor	Major1			Major2			Minor2		
Conflicting Flow All	-	0	-	0	0	0	-	0	
Stage 1	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	
Critical Hdwy	-	-	-	4.13	-	-	-	6.23	
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	
Follow-up Hdwy	-	-	-	2.219	-	-	-	3.319	
Pot Cap-1 Maneuver	0	-	0	-	-	-	0	-	
Stage 1	0	-	0	-	-	-	0	-	
Stage 2	0	-	0	-	-	-	0	-	
Platoon blocked, %	-	-	-	-	-	-	-	-	
Mov Cap-1 Maneuver	-	-	-	-	-	-	-	-	
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	
Stage 1	-	-	-	-	-	-	-	-	
Stage 2	-	-	-	-	-	-	-	-	

Approach	EB	WB	SW
HCM Control Delay, s	0		0
HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	WBR2SWLn1SWLn2
Capacity (veh/h)	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-
HCM Control Delay (s)	-	-	-	0 0
HCM Lane LOS	-	-	-	A A
HCM 95th %tile Q(veh)	-	-	-	-

HCM 2010 Research does not support Non-NEMA phasing.

HCM 2010 analysis supports yellow change in the range of 3 and 6 seconds

Intersection

Intersection Delay, s/veh 10.3

Intersection LOS B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Future Vol, veh/h	2	2	163	41	39	2	78	164	117	2	137	21
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	2	163	41	39	2	78	164	117	2	137	21
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left SB		NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right NB		SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.1	9.3	11.5	9.3
HCM LOS	A	A	B	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	22%	1%	50%	1%
Vol Thru, %	46%	1%	48%	86%
Vol Right, %	33%	98%	2%	13%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	359	167	82	160
LT Vol	78	2	41	2
Through Vol	164	2	39	137
RT Vol	117	163	2	21
Lane Flow Rate	359	167	82	160
Geometry Grp	1	1	1	1
Degree of Util (X)	0.457	0.217	0.124	0.217
Departure Headway (Hd)	4.583	4.669	5.446	4.886
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	762	651	726
Service Time	2.649	2.748	3.539	2.967
HCM Lane V/C Ratio	0.461	0.219	0.126	0.22
HCM Control Delay	11.5	9.1	9.3	9.3
HCM Lane LOS	B	A	A	A
HCM 95th-tile Q	2.4	0.8	0.4	0.8

