5. Proposed Network Improvements

This chapter presents proposed bikeways and bicycle support facilities identified through input from the community, City staff and the needs analysis. The proposed improvements are intended to make bicycling more comfortable and accessible for bicyclist of all skill levels and trip purposes. This chapter presents the following improvement types:

- **Network Improvements** fill gaps in the existing network so the community has a seamless bicycle network to use.
- **Spot Improvements** identify specific locations for focused improvement.
- **Studies** identify potential improvements for consideration and further analysis.
- **Bicycle Parking** identifies key locations citywide for bicycle parking installation, a bike parking plan for downtown and a recommended bicycle parking ordinance.

5.1. Network Improvements

This section includes bikeway network, pavement markings and signage improvements as well as a Complete Streets policy recommendation. The bikeway recommendations include over 36 miles of new facilities to increase San Mateo's bikeway connectivity and to create a comprehensive, safe, and logical network. At full build-out of the proposed bikeways, San Mateo will have 76 bikeway miles, improving connections from residential neighborhoods to attractors such as retail, transit and jobs. The pavement markings and signage will support the bikeway network by providing network identify. The Complete Streets policy will encourage future San Mateo transportation network design to consider all users.

Figure 5-1 shows the existing and proposed bikeway network and **Tables 5-1** through **5-3** list the bikeways by type and mileage. The proposed bikeways were developed with consideration for roadway widths, traffic volumes and speeds, connections to destinations. This Plan proposes four bikeway types, listed below and described in Sections 5.1.1 through 5.1.4.

- Class I Multi-Use Paths
- Class II Bicycle Lanes
- Class III Bicycle Routes
- Class III Bicycle Routes with Shared Lane Markings

The proposed bikeway network also includes bikeways along the North-South Bikeway. This bikeway is a priority corridor in the San Mateo County Comprehensive Bicycle and Pedestrian Master Plan. The North-South Bikeway is highlighted in yellow on **Figure 5-1**.

In addition to these standard bikeway types, San Mateo may consider the development of a bicycle boulevard system, to be designed and developed as this Plan is implemented in conjunction with the City's Neighborhood Traffic Management Plan (NMTP)[5-1] and subject to the City's traffic calming policy and procedures, developed in 2006. The design parameters for bicycle boulevards are introduced in this document in Appendix A, Design Guidelines, Guideline A.6.5.

[5-1] The City of San Mateo's website provides detailed information on traffic calming policies, procedures and accepted techniques. http://www.ci.sanmateo.ca.us/index.aspx?NID=2123

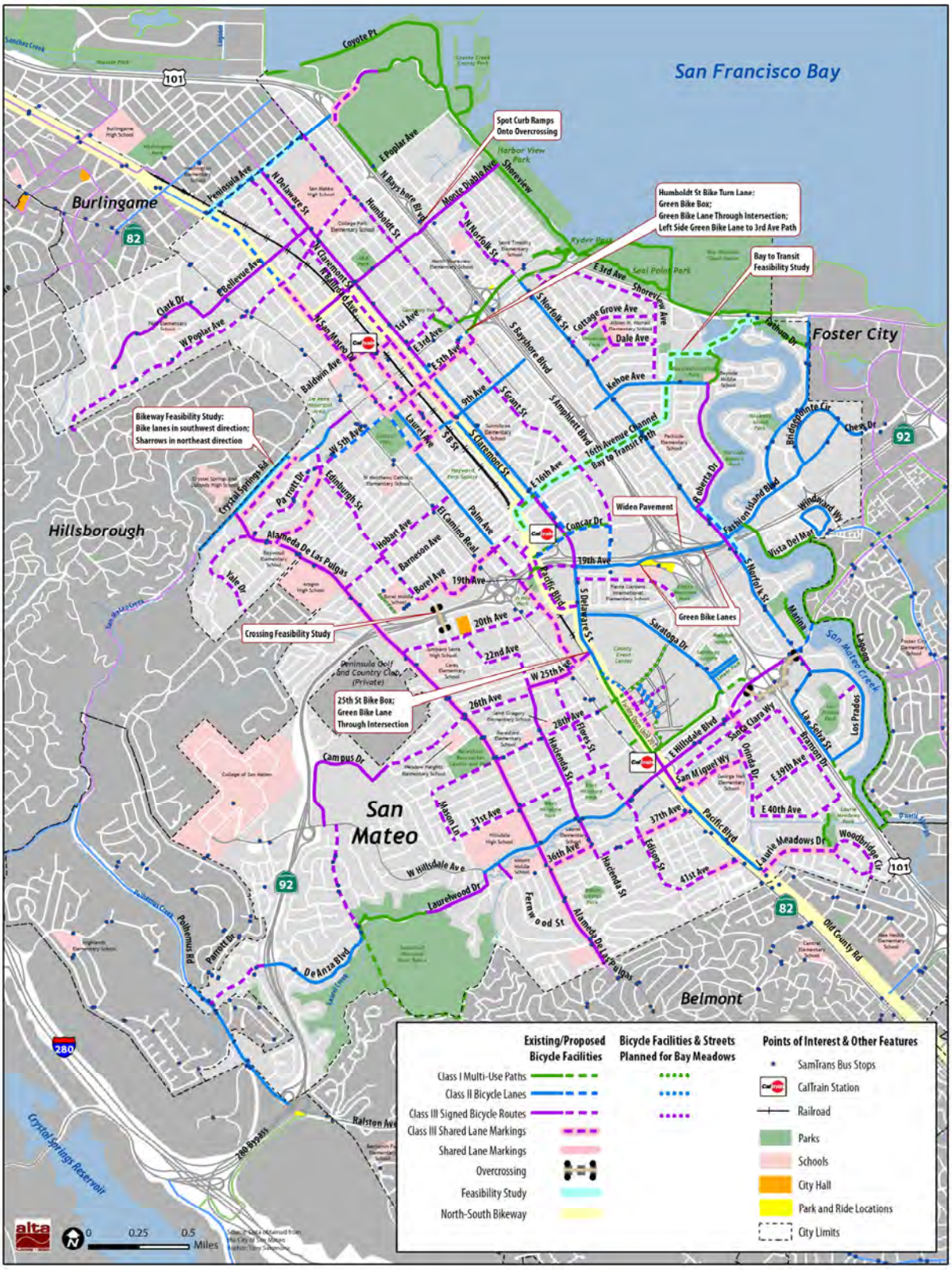


Figure 5-1: San Mateo Recommended Bikeway Network

5.1.1. Class I Bicycle Paths

A Class I Bicycle Path (shown in **Figure 5-2**) provides for bicycle and pedestrian travel on a paved right-of-way completely separated from streets or highways. These recommended facilities can be popular for recreational bicycling as well as for commuting.

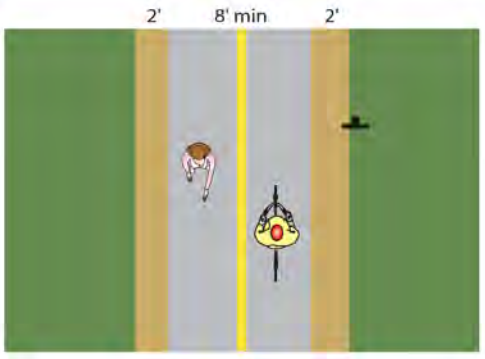


Figure 5-2: Class I Bicycle Path

Recommendations

The recommended Class I Paths include those proposed in the Hillsdale Station Area Plan and a "Bay to Transit" connector path along the 16th Avenue channel. This 16th Avenue Channel Path can serve recreation and commuting needs and connect children to school. The path will connect the Hayward Park Caltrain Station to the residential communities east, to the Bay Trail and the Shoreline Parks. It will also provide an additional and community-identified need to cross over US 101.

Table 5-1: Recommended Class I Paths and Crossings

Location	Bikeway Class	From	To	Length (Miles)
28th Ave Extension	I	El Camino Real	New Delaware St	0.09
31st Ave Extension	I	El Camino Real	Caltrain	0.22
Bay to Transit Path	I	17th Ave	Anchor Rd	1.82
Concar Dr	I	S Delaware St	Pacific Blvd	0.20
Concar Dr	I	S Grant St	S Delaware St	0.23
Franklin Path	I	Pacific Boulevard	Hillsdale Boulevard	0.17
Hillsdale Overcrossing	Crossing	Hillsdale Blvd	S Norfolk St	0.33
Laguna Vista Path	I	Los Prados	Laguna Vista	0.10
Laurel Woods/ Sugarloaf Park Path	I	Laurelwood Dr	Laurel Creek Rd	0.88
Rand Street Bridge	Crossing	Rand Street	San Mateo Creek	0.10
			Class I Total Miles	**4.14**

5.1.2. Class II Bicycle Lanes

Bicycle lanes provide a signed, striped and stenciled lane for one-way travel on both sides of a roadway. Class II bicycle lanes are often used by commuters, bicycle enthusiasts and casual riders (if on lower volume and lower speed roadways). Bicycle lanes are often recommended on roadways with moderate traffic volumes and speeds and where separation of users facilitates safer operation.

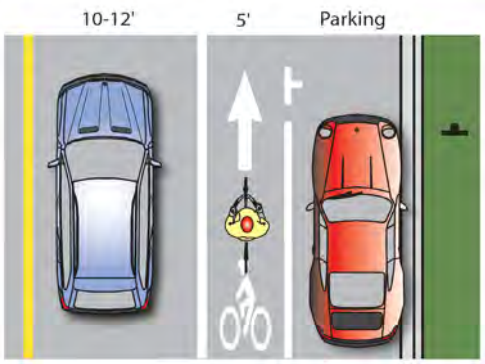


Figure 5-3: Class II Bike Lane

Recommendations

Class II Bicycle Lanes are recommended on higher volume roadways that serve as important connections in the bikeway network.

Table 5-2: Recommended Class II Bike Lanes

Location	Bikeway Class	From	To	Length (Miles)
Central Park Bike Lane	II	9th Ave	E 5th Ave	0.23
Concar Dr	II	Hayward Park Caltrain	Grant Street	0.43
E 4th Ave	II	S Grant St	S Humboldt St	0.07
E 5th Ave	II	El Camino Real	San Mateo Drive	0.13
Hillsdale Lagoon Bridge	II	S Norfolk St	City Limits	0.17
N San Mateo Dr	II	Peninsula Ave	W Poplar Ave	0.52
Peninsula Ave	II	Humboldt St	N San Mateo Dr	0.62
S Grant St	II	19th Ave	Concar Dr	0.20
S Norfolk St	II	Marina Lagoon	Roberta Dr	0.36
S Norfolk St	II	520' NW of E Hillsdale Blvd	E Hillsdale Blvd	0.10
W 5th Ave	II	Maple Street	El Camino Real	0.22
			Class II Total Miles	**3.03**

5.1.3. Class III Bicycle Routes

Class III Bicycle Routes provide for shared roadway use and are generally only identified with signing. Bicycle Routes may have a wide travel lane or shoulder that allow for parallel travel with automobiles.

Recommendations

The recommended Bicycle Routes provide connections through residential areas connecting residents to schools, retail districts and other community destinations.

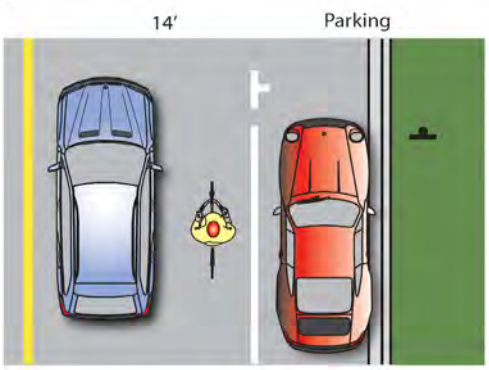


Figure 5-4: Class III Bicycle Route

Table 5-3: Recommended Class III Bike Routes

Location	Bikeway Class	From	To	Length (Miles)
17th Ave/Caltrain Access	III	Palm Ave	19th Ave	0.39
19th Ave	III	Palm Ave	Pacific Ave	0.07
19th Ave	III	Pacific Boulevard	19th Ave	0.19
22nd Ave	III	Isabelle Ave	Hacienda St	0.17
26th Ave	III	Campus Dr	Hacienda St	0.92
28th Ave	III	Mason Ln	El Camino Real	0.94
2nd Ave	III	S Fremont St	S Humboldt St	0.14
2nd Ave	III	S Delaware St	S Fremont St	0.13
31st Ave	III	Mason Ln	Edison St	0.86
37th Ave	III	Hacienda St	Edison St	0.24
41st Ave	III	Hacienda St	Beresford St	0.18
Branson Dr	III	Santa Clara Wy	40th Ave	0.54
Casanova Dr	III	E 40th Ave	Laurie Meadows Dr	0.03
Columbia -Yale Dr Rt	III	Alameda de las Pulgas	City Limits	0.56
Cottage Grove Ave	III	S Norfolk St	Shoreview Ave	0.46
Dale Ave	III	S Norfolk St	Shoreview Ave	0.36
De Anza Blvd	III	State Hwy 92	Polhemus Rd	0.34
E 16th Ave	III	S Claremont Dr	S Railroad Ave	0.05
E 39th Ave	III	Orinda Dr	Branson Dr	0.36
E 40th Ave	III	Branson Dr	Orinda Dr	0.47
E Hillsdale Ct	III	E Hillsdale Blvd	Hillsdale Overcrossing	0.21
Edinburgh -Virginia St Rt	III	Borel Ave	W 3rd Ave	0.95
Edison St	III	31st Ave	41st Ave	0.76
Flores St	III	W 25th St	31st Ave	0.50
Franklin St	III	Parrott Dr	Virginia Ave	0.06
Glendora Dr	III	De Anza Blvd	W Hillsdale Blvd	0.54

Location	Bikeway Class	From	To	Length (Miles)
Hacienda St	III	22nd Ave	W 25th Ave	0.18
Hobart Ave - 12th Ave Rt	III	Alameda de las Pulgas	Palm Ave	0.71
Humboldt St	III	Peninsula Ave	E 3rd Ave	1.22
Huron Ave - Norfolk St Rt	III	Monte Diablo Ave	E 3rd Ave	0.54
Isabelle Ave	III	20th Ave	22nd Ave	0.18
Marine View Ave	III	Seagate Dr	City Limit	0.02
Mason Ln	III	31st Ave	28th Ave	0.26
N Claremont St	III	Peninsula Ave	1st Ave	1.08
Orinda Dr	III	40th Ave	Santa Clara Way	0.38
Pacific Blvd	III	Concar Dr	S Delaware St	0.38
Palm Ave	III	South Blvd	19th Ave	0.26
Parrott Dr	III	Alameda de las Pulgas	Franklin St	0.47
Rand St	III	Shoreview Ave	San Mateo Creek	0.06
S Fremont St	III	2nd Ave	2nd Ave NW of Gateway Park	0.03
S Grant St	III	Concar Dr	E 4th Ave	1.24
S Humboldt St	III	E 5th Ave	E 4th Ave	0.06
Santa Clara Wy	III	Branson Dr	Orinda Dr	0.29
Seagate Dr	III	Woodbridge Cir	Marine View Ave	0.02
Shoreview Ave	III	S Norfolk St	Kehoe Ave	1.09
W 20th Ave	III	Alameda de las Pulgas	Palm Ave	0.74
W 5th Ave	III	Virginia Ave	Maple St	0.08
W Poplar Ave	III	City Limits (Glendale Dr)	Humboldt St	1.92
Woodbridge Cir	III	Laurie Meadows Dr	Seagate Dr	0.53
			Class III Total Miles	**22.17**

5.1.4. Class III Bicycle Routes with Shared Lane Markings

Class III Bicycle Routes with Shared Lane Markings (SLMs) are signed bicycle routes (see Section 5.1.3) with shared lane marking stencils in the travel lane.

Class III Bicycle Routes with SLMs are proposed on narrow roadways without wide travels lanes, roadways with high street-parking turnover in retail districts, and near schools to facilitate student travel. These bikeways will help bicycle mobility and access while increasing driver and bicycle awareness.

The 2010 California Manual on Uniform Traffic Control Devices (MUTCD) identifies that SLMs shall only be used on roadways with parallel parking and placed at minimum of 11 feet from the curb face. The Draft 2011 California MUTCD gives local engineers greater discretion with SLM placement on roadways with and

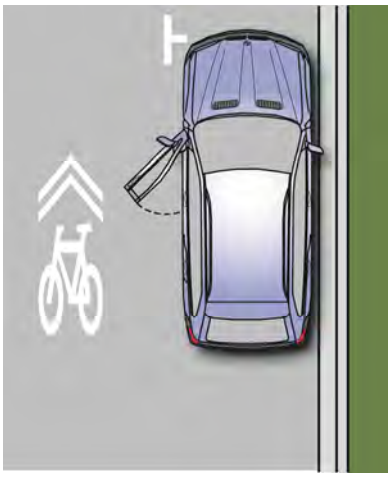


Figure 5-5: Class III Shared Lane Markings

without parking. The Draft 2011 California MUTCD reflects standards in the 2009 National MUTCD.

Recommendations

This Plan recommends SLMs be used on Class III Bicycle Routes where there are narrow travel lanes, high parking turn over, when bicyclists may need assistance with lane positioning, and where drivers may need additional notice to expect bicyclists regardless of the auto parking configuration. This Plan also recommends the SLMs be placed in the center of the travel lane to reduce maintenance and to direct bicyclists outside the door zone.

Table 5-4: Recommended Class III Bike Routes with SLMs

Location	Bikeway Class	From	To	Length (Miles)
17th Ave	III + SLM	Palm Ave	El Camino Real	0.10
1st Ave	III + SLM	B St	Claremont St	0.12
36th Ave	III + SLM	Hacienda St	Alameda De Las Pulgas	0.24
37th Ave	III + SLM	Edison St	El Camino Real	0.27
41st Ave	III + SLM	Beresford St	El Camino Real	0.15
9th Ave	III + SLM	Palm Ave	S B St	0.14
Alameda de las Pulgas	III+SLM	Crystal Springs Rd	La Casa Ave	3.00
Badwin Ave	III + SLM	S B St	N San Mateo Dr	0.11
Borel Ave	III + SLM	Bovet Rd	Edinburgh St	0.15
Bovet Rd	III + SLM	El Camino Real	Borel Ave	0.29
Coyote Pt Dr	III + SLM	Bayshore Blvd	end of Coyote Point Dr	0.21
Crystal Springs Rd	III + SLM	Alameda de las Pulgas	W 3rd Ave	0.39
E 5th Ave	III + SLM	San Mateo Dr	S Humboldt St	0.57
Harvard Rd	III + SLM	Nevada Ave	Virginia Ave	0.06
Laurie Meadows Dr	III + SLM	Pacific Blvd	Woodbridge Cir	0.41
N Claremont St	III + SLM	1st Ave	9th Ave	0.50
N San Mateo Dr	III + SLM	W POPLAR AVE	W 5th Ave	0.84
Nevada Ave	III + SLM	Alameda De Las Pulgas	Harvard Rd	0.24
Ocean View Ave	III + SLM	Cottage Grove Ave	Dale Ave	0.14
Otay Ave	III + SLM	Pacific Blvd	San Miguel Wy	0.06
Palm Ave	III + SLM	19th Ave	E 25th Ave	0.49
S B St	III + SLM	Baldwin Ave	9TH AVE	0.54
S Delaware St	III + SLM	E 16th Ave	Concar Dr	0.27
San Miguel Wy	III + SLM	Otay Ave	Orinda Dr	0.31
Saratoga Dr	III + SLM	Hillsdale Blvd	Santa Clara Way	0.12
Virginia Ave	III + SLM	Harvard Rd	Edinburgh St	0.18
W 25th Ave	III + SLM	Hacienda St	S Delaware St	0.35
			Class III + SLM Total Miles	**10.25**

5.1.5. Caltrain Station Area Plans

Bicycle access to the three Caltrain stations is of key importance for San Mateo residents and towards increasing bicycle mode share. The 2008 Caltrain Bicycle Access and Parking Plan addresses some access and parking challenges to the Downtown and Hillsdale Caltrain Stations but does not include the Hayward Park Station nor does it include information on existing or proposed connecting bikeways. This plan expands on that effort highlighting identified existing and planned station access routes and bike parking improvements for all three San Mateo Caltrain Stations.

The City can not directly improve bicycle facilities on Caltrain right-of-way including train capacity, bicycle access through stations and bicycle parking at stations. However, it can improve access to the stations on public roads and recommend improvements on Caltrain property. Recommended improvements for implementation by Caltrain are followed by: "(Caltrain)."

In addition to the station area improvement plans addressed here, future station area planning considerations may include bicycle sharing. Bicycle sharing is an innovative approach to providing bicycles for short-term rental and membership-based use in high density area and to enhance access to major transit. In 2011, the Metropolitan Transportation Commission (MTC) and Bay Area Air Quality Management District (BAAQMD) initiated planning for a bicycle share pilot program for San Francisco and the Caltrain corridor. The City of San Mateo is not currently a part of this pilot, but if the pilot is successful the region may elect to expand to additional stations and geographic areas. Should this program expand to San Mateo Caltrain stations, it will become increasingly important to provide high-quality bicycle infrastructure connecting stations to surrounding land uses.

Downtown San Mateo Caltrain Station Access Plan

Access Descriptions

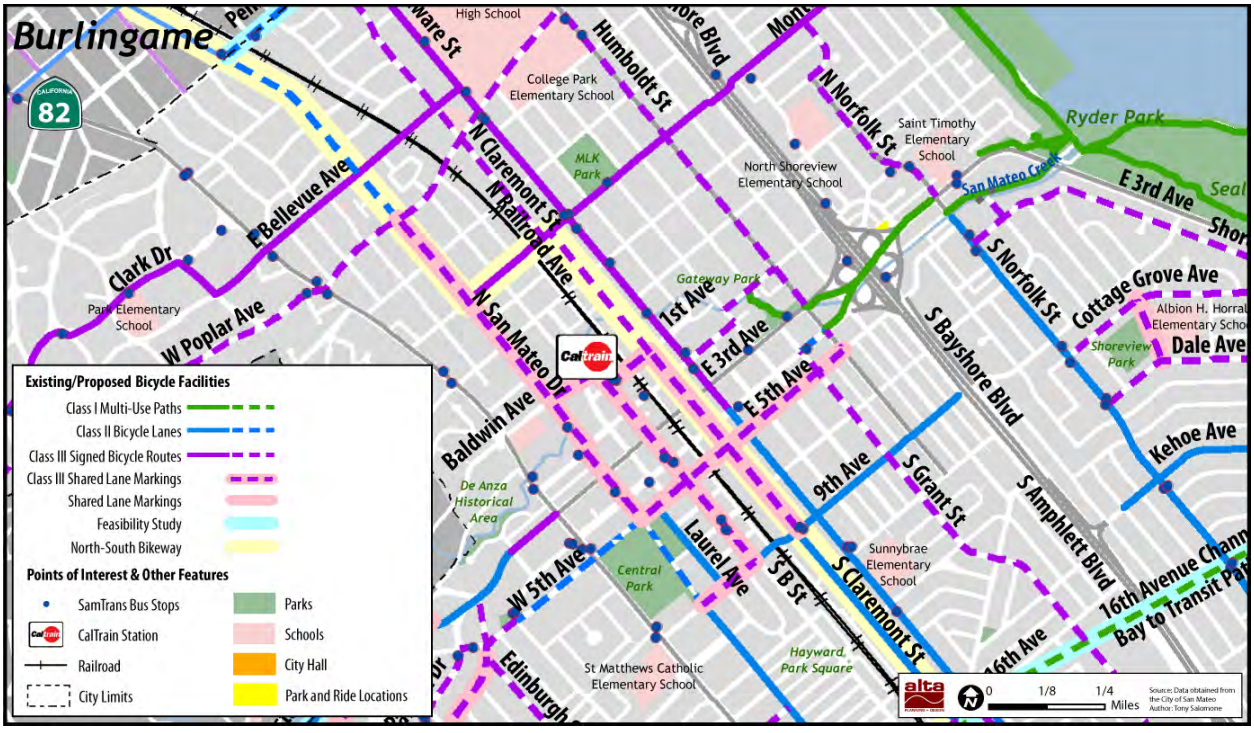
Description:

The Downtown San Mateo Caltrain Station is in the northeast corner of the downtown area adjacent to the heart of downtown and surrounded by multifamily and single family homes. The station is not served with existing bikeways however it does have 24 long-term rental bicycle lockers and bicycle racks that accommodate six bicycles.

Recommendations:

1. Install Class III Bike Routes with Shared Lane Markings on B Street and N Claremont St.
2. Convert/replace 18 existing keyed bicycle lockers with 18 electronic lockers. (Caltrain)
3. Add 18 new electronic lockers. (Caltrain)
4. Relocate existing bicycle racks to the station plaza area for better convenience and visibility. (Caltrain)
5. Consider implementation of a Bike Station or similar facility. (Caltrain)

Access Map



Hayward Park Caltrain Station Access Plan

Access Descriptions

Description:

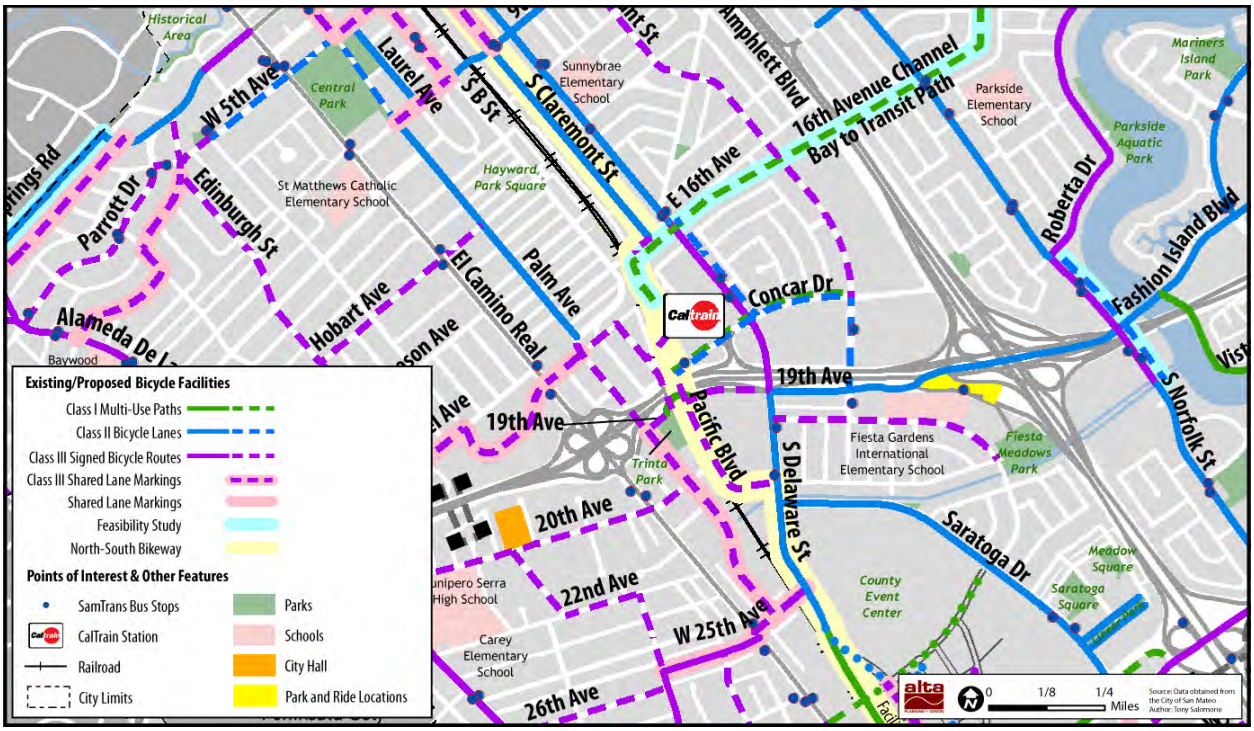
The Hayward Park Caltrain Station is in the physical center of the city. Residential communities lay to the east and west however access is limited by large parcels, limited roadways, and limited rail crossings. Access from the south is restricted by Highway 92. The station is not served with existing bikeways however it does have 12 long-term rental bicycle lockers and no bicycle racks.

Recommendations:

1. Install Class I Multi-Use Path along the north side of Concar Drive between Grant Street and the Station.
2. Install Class I Multi-Use Path along 16th Avenue Channel from Hayward Park Caltrain Station to San Francisco Bay Trail.
3. Install Class II Bike Lanes along the north side of Concar Drive between Grant Street and the Station.
4. Install Class III Bike Route on Pacific Boulevard between Delaware Street and the Station.
5. Install Class III Bike Route on 19th Avenue between Palm Avenue and Leslie Street.
6. Install Class III Bike Route on Leslie Street between 19th Avenue and 17th Avenue.
7. Install Class III Bike Route on 17th Avenue between Palm Avenue and Leslie Street.
8. Install Class III Bike Route on 20th Avenue between Alameda de las Pulgas to Palm Avenue.
9. Install Class III Bike Route with Shared Lane Markings on Bovet Road between Borel Avenue and El Camino Real.
10. Convert/replace 12 existing keyed bicycle lockers with 18 electronic lockers.

This Plan supports the development of new bicycle facilities in 31st Avenue between Edison Street and El Camino Real in conjunction with the redevelopment of that portion of the Hillsdale Shopping center in the case where a configuration can be developed that provides a balance of auto, bicycle and pedestrian circulation on 31st Avenue.

Access Map



Hillsdale Caltrain Station Access Plan

Access Descriptions

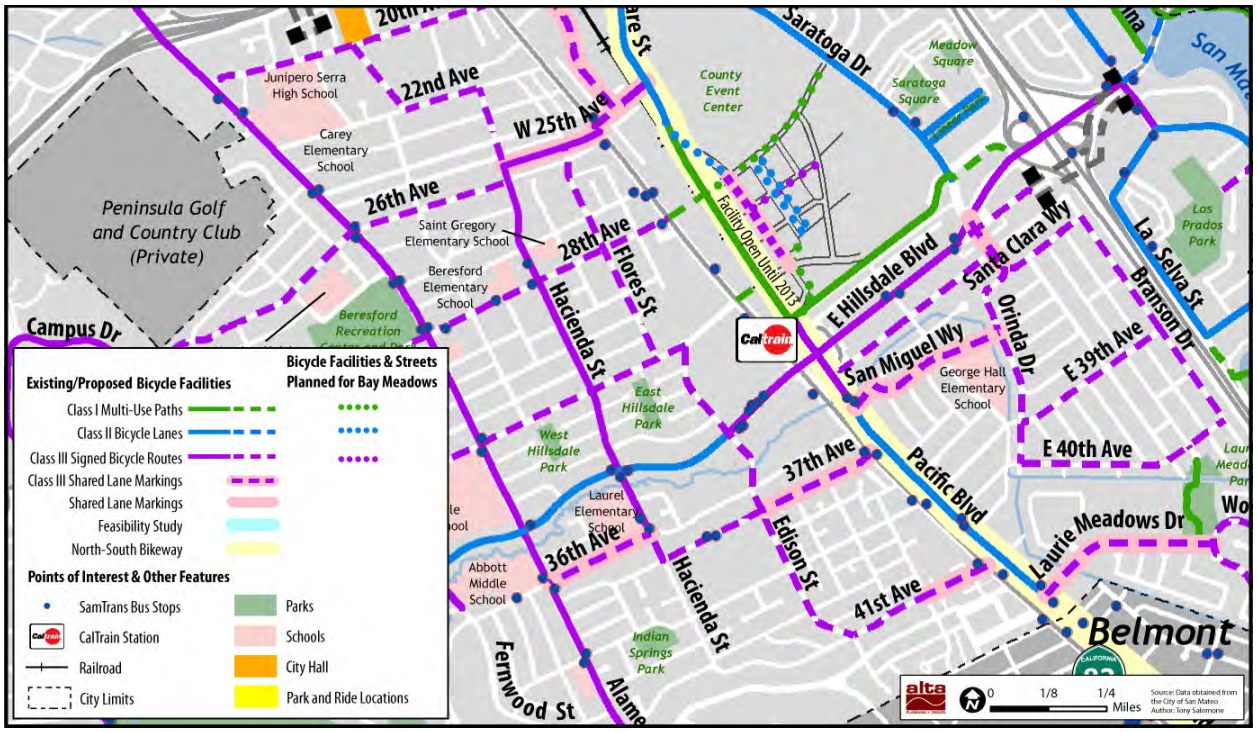
Description:

The Hillsdale San Mateo Caltrain Station is in the southern portion of the city. It is adjacent to the Hillsdale Shopping Center and a planned transit oriented development at the former Bay Meadows site. Residential communities lay to the northwest and south east however major roadways limit bicycle access from these communities. The station is currently served with a Class I path to Saratoga Drive, a temporary paved path that runs north-south along the rail line and Class III Bike Routes from the south on East Hillsdale Boulevard and Pacific Boulevard. Existing bicycle parking includes 22 long-term rental bicycle lockers and 12 bicycle racks.

Recommendations:

1. Implement proposed bikeway network presented in the Bay Meadows Transit Oriented Development Site Plan and Architectural Review documents.
2. Implement proposed bikeways in the Hillsdale Station Area Plan including:
    a) Class I Multi-Use Path on 31st Avenue between El Camino Real and Edison Street
    b) Class I Multi-Use Path on 28th Avenue between El Camino Real and proposed station to the east.
    c) Class III Bike Route on Edison Street between Hillsdale Boulevard and 31st Avenue
    d) Class III Bike Route on Flores Street between 31st Avenue and 25th Avenue
    e) Class III Bike Route on 28th Avenue between El Camino Real and Flores Street.
3. Install Class III Bike Route on 31st Avenue between Edison Street and Monterey Street.
4. Install Class III Bike Route on 28th Avenue between Flores Street and Hacienda Street.
5. Replace 6 existing keyed bicycle lockers with 35 electronic lockers in the west parking lot. (Caltrain)
6. Install 5 bicycle racks in each parking lot near the platform entrance stairways. (Caltrain)
7. Consider installation of bicycle wheel channels on stairways for easier access to and from platforms. (Caltrain)

Access Map



5.1.6. Standard Identification Signage

All bikeways in the City should conform to the signing standards identified in the Caltrans Highway Design Manual and/or the California Manual on Uniform Traffic Control Devices. These documents provide specific guidance on the type and location of signing for bicycle facilities. Appendix A provides specific design guidelines.

5.1.7. Wayfinding Signage

Wayfinding signs direct bicyclists along the bicycle network and to community destinations. These signs may also include "distance to" information, which displays mileage to community destinations.

Recommendations

This Plan recommends installation of CAMUTCD wayfinding signs at decision points and confirmation signs that display destinations and mileage.

Decision signs (**Figure 5-6**) mark the junction of two or more bikeways. Decision signs are comprised of a Bicycle Route Guide Sign (D11-1) and a Destination Supplemental Sign (D1-1b). Decision signs are located on the near-side of intersections. They include destinations and their associated directional arrows, but not distances.

Confirmation signs (**Figure 5-7**) confirm that a cyclist is on a designated bikeway. Each confirmation sign includes a Bicycle Route Guide Sign (D11-1) and a Destination Supplemental Sign (D1-1b). Confirmation signs are located mid-block or on the far-side of intersections. Confirmation signs include destinations and their associated distances, but not directional arrows.

Wayfinding signs may follow CAMUTCD standards, which use additional plaques that display destinations and mileage. The City would mount these plaques under existing bike route and lane signs. Alternatively, the City may decide to design guide signs that exhibit a unique symbol of San Mateo. These signs display community's identity and support of bicyclists.

The City may add a graphic to the left of "Bike Route" that symbolizes the community's unique character.

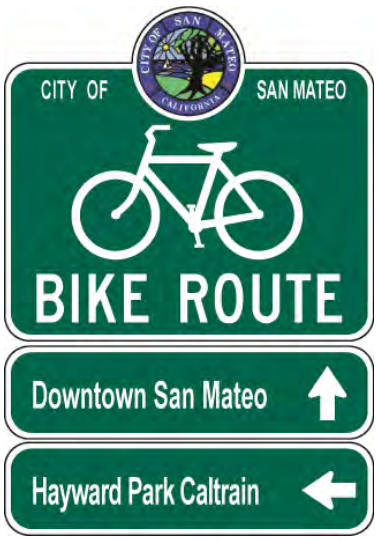


Figure 5-6: Example Decision Wayfinding Sign

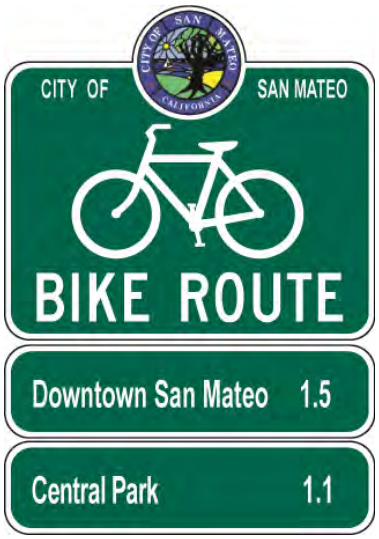


Figure 5-7: Example Confirmation Wayfinding Sign

Sign Placement Principles

The following principles inform the placement of individual signs:

1. A confirmation sign will be located at the beginning of each bikeway.
2. When a bikeway turns, a turn sign will be located in advance of the turn (e.g., near-side of the intersection).
3. When bikeways intersect, a decision sign will be located on the near-side of each intersection approach.
4. To allow adequate notification of left turns, the decision or turn sign should be placed a distance before the intersection based on the number of lanes the bicyclist must merge across in order to make a legal left turn:
   a. Zero lane merge: 25'
   b. One lane merge: 100'
   c. Two lane merge: 200'

   The decision or turn sign should always be located in the block immediately preceding the junction or turn.
5. Confirmation signs will be located at intervals of one-half mile to one mile, based on the density of streets and intersecting bikeways (e.g., Downtown versus the western residential neighborhoods). It is desirable for confirmation signs to be located following decision signs on the far-side of intersections at the first convenient installation location.
6. Confirmation signs should be located immediately following bikeway junctions on streets that do not have bicycle lanes or shared lane markings (e.g., in Downtown San Mateo).

Sign Frequency

In general, there should be four to five wayfinding, two decision, and two confirmation signs for each directional mile of bikeway. The actual number of signs should be determined by the number of decision points along the signed route.

Supported Destinations

Bikeway wayfinding signage can be organized into three categories based on regional significance and travel distance:

1. Primary destinations include adjoining and/or en route jurisdictions and downtown that are located at distances up to five miles.
2. Secondary destinations consist of transit stations and local shopping or residential districts that are located at distances up to two miles.
3. Tertiary destinations include parks, landmarks, colleges, high schools, hospitals, and bikeways/trails.

Table 5-5, **Table 5-6**, and **Table 5-7** list potential primary, secondary and tertiary destinations within and near San Mateo with guidance on how distances are measured. Destination, direction, and distance information will be included on designated bikeways. It is recommended that the City departments work together to identify the signage destinations.

Table 5-5: Primary Destinations: Distances up to Five Miles

Destination	Sign Content	Distance Measured From
Belmont		
Burlingame		
Foster City		
Hillsborough		
Downtown San Mateo		

Table 5-6: Secondary Destinations: Distances up to Two Miles

Destination	Sign Content	Distance Measured From
Caltrain Stations		
Hayward Park		
Hillsdale		
San Mateo		
Districts		
Bridgepointe Shopping Center		
Hillsdale Shopping Center		

Table 5-7: Tertiary Destinations: Distances up to One Mile

Destination	Sign Content	Distance Measured From
Other Destinations		
City Hall		
Hillsdale Library		
Main Library		
Marina Library		
San Mateo County Event Center		
Hospitals		
San Mateo Medical Center		
Mills Health Center		
Colleges		
College of San Mateo		
High Schools		
Aragon High School		
Hillsdale High School		
Junipero Serra High School		
San Mateo High School		
Parks		
Bay Marshes Open Space		
Central Park and Recreation Center		
Coyote Point Recreation Area		
Shoreline Park		

Destination	Sign Content	Distance Measured From
Sugarloaf Mountain		
Trails		
Bay Trail		
Shoreline Path		

Pilot Corridor Wayfinding Signage Plan

To illustrate sign placement and frequency, a sample wayfinding plan for Downtown San Mateo and the Hayward Park Caltrain Station is presented below in **Figure 5-10**. **Figure 5-8** and **Figure 5-9** present sample decision and confirmation signage for one location along this route. Decision signs are placed along bikeways prior to bikeway junctions to direct bicyclists to the preferred route. Confirmation signs are placed along the preferred route following bikeway and non-bikeway junctions. Signs are placed at maximum half-mile intervals.

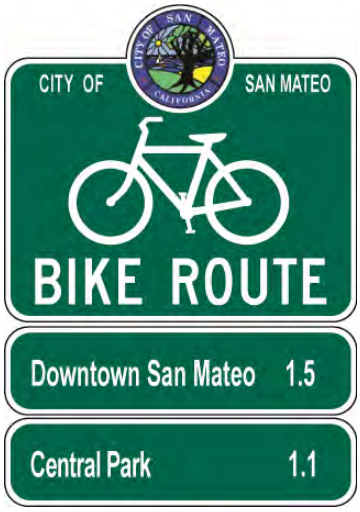


Figure 5-8: Sample Confirmation Sign

(for location along 9th Ave. west of S. Claremont St.)

Kaiser Path Access Wayfinding Project

The new Kaiser facility at the corner of Saratoga Drive and Franklin Parkway provides a multi-use path around the perimeter of the property. Accessing this path can be confusing, especially for bicyclists approaching the path on eastbound Franklin Parkway. This Plan recommends the City install decision signs on all legs of the Saratoga Drive and Franklin Parkway intersection to direct bicyclists continuing eastbound onto the Kaiser path, in addition to directing bicyclists traveling other directions to respective destinations.

3rd Avenue at Humboldt Street Access Wayfinding Project

The north fork of the 3rd Avenue median path brings users to the corner of 3rd Avenue and Humboldt Street. It is not clear to users how to leave the path and enter the roadway and/or bicycle network. This Plan recommends the City install wayfinding signage directing users on how to enter the network and list key destinations.

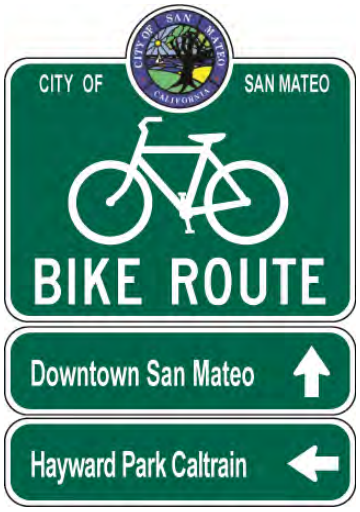


Figure 5-9: Sample Decision Sign

(for location along S. Claremont St. south of 9th Ave.)

Figure 5-10: Sample Wayfinding Signage Plan

5.1.8. Pavement Markings

The following section outlines recommendations for stencils. Appendix A provides specific design guidelines.

Bike Boxes

A bike box is a traffic control device at a signalized intersection designed to improve bicyclists' visibility and in some cases, help position bicyclists for safer travel through the intersection, as shown in **Figure 5-11**. The Bike Box requires motorists to stop a short distance before the crosswalk creating a space for bicyclist between the cars and the crosswalk. Bicycle Boxes increase the visibility and safety of bicyclists by positioning them in clear sight of cars and ahead of turning traffic to avoid 'right-hook' crashes.

While these treatments are not in the California or National MUTCD many communities use this treatment. Bicycle boxes are installed in San Francisco, Long Beach, and West Hollywood as well as in Portland, New York, Cambridge, Austin, Seattle, and Tucson.

Recommendations

This Plan recommends the City consider the installation of a bicycle box on the south-east leg of the 4th Avenue and Humboldt Street intersection. See Section 5.2.1. for further details.

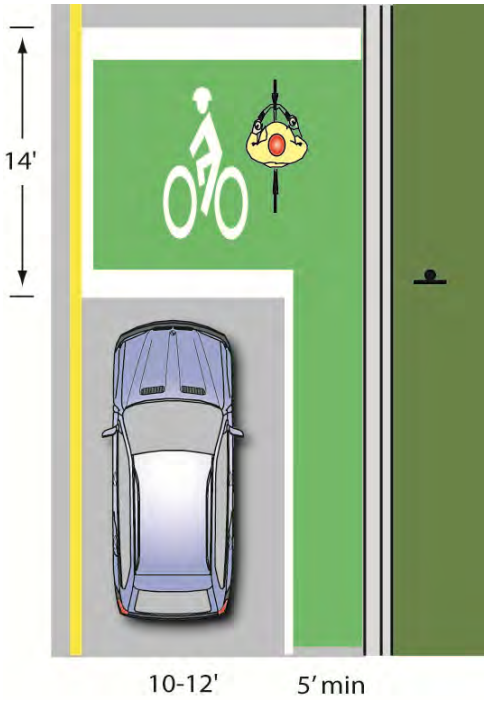


Figure 5-11: Example Bike Box

Green Bike Lanes Through Conflict Areas

Bicyclists are especially vulnerable at complex intersections that do not dedicate space or identify recommended a travel path. Intersections typically account for the majority of reported bicycle-auto crashes. Dedicated right-turn lanes often leave bicyclists unsure of proper positioning. Additionally, at complex intersections bicyclists may not know the recommended path of travel and motorists may not know where to expect bicyclists.

Color applied to bike lanes helps alert roadway users to the presence of bicyclists and clearly assigns right-of-way to cyclists. Motorists are expected to yield to cyclists in these areas.

Many communities have colored bike lanes through conflict areas including San Francisco, Portland, Cambridge, MA and Austin however, this treatment is not part of the California or National MUTCD.

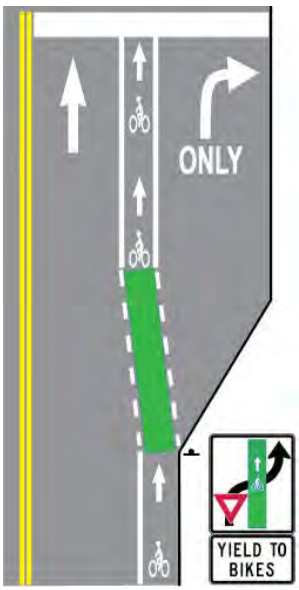


Figure 5-12: Example Green Bike Lane

Recommendations

This Plan recommends the City consider, with a study, a green bike lane through the 4th Avenue and Humboldt Street intersection (see Section 5.2.2) to direct bicyclists through the recommended path of travel. Signage should be installed in advance and at the colored bike lanes to direct motorists.

Raised Pavement Markers

Raised pavement markers used to supplement or replace roadway striping pose problems for bicyclists. The raised pavement markers are used throughout San Mateo because they are cost-effective. However, raised pavement markers discourage motorists from crossing the center of the roadway because driving over them bumps the car in the same way a rumble strip does. The markers may prevent motorists from passing a bicyclist at distance of 3-feet or greater, the recommended passing distance.

Recommendations

This Plan recommends the City consider a policy prohibiting raised pavement markers on Class III Bicycle Routes and Class III Bicycle Routes with Shared Lane Markings roadways with two travel lanes, where those travel lanes are less than 14-feet wide and are on roadways classified as local. This Plan also recommends the City consider removal of raised pavement markers on existing and proposed bikeways that meet the aforementioned criteria. **Table 5-8** lists the existing and proposed bikeways where removal of raised pavement markers is recommended.

Table 5-8: Recommended Bikeways with Raised Pavement Marker Removal

Name	Bikeway Class	From	To	Existing/Proposed
31st Ave	CL III	Monterey St	Flores St	Proposed Bike Route
Cottage Grove Ave	CL III	S Norfolk St	Ocean View Ave	Proposed Bike Route
E 5th Ave	CL III SML	El Camino Real	S Delaware St	Proposed Bike Route with SLM
Edison St	CL III	31st Ave	39th Ave	Proposed Bike Route
N Claremont St	CL III SML	2nd Ave	9th Ave	Proposed Bike Route with SLM
Roberta Dr	CL III	S Norfolk St	Kehoe Ave	Existing Bike Route
S Grant St	CL III	Concar Ave	Birch Ave	Proposed Bike Route
Shoreview Ave	CL III	S Norfolk St	Ocean View Ave	Proposed Bike Route

5.1.9. Bicycle Detection at Traffic Signals

Traffic signals control traffic by either using timers or actuation (detection). Bicycle detection at actuated traffic signals can provide a substantial improvement for bicycle access and mobility. California Assembly Bill 1581 requires all new and replacement actuated traffic signals to detect bicyclists. Caltrans Policy Directive 09-06 clarifies the requirements and permits loop and video detection. Many of San Mateo's actuated intersections detect bicyclists but not all do.

Recommendations

This Plan recommends that the City install bicycle detection at all actuated intersections along existing and proposed bikeways. Additionally, the City should consider installing bicycle detection at all actuated intersections. Where loop detection is used (see **Appendix A** Design Guidelines for details) a pavement stencil of the bicycle detection marking should be used to show bicyclists where to position themselves.

5.1.10. Complete Streets Policy

The California Complete Streets Act requires all cities and counties, when they update their general plan circulation element, to identify how the city or county will provide for routine accommodation of all roadway users including motorists, pedestrians, bicyclists, people with disabilities, seniors and users of public transportation – or to design 'complete streets' for all users. Local governments adopt Complete Streets policies in order to direct transportation planners and engineers to design roadways with all users in mind.

A good Complete Streets Policy:

- Specifies that 'all users' includes pedestrians, bicyclists, transit vehicles and users, and motorists, of all ages and abilities.
- Aims to create a comprehensive, integrated, connected network.
- Recognizes the need for flexibility: that all streets are different and user needs will be balanced.
- Is adoptable by all agencies to cover all roads.
- Applies to both new and retrofit projects, including design, planning, maintenance, and operations, for the entire right-of-way.

- Makes any exceptions specific and sets a clear procedure that requires high-level approval of exceptions.
- Directs the use of the latest and best design standards.
- Directs that Complete Streets solutions fit in with context of the community.
- Establishes performance standards with measurable outcomes.

More information: http://www.completestreets.org/

Recommendation

This Plan recommends the City of San Mateo pursue a Complete Streets policy.

5.1.11. Maintenance Program for Existing Public Access Facilities on Private Property

The City of San Mateo does not have a program in place for addressing maintenance on existing public access bikeway facilities on private property.

Recommendations

This Plan recommends the City develop a maintenance program to ensure public access bicycle facilities on private property are maintained on a regular basis, when and if the need arises.

5.1.12. Bicycle Facility Maintenance

The Public Works Pavement Management Program prioritizes roadways for repaving, surfacing, and striping. Uneven pavement can present both physical hazards and distractions to cyclists.

Recommendation

This Plan recommends the City include the presence of bikeways in the criteria used to determine repaving.

5.1.13. San Mateo Vehicles and Traffic Code 11.56.100 Revision

Current San Mateo Vehicles and Traffic Code 11.56.100 does not conform with California Vehicle Code. The code states:

> **11.56.100 RIDING -- ON ROADWAY OR SIDEWALK.** Every person riding or operating a bicycle on any public street, alley or public place in the city shall keep to the extreme right of the traffic lane, and it is unlawful for two or more bicycles to travel abreast. No person shall ride or operate a bicycle on the sidewalk in any of the business districts of the city, and no bicycle shall be operated on the sidewalks in any of the residential districts when and where the sidewalk is being used by pedestrians. (Prior code § 76.10).

Recommendation

The Plan recommends the City revise this section to conform with California Vehicle Code Section 21202 as follows:

> (a) Any person operating a bicycle upon a roadway at a speed less than the normal speed of traffic moving in the same direction at that time shall ride as close as practicable to the right-hand curb or edge of the roadway except under any of the following situations:

(1) When overtaking and passing a vehicle proceeding in the same direction.

(2) When preparing for a left turn at an intersection or into a private road or driveway.

(3) When reasonably necessary to avoid conditions (including, but not limited to, fixed or moving objects, vehicles, bicycles, pedestrians, animals, surface hazards, or substandard width lanes) that make it unsafe to continue along the right-hand curb or edge, subject to the provisions of Section 21656. For purposes of this section, a "substandard width lane" is a lane that is too narrow for a bicycle and a vehicle to travel safely side by side within the lane.

(4) When approaching a place where a right turn is authorized.

(b) Any person operating a bicycle upon a roadway of a highway, which highway carries traffic in one direction only and has two or more marked traffic lanes, may ride as near the left-hand curb or edge of that roadway as practicable.

(c) It is unlawful for any person to ride or operate a bicycle, motor driven cycle or motor scooter upon any sidewalk or upon any overhead pedestrian crossing over any street, roadway, state highway or state freeway that is signed for pedestrian use only within the city.

5.1.14. San Mateo Zoning Code 27.64.080 Revision

Current San Mateo Zoning Code 27.64.080 restricts the use of residential off-street parking and garage facilities to storage of automobiles; however residential off-street parking and garage facilities are logical locations for bicycle parking.

Recommendations

The Plan recommends the City revise this section as follows:

27.64.080 USE OF PARKING AND GARAGE FACILITIES. Off-street parking and garage facilities accessory to residential use and developed in any residential district in accordance with the requirements of Sections 27.64.080 through 27.64.150 shall be used solely for the storage of bicycles in assigned parking spaces and passenger automobiles owned by occupants of the dwelling structures to which such facilities are accessory or by guests of said occupants. Under no circumstances shall required parking and garage facilities accessory to residential structures be used for the storage of commercial vehicles or for the parking of automobiles belonging to the employees, owners, tenants, visitors or customers of business or manufacturing establishments.

5.2. Spot Improvements

Spot improvements include location specific engineering improvements. These engineering improvements are designed to address specific locations where the community reported a network barrier, it is a location with a high number of bicycle related collisions, or it is a location with a number of points of conflict. The following sections describe spot improvements key to improving bicycle access throughout the City.

5.2.1. 4th Avenue and Humboldt Street Improvements

Eastbound access to the 3rd Avenue Median Path from Humboldt Street is problematic because Humboldt Street has a double right turn lane and bicyclists must position themselves to travel to the north side of 4th Avenue to access the median path.

Recommendations

Table 5-9 below outlines the issues and recommended improvements.

Table 5-9: 4th Street and Humboldt Avenue Improvements

Issue	Recommended Improvement
Northbound Humboldt Street at 4th Avenue has double right turn lanes where bicyclist positioning is not clear	Install a bike box at the intersection to direct bicyclists to the proper positioning for travel on the left side of 4th Avenue. The City may consider a study to prohibit right turns on red to further protect bicyclists.
Access to the 3rd Avenue Median Path from 4th Avenue between Humboldt and the 3rd Avenue Median Path requires bicyclists to travel on the left side of the roadway. This requires explanation to bicyclists that travel through the intersection should be guided towards the left side of 4th Avenue.	Install a green bike lane through the intersection directing bicyclists to the recommended path of travel to the left side of 4th Avenue.
The 4th Avenue roadway configuration requires bicyclists take the left travel lane. This positioning is challenging because vehicle speeds are high, motorists do not expect bicyclists to be on the left side of the roadway and nor do bicyclists expect that left side positioning is required.	Install a green bike lane on 4th Avenue east to the 3rd Avenue Median Path entrance direction bicyclists of roadway placement and informing motorists to expect bicyclists.
Bicyclists do not have a user friendly access to path.	Install angled ramp from 4th Avenue to the 3rd Avenue Median Path to facilitate bicyclist access to the path.

Figure 5-13: Proposed 4th Avenue and Humboldt Street Improvements

5.2.2. 25th Avenue at S Delaware Street Improvements

Eastbound access to S. Delaware Street from 25th Avenue is problematic because 25th Avenue has a dedicated right turn lane, an optional right/left turn lane and a left turn lane. This configuration does not direct bicyclists to proper lane positioning and also does not inform drivers to expect bicyclists in the optional right/left turn lane.

In addition, bicyclists approaching this intersection on southbound S. Delaware Street and turning right must merge over two right turn only lanes. This lane configuration relies on bicyclists to "take the lane" and does not warn motorists of this movement.

Recommendations

The recommended improvement is to install a bike box across the dedicated right turn and optional right/left turn lanes to direct bicyclists on 25th Avenue to the proper positioning for turning left. A green bike lane through the intersection directing bicyclists to the recommended path of travel is also recommended. This improvement is similar to the 4th Avenue and Humboldt Street improvement project. A bike box is also recommended on southbound S. Delaware Street to warn motorists of merging bicyclists turning right.

5.2.3. 19th Avenue and US 101 Undercrossing Improvements

The existing bike lane between on 19th Avenue between Norfolk Street and Delaware presents a number of challenges to bicyclists including narrow bike lanes, unclear stenciling and signage, and travel across freeway ramps.

Recommendations

The recommended improvement for this bikeway segment is to widen the bike lane at pinch spots, stencil and sign the bike lane at frequent intervals to clearly identify the lane for both bicyclists and motorists and to install green bike lanes through the freeway ramps. Green bike lanes as described in Section 5.1.6, alert roadway users to the presence of bicyclists and clearly assigns right-of-way. Motorists are expected to yield to cyclists in these areas. Similar treatments have been used in San Francisco, Portland, Cambridge, Austin and are currently under study in San José.

5.2.4. Monte Diablo and US 101 Overcrossing Improvements

The existing Monte Diablo crossing over US 101 does not provide a transition from the street to the overcrossing for bicyclists.

Recommendations

The recommended improvement for this barrier is the installation of curb ramps at both overcrossing entrances. This will not only facilitate access for bicyclists, it will also improve pedestrian access.

5.2.5. Poinsettia Avenue and Pacific Boulevard Curb Cut Connection

The Poinsettia Avenue Class III Bike Route is an important bikeway alternative to Hillsdale Boulevard; however, the existing curb between Poinsettia Avenue and Pacific Boulevard does not allow bicyclists to pass easily between the roadways.

Recommendation

This Plan recommends the City construct a curb cut so bicyclists can access Poinsettia Avenue as an alternate route to Hillsdale Boulevard.

5.2.6. 31st Avenue from El Camino Real to Edison 'Street Share the Road' Signs

The existing right of way on 31st Avenue between Edison and El Camino Real is too narrow to fit a bike path or bike lane however bicyclists use this roadway. A bike route is not recommended because the existing high traffic volumes and high number of turning movements will not serve bicyclists of all skill levels.

Recommendation

If feasible, support the development of new bicycle facilities on 31st Avenue, in conjunction with redevelopment of that portion of the Hillsdale Shopping Center. The latter would only be considered feasible if a configuration can be developed that balances auto, bicycle, and pedestrian circulation on 31st Avenue.

5.2.7. 5th Avenue from El Camino Real to San Mateo Drive Road Diet

The existing roadway configuration on 5th Avenue between El Camino Real and San Mateo Drive includes three travel lanes: two traveling southwest and one northeast. This three lane configuration does not allow for inclusion of bicycle facilities. The City has conducted a traffic analysis regarding travel lane reduction to include bicycle lanes. The analysis revealed the City's acceptable level of service will be maintained with a lane reduction.

Recommendation

This Plan recommends the City conduct public outreach for the removal of one travel lane and the inclusion of bicycle lanes in both directions. The purpose of this project is to provide direct bicycle access across the City and to Central Park.

5.3. Studies

The section outlines studies intended to investigate the feasibility of proposed concepts or to further investigate opportunities for improvements.

5.3.1. Bay to Transit Path Feasibility Study

The Bay to Transit Path project envisions development of a paved two-mile pedestrian and bicycle pathway along the existing city-owned creek drainage channel from the Hayward Park Caltrain Station to the regional San Francisco Bay Trail.

Recommendation

This Plan recommends the City conduct a feasibility study in order to address right-of-way, site engineering, safety, security, privacy, delivery of emergency services, maintenance and operations, community interests and needs, and other unknowns associated with the development of a trail in this location.

5.3.2. 3rd Avenue Median Path Intersections Improvement Study

The 3rd Avenue Median Path entrance at Norfolk Street had the highest number of bicycle related collisions in the past five years (2003-2008). The path entrance is in the center of the roadway and requires bicyclists and pedestrians to awkwardly enter or leave the path using a number of turning movements.

At the west end of the path, it is equally confusing for bicyclists to navigate the intersection due to the confluence of the one-way 3rd Avenue and Highway 101 off ramp.

Recommendation

This Plan recommends the City initiate a study to improve access to the path entrances. Possible improvements may include signage and striping. Similar treatments are used where median paths end at an intersection including in Brooklyn, New York (**Figure 5-14**).

Figure 5-14: Example Median Path Striping

5.3.3. Franklin Parkway at Saratoga Drive Improvement Study

Franklin Parkway is an important bikeway connection. It serves as an alternative bikeway to the heavily traveled Hillsdale Boulevard and connects users to both the Hillsdale Caltrain Station and the proposed Hillsdale Bicycle and Pedestrian Overcrossing of US 101. It also connects residential areas from the east to retail and transit in the west. There are two challenges to this area.

The first challenge is a bikeway network gap between the existing Class I facility on Franklin Parkway near the Police Station and the Class I facility on the Kaiser site east of Saratoga Drive. The existing Class I on Franklin terminates west of the San Mateo Police Station and bicyclists are forced to ride on the sidewalk or in the street to reach the Franklin Parkway/Saratoga Drive intersection. The eastern approach to the Franklin/Saratoga intersection includes two dedicated right turn lanes, one through lane, and one left turn lane. This configuration is challenging for eastbound bicyclists to comfortably maneuver.

The second challenge is the uncontrolled crossing at the Franklin Parkway/Saratoga Drive intersection. Crosswalks exist across all approaches to the intersection except for the southern crossing that would link the Class I facilities on the east and west sides of Saratoga. This poses a challenge for bicyclists to cross up to six travel lanes.

Recommendation

This Plan recommends a study to address two issues: First, to provide the bicycle network gap closure between the two existing Class I facilities by constructing a Class I Bicycle Path along the frontage of the San Mateo Police Station site, and secondly to study crossing improvements at Saratoga Drive. Extension of the Class I bikeway will provide bicyclists dedicated off-street space and provide a connected Class I facility between the Hillsdale Caltrain Station and the Los Prados neighborhood. This study will include coordination with the San Mateo Police Department and the City's Parks and Recreation Department who maintains the landscaping along the property frontage.

This Plan also recommends the City conduct a feasibility study to improve the crossing environment for bicyclists. A potential study may include a signal warrant study. A split east-west signal phase on Franklin Parkway may be a potential option should the study find the intersection Level of Service (LOS) meets City standards.

5.3.4. Crystal Springs Road Bike Lane Feasibility Study

The existing bike lane on Crystal Springs Road is one-way, eastbound and downhill. There is no bike lane westbound in the uphill direction.

Recommendation

This Plan recommends the City work with the City of Hillsborough to conduct a study analyzing the feasibility of bikes lanes on the westbound, uphill direction of Crystal Springs Road Alameda De Las Pulgas and 3rd Avenue, and shared lane markings eastbound. The project may also include a bike box on Crystal Springs at Alameda De Las Pulgas.

5.3.5. Norfolk Street Bike Lane Feasibility Study

The existing lane configuration on Norfolk Street between Roberta Drive and the channel south of Fashion Island Boulevard does not include bike lanes.

Recommendation

This Plan recommends the City conduct a study to analyze the feasibility of installing bike lanes on this segment of Norfolk Street. Bike lanes will increase access to many restaurants and shopping outlets on Norfolk Street.

5.3.6. Peninsula Avenue Bike Lane Feasibility Study

The existing lane configuration on Peninsula Avenue does not include bike lanes. However, Peninsula Avenue is a major connection that runs on the San Mateo/Burlingame city limits.

Recommendation

This Plan recommends the City work with the City of Burlingame to complete a feasibility study of bike lanes on Peninsula Avenue.

5.3.7. Highway 92 Crossing Study

Highway 92 is a barrier to bicycle travel between El Camino Real and Alameda de las Pulgas and prevents the implementation of a north-south route west of El Camino Real.

Recommendation

This Plan recommends the City conduct a feasibility study to determine the opportunities and challenges of a crossing near Edinburgh St.

5.3.8. Bicycle Share Program

Bicycle sharing programs like those in Boston, Washington D.C., Montreal, and Paris are popular and successful programs that provide bicycles on-demand for fast and easy transportation. Bicycles are located at

a bicycle share station where members can 'check-out' a bike for use. The system is similar to popular car-share programs.

Recommendation

This Plan recommends the City consider investigating the feasibility of a bike share program.

5.4. Bicycle Parking

Bicycle parking can range from a simple bicycle rack to storage in a bicycle locker or cage that protects against weather, vandalism and theft. The majority of San Mateo's bicycle parking facilities are located at community centers, large retail businesses and at the three Caltrain stations. Many of these existing facilities do not meet current bicycle rack standards. Across the City, bicyclists visiting community retail districts, places of employment and schools do not have available bicycle parking and instead many lock their bikes to street fixtures such as parking meters, trees, telephone poles, and sign poles. Use of these street fixtures is problematic for a variety of reasons including pedestrian accessibility and stability of the locked bicycle. Installation of bicycle parking will not only prevent bicyclists from locking to street fixtures, attractive and well placed bicycle parking can encourage bicycling activity.

Bicycle parking is an essential element of any bikeway network and this section presents recommended types of bicycle parking, citywide bicycle parking recommendations as well as specific locations in San Mateo's downtown. Following the site specific bike parking recommendations are recommended rates of bicycle parking for new development projects.

5.4.1. Recommended Types of Bicycle Parking

There are two classifications of bicycle parking and there are also standards regarding the acceptable types of bike parking. Bicycle parking can be categorized into short-term and long-term parking. Bicycle racks are the preferred device for short-term bike parking. These racks serve people who leave their bicycles for relatively short periods of time, typically for shopping or errands, eating or recreation. Bicycle racks provide a high level of convenience and moderate level of security. Long-term bike parking includes bike lockers and bike stations and serve people who intend to leave their bicycles for longer periods of time and are typically found at transit stations, multifamily residential buildings and commercial buildings. These facilities provide a high level of security but are less convenient than bicycle racks.

Recommendation

This Plan recommends the City and private developers only install bicycle parking that meets the following criteria. Short-term parking should support the bicycle at two points and have a design that is intuitive to use. A "U-rack" is an example of a standard and accepted bicycle rack and is the recommended standard for the City of San Mateo, while "wave racks" and "wheelbender" are not acceptable because they do not provide two points of contact, among other issues. Long-term bike parking should provide some weather protection and greater security than provide by bicycle racks. Bicycle lockers (electronic) and bike cages are examples of acceptable types of long-term bicycle parking.

5.4.2. Citywide Bicycle Parking Recommendations

Through the public workshop and input from the Plan website, community members expressed desire for bicycle parking at community centers and additional parking at transit centers. Specific locations for

recommended citywide bicycle racks are listed below in **Table 5-10**. A detailed review of civic facilities and recommended bicycle parking is presented in Appendix B.

Recommendation

In addition to bicycle rack installation, this Plan recommends the City provide a map of bicycle parking locations on its bicycling resource website. The website currently provides bicycle parking locations in a list format however, a map will give the community a geographic reference, help identify parking near locations not listed, and will be a greater community resource.

The City is also encouraged to work with commercial property owners to install bicycle parking for patrons. Ideal locations for bicycle parking include grocery stores and retail shopping centers.

Table 5-10: Recommended Citywide Bicycle Parking Locations

Category	Location	Details
Retail Districts	Hillsdale Shopping Center	Install bicycle racks (at minimum 4 racks)
	Bridgepointe Shopping Center	Install bicycle racks (at minimum 4 racks)
	Retail districts along 25th, 37th, and 41st Avenues, Norfolk Street and Hillsdale Boulevard.	Install bicycle racks (at minimum 4 racks) in each district
Caltrain Stations	Downtown San Mateo	Replace 18 existing keyed bicycle lockers with 18 electronic lockers Add 18 new electronic lockers Relocated existing bicycle racks to the station plaza area for better convenience and visibility. Consider implementation of a Bike Station or similar facility
	Hayward Park	Install 18 electronic bicycle lockers
	Hillsdale	*West Parking Lot:* Replace 6 existing keyed bicycle lockers with 8 electronic lockers on a level concrete pad. Keep remaining 2 keyed lockers. *East Parking Lot*: Install 20 electronic and 2 keyed bicycle lockers. *Platform Entrances:* Install 4 bicycle racks in each parking lot near the platform entrance stairways

It is also recommended that the City replace, as funding allows, existing bicycle racks that do not meet City standards. These identified locations are presented in **Appendix B.**

5.4.3. Downtown Bicycle Parking Recommendations

Bicycle parking downtown is important to San Mateo for a number of reasons. In order to achieve this Plan's goal and the Sustainable Initiatives strategy to increase bicycle and pedestrian mode share of trips less than one mile to 30 percent, bicycle parking will be necessary. Downtown San Mateo is community destination with many visitors, including bicyclists, but has limited available right-of-way for bicycle parking. In addition

to limited right-of-way, the City is in the process of removing parking meters to which bicyclists often lock when there are no bicycle racks.

Recommendations

Specific recommended bicycle parking locations for San Mateo's downtown are shown in **Figure 5-15**. The locations were chosen with consideration for available space free of fixtures and utilities as well as anticipated demand. **Appendix B** of this Plan includes a detailed downtown bicycle parking plan

Figure 5-15: Recommended Downtown Bicycle Parking Locations

5.4.4. Bicycle Parking Requirements for Development

Bicycle parking requirements for development ensures bicyclists have somewhere secure and convenient to park their bicycles at newly constructed buildings. Though this Plan identifies many specific locations for bicycle parking in the public right-of-way, it does not address the need for bicycle parking generated by new buildings. The City's current bicycle parking requirements do not provide clear guidance to developers in terms of design and location and the rates of required parking do not address the complexities of San Mateo's environment. As automobile parking is a key element of a transportation network, bicycle parking is a key element of a bicycle network.

The City of San Mateo often requires bicycle parking as part of large development projects that seek a site plan and architectural review. However, the City seeks to revise current bicycle parking requirements to ensure the type and rate of required bicycle parking meets the City's needs and to provide developers a clear understanding of requirements at project initiation.

Appendix B presents recommended rates of required bicycle parking. The recommended rates are based on the Association of Pedestrian and Bicycle Professional's "Bicycle Parking Guidelines" (2nd Edition), successful bicycle parking requirements in other Bay Area cities, and best practices.

6. Proposed Programmatic Improvements

Of the Five Es of bicycle planning, four are related to programs: encouragement, education, enforcement and evaluation. Programs will complement engineering improvements such as bike paths, lanes and routes by giving San Mateo residents the tools they need to safely and confidently use the bikeway network. All of the Five Es work together to enhance the bicycling experience in San Mateo. The following section presents recommended programs to support the vision and goals of this plan. The recommendations include continuation of those the City currently administers and those identified by the community, as well additional programs that have proven to be popular and effective in other bicycle-friendly cities.

6.1. Encouragement

The following programs are designed to encourage community members to ride bicycles. Through the public outreach process, community members identified encouragement programs as a way to increase bicycling mode share and reach the goals outlined in this plan as well as in the Sustainable Initiatives Plan. Community recommended programs include car-free streets and employer-based programs.

6.1.1. San Mateo Acting Responsibly Together

SMART is a citywide public outreach campaign encouraging businesses, schools and individuals to engage in behavior that reduces their carbon footprint. The City provides a website where participants can pledge to reduce their carbon footprint, calculate that reduction, and print flyers encouraging others to do so. Interested parties can request a SMART speaker to present about climate change and sustainable lifestyles that include bicycling as an integral transportation mode.

Recommendation

This Plan recommends the SMART website include information about bicycling as a way to reduce San Mateo's carbon footprint.

6.1.2. Safe Routes to School Program

Helping children walk and bicycle to school is good for children's health and can reduce congestion, traffic dangers and air pollution caused by parents driving children to school. Safe Routes to School programs use a "5 Es" approach using Engineering, Education, Enforcement, Encouragement, and Evaluation strategies to improve safety and encourage children walking and biking to school. The programs are usually run by a coalition of city government, school and school district officials, and teachers, parents, students, and neighbors.

Safe Routes to School programs increase the number of children walking and biking to school and improve traffic safety near schools

A San Mateo Safe Routes to School program will be a key element to implementing this Plan as well as the goals of the Sustainability Initiatives Plan. **Appendix C** provides a

Safe Routes to School Toolkit that gives an overview of the tools and strategies to improve safety and accessibility.

Recommendation

This Plan recommends the City pursue grant funding to develop and implement a Safe Routes to School program.

Resource Guide: National Center for Safe Routes to School: http://www.saferoutesinfo.org/

6.1.3. Bicycle Helmet Giveaway

In 2009, the San Mateo Police Department gave away bicycle helmets to children at schools, a program funded by a California Office of Traffic Safety (OTS) grant. Police officers also gave helmets to children observed bicycling without wearing helmets. In order to receive the helmet, the children's parents were required to return a "citation" issued by the officer.

The Police Activities League (PAL), a non-profit organization within the Police Department, continues to give away helmets from the same OTS grant. PAL's intention is to reinforce laws requiring safe bicycle use and promote trust between police officers and children.

Recommendation

This Plan recommends the City coordinate with and support the PAL in the Bicycle Helmet Giveaway.

6.1.4. Bike to Work Day

Bike to Work Day is a region wide event promoting bicycling to work and is typically the third Thursday in May. The Bay Area's traffic management organization, 511.org, organizes Bike to Work events throughout the Bay Area, including San Mateo. One of the most popular events are energizer stations, where volunteers set up a table with promotional items, coffee and snacks along popular bicycle commuting routes during the morning and afternoon commute hours.

Businesses and organizations located within the City played host to variety of Bike to Work events in recent years. In 2008, the private building company with its headquarters in San Mateo, Webcor kicked off Bike to Work week with an address discussing how to improve bicycling in San Mateo by its CEO.

Recommendation

This Plan recommends the City consider sponsoring a Bike to Work Day event. The event can include a Bike to Work Day celebration downtown or at a Caltrain Station with Pedal Pools (group rides), raffles and prizes, and speeches from Council Members or the Mayor. The type of events held can be developed through community input and the Public Works Commission.

6.1.5. Employer-Based Encouragment Programs

The San Mateo community identified employer-based bicycle encouragement programs. Though the City cannot host these programs, it can work with or provide information to employers about commuting by bicycle. Popular employer-based encouragement programs include hosting a bicycle user group to share information about how to bicycle to work and to connect experienced bicyclists with novice bicyclists. Employers can host bicycle classes (see Section 6.2.3) and participate in Bike to Work day.

Recommendation

This Plan recommends the City collaborate with employers to implement bicycle related programs.

6.1.6. Launch Party for New Bikeways

When a new bikeway is built, some residents will become aware of it and use it, while others may not realize that they have improved bikeway options available. A launch party/campaign is a good way to inform residents about a new bikeway and can also be an opportunity to share other bicycling materials (such as maps and brochures) and answer resident questions about bicycling. It can also be a media-friendly event, with elected official appearances, ribbon cuttings, and a press release that includes information about the new facility, other existing and future facilities, and any timely information about bicycling.

Sample Program: When a new bikeway is built, the City of Vancouver throws a neighborhood party to celebrate. Cake, t-shirts, media and festivities are provided and all neighbors are invited as well as city workers (engineers, construction staff, planners) who participated in project planning and implementation.

Recommendation

This Plan recommends the City host a launch party for all high priority projects recommended in this plan as well inform the public of all new bikeways through its bicycling website.

Closing streets for a car-free community event creates a temporary park for walking, cycling, skating, dancing, etc.

6.1.7. Car-Free Street Events

Car-free street events have many names: Sunday Parkways, Ciclovias, Summer Streets, and Sunday Streets. Sunday Parkways are periodic street closures (usually on Sundays) that create a temporary park that is open to the public for walking, bicycling, dancing, hula hooping, roller-skating, etc. They have been very successful internationally and are rapidly becoming popular in the United States. Car-free street events promote health by creating a safe and attractive space for physical activity and social contact, and are cost-effective compared to the cost of building new parks for the same purpose. Events can be weekly events or one-time occasions, and are generally very popular and well attended.

The community identified interest in a San Mateo car-free street event. One example is the San Mateo County's Streets Alive event, in which the City participated. This Plan recommends the City consider continued participation in Streets Alive. Specific locations for this and other events can be developed through community outreach and support.

Sample Programs:

- San Francisco Sunday Streets: http://sundaystreetssf.com/
- Oakland's Oaklavia http://oaklavia.org/media
- New York City Summer Streets: http://www.nyc.gov/html/dot/summerstreets/html/home/home.shtml
- Portland Sunday Parkways: http://portlandsundayparkways.org/

6.1.8. Bicycle Friendly Community

The League of American Bicyclists (LAB) recognizes communities that improve bicycling conditions through education, encouragement, enforcement and evaluation programs. Communities can achieve platinum, gold, silver, or bronze status or an honorary mention. Bicycle friendliness can indicate that a community is healthy and vibrant. Like good schools and attractive downtowns, bicycle friendliness can increase property values, spur business growth and increase tourism.

Recommendation

This Plan recommends the City to pursue Bicycle Friendly Community status. This Plan is a valuable resource for completing the LAB application efficiently. The following link provides detailed information about the application steps.

http://www.bikeleague.org/programs/bicyclefriendlyamerica/communities/

6.2. Education

Education programs are designed to improve safety and awareness. The needs analysis including community input and collision analysis for this Plan identified a need for education programs. Community members identified education classes as a way to reduce conflict and encourage more bicycling. Bicycle related collision data shows that in addition to engineering improvements, education about riding on the right side of the road and how to comfortably ride in traffic may reduce bicycle related collisions. The following outlines recommended education programs.

6.2.1. Bicycle Resource Website

The City of San Mateo hosts a bicycle resource website. To visit the website follow the links from the City's home page: Living › Getting Around › Bike Information, or try the link below. This website provides a bicycle map of the City, bicycle parking locations and information about the Bicycle and Pedestrian Committee and local advocacy groups.

The City dedicates a page of its website to bicycle information.

Recommended improvements to the resource website include:

- Dynamic bikeway and bike parking map
- Advertise all bikeways after implementation
- Bicycling tips including information on how to:
    - Carry items using baskets and panniers
    - Properly lock a bicycle
    - Ride in the rain with help from fenders and rain gear
    - Tips can also include information on the importance of bicycle lights and reflectors.
- Bikeway maintenance and repair phone number
- Driver speed feedback sign request forms
- Bicycle events calendar

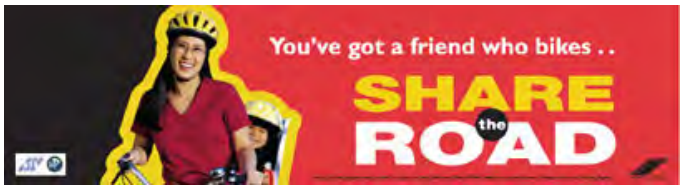
- Education and skill class information

This Plan also recommends the resource website provide information in Spanish and other languages.

http://www.cityofsanmateo.org/index.aspx?nid=206

6.2.2. Bicycle Safety Campaign

A marketing campaign that highlights bicyclist and pedestrian safety is an important part of creating awareness of bicycling and walking in San Mateo. This type of high-profile campaign is an effective way to reach the public, highlight bicycling and walking as viable forms of transportation, and reinforce safety for all road users.



Bicycle safety campaigns increase the general public's awareness of bicycling and can be used to promote safe roads by and for all users.

A well-produced safety campaign will be memorable and effective. One good example is the Sonoma County Transit "You've got a friend who bikes!" campaign. It combines compelling ads with an easy-to-use website focused at motorists, pedestrians, and bicyclists. This type of campaign is particularly effective when kicked off in conjunction with other bicycling/walking events or back to school in the fall. The safety and awareness messages should be displayed near high-traffic corridors (e.g., on billboards), printed in local publications, broadcast as radio and/or television ads and be available in Spanish and other languages.

Recommendation

This Plan recommends the City pursue grant funding to implement a bicycle safety campaign.

Sample program: Sonoma County (CA) Transit: http://www.sctransit.com/bikesafe/bikes.htm

6.2.3. Employer Hosted Bicycling Skills Classes

Most cyclists do not receive any training on safe cycling practices, the rules of the road and bicycle handling skills. Bicycling skills classes can address this education gap. The Peninsula Traffic Congestion Relief Alliance offers a bicycle skills course for employers to host, however no employers in San Mateo have taken advantage of this free program. Employer sponsored encouragement programs were identified by the community through the survey and public workshop as an identified need.

Recommendation

This Plan recommends the City highlight this free course on its bicycling and SMART website. The City may also encourage the Chamber of Commerce to advertise the classes and that information regarding the classes is distributed to the top 10 largest employers.

6.2.4. Adult Bicycling Skills Classes

In addition to employer hosted classes, community members can also particpate in private bicycling skills classes. The most common program is the League of American Bicyclists courses (including Road I, Road II, and Commuting), taught by League Certified Instructors. Courses cover bicycle safety checks, fixing a flat, on-

bike skills, crash avoidance techniques, and traffic negotiation. Courses are already available in other San Mateo County cities and are often hosted by the Silicon Valley Bicycle Coalition.

Adult bicycle skills courses can ensure that bicyclists have the information and skills they need to avoid hazards and follow the law.

Recommendation

This Plan recommends San Mateo invite the Silicon Valley Bicycle Coalition or a similar group to host adult bicycling skills classes in the city on a bi-annual basis, at minimum. The City may also highlight local or nearby courses on its bicycling and SMART website. The City should advertise the courses in multiple languages and use responses to the advertisement to determine the need for multi-lingual instruction.

Sample programs:

- League of American Bicyclists
  http://bikeleague.org/programs/education/courses.php

6.2.5. Senior Bicycle Education Classes

Senior bicycle education programs help older adults either re-learn bicycling or learn how to bicycle with less agility. Seniors who are no longer able to drive may still be able to bicycle shorter distances on either a regular two wheeled bicycle or an adult tricycle. The Portland Parks and Recreation Department hosts a free senior tricycle program that provides tricycles to senior centers and takes folks on guided rides.

Recommendation

This Plan recommends the City collaborate with interested agencies, heath departments and senior centers to evaluate interest and implement multi-lingual senior bicycle education classes.

Sample Program:

- Portland Senior Tricycle Program
  http://www.portlandonline.com/transportation/index.cfm?c=34772&a=155167

6.2.6. Youth Bicycle Safety Education Classes

Typical school-based bicycle education programs educate students about the rules of the road, proper use of bicycle equipment, biking skills, street crossing skills, and the benefits of biking. Education programs can be part of a Safe Routes to School program. These types of education programs are usually sponsored by a joint City/School District committee that includes appointed parents, teachers, student representatives, administrators, police, active bicyclists and engineering department staff.

Youth bicycle safety education provides children with knowledge and training about safe and proper bicycle use.

Recommendation

This Plan recommends the City pursue a Safe Routes to School Program that includes annual youth bicycle safety education classes. The City should consider the need for multi-lingual instruction.

Sample programs:

- League of American Bicyclists: http://www.bikeleague.org/programs/education/courses.php#kids1
- Bicycle Transportation Alliance – Portland, OR: http://www.bta4bikes.org/resources/educational.php

6.2.7. Bicycle Rodeo

Bicycle rodeos are events where police officers teach children safe bicycling skills and the rules of the road. In 2005, the Police Department hosted a bicycle rodeo that was open to the public, advertising through its website and the City's newspaper. Approximately 75 children participated in the event.

Recommendation

This Plan recommends the City work with the Police Department to continue the Bicycle Rodeo program on an annual basis.

6.2.8. Share the Road Outreach and StreetSmarts

Share the Road outreach is a way for the City to actively disseminate the rules of the road in person to residents. One way to conduct outreach is for the City conduct "checkpoints". Working with volunteers from a local advocacy group and the police department, officers could stop motorists and bicyclists to offer a brochure on the rules of the road as they pertain to motorists and bicyclists. An example of the Marin County Bicycle Coalition's Share the Road Checkpoints can be found at the link below.

http://www.marinbike.org/Campaigns/ShareTheRoad/Index.shtml

Recommendation

The City may also consider tabling at a Farmer's Market or street fair to conduct Share the Road outreach. Much like the checkpoints, the City could distribute Share the Road brochures and present illustrations of common misconceptions motorists and bicyclists have of one another.

On a citywide scale, the City could start a StreetSmarts media campaign, similar to those in San Jose, Marin, Davis and other California cities. Developed by the City of San Jose, StreetSmarts uses print media, radio spots and television spots to educate people about safe driving, bicycling and walking behavior. More information about StreetSmarts can be found at the link below.

http://www.getstreetsmarts.org/

6.3. Enforcement

Enforcement programs enforce legal and respectful use of the transportation network. The bicycle related collision analysis and community identified needs indicate enforcement programs will help educate both motorists and bicyclists about the rules and responsibilities of the road.

The following outlines recommended enforcement programs.

6.3.1. Bicycle Patrol

Police bicycle patrols not only increase the mobility of officers in dense areas but also provide law enforcement officers with an opportunity display safe and legal bicycle skills. Bicycle patrols also show the community that the City is engaged in sustainable transportation. The Police Department deploys up to two bicycle patrol officers in the Downtown area on an as-needed basis, typically Thursday through Sunday.

Recommendation

This Plan recommends the City continue its bicycle patrol in the Downtown area.

6.3.2. Speed Feedback Signs

Speed feedback signs display the speed of passing motor vehicles, with the intent that motorists will slow down if they are aware of their speed. The Department of Public Works and Police Department operate two mobile speed feedback signs, which are deployed in response to resident complaints about speeding and eight speed feedback signs at permanent locations

Recommendation

This Plan recommends the City include information on how to request a speed feedback sign on its bicycling resource website.

6.3.3. Targeted Enforcement

Targeted enforcement is focused efforts of police officers. For example, the Police Department conducts pedestrian stings at locations where pedestrians and motorists conflict and do not comply with traffic signals. Similar strategies may be applied to areas with bicycle traffic, however the Police Department has not implemented such strategies.

Recommendation

This Plan recommends the City coordinate with the Police Department to conduct targeted enforcement stings at locations known for noncompliance with traffic laws and at high conflict or high bicycle-related collision areas.

6.4. Evaluation

Evaluation programs help the City measure how well it is meeting the goals of this plan, the General Plan and the Sustainable Initiatives Plan and evaluation is a key component of any engineering or programmatic investment.

6.4.1. Annual Count and Survey Program

Evaluation programs measure and evaluate the impact of projects, policies and programs. Typical evaluation programs range from a simple year-over-year comparison of US Census Journey to Work data to bicycle counts and community surveys. Bicycle counts and community surveys act as methods to evaluate not only the impacts of specific bicycle improvement projects but can also function as way to measure progress towards reaching City goals such as increased bicycle travel for trips one mile or less.

Recommendation

This Plan recommends, at minimum:

- Before and after bicycle, pedestrian and vehicle counts on all roadway projects.
- Annual bicycle counts at a minimum of the nine locations counted as part of this Master Plan effort.
- Annual community survey to evaluate bicycling activity, impacts of bicycle programs and facilities and to measure the City's progress towards reaching its goals.

The City may consider the use of automatic count technologies for bicycle count efforts. In-pavement loop detectors accurately count on-street bicycle activity and infrared counters can count bicycle and pedestrian activities on paths.

The City may also produce an annual report or 'report card' on bicycling activity. Annual reports developed from count and survey efforts can help the City measure its success towards the goals of this Plan as well as those of the General Plan and Sustainable Initiatives Plan.

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