City of San Mateo
Bicycle Master Plan

Adopted October 17, 2011

PREPARED BY:
Alta Planning + Design

PREPARED FOR:
The City of San Mateo
City of San Mateo Bicycle Master Plan

Adopted October 17, 2011

Updated April 16, 2012

Prepared by:
Alta Planning and Design

In Partnership with:
Bicycle Solutions
Hexagon Transportation Consultants

Prepared for:
City of San Mateo
Acknowledgements

Mayor and City Council
Jack Matthews, Mayor
Brandt Grotte, Deputy Mayor
John Lee, Council Member
David Lim, Council Member
Robert Ross, Council Member

Public Works Commission
Charlie Drechsler, Chair
Jay Michlin, Vice Chair
Rick Bonilla
Joe Goethals
Garrett Rice

Planning Commission
Maureen Freschet, Chair
Alex Feinman, Vice-Chair
J. Christopher Massey
Kelly D. Moran
Dianne Whitaker

City Staff
Larry Patterson, Public Works Director
Susanna Chan, Deputy Director
Gary Heap, Senior Engineer Project Manage

Bicycle Master Plan Steering Committee
Mark Eliot, Community Representative
Michael Leong, Fire Prevention
Bill Euchner, Fire Prevention
Dennis Frank, Park & Recreation
Darcy Forsell, Planning Division
Stephen Scott, Planning Division
Lieutenant Wayne Hoss, Police Department
Sergeant Gregory Jacobson, Police Department
Sergeant David Norris, Police Department
Charlie Drechsler, Public Works Commission
Andrew Wong, Public Works Department
Kenneth Chin, Public Works Department

Alta Staff
Michael Jones, Principal
Brett Hondorp, Principal
Jennifer Donlon Wyant, Project Manager
Kristin Maravilla, Planner/Designer
Lucas Woodward, Planner
Tony Salomone, GIS Analyst
# Table of Contents

1. **Introduction** ................................................................................................................................. 1-1
   1.1. Purpose of the Plan ...................................................................................................................... 1-1
   1.2. Setting and Land Use ................................................................................................................... 1-1
   1.3. Bicycle Master Plan Process ...................................................................................................... 1-3
   1.4. Overview of the Plan .................................................................................................................... 1-3

2. **Vision, Goals, Objectives and Policies** ....................................................................................... 2-1
   2.1. Vision ........................................................................................................................................ 2-1
   2.2. Goals, Objectives, and Policies ................................................................................................. 2-1
   2.3. Relevant Plans and Policies ........................................................................................................ 2-3

3. **Existing Bicycle Facilities and Programs** ................................................................................... 3-1
   3.1. Engineering ............................................................................................................................... 3-3
   3.2. Encouragement ......................................................................................................................... 3-10
   3.3. Education .................................................................................................................................. 3-12
   3.4. Enforcement ............................................................................................................................... 3-12
   3.5. Evaluation .................................................................................................................................. 3-13

4. **Needs Analysis** ............................................................................................................................ 4-1
   4.1. Types of Bicyclists ..................................................................................................................... 4-1
   4.2. Bicycle Attractors and Generators ........................................................................................... 4-2
   4.3. Commuter Travel ....................................................................................................................... 4-7
   4.4. Estimated Commuter and Utilitarian Bicyclists ...................................................................... 4-8
   4.5. Collision Analysis ...................................................................................................................... 4-10
   4.6. Community Identified Needs .................................................................................................... 4-15
   4.7. Summary of Bicyclists Needs ..................................................................................................... 4-26

5. **Proposed Network Improvements** .............................................................................................. 5-1
   5.1. Network Improvements ............................................................................................................. 5-1
   5.2. Spot Improvements ................................................................................................................... 5-21
   5.3. Studies ....................................................................................................................................... 5-24
   5.4. Bicycle Parking ......................................................................................................................... 5-27

6. **Proposed Programmatic Improvements** .................................................................................... 6-1
   6.1. Encouragement ........................................................................................................................ 6-1
   6.2. Education ................................................................................................................................... 6-4
   6.3. Enforcement .............................................................................................................................. 6-7
   6.4. Evaluation .................................................................................................................................. 6-8

7. **Benefits of Bicycling** .................................................................................................................... 7-1
   7.1. Why Bicycling is Important ....................................................................................................... 7-1
   7.2. Future Usage and Benefits ........................................................................................................ 7-1

8. **Implementation** .......................................................................................................................... 8-1
   8.1. Bikeway Project Ranking ......................................................................................................... 8-1
   8.2. Project Cost Estimates .............................................................................................................. 8-9
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-5</td>
<td>Class III Shared Lane Markings</td>
<td>5-6</td>
</tr>
<tr>
<td>5-6</td>
<td>Example Decision Wayfinding Sign</td>
<td>5-12</td>
</tr>
<tr>
<td>5-7</td>
<td>Example Confirmation Wayfinding Sign</td>
<td>5-12</td>
</tr>
<tr>
<td>5-8</td>
<td>Sample Confirmation Sign</td>
<td>5-15</td>
</tr>
<tr>
<td>5-9</td>
<td>Sample Decision Sign</td>
<td>5-15</td>
</tr>
<tr>
<td>5-10</td>
<td>Example Bike Box</td>
<td>5-17</td>
</tr>
<tr>
<td>5-11</td>
<td>Example Green Bike Lane</td>
<td>5-18</td>
</tr>
<tr>
<td>5-12</td>
<td>Proposed 4th Avenue and Humboldt Street Improvements</td>
<td>5-22</td>
</tr>
<tr>
<td>5-13</td>
<td>Example Median Path Striping</td>
<td>5-25</td>
</tr>
<tr>
<td>5-14</td>
<td>Recommended Downtown Bicycle Parking Locations</td>
<td>5-29</td>
</tr>
<tr>
<td>5-15</td>
<td>Transportation and Obesity Rates</td>
<td>7-4</td>
</tr>
<tr>
<td>B-1</td>
<td>Downtown Bicycle Parking Map</td>
<td>B-3</td>
</tr>
<tr>
<td>B-2</td>
<td>3rd Avenue and San Mateo Drive Bicycle Parking Photo Simulation</td>
<td>B-4</td>
</tr>
<tr>
<td>B-3</td>
<td>3rd Avenue and San Mateo Drive Bicycle Parking Plan View</td>
<td>B-5</td>
</tr>
<tr>
<td>B-4</td>
<td>3rd Avenue and B Street Photo Simulation</td>
<td>B-6</td>
</tr>
<tr>
<td>B-5</td>
<td>3rd Avenue and B Street Bicycle Parking Plan View</td>
<td>B-7</td>
</tr>
<tr>
<td>B-6</td>
<td>5th Avenue and B Street Photo Simulation</td>
<td>B-8</td>
</tr>
<tr>
<td>B-7</td>
<td>5th Avenue and B Street Bicycle Parking Plan View</td>
<td>B-9</td>
</tr>
<tr>
<td>B-8</td>
<td>4th Avenue between El Camino Real and San Mateo Drive Photo Simulation</td>
<td>B-10</td>
</tr>
<tr>
<td>B-9</td>
<td>4th Avenue between El Camino Real and San Mateo Drive Bicycle Parking Plan View</td>
<td>B-11</td>
</tr>
<tr>
<td>B-10</td>
<td>3rd Avenue and Ellsworth Avenue Photo Simulation</td>
<td>B-12</td>
</tr>
<tr>
<td>B-11</td>
<td>3rd Avenue and Ellsworth Avenue Bicycle Parking Plan View</td>
<td>B-13</td>
</tr>
<tr>
<td>B-12</td>
<td>3rd Avenue between El Camino Real and San Mateo Drive Photo Simulation</td>
<td>B-14</td>
</tr>
<tr>
<td>B-13</td>
<td>3rd Avenue between El Camino Real and San Mateo Drive Bicycle Parking Plan View</td>
<td>B-15</td>
</tr>
<tr>
<td>B-14</td>
<td>Ellsworth Avenue between 1st Avenue and 2nd Avenue Photo Simulation</td>
<td>B-16</td>
</tr>
<tr>
<td>B-15</td>
<td>Ellsworth Avenue between 1st Avenue and 2nd Avenue Bicycle Parking Plan View</td>
<td>B-17</td>
</tr>
<tr>
<td>G-1</td>
<td>Recommended Downtown Bicycle Parking Locations</td>
<td>G-5</td>
</tr>
<tr>
<td>G-2</td>
<td>Proposed Hillsdale Overcrossing Alignment</td>
<td>G-10</td>
</tr>
<tr>
<td>G-3</td>
<td>Bay to Transit Path Alignment Feasibility Study</td>
<td>G-14</td>
</tr>
<tr>
<td>G-4</td>
<td>Wayfinding Distance Sign</td>
<td>G-18</td>
</tr>
<tr>
<td>G-5</td>
<td>Wayfinding Direction Sign</td>
<td>G-18</td>
</tr>
<tr>
<td>G-6</td>
<td>San Mateo Drive Project Area</td>
<td>G-21</td>
</tr>
<tr>
<td>G-7</td>
<td>San Mateo Drive Project Typical Roadway Section</td>
<td>G-22</td>
</tr>
<tr>
<td>G-8</td>
<td>Proposed Humboldt Street and 4th Avenue Bike Box and Green Bike Lane</td>
<td>G-25</td>
</tr>
<tr>
<td>G-10</td>
<td>Proposed On-Street Bicycle Facility Improvements</td>
<td>G-32</td>
</tr>
<tr>
<td>H-1</td>
<td>San Mateo Existing and Proposed Bikeway Network</td>
<td>H-4</td>
</tr>
<tr>
<td>H-2</td>
<td>Proposed 4th Avenue and Humboldt Street Improvements</td>
<td>H-12</td>
</tr>
<tr>
<td>H-3</td>
<td>Recommended Downtown Bicycle Parking Locations</td>
<td>H-16</td>
</tr>
</tbody>
</table>
Table of Tables

Table 3-1: Existing Bikeways ................................................................. 3-5
Table 3-2: Existing Bicycle Detection .................................................. 3-7
Table 4-1: San Mateo School Enrollment .............................................. 4-5
Table 4-2: Top 10 Employers (2010) ...................................................... 4-6
Table 4-3: Journey to Work Data (2008) ................................................ 4-7
Table 4-4: Travel Time to Work ............................................................ 4-7
Table 4-5: Current Bicycle Trips ............................................................ 4-9
Table 4-6: Bicycle Related Collisions by Year ....................................... 4-10
Table 4-7: Office of Traffic and Safety Rankings for the City of San Mateo, 2008 .................................................. 4-12
Table 4-8: Top Collision Intersections .................................................... 4-12
Table 4-9: Collisions by Day of Week ..................................................... 4-13
Table 4-10: Common Violations in Bicycle Related Collisions Violations ............................................................... 4-14
Table 4-11: Traffic Violation Type by Party at Fault .............................. 4-14
Table 5-1: Recommended Class I Paths and Crossings .......................... 5-3
Table 5-2: Recommended Class II Bike Lanes ........................................ 5-4
Table 5-3: Recommended Class III Bike Routes ..................................... 5-5
Table 5-4: Recommended Class III Bike Routes with SLMs ..................... 5-7
Table 5-5: Primary Destinations: Distances up to Five Miles ............... 5-14
Table 5-6: Secondary Destinations: Distances up to Two Miles ............ 5-14
Table 5-7: Tertiary Destinations: Distances up to One Mile .................. 5-14
Table 5-8: Recommended Bikeways with Raised Pavement Marker Removal .................................................. 5-19
Table 5-9: 4th Street and Humboldt Avenue Improvements .................. 5-22
Table 5-10: Recommended Citywide Bicycle Parking Locations ........... 5-28
Table 7-1: San Mateo Estimated Future (Year 2030) Bicycle Trips and Benefits .................................................. 7-2
Table 8-1: Project Ranking Criteria ....................................................... 8-3
Table 8-2: Prioritized Projects by Tier .................................................... 8-4
Table 8-3: Estimated Bikeway Unit Costs .............................................. 8-9
Table 8-4: Estimated Bikeway Improvement Costs .............................. 8-10
Table 8-5: Bikeway Maintenance Frequency and Cost Estimates ........... 8-12
Table 8-6: Summary of Costs and Miles by Bikeway Class .................... 8-13
Table 8-7: Summary of Costs and Miles by Tiers ................................... 8-13
Table 8-8: High Priority Projects .......................................................... 8-14
Table 9-1: Funding Acronyms, Online Resources and Government Jurisdictions ........................................... 9-11
Table 9-2: Funding Sources ................................................................. 9-12
Table B-1: Bay Meadows Linear Park Proposed Bicycle Parking ............ B-19
Table B-2: Bayside-Joinville Park Swim Center Proposed Bicycle Parking .................................................. B-20
Table B-3: Beresford Park and Recreation Center Proposed Bicycle Parking .................................................. B-21
Table B-4: Central Park and Recreation Center Proposed Bicycle Parking .................................................. B-22
Table B-5: City Hall Proposed Bicycle Parking ........................................ B-23
Table B-6: Concar Playground Proposed Bicycle Parking ........................ B-24
Table B-7: Central Parking Structure Proposed Bicycle Parking ............ B-25
Table B-8: Harbor View Park Proposed Bicycle Parking ................................................................. B-26
Table B-9: East Hillsdale Park Proposed Bicycle Parking ............................................................... B-27
Table B-10: Fiesta Meadows Park Proposed Bicycle Parking ......................................................... B-28
Table B-11: Gateway Park Proposed Bicycle Parking ................................................................. B-29
Table B-12: Indian Springs Park Proposed Bicycle Parking ....................................................... B-30
Table B-13: Hillsdale Branch Library Proposed Bicycle Parking ............................................... B-31
Table B-14: Main Branch Library Proposed Bicycle Parking .................................................... B-32
Table B-15: Marina Branch Library Proposed Bicycle Parking ............................................... B-33
Table B-16: Lakeshore Park and Recreation Center Proposed Bicycle Parking ......................... B-34
Table B-17: Laurelwood Park Proposed Bicycle Parking .......................................................... B-35
Table B-18: Laurie Meadows Park Proposed Bicycle Parking .................................................. B-36
Table B-19: Los Prados Park Proposed Bicycle Parking .......................................................... B-37
Table B-20: Mariners Island Park Proposed Bicycle Parking .................................................. B-38
Table B-21: Martin Luther King Jr. Community Center and Park Proposed Bicycle Parking .... B-39
Table B-22: Meadow Square Park Proposed Bicycle Parking .................................................. B-40
Table B-23: Parkside Aquatic Park Proposed Bicycle Parking .................................................. B-41
Table B-24: Saratoga Square Park Proposed Bicycle Parking .................................................. B-42
Table B-25: Senior Center Proposed Bicycle Parking .............................................................. B-43
Table B-26: Shoreview Park and Recreation Center Proposed Bicycle Parking ....................... B-44
Table B-27: Sunnybrae Playground Proposed Bicycle Parking .................................................. B-45
Table B-28: Trinta Park Proposed Bicycle Parking ..................................................................... B-46
Table B-29: Washington Playground Proposed Bicycle Parking ............................................. B-47
Table B-30: West Hillsdale Park Proposed Bicycle Parking ...................................................... B-48
Table B-31: Recommended Bicycle Racks Upgrades ................................................................. B-49
Table D-1: BTA Compliance Table ............................................................................................ D-1
Table G-1: Downtown Bike Parking Cost Estimate .................................................................... G-3
Table G-2: Hillsdale Overcrossing Cost Estimate ....................................................................... G-8
Table G-3: San Mateo Drive Bicycle Lane Outreach and Implementation Cost Estimate .......... G-20
Table G-4: On-Street Facilities Cost Estimate ........................................................................ G-30
Table H-1: Bikeway Improvements and Estimated Costs by Tier ............................................. H-5
Table H-2: Recommended Bikeways with Raised Pavement Marker Removal ....................... H-10
Table H-3: 4th Avenue and Humboldt Street Improvements ..................................................... H-12
Table H-4: Recommended Citywide Bicycle Parking Locations ............................................. H-15
This page intentionally left blank.