
City of Grover Beach Bicycle Master Plan



City of Grover Beach Bicycle Master Plan

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1.0 Introduction

1.1 PURPOSE AND NEED

The Bicycle Master Plan 2010 has been adopted to facilitate implementation of the City of Grover Beach local and regional bikeway¹ network. The Bicycle Master Plan is intended to fulfill the content requirements of a Bicycle Transportation Plan, as follows:

- Document existing and planned bikeways
- Establish a strategy for improving the bikeway system
- Identify the priority and costs of bikeway improvements
- Make the City eligible for state Bicycle Transportation Account (BTA) funds

Increasing bicycle ridership has been identified in state, regional and local plans and policies as a key strategy to reduce automobile travel and attendant air quality impacts, help reduce greenhouse gas emissions, reduce the cost of transportation and improve the health of citizens. The Bicycle Master Plan provides a blueprint to achieve a safe and well-maintained system of bikeways and multimodal transportation links, making bicycle use more accessible to more people.

The state Bicycle Transportation Act requires that local agencies adopt a bicycle transportation plan (Bicycle Master Plan) in order to qualify for funds issued by the California Department of Transportation through the Bicycle Transportation Account. The statute requires that the plans contain a minimum of eleven elements. Those elements and their location in this Plan are listed below:

¹ "Bikeway" is a general term encompassing all the types of bicycle paths, lanes and routes.

1. Estimate the number of existing and future bicycle commuters: section 2.3
2. Map and description of existing land use and settlement pattern: section 2.2
3. Map and description of existing and proposed bikeways: sections 2.4 and 3.2
4. Map and description of existing and proposed bicycle parking facilities: section 2.5
5. Map and description of multi-modal connections: section 2.6.
6. Map and description of facilities of facilities for changing and storing clothes and equipment: section 2.7
7. Description of bicycle safety and education programs: section 3.1.5
8. Description of citizen and community participation: section 1.3
9. Description of consistency with transportation, air quality and energy conservation plans: section 2.1
10. Proposed bikeway improvement projects and priorities: section 4.2
11. Past bikeway expenditures and future costs to implement the plan: section 4.1.

The Bicycle Master Plan is not a general plan-level policy document or municipal ordinance: it is a Master Plan to guide the orderly implementation of future improvement projects. In order to continue to qualify for BTA funds the City needs to update the Master Plan at five year intervals.

1.2 SETTING

The City of Grover Beach is situated on a coastal plain bounded on all but the coastal side by urbanized land in Pismo Beach, Arroyo Grande and the community of Oceano. The City has limited opportunity for urban expansion beyond its current boundaries and the Land Use Element of the General Plan envisions a process of in-fill of existing urban areas at somewhat increased densities. The City was developed on a grid system street plan. Street rights-of-way occupy about 24% of the land area within the City, which reflects the overly wide nature of the streets.

Population for the City from 1990 to 2009 as reported by the California Department of Finance (DOF) shows the City's population has grown slowly over the years. According to DOF, the City's population grew from about 11,500 in 1990 to about 13,262 in 2005,

an average annual growth rate of about 0.8 percent per year. By comparison, the County population as a whole grew at an average annual rate of about 1.30 percent during the same period. Population projections prepared for the San Luis Obispo Council of Governments (SLOCOG) for the City of Grover Beach suggests that population growth for the City will continue at a modest pace for the next twenty years, growing from an estimated population of 13,550 in 2010 to about 15,000 in 2030, which represents an average annual growth rate of about 0.54 percent. The age composition of Grover Beach residents is very similar to the composition of the County as a whole, with a sizeable portion of the population in the 'work force' ages of 20 to 55. The City also has a slightly higher percentage of school-aged children than the County, which suggests the need for greater consideration of safe access to schools and recreation facilities. The 2010 Census may reveal a larger percentage of residents over age 65, consistent with what has occurred in many coastal cities.²

1.3 PUBLIC PARTICIPATION

The City held a public workshop to solicit input into the Master Plan goals and priorities. The public was asked about the condition of the bikeway system, safety concerns, and the types of improvements and programs needed to improve bicycling in Grover Beach. The following summarizes the key points brought up at the workshop:

- Smoother pavement would enhance riding experience.
- A railroad track overpass would be desirable.
- The south side of West Grand Ave west of Hwy 1 needs better maintenance of sand buildup that impedes riders.
- Encourage kids to ride on the wider streets to school.
- The County maintained south half of The Pike is poor for riders.
- A signal at Farroll and 13th would improve bike safety.
- The West Grand Avenue corridor is a bicycling destination due to shopping and employment.

The Draft Bicycle Master Plan was presented at a public hearing of the joint Parks and Recreation Commission and Planning Commission meeting. Members of the public, including bicycle commuters, supported the Plan and offered suggestions. A final public hearing on the Master Plan was conducted before the City Council prior to adoption of the Master Plan.

² Census and demographic information is from the 2010 Land Use Element.

1.4 BICYCLE FUNDAMENTALS

Bicycles are considered a vehicle, similar to automobiles, by the State of California Department of Transportation (Caltrans). However, while bicyclists share the same rights and responsibilities of motorists, bicycle-specific facilities are often provided in an effort to enhance safety for both bicyclists and motorists. Bicyclists need to be conscious of their skill and comfort levels when choosing their travel routes. The following sections provide a brief overview of the various classes of bikeways, and some general characteristics of the different skill levels of bicyclists.

1.4.1 Classes of Bikeways

There are three classes of bikeways as illustrated on Figure 1:

- Class I – off-street paved bike paths
- Class II – on-road striped and signed bicycle lanes
- Class III – on-road shared-lane signed bicycle routes

Off-street paths are facilities on a separate right-of-way from roadways, and are usually shared by bicyclists and pedestrians. Shared paths are recreational facilities and should not be used as high-speed bikeways.

Bicycle lanes are on-street facilities that use painted stripes and stencils to delineate the right of way assigned to bicyclists and motorists, and to provide for more predictable movements by each.

Bicycle routes are signed on-street facilities that accommodate vehicles and bicycles in the same travel lane. Bicycles are permitted on most roadways; however, for safety purposes, signed bicycle routes are often found on streets with lower speeds and traffic volumes.

1.4.2 Bicyclist Skill Levels

The American Association of State Highway and Transportation Officials, or AASHTO, published the Guide for the Development of Bicycle Facilities in 1999. This guide provides descriptions for the three general skill levels of bicyclists, as summarized by the A, B, and C typologies below:

- **Advanced** or experienced riders are generally using their bicycles

as they would a motor vehicle or for advanced exercise activity. They are riding for convenience and speed and want direct access to destinations with a minimum of detour or delay, and they are typically comfortable riding with motor vehicle traffic.

- **Basic** or less confident adult riders may also be using their bicycles for transportation purposes, but prefer to avoid roads with fast and busy motor vehicle traffic unless there is ample roadway width to allow easy overtaking by faster motor vehicles.

- **Children** who require access to key destinations in their community, such as schools, convenience stores and recreational facilities. They prefer residential streets with low motor vehicle speeds, linked with shared-use paths and busier streets with well defined pavement markings between bicycles and motor vehicles, so they can avoid riding in the travel lane of major arterials.

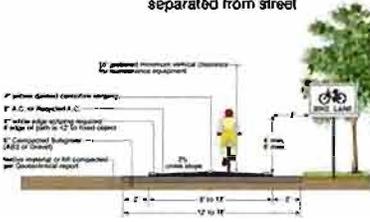
The City's intent is to provide opportunities to benefit all types of riders, with an emphasis on the Basic and Children skill levels.

BIKEWAY TYPE EXAMPLES



CLASS 1 BIKEWAY

- Paved off-street bike path or multi-use trail completely separated from street



IMPLEMENTATION ON LEVEL GROUND



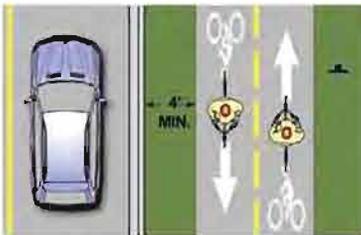
CLASS 2 BIKEWAY

- A striped and stenciled bike lane for one-way travel on a street or highway



CLASS 3 BIKEWAY

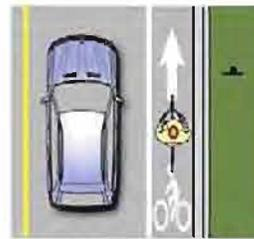
- On-street bike route that shares the travel lane with automobiles



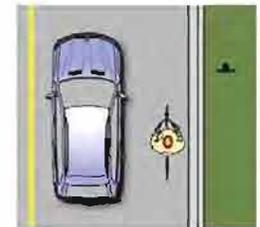
CLASS 1 BIKEWAY



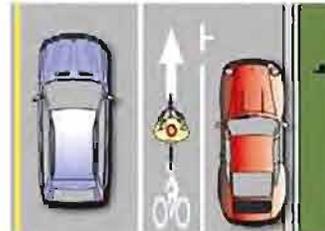
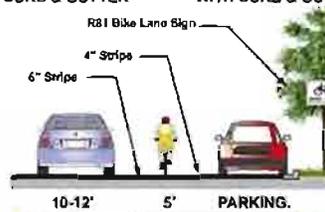
WITHOUT CURB & GUTTER



WITH CURB & GUTTER - NO PARKING



NARROW LANE, LOCAL STREET



WITH PARKING

Classes of Bikeways

Source: OmnI-Means

Figure 1

2



2.0 Existing Conditions

2.1 CONSISTENCY AND COORDINATION WITH OTHER PLANS

The City of Grover Beach’s long-range plans promote the use of alternative forms of transportation. In addition to the City’s General Plan, regional plans like the San Luis Obispo Council of Governments *Regional Transportation Plan*, the Air Pollution Control District’s *Clean Air Plan* and the County’s *Bikeways Plan* all encourage increased bicycle use.

General Plan Land Use Element 2010

The Bikeway Master Plan is consistent with, and furthers, the goals and policies of the 2010 General Plan Land Use Element, including the following policies (emphasis added):

LU-1.2 “Complete” neighborhoods. In general, the City will promote the establishment and preservation of “complete” neighborhoods that exhibit the following characteristics:

d. A complete and interconnected system of roadways, bicycle and pedestrian paths, and transit stops that link the neighborhoods...

LU-1.3 Creating Walkable Neighborhoods. Neighborhoods should be protected from intrusive traffic. All neighborhood street and circulation improvements should favor the pedestrian and local traffic over pass-thru traffic. Vehicle traffic on residential streets should be slow. To foster suitable traffic speed, street design should include measures such as narrowing lanes, creating bikeways on designated routes...

LU-6.1 West Grand Avenue area....

• Implement a bike route plan connecting the West Grand Avenue area with the butterfly grove and regional bicycle systems serving the Cities of Pismo Beach and Arroyo Grande and linked with the regional DeAnza Trail.

LU-6.2 Beach Front Lodge. The City will actively pursue development of the Beach Front Lodge site with a hotel/convention center that incorporates at least the following general features:

c. Pedestrian, bicycle and transit connections to the beach, the dunes, the train station and mixed-use visitor-serving development east of Highway 1.

LU-6.3 Multi-modal Transit Center.....Development of this site should incorporate the following features:

c. Pedestrian and bicycle connections to the train station, the beach and surrounding visitor-serving development and the County recreational vehicle park.

Goal LU-10: To provide for the day-to-day needs of Grover Beach residents by establishing neighborhood-serving businesses within walking and biking distance of surrounding neighborhoods.

LU-18.4 Regional planning. The City will encourage regional planning and growth management throughout the County, and in cooperation with neighboring cities. The City should coordinate planning with neighboring communities, San Luis Obispo County, and the San Luis Obispo Council of Governments (SLOCOG) to craft regional solutions for regional issues such as affordable housing and transportation funding.

Implementation Measures

• Actively participate in the regional planning programs including (but are not limited to):
The Regional Transportation Plan and the Air Quality Management Plan

LU-19.2 Link and define neighborhoods. The City shall use the circulation system and the pedestrian and bicycle pathway system as important structural elements to link and define neighborhoods and districts in Grover Beach.

Implementation Measures: • Incorporate roadway, pedestrian,

transit and bicycle circulation facilities as part of the CIP.

LU-20.2 Pedestrian amenities for commercial areas. New commercial and office development should promote walking, bicycling and public transit, especially in the central business district/civic center and the west Grand Avenue/beach area.

Circulation Element

The Bikeway Master Plan is consistent with and furthers the goals and policies of the 2005 Circulation Element, including the following policies (emphasis added):

Goal 2: promote alternative travel modes, including transit, pedestrian, bicycle, rail and air circulation systems.

Policy 2.1: Provide for adequate and safe alternative access to schools parks and shopping areas within the City.

Program 2.1.1: The City shall plan and require construction of bikeways, sidewalks and pedestrian accessways to all major destination points within the City.

Policy 2.3: Encourage bicycle transportation.

Program 2.3.1: The City shall create/update a Bikeway Master Plan to guide the orderly provision of bikeway facilities throughout the City.

Program 2.3.2: The City shall consider standards to provide opportunities for bicycle lanes on future road construction and along the Grand Avenue corridor.

Program 2.3.3: The City shall integrate local bikeway planning with regional plans.

Program 2.3.4: The City shall encourage the provision of bicycle support facilities at major bicycle destination points.

Program 2.3.5: The City shall continue and expand bicycle safety education programs.

Program 2.3.6: The City shall seek Bicycle Transportation Account funds and other funding to complete a comprehensive bikeway system within in the City.

Beach Cities Multi-Purpose Trail Feasibility Study (draft)

The Beach Cities Multi-Purpose Trail Feasibility Study identifies route options for a multi-use pedestrian and bicycle trail linking the

City of Grover Beach with the cities of Pismo Beach and Arroyo Grande, and the community of Oceano, generally in the Highway 1 corridor area, with an eastward link to Arroyo Grande along Pismo Lake. The Study is incorporated by reference into the Bicycle Master Plan and as a stand-alone volume (Appendix C). The multi-use trail is intended to promote alternative forms of transportation and provide new recreational opportunities consistent with the goals set forth in the City of Grover Beach's General Plan, County of San Luis Obispo's Parks and Recreation Element, and City of Pismo Beach's Pismo Creek Recreational Path Project Study Report and Bicycle and Pedestrian Master Plan.

The trail corridor is located within the jurisdictional boundaries of the cities of Grover Beach, Pismo Beach, Arroyo Grande and unincorporated areas of San Luis Obispo County (Oceano). The proposed trail traverses almost six miles and consists of a combination of Class I and Class II facilities with connections to neighborhoods, schools, parks, downtown Grover Beach, employment centers and planned regional trail facilities.

San Luis Obispo County Bikeways Plan

The Grover Beach Bicycle Master Plan complements the County Bikeways Plan (2005 Update) adopted by the Board of Supervisors. Regional bikeway connectivity is an important aspect of this Plan and linking with county routes is key to providing access to important regional destinations, where feasible.

San Luis Obispo County Clean Air Plan

In order to maintain state compliance of air quality standards, the San Luis Obispo Air Pollution Control District encourages the use of bicycling as an alternative to the automobile. The Clean Air Plan encourages municipalities to improve bicycle facilities and promote bicycling. The Bicycle Master Plan is consistent with the alternative transportation strategies of the Clean Air Plan.

SLOCOG Regional Transportation Plan

The San Luis Obispo Council of Governments is responsible for preparing the Regional Transportation Plan (RTP), a major transportation planning document for the region. This Plan supports the policies of the RTP's Non-Motorized Transportation Program.

2.2 LAND USE

The City of Grover Beach contains important coastal lands used

primarily for recreation, the Union Pacific Railroad, and adjoins US 101, a major regional transportation corridor. The City adjoins the cities of Arroyo Grande and Pismo Beach and the community of Oceano. The circulation system adjoining Arroyo Grande to the east is well developed and provides a relatively seamless web of circulation routes for bicyclists. The City's streets join Pismo Beach less seamlessly, with State Highway 1 being the single link at the west end of the City and 4th Street and Oak Park Boulevard overpasses at US 101 linking to Pismo Beach to the north. The City contains three elementary schools, six municipal parks, Pismo State Beach and a multimodal transportation facility on the Union Pacific Railroad near State Highway 1 and West Grand Avenue. The Land Use Element land use category map is shown on Figure 2.

2.3 ESTIMATED NUMBER OF BICYCLE COMMUTERS

For most people these trips are within bicycling or walking distance. In Grover Beach, with the moderate climate and flat and rolling terrain, bicycling and walking are suitable modes for many types of local trips and for connections between other modes of travel. In addition, the climate, recreational and scenic features of the beach area of the city attract many residents and tourists alike who bicycle, walk and hike for exercise and pleasure.

In general, bicycle trip purposes can be divided into two broad types, commuter and recreational. Commuter use constitutes any time a person uses a bicycle for a primary purpose trip, such as to school, work, or the grocery store. In particular, all the schools in the City are located within riding distance for student in their enrollment areas. Recreational use is any trip designed to provide outdoor fun and exercise or for non- primary trips.

Census data indicates that in San Luis Obispo County as a whole the per capita annual automobile vehicle miles traveled is 10,503. Only 5% of the population walks or rides a bicycle to work, in Grover Beach the portion who walk or ride is 3.5%, less than the County overall, and this in a highly organized grid system of streets. The percentage of bicycle trips within this total 1.2% or about 73 commuters.³ By comparison, the national average for bicycle commuters is 0.44%, while the California average is 0.81%.

³ <http://library.slocog.org/PDFs/Census/03.%20Grover%20Beach/grover2000.pdf>

According to the Pismo Beach Bicycle and Pedestrian Master Plan, bikeway improvements appear to induce more commuter bicycling. A survey in the City of San Luis Obispo showed 54% of the non-bike commuters would consider biking if improvements were made to the City's bike system. Public testimony at the several hearings for the Grover Beach Bicycle Master plan echoed this sentiment. Based on these factors the number of bicycle commuters is expected to grow from the current 73 commuters with implementation of the Bicycle Master Plan.

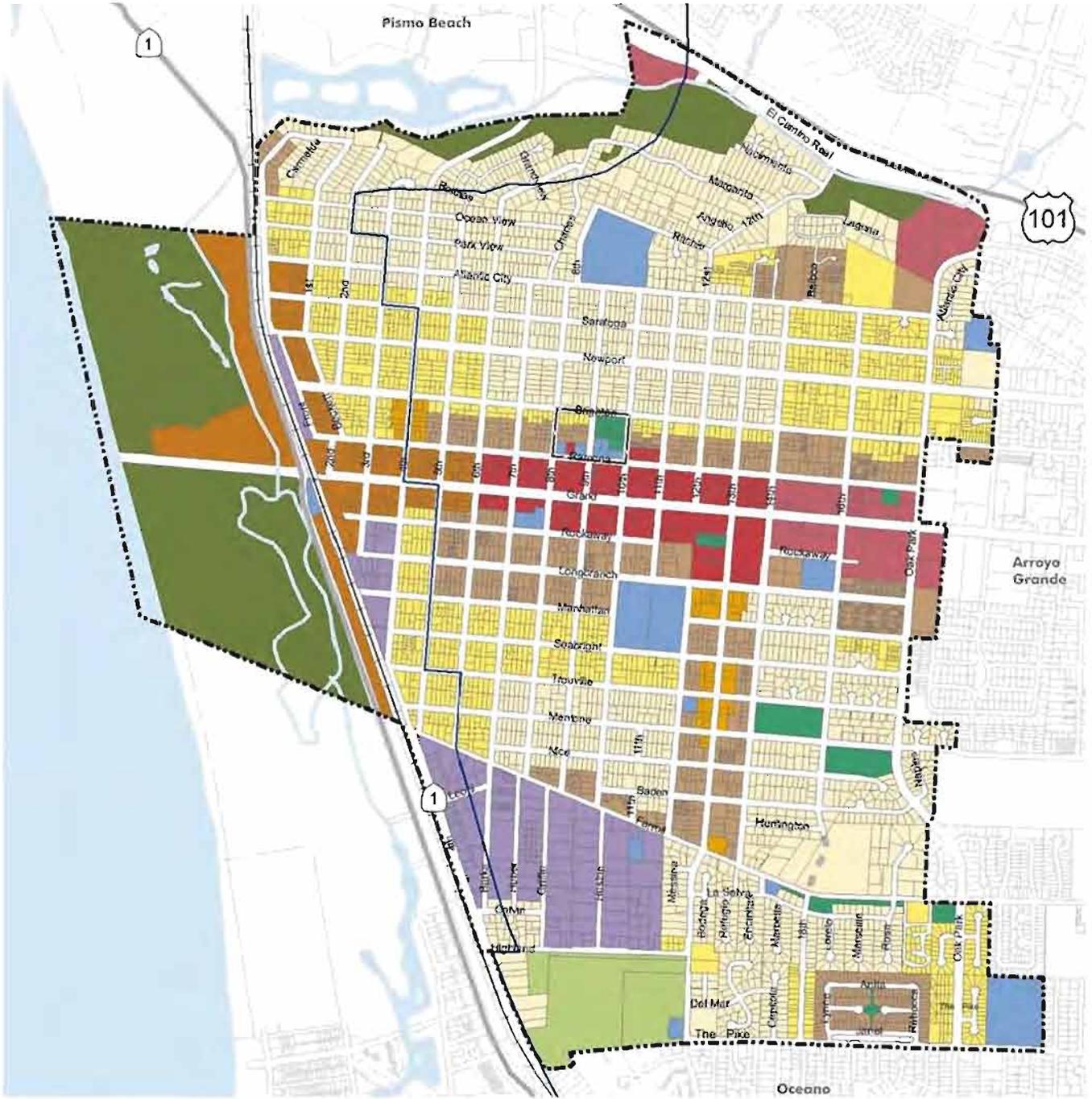
Census data shows 5,624 workers in Grover Beach use personal vehicles or carpool to get to work. If 54% of these consider biking and 20% of those actually do start to use bikes to commute, the bike commuter population would increase by 607 persons.

Legend

-  City Limits/Sphere of Influence
-  Coastal Zone
-  Ramona Specific Plan Area
-  Railroad



-  Low Density Residential (1 - 5 d.u./acre)
-  Medium Density Residential (6 - 9 d.u./acre)
-  High Density Residential (10 - 20 d.u./acre)
-  Central Business - Mixed-Use
-  Visitor Serving - Mixed-Use
-  Neighborhood Serving - Mixed-Use
-  Retail and Commercial Services
-  Industrial
-  Public/Quasi Public
-  Parks and Recreation
-  Open Space/Resource Conservation
-  Urban Reserve



Land Use Map

Source: City of Grover Beach General Plan, Figure LU-21

Figure 2

The RTP indicates that: “research has found that people are more likely to ride a bicycle if certain basic facilities are present. These include the following, in priority order: more bike lanes; separated bike lanes from traffic; less cars and trucks on the road; secure parking spaces; smoother roads; closer proximity to work place; showers at work; riding companions; and flexible work schedules. Implementation of these provisions could encourage more people to ride or walk for primary trips.”⁴

2.4 EXISTING BIKEWAY FACILITIES

The existing bikeway facilities and conditions with the Circulation Element adopted bikeway corridors in the city are shown on Figure 3-Existing Conditions. There are about 11.1 miles of bikeways in the city designated in the Circulation Element. Figure 3 illustrates the status of each planned or existing segment. Well over half the planned bikeways need striping and legends.

Figure 4- Bicycle Destinations shows the city in a regional context with destinations such as schools, libraries, parks, libraries, major employment centers, and multi-modal transit and transfer points and facilities. The regional context is shown because bicyclists are conscious of destinations, not municipal boundaries.

2.5 EXISTING END OF TRIP BICYCLE PARKING FACILITIES

Existing end of trip bicycle facilities include bicycle parking and lockers at schools, civic buildings, major commercial centers. The nearest regional park-and-ride facility is in Arroyo Grande at Halcyon Road and US 101. The Ramona Transit facility has some bicycle racks. Only one City park has bike racks. There is a small bike rack at the Beach area (four bikes). The schools and one or two commercial centers have bike racks. There are no sidewalk racks downtown,

The development process can require major employers to provide bicycle facilities including lockers, consistent with recommendations from the Air Pollution Control District to reduce vehicular emissions by encouraging bicycle commuting. The City Municipal Code requires bicycle projects for certain types of development projects as shown below:

⁴ *Regional Transportation Plan Vision 2025*, San Luis Obispo Council of Governments

- Neighborhood, community, and convenience shopping centers or freestanding commercial uses: 5% of vehicle requirement
- Offices: 7.5% of vehicle requirement
- Industrial uses: 7.5% of vehicle requirement

A review of city parks and major businesses indicates provision for bike parking (racks) are not always present or limited in number of bikes that can be parked (Figure 3).

2.6 EXISTING BICYCLE TRANSPORT AND PARKING FACILITIES FOR CONNECTION WITH OTHER TRANSPORTATION MODES

Bicycle transport and parking facilities do not exist at the train depot. The regional bus system has bicycle racks available on all buses in the South County for transport of bicycles. Bicycle racks and a small bicycle locker exist at the Ramona transit center on Ramona Avenue near 9th Street. Other bicycle lockers are at the Rideshare Park and Ride facility at Halcyon Road and US 101 in Arroyo Grande.

2.7 EXISTING FACILITIES FOR CHANGING / STORING CLOTHES AND EQUIPMENT

During the development review process, the City looks at ways to minimize impacts to traffic and air quality by requiring measures that allow people to ride to work. The Air Pollution Control District provides recommended measures to be applied to project conditions of approval that would reduce auto dependency. For commercial projects anticipated to have a large number of employees, one of these measures may be to include bike commuter facilities for changing clothes and storing clothes and equipment. However, the City does not keep an inventory of these types of facilities. Figure 6 identifies locations where these facilities may be desirable.

2.8 BICYCLE INCIDENT ANALYSIS

Figure 5-Bicycle Accidents shows the distribution and type of bicycle related traffic accidents from April 2007 to April 2010 from City police records. There were 43 reported incidents with 10 incidents

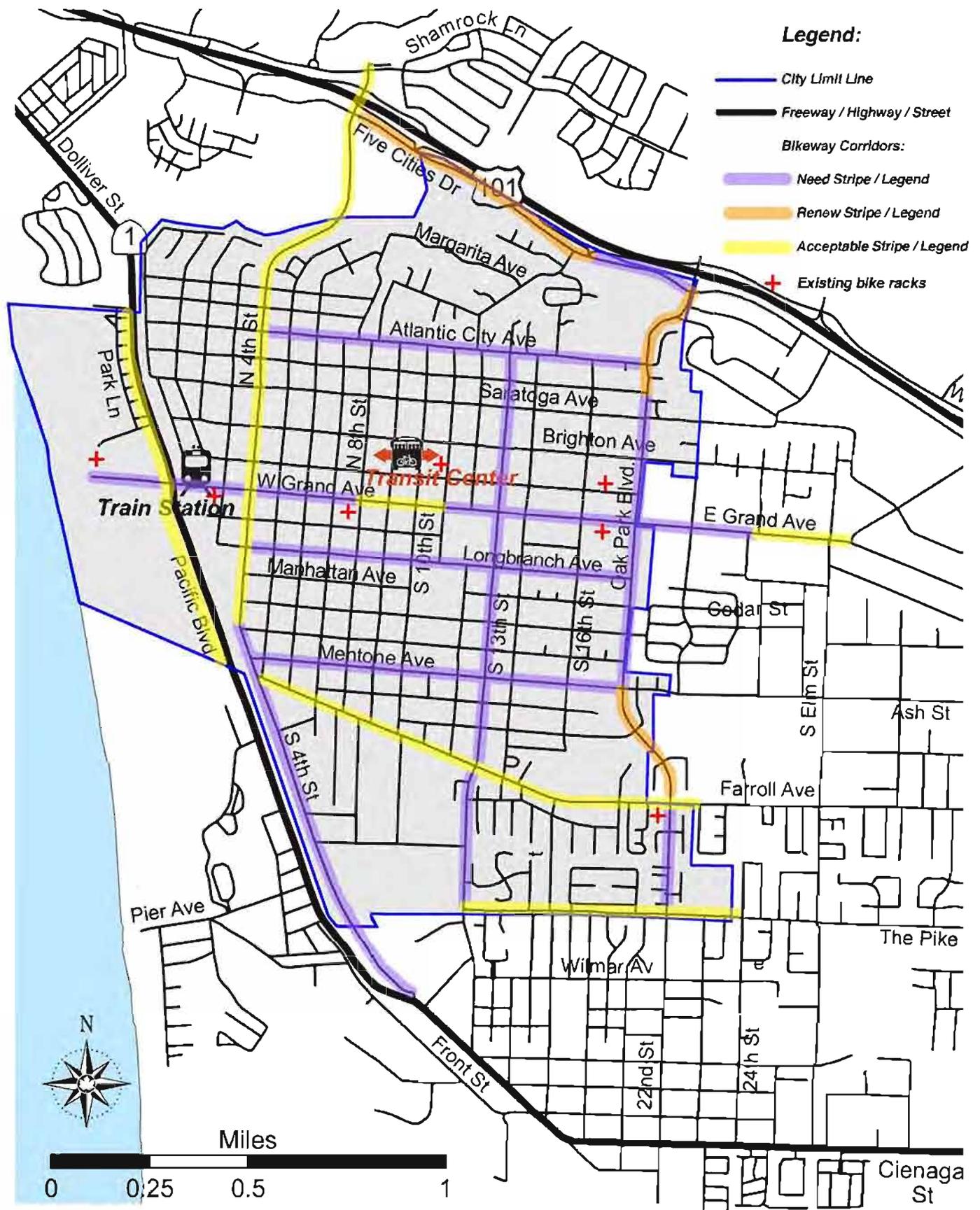
resulting in property damage and 33 involving injury and / or hit and run. Fault was assigned to bicyclists in the majority of cases. The distribution of accidents cluster along Grand Avenue and the first blocks north and south of West Grand Avenue, Oak Park Boulevard, 13th Street and 16th Street.

The accident rate is about 11 per year and an average of 0.0008 incident per 1,000 population.

2.9 EXISTING EDUCATION AND OUTREACH

Existing education and outreach programs available in the San Luis Obispo region include the following:

- **Safe Routes to School:** SLO Regional Rideshare (www.rideshare.org) works with schools to offer individualized programs including Parent Surveys, Mini Grants given to promote cycling in the community, Bike Assemblies (a ride of recreational cycling in large groups ending with a presentation of bicycle education), and Bike Rodeo, a bicycle safety training and education for elementary school children.
- **Employee Incentive Programs:** SLO Regional Rideshare offers an employer Transportation Choices Program that helps employers promote bicycling, walking, carpooling, and riding the bus to work to reduce the employers' need for car parking spaces. This program may provide financial incentives or only promotional materials.
- **Bike Valet:** Bike Valet is a service that is offered by the San Luis Obispo County Bicycle Coalition (SLOCBC). This service is usually for large city events to reduce car use and encourage bike travel.
- **Bicycle Confidence Workshop:** These workshops are a series of classes offered by the SLO Bike Coalition to teach adults safe bicycle riding; a fee is required for the class.



Explanatory Notes: "Acceptable" means existing striping & legend are in place and in good condition.
 "Renew" means existing striping needs painting.
 "Need" means the corridor is planned for striping & legend.

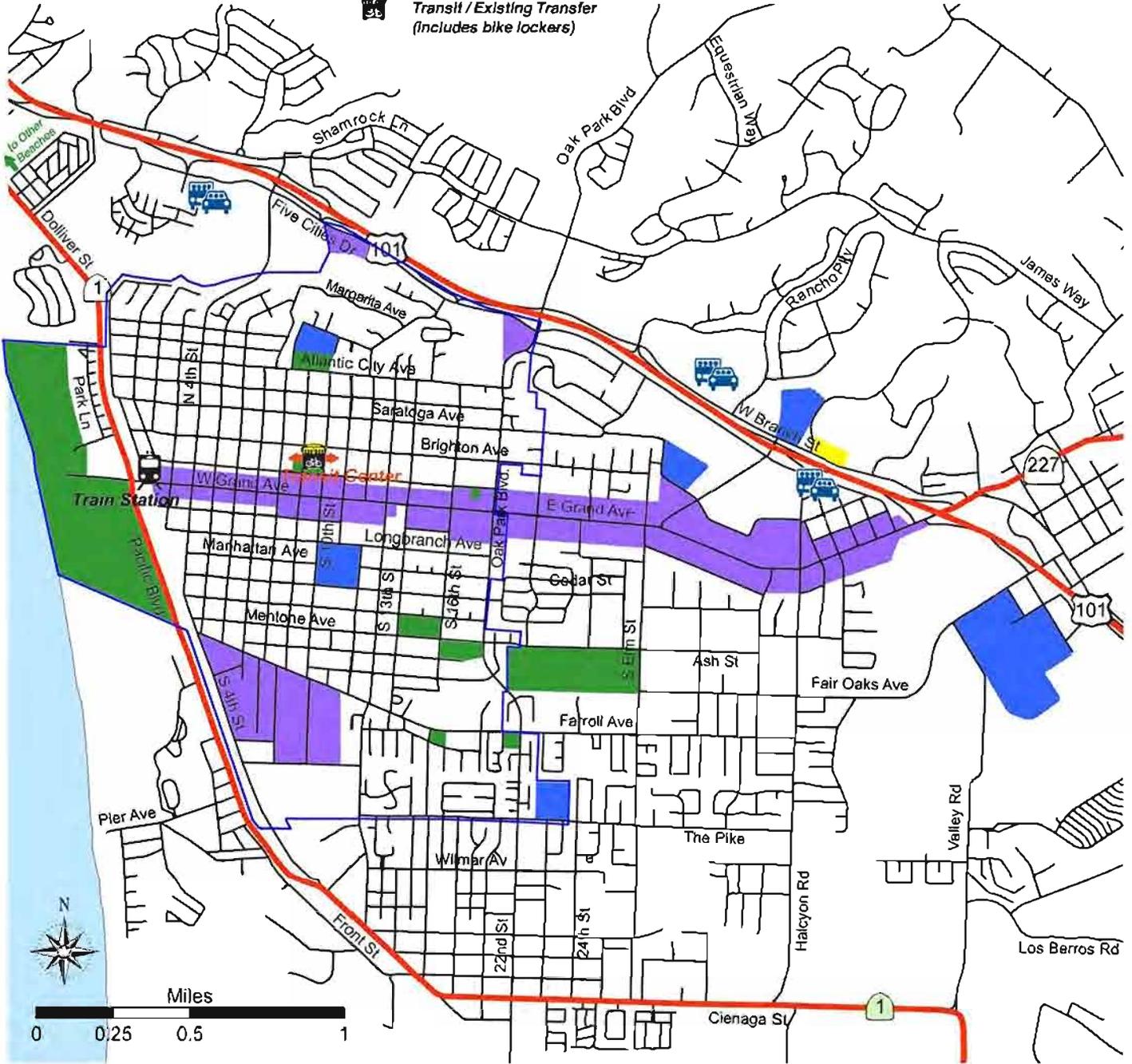
Existing Bicycle Corridors and Parking Inventory

Source: City of Grover Beach, Figure CE-3 & Omni-Means

Figure 3

Legend:

- Employment Centers
- School
- Park / Recreation Area
- Library
- Park & Ride (Existing & Potential Transfers)
- Train / Potential Transfer
- Transit / Existing Transfer (Includes bike lockers)



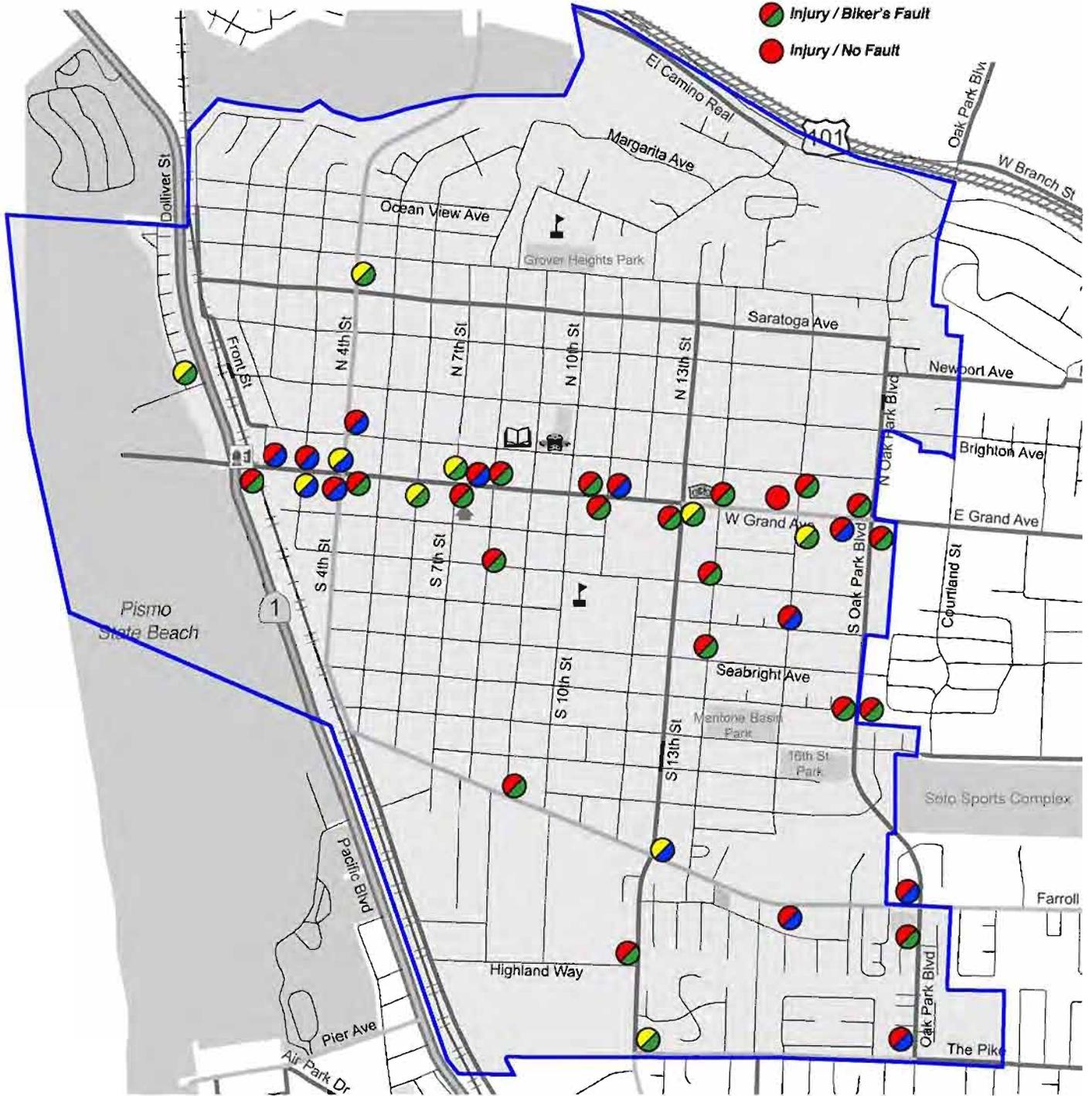
Bicycle Destinations and Transfers

Source: Firms

Figure 4

Legend:

-  Property Damage / Driver's Fault
-  Property Damage / Biker's Fault
-  Injury / Driver's Fault
-  Injury / Biker's Fault
-  Injury / No Fault



Bicycle Accidents 2007 - 2010

Source: City of Grover Beach

Figure 5



3.0 Bicycle Master Plan

3.1 GOALS, POLICIES AND IMPLEMENTATION MEASURES

The following Goals, Policies and Implementation Measures, and the Bikeway Master Plan Exhibit (Figure 6), provide the City with specific measures for improving the bicycle facilities within the city limits. Unless otherwise identified, it is assumed that Community Development and Public Works Department staff will be responsible to establish or undertake specific implementation measures. It should also be noted that the policies identified in this document are not organized in any particular order of priority. The City should review the Bicycle Master Plan document periodically as to the priority of implementation based on feasibility to implement and available funding.

3.1.1 Bikeway Route Development

Goal 1: A comprehensive network of bicycle and trail facilities that connect residential neighborhoods to commercial areas, parks and schools.

Goal 2: A safe, convenient and connected bikeway system that meets the transportation and recreational needs of riders of all skill levels and complements other transportation types including automobiles, transit, trains and pedestrians.

Goal 3: Provide a balanced transportation system consistent with the General Plan Circulation Element that provides residents a variety of transportation choices including automobile, transit, bicycle, and pedestrian options.

Policies

1. Provide a range of bikeway types, including bike lanes on arterial streets, bike lanes on selected collector streets, bike routes on selected low volume/low speed streets and off-street bike paths.
2. Provide convenient connections between residential areas, schools, parks, public transit stops, shopping centers, employment centers and other destinations.
3. Work cooperatively with neighboring jurisdictions to pursue connections to neighboring jurisdictions to ensure regional bicycle accessibility. Coordinate with Pismo Beach, Arroyo Grande and the County to ensure bicycle lane striping and signage connects seamlessly at city limits on Grand Avenue, Oak Park Boulevard, 4th Street, Mentone / Ash Street, Farroll Road, the Pike (south side improvements) and Highway 1.
4. Work with neighboring cities to identify opportunities for development of a Beach Cities Multi-Use Trail in the Beach / Highway 1 corridor.
5. Promote land use development that enhances connectivity for transportation and recreation use, and lessens the distance of bicycle and pedestrian travel between uses.
6. Designate Class III on-street bike routes to provide connections between or to Class I and Class II bikeways in situations where there is not adequate street width or right-of-way, or as an interim facility until the street can be widened to accommodate a Class II bike lane. ,
7. Where a bikeway designation transitions from a Class II bike lane to Class III bike route, signs shall be installed to inform motorists that bicycles will be sharing the road.
8. Locate bicycle crossings at appropriate intervals

along City roadways as determined by the City Engineer. Work with Caltrans to provide safe and , convenient crossings of State highways and freeways at regular intervals.

9. Provide bicycle signal detectors per local and state law (AB 1581) at new or significantly modified signalized intersections with bike lanes and, if feasible, retrofit existing traffic signals so that bike detection is provided.

10. Evaluate signal timing at intersections that do not allow sufficient time for cyclists to clear the intersection.

11. Provide continuity in the design and consistent construction of bikeway facilities.

12. Work with Union Pacific Railroad Company (UPRR) and the California Public Utilities Commission (CPUC) to plan and construct safe and convenient crossings of the UPRR railroad tracks and right-of-way.

Implementation Measures

1. Bikeway construction projects shall conform to the City Construction Standards, and state and federal standards.

2. City and private development projects shall be reviewed for conformance with the goals, policies and implementation measures of the Bicycle Master Plan.

3. The Public Works Department shall work with other departments to create a checklist for the evaluation of development projects for conformity to the Bicycle Master Plan.

4. The City shall consider participating in regional bicycle and pedestrian planning activities.

5. The City shall coordinate bikeway system projects internally and with adjacent jurisdictions, where appropriate.

6. The City shall provide training for appropriate staff, commissions and committees on the guiding principles of bicycle and pedestrian system transportation planning, design and maintenance.

3.1.2 Bikeway support facilities

Goal: A comprehensive bikeway system with adequate support facilities to serve the needs of commuter and recreational bicycle riding.

Policies

1. Provide support facilities such as trailhead parking lots, route map displays, rest areas/benches, drinking water, and bike racks along bike routes. Support facilities may be provided with parks and other public facilities or provided separately.

2. Conveniently locate bike racks and other short-term parking facilities at city parks and recreational facilities, state parks, schools and educational institutions, the train depot and business entrances.

3. Provide safe, secure and covered long-term bike parking (bike lockers, bike rooms, bike cages) at city parks and recreational facilities, employment sites and Park and Ride facilities.

4. Encourage major employment centers and commercial uses to provide amenities such as showers and changing facilities onsite for employees that bicycle to work or while at work.

Implementation Measures

1. The City shall consider updating the Municipal Code (Zoning Ordinance) to include additional requirements for bike facilities as detailed in measures following.

2. The City shall develop standards for bicycle parking

in the public realm of Downtown Core and other pedestrian activity areas.

3. The City shall adopt guidelines for and encourage the installation of showers and changing facilities for employees at major employment sites.

4. The City shall consider partnerships with public and private facilities for use of showers and changing rooms by commuting or touring bicyclists.

5. Designated bike routes shall include signs informing motorists of the presence of bicyclists and information signs informing cyclists of upcoming destinations in accordance with California Manual of Uniform Traffic Devices and the City Standards.

6. The City shall provide destination signs, trail maps, mile markers, open space and bikeway regulation signs on bike paths where appropriate.

7. Require development projects (private and public) to install amenities such as bicycle racks, lockers and showers as a condition of approval.

3.1.3 Maintenance

Goal: Provide well maintained bikeways and support facilities to ensure preservation of the public capital improvements and to provide safe and convenient facilities for cyclists and other trail users.

Policies

1. Sweep all streets with Class II or III designation at regular time intervals.

2. Develop guidelines for routine maintenance and long-term maintenance of Class I (off-street) bike paths.

3. Review street maintenance overlay projects and other construction projects within the public right-of-way and along designated bikeways for conformance

with the Bicycle Master Plan. Where facilities are not in conformance with the Bicycle Master Plan and current City standards, the facilities may be brought up to standards where determined feasible.

4. Require construction projects that damage existing bicycle facilities to restore those facilities to pre-construction condition at developer/contractor expense.

5. Construction projects within public right-of-way should address bicycle safety and movement per Federal, State and Local standards.

6. Require developers/contractors to maintain clear and clean paths of travel for cyclists when construction operations occur adjacent to Class II and III bikeways.

Implementation Measures

1. The City shall inspect bikeways and support facilities on a regular basis.

2. The City shall seek funding from new development projects for bikeway maintenance.

3. The City shall work cooperatively with local bicycle groups, neighborhood associations, and businesses to establish a bikeways maintenance program that address litter cleanup, pet waste cleanup, and as appropriate other bike path and open space maintenance activities.

4. The City shall update the Construction Standards to include standard provisions for Traffic Control Plans per the following:

- Construction signs should be placed outside bike lanes where feasible;
- Where a bike lane will be closed for an extended period, advance warning signs may be provided for bicyclists.

3.1.4 Enforcement

Goal: Provide a functional enforcement programs to increase bicycle safety and reduce violations and bicycle injuries.

Policies

1. Strictly enforce bicycle safety laws focused on helmets for children and adults, failure to stop/yield, wrong way bike riding, and night riding without lights/reflectors.
2. Strictly enforce the California Vehicle Code and local laws relating to motorist failure to yield or stop for cyclists, excessive motor vehicle speed, and driving under the influence.

Implementation Measures

1. The Police Department shall be involved in periodic review of the accident and safety aspects of the updates to the Bicycle Master Plan.

3.1.5 Education

Goal 1: Increase bike rider and motorist awareness of the rights and responsibilities of bike riders in order to create a climate of acceptance for bike riding, reduce bike rider violations, improve safe bicycling and driving practices, reduce collisions, and increase bicycle riding to work, school, and other destinations.

Goal 2: Increase awareness of users of multi-use paths of the rights and responsibilities of the various users.

Policies

1. Provide education programs targeted to adults and children that explain safe bike riding techniques and the importance of proper helmet use, and provide information on the city bikeway system and support facilities.
2. Provide education programs targeted to school-age

children that acknowledge and recognize the unique challenges associated with child and youth bike riders.

3. Raise motorist awareness of the rights of bicyclists to ride on the road, and provide motorists information on ways they can modify their driving behavior to more safely accommodate bicyclists.

Implementation Measures

1. The City shall work with Regional Rideshare and the San Luis Obispo County Bicycle Coalition to encourage promotional and educational activities within the community.

2. The City shall work with Lucia Mar Unified School District to identify potential bicycle education programs in schools, and to promote Safe Routes to School programs.

3. The City shall consider implementing a citywide helmet promotion program.

4. The City shall develop education materials (e.g. handouts, videos) for presentation to media, schools, neighborhood groups, businesses and other groups that promote bicycle safety.

5. The City shall develop criteria and promote trail etiquette for use of off-street bike paths by bicyclists, pedestrians, equestrians (if applicable), skaters, and persons with disabilities.

6. The City shall coordinate education and encouragement efforts with public health agencies, schools, and/or other social organizations.

3.1.6 Encouragement

Goal: Increase transportation and recreation bicycle riding to work, school, play and other destinations by 50 percent by 2020, and gain acceptance of bicycle commuting as a mainstream activity.

Policies

1. Encourage cycling and walking through a variety of programs and coalitions with local businesses, schools, clubs, bike shops and organizations.
2. Explore methods to provide incentives to individuals or businesses commuting to work by bicycle or walking.
4. Support recreational bikeway facilities, programs and events as an important part of the effort to cultivate acceptance of bicycling among the general populace.

Implementation Measures

1. Continue to support regional efforts to promote biking such as May Is Bike Month, and International Walk/Bike to School day.
2. Enhance incentives for bicycle commuting such as May Is Bike Month.
3. Sponsor, in association with local bicycle organizations, bicycle parking at special events.
4. Sponsor, in association with local /regional bicycle organizations or other groups, bicycle/ triathlon events and races, or other similar events.
5. Support efforts of local bicycle groups to establish a bicycle station that delivers bicycle parking, showers, restrooms, bicycle services.

3.1.7 Environmental

Goal 1: Reduce traffic, improve air quality, and reduce emissions that contribute to climate change by providing a viable commute alternative to the automobile.

Goal 2: Enhance public access to open space and natural areas while minimizing the environmental

impacts.

Policies

1. Promote the beneficial aspects of bicycling with the use of established bicycle promotional programs such as May is Bike Month.
2. Work collaboratively with other jurisdictions to provide bike/trail projects in the Five Cities Area and the region.,
3. Provide informational signage along Class I Bike Paths and trails located within or adjacent to open space areas such as Meadow Creek and Pismo Lakes. Plan for signage that includes interpretive signs informing the public of the environmental resources present and directing users to behave in a manner that reduces impacts on the open space.
4. Comply with applicable Local, State and Federal environmental regulations.
5. Provide Class I Bike Paths and trails that have minimal effects on the environment and natural resources.

Implementation Measures

1. The City will coordinate with local, state and federal agencies on the planning, environmental review, design, construction and maintenance of bike or trail projects located within or in proximity to sensitive environmental areas such as creeks and estuaries.
2. The City will partner with health organizations, where appropriate, to promote bicycling and healthy communities.

3.1.8 Funding

Goal: Secure adequate funding for construction and maintenance of bikeways and support facilities, and education, encouragement, enforcement and evaluation programs.

Policies

1. Create a bikeway system that is cost effective to construct and maintain.
2. Maximize funding opportunities through a combination of federal, state and local sources, including development agreements, community facilities districts and grants.
3. Utilize grant funds to leverage local bikeway funds.
4. Where feasible and appropriate, include bike lane improvements consistent with the Design/Construction Standards as part of Capital Improvement Program projects.
5. Where appropriate, partner bike path projects with flood control, redevelopment, utilities access, air quality improvement and open space/ stream restoration projects.
6. Where bikeway projects cross jurisdictional boundaries, partner with adjacent jurisdictions as feasible to reduce costs.
7. Consider establishing development impact fees that can be used to improve bike facilities.

Implementation Measures

1. Submit grant applications in accordance with the City's guidelines as grant programs become available.
2. Coordinate bikeway projects internally and with other agencies to determine partnering potential.
3. Continue to require new development to improve bike facilities within their project and / or as part of roadway improvements associated with a project.

3.1.9 Evaluation

Goal: Evaluate the effectiveness of the City's bicycle programs and the efforts to implement the overarching bikeway goals of the General Plan and the Bicycle Master Plan on an on-going basis.

Policies

1. Establish and implement a plan for regular measurement of the amount of cycling taking place in the City.
2. Annually review bicycle collision data to identify commonalities and trends and identify engineering, maintenance, enforcement, education and encouragement efforts to reduce collisions and injuries.

Implementation Measures

1. The City shall prepare an annual report summarizing the bicycle program and collision data, and identify a work plan to address any concerns in the report.

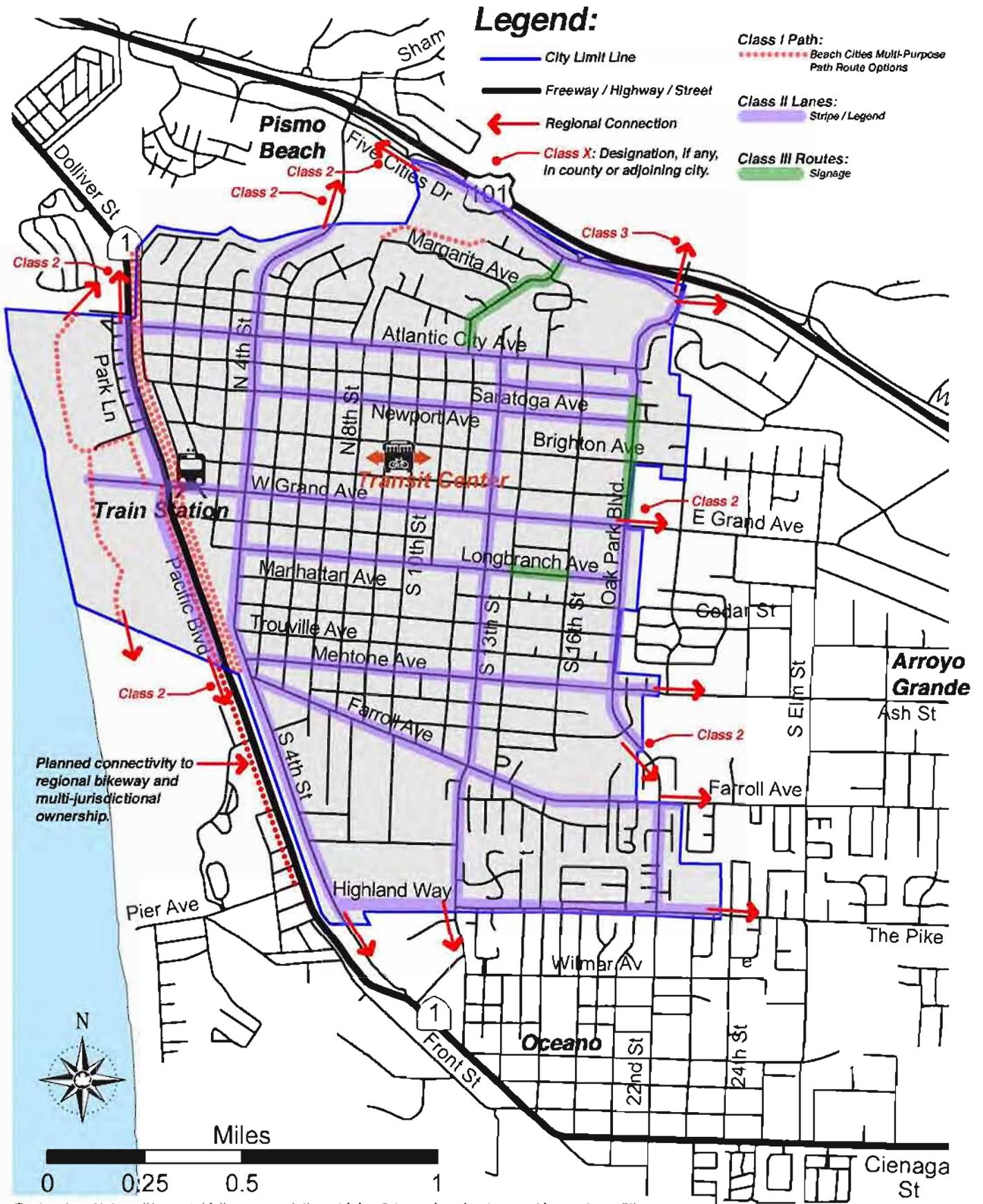
3.2 PROPOSED BIKEWAY MASTER PLAN

The proposed **Bikeway Master Plan System** (Figure 6) and **Bikeway Mater Plan Implementation** (Figure 7) illustrate the network of bikeways intended to serve the City and provide improved bikeway conditions for those biking through the region. Section 4.2 and Table A list the bicycle improvement projects and priorities.

Bikeways are listed by Class I, II or III, and are defined as follows:

- **Class I Bikeway (Bike Path)** - Provides completely separated path for the exclusive use of bicycles and pedestrians with cross-flow minimized.
- **Class II Bikeway (Bike Lane)** - Provides a striped lane for one-way bike travel on a street or highway.

- **Class III Bike Route, Level A** - Provides shared use with motor vehicle traffic, is identified by Bike Route signs. These routes are intended to have a minimum amount of paving (at least 2-ft) beyond the travel lane to provide more room for bicyclists.
- **Class III Bike Route, Level B** - Unsigned “bike routes” that provides “Share the Road” only signage on roads that are very narrow, winding, or difficult to widen due to physical /environmental constraints.

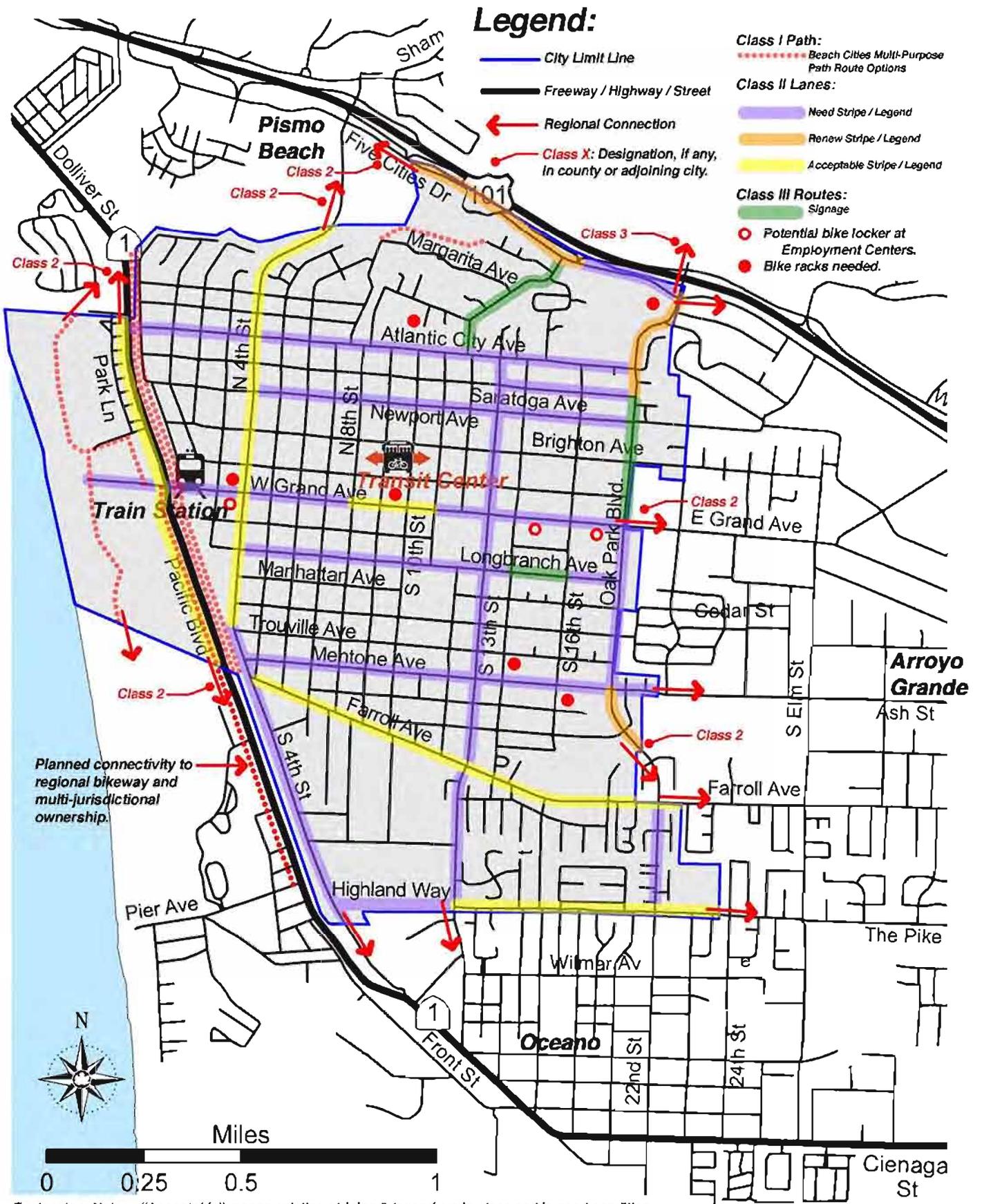


Explanatory Notes: "Acceptable" means existing striping & legend are in place and in good condition.
 "Renew" means existing striping needs painting.
 "Need" means the corridor is planned for striping & legend.

Bicycle Master Plan System

Source: firma & Omni-Means

Figure 6



Explanatory Notes: "Acceptable" means existing striping & legend are in place and in good condition.
 "Renew" means existing striping needs painting.
 "Need" means the corridor is planned for striping & legend.

Bicycle Master Plan Implementation

Source: firma & Omni-Means

Figure 7



4.0 Prioritization Strategy

4.1 PAST EXPENDITURES

From 2005 through 2009 the City has installed bicycle lane striping on six road segments as part of street improvement projects. The expenditure over this period was \$29,639. The street segments striped include:

- West Grand Avenue Enhancement, 2nd Street to 4th Street
- S. 4th Street, Seabright to West Grand Avenue
- S. 13th Street, West Grand Ave to Manhattan
- N. 4th Street, Ocean View Ave to City Limits
- N. 4th Street, West Grand Avenue to Ocean View Avenue
- Meadow Creek Bridge and Storm Drain Project

In addition, the City expended \$61,649 for the Longbranch Aveeue Demonstration Project study and \$40,594 for the Beach Cities Multi-Purpose Trail Feasibility Study.

4.2 PROPOSED FACILITY IMPROVEMENTS, COST AND PRIORITIES

Table A summarizes the proposed bicycle facility improvements, grouped by general priority, with an estimated cost in 2010 dollars. The priorities should be re-evaluated periodically by the City based on changing needs and fund availability.

Bike Master Plan

Table A – Improvement Projects, Priorities and Cost

Priority	Facility type ¹	Project	Length	Cost ²	Notes
1	2	Oak Park Blvd- US 101 to Saratoga: renew stripe	1,637 lf	\$3,421	
1	2	Oak Park Blvd- Mentone to Farroll: renew stripe	1,742 lf	\$3,641	
3	3	Oak Park Blvd- signage	-	\$5,000	
2	2	W. Grand Ave- Oak Park to 11 th : stripe and legend	2,587 lf	\$12,392	
2	2	W. Grand Ave- 8 th to beach: stripe and legend	3,960 lf	\$18,968	
2	2	Atlantic City Ave- 4 th to Oak Park	5,174 lf	\$24,785	
2	2	Saratoga Ave- 13 th St to Oak Park	1,848 lf	\$8,852	
2	2	Newport Ave- 4 th St to Oak Park Blvd	5,174	\$24,785	
2	2	Mentone Ave- Oak Park to 4 th : Stripe and legend	4,435	\$21,244	
2	2	Longbranch Ave- Oak Park to 4 th : Stripe and legend	4,435 lf	\$21,244	14 th to 16 th class 3 route
2	2	13 th Street-Atlantic City to the Pike: stripe and legend	7,550 lf	\$36,164	Segments will need full street width to implement
1	2	El Camino Real- 101 interchange west to City limit: Renew stripe	2,745 lf	\$5,738	
2	2	El Camino Real- 101 interchange east to City limit: Stripe and legend	1,478 lf	\$7,081	
2	2	Atlantic City- 4 th to Front St: stripe and legend	1,584 lf	\$7,587	Segments will need full street width to implement
2	2	4 th Street-Trouville to south City limit: Stripe and legend	4,382 lf	\$20,991	Segments will need full street width to implement
2	2	The Pike/Highland Way- 13 th to S. 4 th : strip	1,584 lf	\$7,587	Install with planned new street
3	3	12 th Street-Atlantic City to ECR: class 3 signage		\$1,000	
4	4	Bike rack and locker at Train Depot		\$10,000	
4	4	Bike rack program for parks		\$10,000	
4	4	Bike locker facilities at employment centers	3	\$50,000	

Bike Master Plan

Table A – Improvement Projects, Priorities and Cost

4	1	Beach Cities Multi Use Trail-option D ³		TBD	
4	1	Beach Cities Multi Use Trail-option A South of Grand to City limit segment		TBD	
4	1	Beach Cities Multi Use Trail-option A 4 th Street to ECR segment		TBD	
4	1	Beach Cities Multi Use Trail-option B South of Grand to City Limit		TBD	
4	1	Beach Cities Multi Use Trail-option E		TBD	
4	1	Beach Cities Multi Use Trail-option F		TBD	
4	4	Beach Cities Multi-Use Trail- UPRR bike / ped overpass bridge		TBD	

TBD indicates "To be determined"

Footnotes

1. Facility Types are: 1= Class 1 path, 2= Class 2 lane, 3= Class 3 route, 4= other facility
2. Based on recent City bid, the cost per block (370 linear feet) for a Class 2 lane is \$1,775 (\$4.79 / lf) and includes bike lane signs (4), bike lane symbol, 6 inch strip, 10% contingency and all design and management costs. Stripe and symbol renewal only is calculated at \$775 per block or \$2.09 / lf.



5.0 Funding Opportunities

There are a variety of potential funding sources that can be used for bicycle projects, programs and plans from all levels of government. This section covers federal, state, regional and local sources of funding, as well as some non-traditional funding sources that may be used for bicycle projects.

5.1 FEDERAL FUNDING SOURCES

The primary federal source of surface transportation funding, including bicycle and pedestrian facilities, is the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users. This Federal bill was established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act, and renewed in 1998 and extended in 2003 through the Transportation Equity Act for the 21st Century and the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003. Also known as the Federal Transportation Bill, it was passed in 2005 and authorizes federal surface transportation programs for the five-year period.

In late September 2009, as the 2005 federal transportation bill (SAFETEA-LU) was set to expire, a debate emerged in Congress regarding the length of time to extend the current bill while new policy is created. Rather than a simple reauthorization of existing policy, a new bill is being crafted with new policies and funding formulas, in recognition of the urgency of national needs -- obesity prevention, escalating fuel prices, the need for energy independence from Middle East oil, and perhaps most important, the battle against global climate change. In December 2009 Congress voted to extend the current bill until September 2010.

Federal funding is administered through the state (Caltrans and the State Resources Agency) and regional planning agencies. Most, but not all, of these funding programs are oriented toward transportation

versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Many Federal programs require a local match of between 10-20%. Federal funding is intended for capital improvements and safety and education programs and projects must relate to the surface transportation system.

Federal Lands Highway Funds

Federal Lands Highway Funds may be used to build bicycle and pedestrian facilities in conjunction with roads and parkways at the discretion of the department charged with administration of the funds. The projects must be transportation-related and tied to a plan adopted by the State and Metropolitan Planning Organization. Federal Lands Highway Funds may be used for planning and construction and is managed by the United States Department of Transportation.

Transportation, Community and System Preservation Program

The Transportation, Community and System Preservation Program provides federal funding for transit oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers. The program is intended to provide communities with the resources to explore the integration of their transportation system with community preservation and environmental activities. The Program funds require a 20% match and can be applied to planning, design and construction and is administered through the Federal Highway Administration.

Land and Water Conservation Fund

The Land and Water Conservation Fund is a federally funded program that provides grants for planning and acquiring outdoor recreation areas and facilities. The Fund is administered by the National Parks Service and the California Department of Parks and Recreation and has been reauthorized until 2015. Cities, counties and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply. The application deadline is in May, and applicants must fund the entire project, and will be reimbursed for 50% of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use.

Congestion Mitigation and Air Quality Improvement Program

(CMAQ) CMAQ Funds are directed to transportation projects and programs which contribute to the attainment or maintenance of National Ambient Air Quality Standards in non-attainment or air quality maintenance areas for ozone, carbon monoxide, or particulate matter under provisions in the Federal Clean Air Act. Eligible projects include bicycle facilities.

Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program is managed locally by Caltrans. For a project to be eligible for HSIP funds, the project must be on any public road, publicly owned bicycle, pedestrian pathway, or trail. Projects must identify a specific safety problem that can be corrected or be improved substantially.

Regional Surface Transportation Program (RSTP)

Regional Surface Transportation Program (RSTP) funding is distributed based on population, among the urbanized and non-urbanized areas of the State through Metropolitan Planning Organizations (MPOs) and Regional Transportation Planning Agencies (RTPAs). Bicycle facilities are eligible for funding through this federally administered program.

Safe Routes to School (SRTS)

Eligible projects fall under the category of infrastructure (capital improvements), or non-infrastructure (education, encouragement, enforcement). Infrastructure projects must be located within a two mile radius of a grade school or middle school. Local Caltrans representatives serve as the administrative authority on SRTS projects.

Transportation Enhancements (TE)

Federal Transportation Enhancement funds are to be used for transportation-related capital improvement projects that enhance quality-of-life, in or around transportation facilities. Facilities that qualify for TE funds include bicycle safety, education and facility projects. Transportation Enhancements projects are managed locally by Caltrans.

5.2 STATEWIDE FUNDING SOURCES

Bicycle Transportation Account

The Bicycle Transportation Account provides state funding for local projects that improve the safety and convenience of bicycling for transportation. Because of its focus on transportation, Bicycle Transportation Account projects must provide a demonstrable level of utility for transportation purposes. For example, all in-town on-street and paved bikeways would be good candidates for funding. Funds are available for both planning and construction. Bicycle Transportation Account funding is administered by Caltrans and cities and counties must have an adopted Bicycle Transportation Plan in order to be eligible. The maximum amount available through the Bicycle Transportation Account is \$1.2 million dollars, cities and counties are eligible to apply. All projects must be designed to the standards outlined in Chapter 1000 of the Highway Design Manual. The application deadline is in December.

Community Based Transportation Planning Demonstration Grant Program

This fund, administered by Caltrans, provides funding for projects that exemplify livable community concepts including bicycle improvement projects. Eligible applicants include local governments, metropolitan planning organizations and regional transportation planning agencies. A 20% local match is required and projects must demonstrate a transportation component or objective. There is \$3 million available annually statewide. The application deadline is in October.

Safe Routes to School (SR2S)

To be eligible for SR2S funds, the project must be located on any state highway or on any local road. Projects must correct an identified safety hazard or problem on a route that students use for trips to and from school. Up to 10 percent of the project's cost can fund a non infrastructure component that supports the infrastructure project. Only cities and counties are eligible to compete for funds. State Transportation Improvement Program (STIP) All STIP projects must be capital projects (including project development costs) needed to improve transportation. Eligible projects include bicycle facility improvements and improved access to transit and are administered by Caltrans.

Transportation Development Act

Transportation Development Act Article 3 funds are state block grants awarded monthly to local jurisdictions for transit, bicycle and pedestrian projects in California by Caltrans. Funds for pedestrian projects originate from the Local Transportation Fund, which is derived from a ¼ cent of the general state sales tax. Local Transportation Funds are returned to each county based on sales tax revenues. Article 3 of the Transportation Development Act sets aside 2% of the Local Transportation Funds for bicycle and pedestrian projects. Eligible pedestrian and bicycle projects include: construction and engineering for capital projects; maintenance of bikeways; bicycle safety education programs (up to 5% of funds); and development of comprehensive bicycle or pedestrian facilities plans. A city may use these funds to update their bicycle and pedestrian plan not more than once every five years. These funds may be used to meet local match requirements for federal funding sources. Application deadlines vary within county transportation agencies.

5.3 LOCAL AND REGIONAL FUNDING SOURCES

Developer Impact Fees

Traffic Impact Fees placed on new development typically cover the ultimate build-out of roadways associated with project improvements. The fees are reviewed and updated by the City periodically to reflect current economic conditions and costs to improve.

5.4 NON-TRADITIONAL FUNDING SOURCES

The Community Development Block Grant program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal Community Development Block Grant grantees may “use [these] funds for activities that include (but are not limited to): acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities, paying for planning and administrative expenses, such as costs related to developing a consolidated plan and managing Community Development Block Grant funds; provide public services for youths, seniors, or the disabled; and initiatives such as neighborhood watch programs.”

Appendix A

State Highway Code

Full text of Streets and Highways code,
Section 890-894.2

890. It is the intent of the Legislature, in enacting this article, to establish a bicycle transportation system. It is the further intent of the Legislature that this transportation system shall be designed and developed to achieve the functional commuting needs of the employee, student, business person, and shopper as the foremost consideration in route selection, to have the physical safety of the bicyclist and bicyclist's property as a major planning component, and to have the Town or county to accommodate bicyclists of all ages and skills.

890.2. As used in this chapter, "bicycle" means a device upon which any person may ride, propelled exclusively by human power through a belt, chain, or gears, and having either two or three wheels in a tandem or tricycle arrangement.

890.3. As used in this article, "bicycle commuter" means a person making a trip by bicycle primarily for transportation purposes, including, but not limited to, travel to work, school, shopping, or other destination that is a center of activity, and does not include a trip by bicycle primarily for physical exercise or recreation without such a destination.

890.4. As used in this article, "bikeway" means all facilities that provide primarily for bicycle travel. For purposes of this article, bikeways shall be categorized as follows:

(a) Class I bikeways, such as a "bike path," which provide a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized.

(b) Class II bikeways, such as a "bike lane," which provide a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and cross flows by pedestrians and motorists permitted.

(c) Class III bikeways, such as an on-street or off-street "bike route," which provide a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists.

890.6. The department, in cooperation with county and Town governments, shall establish minimum safety design criteria for the planning and construction of bikeways and roadways where bicycle travel is permitted. The criteria shall include, but not be limited to, the design speed of the facility, minimum widths and clearances, grade, radius of curvature, pavement surface, actuation of automatic traffic control devices, drainage, and general safety. The criteria

shall be updated biennially, or more often, as needed.

890.8. The department shall establish uniform specifications and symbols for signs, markers, and traffic control devices to designate bikeways, regulate traffic, improve safety and convenience for bicyclists, and alert pedestrians and motorists of the presence of bicyclists on bikeways and on roadways where bicycle travel is permitted.

891. All Town, county, regional, and other local agencies responsible for the development or operation of bikeways or roadways where bicycle travel is permitted shall utilize all minimum safety design criteria and uniform specifications and symbols for signs, markers, and traffic control devices established pursuant to Sections 890.6 and 890.8.

891.2. A Town or county may prepare a bicycle transportation plan, which shall include, but not be limited to, the following elements:

(a) The estimated number of existing bicycle commuters in the plan area and the estimated increase in the number of bicycle commuters resulting from implementation of the plan.

(b) A map and description of existing and proposed land use and settlement patterns which shall include, but not be limited to, locations of residential neighborhoods, schools, shopping centers, public buildings, and major employment centers.

(c) A map and description of existing and proposed bikeways.

(d) A map and description of existing and proposed end-of-trip bicycle parking facilities. These shall include, but not be limited to, parking at schools, shopping centers, public buildings, and major employment centers.

(e) A map and description of existing and proposed bicycle transport and parking facilities for connections with and use of other transportation modes. These shall include, but not be limited to, parking facilities at transit stops, rail and transit terminals, ferry docks and landings, park and ride lots, and provisions for transporting bicyclists and bicycles on transit or rail vehicles or ferry vessels.

(f) A map and description of existing and proposed facilities for changing and storing clothes and equipment. These shall include, but not be limited to, locker, restroom, and shower facilities near bicycle parking facilities.

(g) A description of bicycle safety and education programs conducted in the area included within the plan, efforts by the law enforcement agency having primary traffic law enforcement responsibility in the area to enforce provisions of the Vehicle Code pertaining to bicycle operation, and the resulting effect on accidents involving bicyclists.

(h) A description of the extent of citizen and community involvement in development of the plan, including, but not limited to, letters of support.

(i) A description of how the bicycle transportation plan has been coordinated and is consistent with other local or regional transportation, air quality, or energy conservation plans, including, but not limited to, programs that provide incentives for bicycle

commuting.

(j) A description of the projects proposed in the plan and a listing of their priorities for implementation.

(k) A description of past expenditures for bicycle facilities and future financial needs for projects that improve safety and convenience for bicycle commuters in the plan area.

891.4. (a) A Town or county that has prepared a bicycle transportation plan pursuant to Section 891.2 may submit the plan to the county transportation commission or transportation planning agency for approval. The Town or county may submit an approved plan to the department in connection with an application for funds for bikeways and related facilities which will implement the plan. If the bicycle transportation plan is prepared, and the facilities are proposed to be constructed, by a local agency other than a Town or county, the Town or county may submit the plan for approval and apply for funds on behalf of that local agency.

(b) The department may grant funds applied for pursuant to subdivision (a) on a matching basis which provides for the applicant's furnishing of funding for 10 percent of the total cost of constructing the proposed bikeways and related facilities. The funds may be used, where feasible, to apply for and match federal grants or loans.

891.5. The Sacramento Area Council of Governments, pursuant to subdivision (d) of Section 2551, may purchase, operate, and maintain call boxes on Class I bikeways.

891.8. The governing body of a Town, county, or local agency may do all of the following:

(a) Establish bikeways.

(b) Acquire, by gift, purchase, or condemnation, land, real property, easements, or rights-of-way to establish bikeways.

(c) Establish bikeways pursuant to Section 21207 of the Vehicle Code.

892. (a) Rights-of-way established for other purposes by cities, counties, or local agencies shall not be abandoned unless the governing body determines that the rights-of-way or parts thereof are not useful as a non-motorized transportation facility.

(b) No state highway right-of-way shall be abandoned until the department first consults with the local agencies having jurisdiction over the areas concerned to determine whether the right-of-way or part thereof could be developed as a non-motorized transportation facility. If an affirmative determination is made, before abandoning the right-of-way, the department shall first make the property available to local agencies for development as non-motorized transportation facilities in accordance with Sections 104.15 and 887.6 of this code and Section 14012 of the Government Code.

892.2. (a) The Bicycle Transportation Account is continued in existence in the State Transportation Fund, and, notwithstanding Section 13340 of the Government Code, the money in the account is continuously appropriated to the department for expenditure for the purposes specified in Section 892.4. Unexpended moneys shall be

retained in the account for use in subsequent fiscal years.

(b) Any reference in law or regulation to the Bicycle Lane Account is a reference to the Bicycle Transportation Account.

892.4. The department shall allocate and disburse moneys from the Bicycle Transportation Account according to the following priorities:

(a) To the department, the amounts necessary to administer this article, not to exceed 1 percent of the funds expended per year.

(b) To counties and cities, for bikeways and related facilities, planning, safety and education, in accordance with Section 891.4.

892.5. The Bikeway Account, created in the State Transportation Fund by Chapter 1235 of the Statutes of 1975, is continued in effect, and, notwithstanding Section 13340 of the Government Code, money in the account is hereby continuously appropriated to the department for expenditure for the purposes specified in this chapter. Unexpended money shall be retained in the account for use in subsequent fiscal years.

892.6. The Legislature finds and declares that the construction of bikeways pursuant to this article constitutes a highway purpose under Article XIX of the California Constitution and justifies the expenditure of highway funds therefore.

893. The department shall disburse the money from the Bicycle Transportation Account pursuant to Section 891.4 for projects that improve the safety and convenience of bicycle commuters, including, but not limited to, any of the following:

(a) New bikeways serving major transportation corridors.

(b) New bikeways removing travel barriers to potential bicycle commuters.

(c) Secure bicycle parking at employment centers, park-and-ride lots, rail and transit terminals, and ferry docks and landings.

(d) Bicycle-carrying facilities on public transit vehicles.

(e) Installation of traffic control devices to improve the safety and efficiency of bicycle travel.

(f) Elimination of hazardous conditions on existing bikeways.

(g) Planning.

(h) Improvement and maintenance of bikeways.

In recommending projects to be funded, due consideration shall be given to the relative cost effectiveness of proposed projects.

893.2. The department shall not finance projects with the money in accounts continued in existence pursuant to this article which could be financed appropriately pursuant to Article 2 (commencing with Section 887), or fully financed with federal financial assistance.

893.4. If available funds are insufficient to finance completely any project whose eligibility is established pursuant to Section 893, the project shall retain its priority for allocations in subsequent fiscal years.

893.6. The department shall make a reasonable effort to disburse funds in general proportion to population. However, no applicant

shall receive more than 25 percent of the total amounts transferred to the Bicycle Transportation Account in a single fiscal year.

894. The department may enter into an agreement with any Town or county concerning the handling and accounting of the money disbursed pursuant to this article, including, but not limited to, procedures to permit prompt payment for the work accomplished.

894.2. The department, in cooperation with county and Town governments, shall adopt the necessary guidelines for implementing this article.

Appendix B

Design Guidelines

Bicycle Facility Design Guidelines

DESIGN GUIDELINES

This section provides basic bikeway planning and design guidelines for use in developing bikeway system and support facilities. Where noted, designs are for elements required by the State of California for compliance with Caltrans Highway Design Manual Chapter 1000 “Bikeway Planning and Design” guidelines. Otherwise, these guidelines include additional recommendations, providing information on optional design treatments. Although this information meets Caltrans requirements it is not intended to state a minimum or maximum accommodation or to replace any existing adopted roadway design guidelines. Also included in this Chapter, are experimental or nonstandard best practices with information about optional innovative bikeways and support facilities that have not been adopted by the Manual of Uniform Traffic Control Devices (MUTCD) or State of California for use in California and do not meet Caltrans Chapter 1000 design requirements. All facility designs are subject to Public Works engineering design review and approval.

Bikeway Facility Classifications

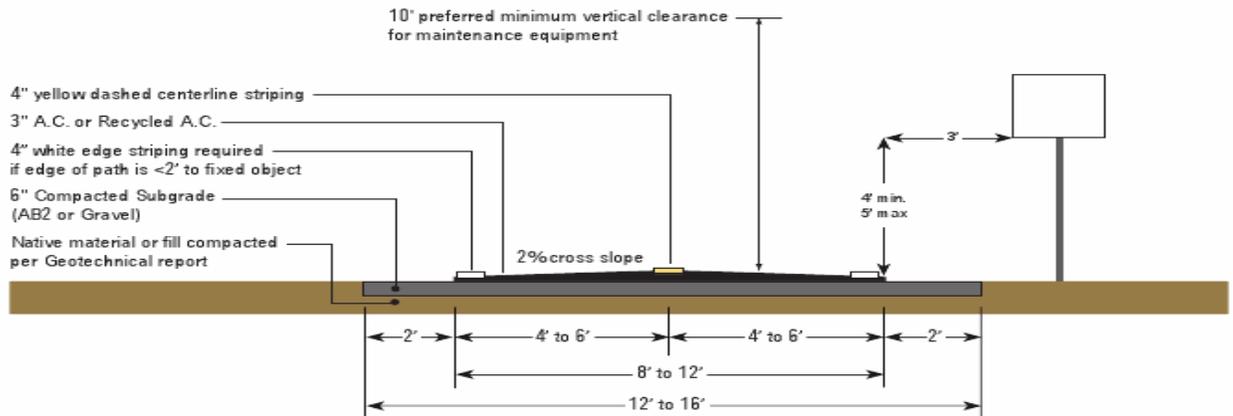
According to Caltrans, the term “bikeway” encompasses all facilities that provide primarily for bicycle travel. Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I, Class II, and Class III. For each type of bikeway facility both “Design Requirements” and “Additional Design Recommendations” are provided. “Design Requirements” contain requirements established by Caltrans Chapter 1000 “Bikeway Planning and Design.” “Additional Design Recommendations” are provided as guidelines to assist with design and implementation of facilities and include alternate treatments approved or recommended but not required by Caltrans.

Class I Bikeway Design

Typically called a “bike path” or “shared use path,” a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. The recommended width of a shared use path is dependent upon anticipated usage:

- 8 feet (2.4 m) is the minimum width for Class I facilities
 - 8 feet (2.4 m) may be used for short neighborhood connector paths (generally less than one mile in length) due to low anticipated volumes of use
 - 10 feet (3.0 m) is the recommended minimum width for a typical two-way bicycle path
-

Bicycle Facility Design Guidelines



Implementation on Level Ground



Implementation on Sloped Ground

- 12 feet (3.6 m) is the preferred minimum width if more than 300 users per peak hour are anticipated, and/or if there is heavy mixed bicycle and pedestrian use a minimum 2 feet (0.6 m) wide graded area must be provided adjacent to the path to provide clearance from trees, poles, walls, guardrails, etc. On facilities with expected heavy use, a yellow centerline stripe is recommended to separate travel in opposite directions.

Class I Bikeway Crossing Designs At-Grade Intersection

When shared-use paths cross streets, proper design should be developed on the pathway as well as on the roadway to alert bicyclists and motorists of the crossing. Sometimes on larger streets, at midblock pathway crossing locations

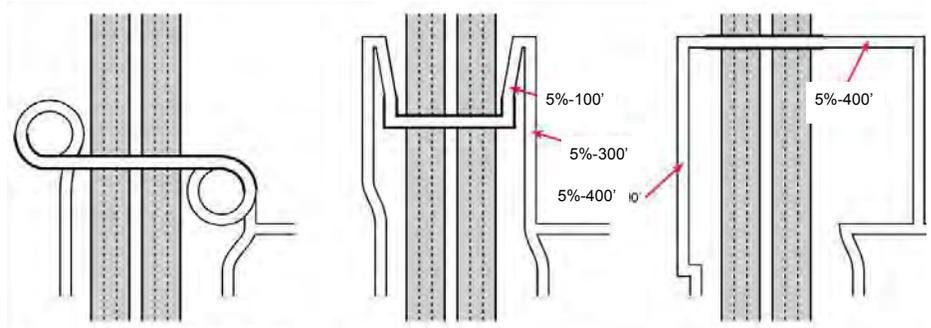
Bicycle Facility Design Guidelines

an actuated signal is necessary. A signal allows bicyclists a clear crossing of a multi-lane roadway. If a signal is or is not needed, appropriate signage and pavement markings should be installed, including stop signs and bike crossing pavement markings.

Overcrossings

Overcrossings are also an important component of bikeway design. Barriers to bicycling often include freeways, complex interchanges, and rivers. When a route is not available to cross these barriers a bicycle overcrossing is necessary. Some design considerations for overcrossings include:

- Pathways must be a minimum 6 feet wide, with a preferred width of 8 or 10 feet wide
- Slope of any ramps must comply with ADA Guidelines
- Screens are often a necessary buffer between vehicle traffic and the bicycle overcrossing

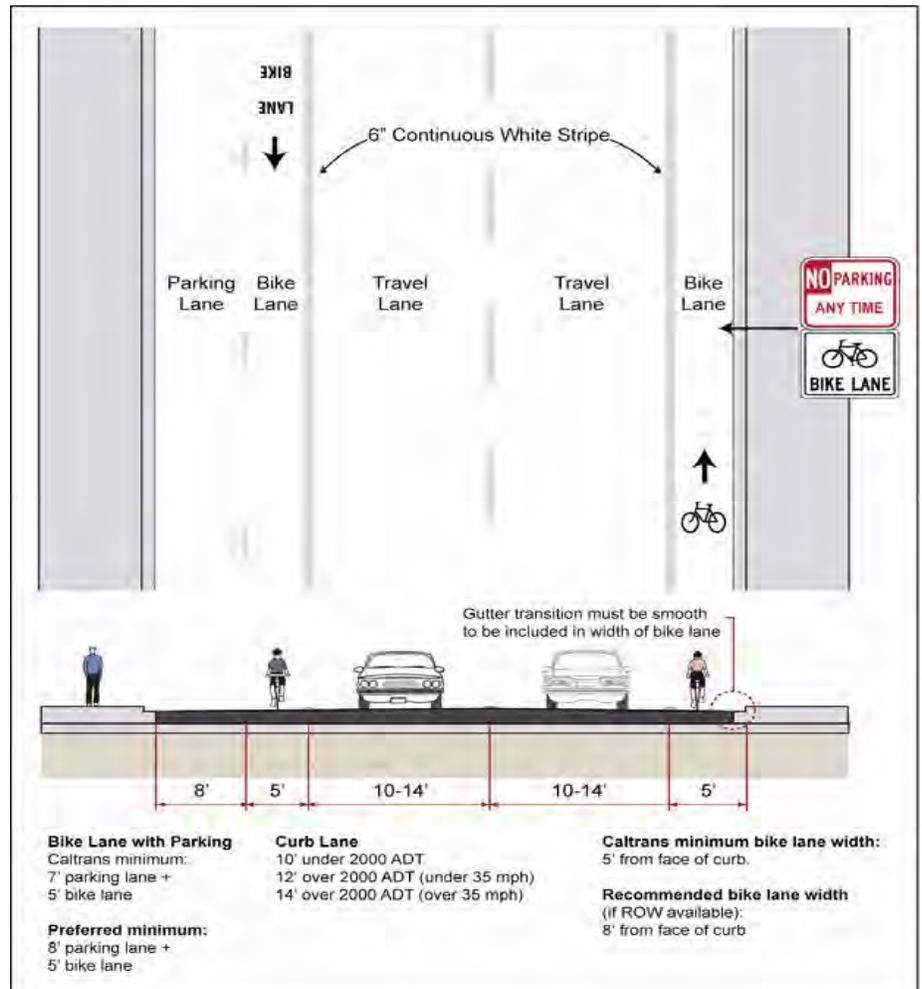


Class II Bikeway Design

Often referred to as a “bike lane,” a Class II bikeway provides a striped and stenciled lane for one-way travel on either side of a street or highway. To provide bike lanes along corridors where insufficient space is currently available, extra room can be provided by removing a traffic lane, narrowing traffic lanes, or prohibiting parking. The width of the bike lanes vary according to parking and street conditions. Note that these dimensions are for reference only, may not meet City of Standards and are subject to engineering design review.

- 4 feet (1.2 m) minimum if no gutter exists, measured from edge of pavement
 - 5 feet (1.5 m) minimum with normal gutter, measured from curb face; or 3' (0.9 m) measured from the gutter pan seam
-

Bicycle Facility Design Guidelines



- 5 feet (1.5 m) minimum when parking stalls are marked
- 11 feet (3.3 m) minimum for a shared bike/parking lane where parking is permitted but not marked on streets without curbs; or 12 feet (3.6 m) for a shared lane adjacent to a curb face.

Class II Intersection Design-Signalized Intersections

Intersections represent a primary collision point for bicyclists. Small intersections with few lanes are relatively easy to manage. Large, multi-lane intersections are more difficult for bicyclists to travel through than smaller, two-lane intersections.

Challenges and potential solutions for bicyclists' at large signalized intersections include:

- Signals may not be timed to allow slower-moving bicyclists to travel across the intersection. Solution: Bicycle adaptive signal timing.

Bicycle Facility Design Guidelines

- Loop detectors or video detection that is used to actuate the signal may not be calibrated to detect bicyclists. Solution: Design standard of bike loop use.
- Bicyclists may not know how to actuate the signal using loop detectors, even if it is calibrated. Solution: Use of bike loop detector symbol.
- Bicyclists who are traveling straight may have to merge across motor vehicle traffic that is turning right from a right-turn lane. Solution: Bike lane pockets at intersections, between through and right turn lanes.

Design treatments can help bicyclists travel through intersections and alert motorists of bicyclists' presence. Good intersection design alerts motorists to bicyclists, indicates to motorists and bicyclists where bicyclists may ride, and guides bicyclists through intersections. This treatment provides a design for where a roadway with Class II bike lanes intersects with a road at a signalized intersection.

Bicycle Actuated Signals & Adaptive Signal Timing

Making intersections more “friendly” to bicyclists, involves modifying how they operate. Improved signal timing, calibrating loop detectors to detect bicyclists, and camera detection makes intersections easier for bicyclists to cross intersections. Loop detectors are installed within the roadway to allow the metal of a motor vehicle to trigger a change in the traffic signal. Many standard motor vehicle loop detectors can be calibrated to detect bicycles. This allows the bicyclist to stay within the lane of travel and avoid maneuvering to the side of the road to trigger a push button. Signals can be configured so that if a bicycle is detected, an extended green time can be provided.

Signal Timing

Cities often apply signal timing techniques to enhance bicycle travel along major streets. For instance, closely-spaced signals (e.g., along one-way streets in City areas) can be timed to match bicyclists' travel speeds. Signals timed for speeds of 12 to 16 MPH enable most bicyclists to ride comfortably with traffic. Signal timing should also take into account the necessary time needed for a bicyclist to cross a wide intersection. Activation devices can also be used on a roadway approach to prolong the green phase and extend the time needed for a bicyclist to clear the intersection. Standards suggest

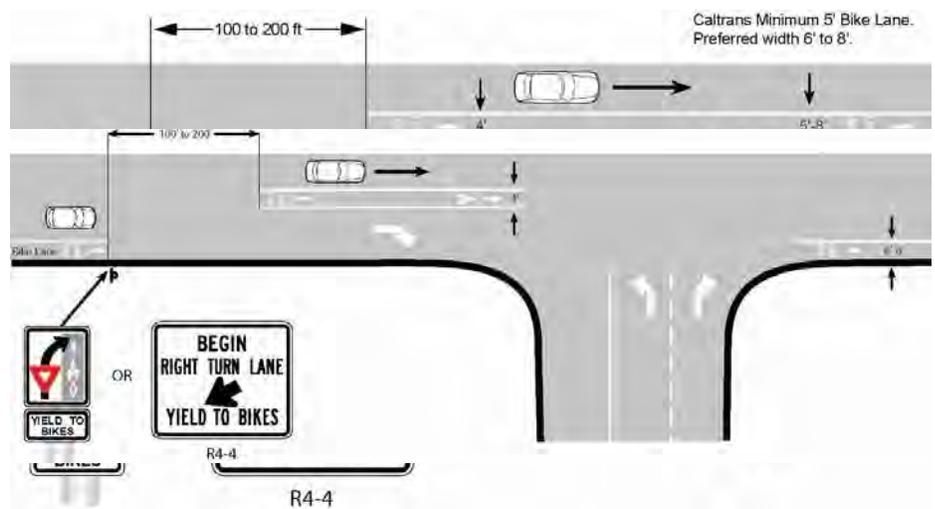
Bicycle Facility Design Guidelines

intersections utilize markings to indicate the location where a bicyclist is to be positioned in order to actuate a signal. Adjacent signage is also recommended to emphasize the connection between the marking and the signal.

Right-Turn Only Lanes

Right-turn only lanes can present challenges for bicyclists traveling through an intersection. Bicyclists must merge to the left to position themselves in the through travel lane. Jurisdictions will sometimes stripe bike lanes on the right-side of right-turn only lanes, which places the through-cyclist in direct conflict with a right-turning vehicle. The appropriate treatment for right-turn only lanes is to either drop the bike lane entirely approaching the right-turn lane, or to place a bike lane pocket between the right-turn lane and the right-most through lane.

Freeway Ramps



Freeway on- and off-ramp crossings present a potential conflict zone for bicyclists and motorists, as bicycle lanes are typically dropped and bicyclists must merge across travel lanes where vehicles are accelerating or decelerating from freeway speeds. The appropriate bicyclist behavior is to merge left away so as to be positioned in the through lane well before the mouth of the on-ramp, and to remain out away from the curb until past the off-ramp. Implementation of interchange improvements requires coordination with Caltrans regarding placement of signage and striping because these areas are in Caltrans' right-of-way. Three guidelines for these improvements are:

- The bicycle merge should begin 250 feet in advance of the freeway on-

Bicycle Facility Design Guidelines

ramp.

- Appropriate signage and striping should be used to warn bicyclists and motorists of the merge.
- Bicycle improvements to freeway ramps

At-Grade Railroad Crossings

City of has at-grade railroad crossings for existing and proposed bikeways. If bicyclists do not ride at a 90 degree angle over the tracks, bicyclists' wheels can catch in the tracks and potentially lead to a collision.

Class III Bikeway Design

Generally referred to as a “bike route,” a Class III bikeway provides routes through areas not served by Class I or II facilities or to connect discontinuous segments of a bikeway. Class III facilities can be shared with either motorists on roadways or pedestrians on a sidewalk (not advisable) and is identified only by signing. There are no recommended minimum widths for Class III facilities, but when encouraging bicyclists to travel along selected routes, traffic speed and volume, parking, traffic control devices, and surface quality should be acceptable for bicycle travel.

Although it is not a requirement, a wide outside traffic lane (14 feet) is typically preferable to enable cars to safely pass bicyclists without crossing the centerline. Caltrans Chapter 1000 provides details regarding the design requirements for placement and spacing of bicycle route signage.

On-Street Regulatory & Warning Bike Signs

Signage for on-street bikeways includes standard BIKE LANE and BIKE ROUTE signage, as well as supplemental signage such as SHARE THE ROAD and warning signage for constrained bike lane conditions. Signage should be installed on existing signposts if possible, reducing visual clutter along the path or roadway.

Shared Roadway Bicycle Marking

Recently, Shared Lane Marking stencils have been introduced for use in California as an additional treatment for Class III facilities. The stencil can serve a number of purposes, such as making motorists aware of bicycles potentially in their lane, showing bicyclists the direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent “dooring” collisions.

Bicycle Facility Design Guidelines

Bike Route Signage

In addition to wayfinding signs, bike route network signage that uses the California Manual of Uniform Traffic Control Devices (CAMUTCD) standard should be used by local jurisdictions. Route numbering for these signs should be coordinated with neighboring jurisdictions where bikeways cross borders. Most commonly, they show the route number and the corresponding direction.

For bike route signs, CAMUTCD requires a green background and white lettering. The top portion of the sign is customizable for the City or region where it is located.

Multi-Use Path Signs

Local jurisdictions should work together to create a sign system for the multi-use path network. It is an expanding network that could link with many destinations countywide. Signs could show destinations as well as proper traffic control. These signs could be coordinated with other on-street bicycle route signage. This system should encourage use of trails for recreational as well as functional bicycling trip-purposes. Helping bicyclists of all ages reach destinations easily.

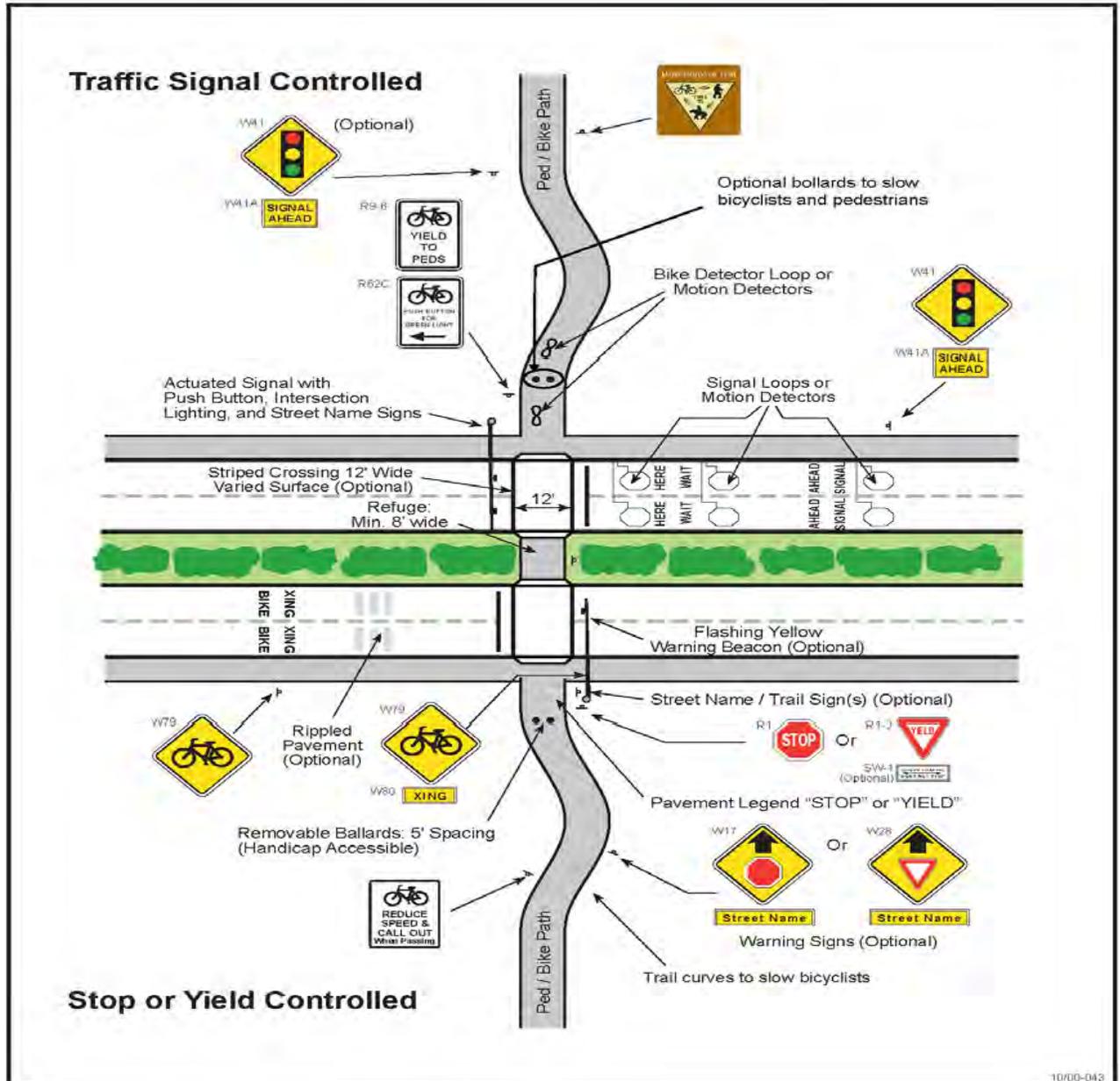
Wrong-Way Signs

The local jurisdictions may want to consider additional signage on bikeways with high levels of wrong-way riding. The City of Sunnyvale, places wrong way riding signs on the back of bike lane signs to help prevent bicyclists using bicycle lanes in the wrong direction, riding against traffic.

Parallel Path Warning Signage

When paths are located parallel and adjacent to roadways, vehicles turning into and out of streets and driveways must cross the path. Conflicts between bicyclists and pedestrians and turning motorists are common at these types of intersections. Turning motor vehicles do not expect to see bicyclists or pedestrians coming in the opposite direction of traffic. Starting in the early 1990's, the City of Denver, Colorado began using experimental warning signage at its parallel paths. The signage is modified from the standard MUTCD railroad warning signage. Experimental signage, similar to the Denver parallel path warning signs, could help alert motorists to the presence of bicyclists and pedestrians on parallel paths.

Bicycle Facility Design Guidelines



Short Term Bicycle Parking

Short term bicycle parking facilities are best used to accommodate visitors, customers, messengers and others expected to depart within two hours. Bicycle racks provide support for the bicycle but do not have locking mechanisms. Racks are relatively low-cost devices that typically hold between two and eight bicycles, allow bicyclists to securely lock their frames and wheels, are secured to the ground, and should be located in highly visible areas, preferably at the

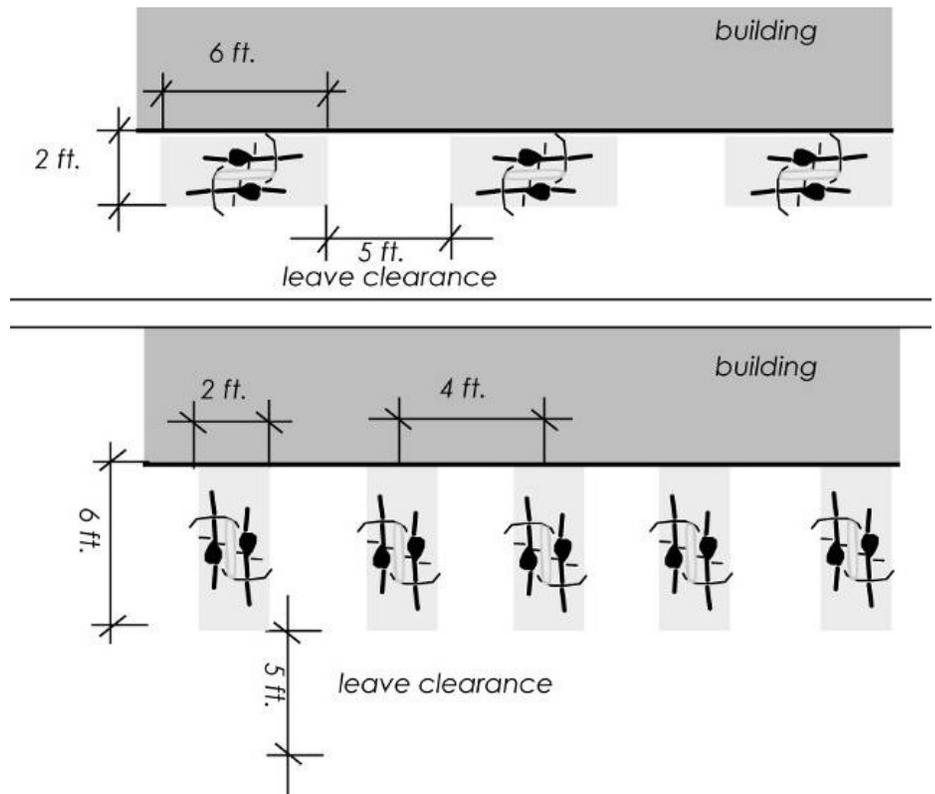
Bicycle Facility Design Guidelines

front of a building. They are usually located at schools, commercial locations, and activity centers such as parks, libraries, retail locations, and civic centers.

Bike Rack Guidelines

Bicycle racks should be installed in accordance to the Association of Pedestrian and Bicycle Professionals Bicycle Parking Guidelines (<http://www.apbp.org/?page=Publications>) with the following guidelines in mind:

- The rack element (part of the rack that supports the bike) should keep the bike upright, supporting the frame in two places and allowing one or both wheels to be secured.
-
- Install racks so there is enough room between adjacent parked bicycles. If it



becomes too difficult for a bicyclist to easily lock their bicycle, they may park elsewhere. A row of inverted “U” racks should be installed with 15 inches minimum between racks.

- Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway’s clear zone. When possible, racks should be in a covered area protected from the elements.
-

Bicycle Facility Design Guidelines

- Long-term parking should always be protected.
- Generally, 'U' type racks bolted into the sidewalk are preferred and should be located intermittently or in front of key destinations.
- Bicycle racks should be installed to meet ADA standards and not block pedestrian through traffic.

The City may want to consider / encourage custom racks that can serve not only as Bicycle racks, but also public artwork.

Long Term Bicycle Parking

Long-term bicycle parking facilities accommodate employees, students, residents, commuters, and others that typically expect to park for more than two hours. These parking facilities should be provided in a secure, weather protected manner and location.



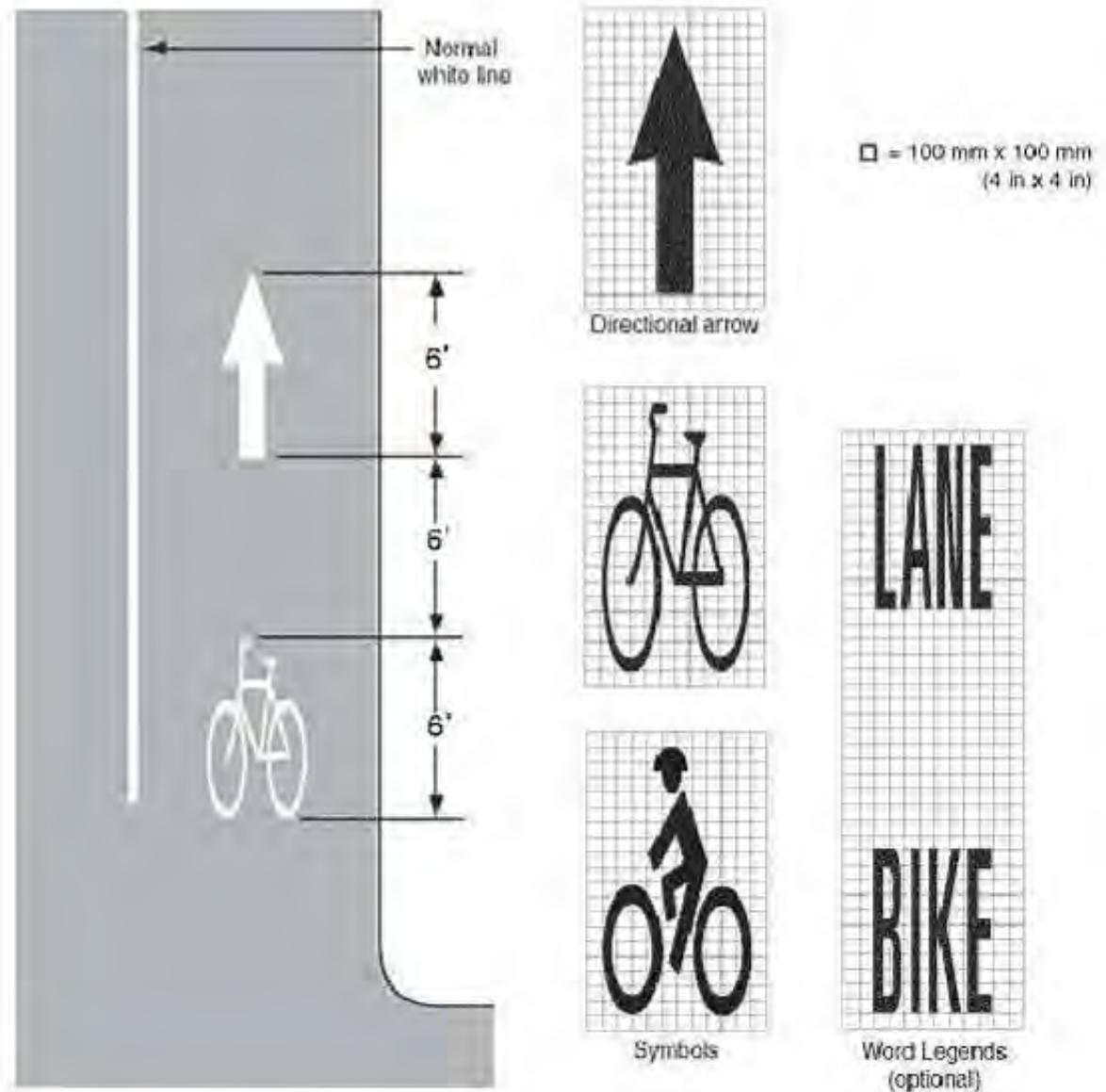
For long-term parking, the City may want to consider / encourage bicycle lockers. Bicyclists are usually more comfortable storing bicycles in lockers for long periods because they offer increased security and protection from natural elements. Although they may be more expensive to install, they can make the difference for commuters deciding whether or not to bicycle. The park and ride lot located on the east side of the Horseshoe Bar Road interchange and the park and ride / bus transfer lot at the rail station are excellent opportunities to locate long term bike parking facilities.

Lockers can be controlled with traditional key systems or through more elaborate subscription systems. Subscription locker programs, like e-lockers, or park-by-phone systems allow even more flexibility within locker use. Instead of restricting access for each patron to a single locker, subscribers can gain access to all lockers within a system, controlled by magnetic access cards, or caller ID. These programs typically have fewer administrative costs because they simplify or eliminate key management and locker assignment.

Pavement Marking Guidelines

The following exhibits are from the California MUTCD and depict typical striping, signage and marking for all bikeway facilities.

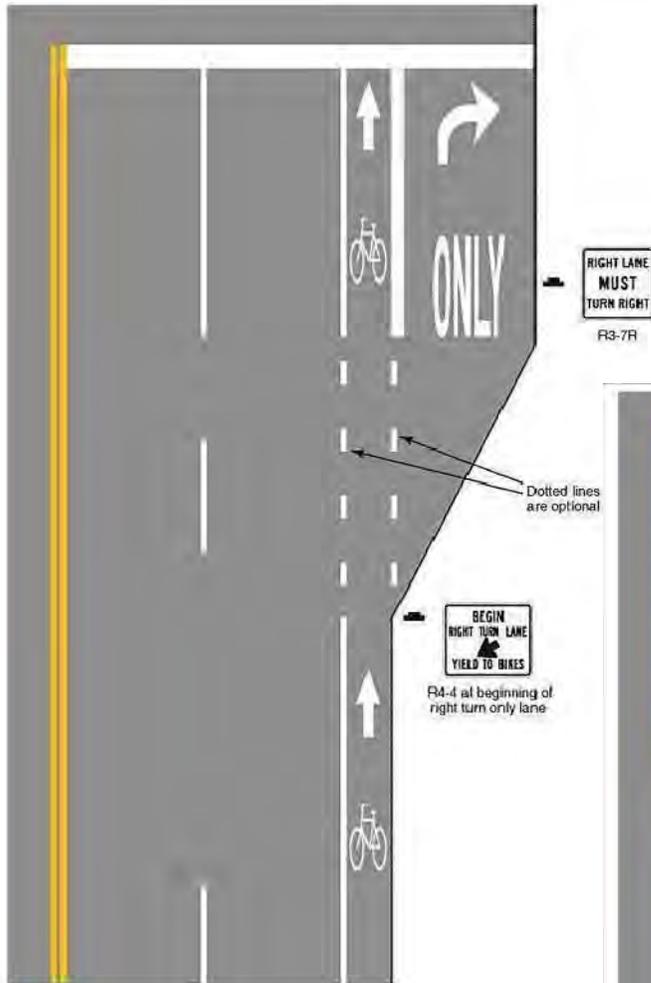
Bicycle Facility Design Guidelines



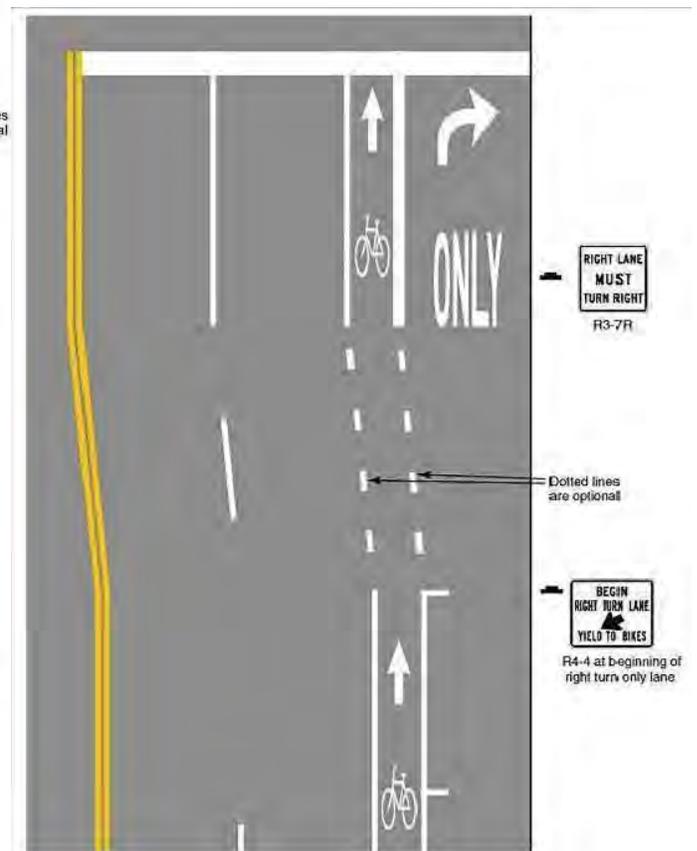
**TYPICAL BIKE LANE PAVEMENT DELINEATION
(ON 2-LANE OR MULTI-LANE ROADWAYS)**

SOURCE: CALIFORNIA MUTCD, FIGURE 8C-6

Bicycle Facility Design Guidelines



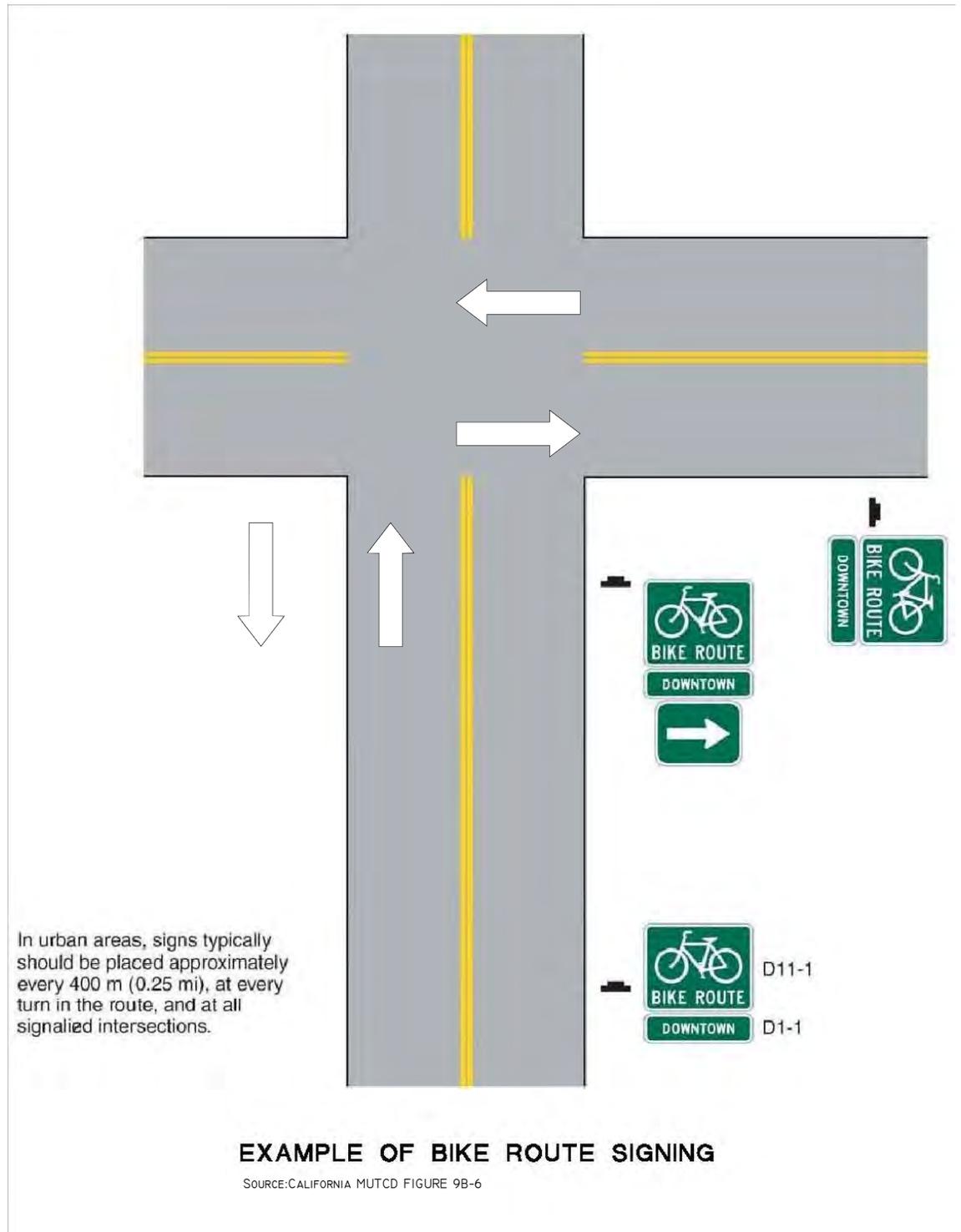
**TYPICAL BICYCLE LANE TREATMENT
AT A RIGHT TURN ONLY LANE
(ON 2-LANE OR MULTI-LANE ROADWAYS)**
SOURCE: CALIFORNIA MUTCD, FIGURE 9C-3



**TYPICAL BICYCLE LANE END TREATMENT AT
PARKING LANE INTO RIGHT TURN ONLY LANE
(ON 2-LANE OR MULTI-LANE ROADWAYS)**
SOURCE: CALIFORNIA MUTCD, FIGURE 9C-4

CLASS II BIKEWAY MARKINGS LOCATIONS

Bicycle Facility Design Guidelines



CLASS III BIKEWAY SIGNAGE LOCATIONS