

Transportation Agency for Monterey County Bicycle and Pedestrian Master Plan December 2011

PREPARED BY:
Alta Planning + Design

PREPARED FOR:
Transportation Agency for Monterey County

FUNDED IN PART BY:
Monterey Bay Unified Air Pollution Control District



Transportation Agency for Monterey County

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December 2011

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Executive Summary

This 2011 Transportation Agency for Monterey County Bicycle and Pedestrian Plan identifies existing and proposed bicycle and pedestrian facilities in Monterey County and the communities therein. As the administrator of bicycle and pedestrian related funding, the Agency will use this Plan to prioritize project funding.

The Agency developed this Plan with help from the Transportation Agency for Monterey County Bicycle and Pedestrian Facilities Advisory Committee (BPC), County of Monterey Public Works Department, bicycling community representatives and representatives from each of the incorporated cities in Monterey County. The input from these stakeholders helped update and refine the 2005 countywide bicycle network and identify specific pedestrian projects submitted by local cities and those within geographic focus areas based on the Associations of Monterey Bay Area Government’s Priority Development Areas.

Vision

The following vision statement sets the foundation on which this Plan’s goals and subsequent policies and objectives were developed.

This Plan envisions Monterey County with a transportation system that supports sustainability, active living and community where bicycling and walking are an integral part of daily life. The system will include a comprehensive, safe, and convenient bicycle and pedestrian network that will support bicycling and walking as a viable, convenient, and popular travel choice for residents and visitors.

Recommended Projects and Prioritization

The projects identified in this Plan were submitted by the cities within Monterey County, the County of Monterey, Caltrans, California State Parks and California State University Monterey Bay. Projects identified in the 2005 Bicycle Master Plan that have not been implemented are also included in the project list.

Bikeways

To help the Agency identify the bikeway projects that best satisfied the goals of this Plan, each project was scored against criteria measuring connectivity to multi-modal centers, schools and community activity centers, in addition to the ability of the project to close gaps in the existing network and provide safety benefits based on historical collision occurrences.

Goals

1. Increase and improve bicycle and pedestrian mobility across Monterey County.
2. Maintain and improve the quality, operation and integrity of bikeway and walkway network facilities.
3. Improve bicycle and pedestrian safety.
4. Increase the number of commute, recreation and utilitarian bicycle and pedestrian trips.
5. Increase the number of high quality support facilities to complement the bicycle network and walkway facilities.
6. Increase education and awareness of the value of bicycle and pedestrian travel for commute and non-commute trips.

Executive Summary

Table ES-1 lists the priority bikeway projects. The recommended “Class” of each bikeway is described in Caltrans bikeway terminology. Class I bikeways are multi-use paths that are physically separated from roadways; Class II bikeways are striped bike lanes; and Class III bikeways are signed bicycle routes where bicyclists and motorists share the outside travel lane. The costs provided in Table ES-1 are planning level estimates and as projects are implemented, detailed cost estimates will be developed. Appendix D presents the complete bikeway project list and ranking.

Table ES-1: Priority Bikeways

Rank	Name	Class	Start	End	Miles	Jurisdiction	Cost
1	Imjin Rd/12th St	2	Imjin Rd	Reservation Rd	2.72	Marina	\$2,200,000
2	Canyon del Rey Blvd	2	General Jim Moore Blvd	Hwy 68	0.76	Del Rey Oaks	\$32,500
3	Castroville Bicycle Path and Railroad Crossing	1	Axtell St	Castroville Blvd	0.31	County	\$5,995,000
4	Blanco Rd	2	Research Dr	Luther Way	5.16	County	\$221,880
5	Davis Rd	2	Blanco Rd	Rossi St	1.75	County	\$3,411,000
6	Blanco Rd	2	Luther Way	Abbott St	2.50	County	\$107,300
7	Broadway	2	Del Monte Blvd	Mescal St	1.58	Seaside	\$67,900
8	Hwy 68 Segment	2	Joselyn Canyon Rd	San Benancio Rd	8.17	Caltrans	\$351,300
9	Sanctuary Scenic Trail Segment 15	1	Moss Landing Rd	Elkhorn Bridge (N)	0.74	County	\$5,082,000
10	San Juan Grade Rd	2	Russell Rd	Boronda Rd	0.91	Salinas	\$39,200
10	San Juan Grade Rd	2	Herbert Rd	Rogge Rd	2.05	County	\$88,300
10	San Juan Grade Rd	3	Russell Rd	Rogge Rd	0.40	County	\$1,200
11	Gabilan Creek Path	1	Danbury St	Constitution Blvd	0.88	Salinas	\$569,300
12	Central Ave	2	Davis Rd	Hartnell College	0.45	Salinas	\$19,200
13	Hwy 68	2	San Benancio Rd	Salinas Creek Bridge (S)	4.40	County	\$189,300
14	Hatton Canyon Path	1	Carmel Valley Rd	Hwy 1	2.60	County	\$1,689,600
15	Aguajito Rd	3	Hwy 1	Monhollan Rd	2.53	County	\$7,600
16	Hwy 68 Bridge Widening at Salinas River Segment	3	Hwy 68	Salinas River	0.25	Caltrans	\$15,800,000
17	Ocean View	2	Asilomar Blvd	17 Mile Dr	2.31	Pacific Grove	\$99,100
18	General Jim Moore	2	Del Rey Oaks City Limit	Canyon Del Rey Blvd	0.43	Del Rey Oaks	\$18,300
19	Del Monte Blvd	2	Canyon del Rey Blvd	Broadway	0.20	Seaside	\$8,700
20	2nd Ave	2	3rd St	1st St	0.26	CSUMB	\$11,400
21	Sanctuary Scenic Trail Segment 4B	1	Tioga Ave	Monterey Peninsula Recreational Trail	0.42	Sand City	\$292,600
22	15th Ave	2	Bay View Ave	Rio Rd	0.80	County	\$34,300
23	Prunedale North Rd	2	San Miguel Canyon Rd	300' S of Hwy 156 overpass	1.06	County	\$45,700

Pedestrian Facilities

Cities within Monterey County, County of Monterey, Caltrans, California State Parks and California State University also submitted pedestrian projects they identified in their jurisdictions. The top five Class I multi-use paths were identified as the priority pedestrian projects because they accommodate the widest range of users while best satisfying the goals of this Plan.

Table ES-2: Priority Pedestrian Projects

Project	Class	Start	End	Miles	Jurisdiction	Cost
Castroville Path and Railroad Crossing	1	Axtell St	Castroville Blvd	0.31	County	\$5,995,000
Sanctuary Scenic Trail 15	1	Moss Landing Rd	Elkhorn Bridge (N)	0.74	County	\$5,082,000
Gabilan Creek Path	1	Danbury St	Constitution Blvd	0.88	Salinas	\$569,300
Hatton Canyon Path	1	Carmel Valley Rd	Hwy 1	2.60	County	\$1,689,600
Sanctuary Scenic Trail Segment 4B	1	Tioga Ave	Monterey Peninsula Recreational Trail	0.42	Sand City	\$292,600

Implementation

The Agency’s primary role regarding bicycle and pedestrian facility implementation is to distribute funding to local agencies for projects. Ultimately, Cities, the County and other agencies are responsible for implementing projects. The highest priority projects are estimated to cost \$48 million as shown in Table ES-3.

Chapter 9 provides a comprehensive list of funds available for bicycle and pedestrian projects and is intended to assist local agencies identify funding sources for the projects in this Plan. The information in this Plan can be used by local agencies to qualify for and strengthen funding applications.

Table ES-3: Priority Project Costs

Project Type	Cost
Priority Bikeways	\$36,282,680
Priority Pedestrian Projects	\$13,628,500
Total	\$47,752,280*

*** Gabilan Creek and Hatton Canyon Paths are both bicycle and pedestrian priority projects and their costs are counted only once in the total cost.**

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1. Introduction

This Plan presents recommended countywide bicycle and pedestrian projects for Monterey County. The Transportation Agency for Monterey County (Agency) is the County's Transportation Commission, the Regional Transportation Planning Agency, the Congestion Management Agency and the Service Authority for Freeways and Expressways and is responsible for distributing regional, state and federal funds related to bicycle and pedestrian projects. The Agency, in coordination with member agencies, developed this Plan to identify bikeways of countywide significance and focused areas for pedestrian improvements in order to prioritize funding and facilitate implementation of the countywide network.

The Monterey County region has consistently implemented safe and efficient bikeways and pedestrian facilities as part of its goal to reduce traffic volumes and enhance traffic safety. In 2005, the Transportation Agency for Monterey County adopted a Bicycle Master Plan. This Plan included a set of goals, objectives, and policies to guide the development in implementation of bikeway projects in Monterey County. Since then, a number of incorporated cities have adopted or updated their bicycle master plans, new regional policy documents were adopted and bicycling and walking increased in importance to the County's overall transportation system. This updated Bicycle Plan and appended Pedestrian Plan reinforces the region's goals for bicycle and pedestrian oriented projects and programs.

This 2011 Transportation Agency for Monterey County Bicycle and Pedestrian Plan identifies all existing and proposed bicycle projects and facilities of jurisdictions within the Monterey County region; and satisfies the General Bikeways Plan requirements set by the California Department of Transportation (California Streets and Highways Code Section 891.2). Many bicycle grants require applicants to have a state-approved Bikeways Plan. Without this plan, project applications may not be eligible.

The following member agencies are represented in this Plan and those with an asterisk have adopted bicycle and/or pedestrian plans:

- Carmel
- Del Rey Oaks
- Gonzales
- Greenfield
- King City
- Marina*
- Monterey*
- Pacific Grove
- Salinas*
- Sand City
- Seaside*
- Soledad
- County of Monterey*

This plan identifies regionally significant bicycle and pedestrian projects that will help guide the allocation of Transportation Agency for Monterey County (Agency) administered funds towards the regionally significant projects. These funds include the Transportation Development Act (TDA) Article 3 funds, which sets aside two percent per year for bicycle and pedestrian projects, Transportation Enhancement (TE) funds, and Congestion Mitigation and Air Quality (CMAQ) funds. The Agency developed this plan with help from the following agencies, departments and organizations.

- Transportation Agency for Monterey County Bicycle and Pedestrian Facilities Advisory Committee (BPC)
- County of Monterey Department of Public Works
- Bicycling community representatives
- Representatives from each of the incorporated cities in Monterey County

This plan contains a discussion of the benefits of bicycling and the state-mandated elements of the bikeways plan, including land use maps, existing and proposed bikeways, the priority listing of bicycle projects, and population information for the Monterey County region.

1.1. Plan Purpose

This Plan addresses the planning, design, funding, and implementation for a variety of bicycle and pedestrian infrastructure projects and programs in three ways:

- This Plan provides a new policy framework to guide the implementation and evaluation of this Plan's recommendations.
- The Plan updates and refines the countywide bicycle network. To maximize funding for bikeway projects, this plan prioritizes projects that close network gaps, improve high collision areas, and make connections to cities and activity centers.
- The Plan establishes geographic focus areas for countywide investment in pedestrian infrastructure, based on the Association of Monterey Bay Area Government's Priority Development Areas and need throughout the County. To assist jurisdictions with identifying specific pedestrian projects, the Plan describes minimum design guidelines for these focus areas.

1.2. Vision, Goals, Objectives and Policies

This section presents the vision, goals, objectives and policies to support bicycling and walking in Monterey County for years to come. The vision is a broad inspirational statement that presents desired future conditions. Goals and objectives direct the way the public improvements are made, including the allocation of resources, operation of programs, and determination of countywide priorities. Policies identify specific action areas to achieve this Plan's objectives. This Plan presents a framework of how to create and expand programs and improvements to increase bicycling and walking in Monterey County

1.2.1. Vision

The following vision statement expresses the desired bicycling and walking environment in Monterey County.

This Plan envisions Monterey County with a transportation system that supports sustainability, active living and community where bicycling and walking are an integral part of daily life. The system will include a comprehensive, safe, and convenient bicycle and pedestrian network that will support bicycling and walking as a viable, convenient, and popular travel choice for residents and visitors.

1.2.2. Goals

The six goals presented are broad statements of purpose; each addresses a topic designed to support the vision for bicycling and walking in Monterey County. These goals identify a strategy for improving non-motorized transportation.

1. Increase and improve bicycle and pedestrian mobility across Monterey County.
2. Maintain and improve the quality, operation and integrity of bikeway and walkway network facilities.
3. Improve bicycle and pedestrian safety.
4. Increase the number of commute, recreation and utilitarian bicycle and pedestrian trips.
5. Increase the number of high quality support facilities to complement the bicycle network and walkway facilities.
6. Increase education and awareness of the value of bicycle and pedestrian travel for commute and non-commute trips.

1.2.3. Objectives

Objectives are specific measurable action items that evaluate progress towards a goal. The following objectives identify actions developed to help the Plan's goals to be achieved.

1. Increase the mileage of transportation related bicycle facilities miles in Monterey County by 10 percent from 175 miles to 192 miles by the year 2015.
2. Complete the Monterey Bay Sanctuary Scenic Trail by the year 2025.
3. Implement the Bicycle and Pedestrian Master Plan over the next twenty (20) years.
4. Increase the number of trips made by bicycle from the existing 0.8 percent to three (3) percent by the year 2015.
5. Increase the number of walking trips from the existing 3.8 percent to 5 percent by the year 2015.
6. Reduce the number of bicycle and pedestrian related collisions, injuries and fatalities.
7. Provide maintained bikeways and walkways that are clean, safe, and encourage use.
8. Increase the number of bicycle and pedestrian support facilities.
9. Work with local agencies to institutionalize and promote education, encouragement and outreach bicycle and pedestrian programs.

1.2.4. Policies

The following policies identify specific action areas to achieve this Plan's objectives.

- Policy 1. Update the Agency Bikeways and Pedestrian Master Plan and Monterey County Bicycle Map in concert with the 5-year update schedule for the Regional Transportation Plan to document gaps on the regional bicycle and pedestrian facilities network and set priorities for funding projects.
- Policy 2. Implement the 2011 Bikeways and Pedestrian Master Plan over the next twenty (20) years.
- Policy 3. Prioritize the top ten Bikeways and Pedestrian Master Plan projects for funding.
- Policy 4. Identify gaps in the countywide regional bicycle facilities network and needed improvements to and within key pedestrian activity centers and county community areas, and define priorities for eliminating these gaps by making needed improvements.
- Policy 5. Support and encourage local efforts to require the construction of bicycle and pedestrian facilities and amenities, where warranted, as a condition of approval of new development and major redevelopment projects as part of Agency's goal to coordinate land use decision-making with regional transportation planning.
- Policy 6. Accommodate, and encourage other agencies to accommodate, the need for mobility, accessibility, and safety of bicyclists and pedestrians when planning, designing, and developing transportation improvements. Such accommodations could include:
 - a. Reviewing capital improvement projects to make sure that needs of non-motorized travel are considered in planning, programming, design, reconstruction, retrofit, maintenance, construction, operations, and project development activities and products.
 - b. Accommodating the needs of all travelers through a "complete streets" approach to designing new transportation improvements that includes sidewalks, bicycle lanes, crosswalks, pedestrian cut-throughs, or other bicycle and pedestrian improvements.
 - c. Designation of low-traffic bicycle boulevards incorporating traffic calming features to facilitate safe, direct, and convenient bicycle travel within jurisdictions.
- Policy 7. In order to facilitate regional travel by bicycle, encourage member agencies to construct bicycle facilities on new roadways as follows:
 - a. In coordination with regional and local bikeways plans,
 - b. According to the specifications in Chapter 1000 of the Department of Transportation Highway Design Manual,
 - c. With consideration of bicycle lanes (Class 2 facilities) on all new major arterials and on new collectors with an Average Daily Traffic (ADT) greater than 3,000, or with a speed limit in excess of 30 miles per hour, and
 - d. With special attention to safe design where bicycle paths intersect with streets.

- Policy 8.** Work to have some of the County’s bike routes incorporated into the United States Bicycle Route System, administered by the Adventure Cycling Association.
- Policy 9.** Work with agencies with jurisdictions over actuated intersections to:
- a. Conform with Caltrans requirements for bicycle detection at all new and modified actuated intersections, and
 - b. Encourage Caltrans conforming bicycle detection at all existing actuated intersections on designated bikeways.
- Policy 10.** Continue to administer the Bike Protection Program to subsidize the cost of bike racks and lockers in locations most heavily used by bicyclists.
- Policy 11.** Work with local agencies to develop a coordinated approach to bicycle signage, the system for which could include:
- a. Directional and destination signs along bikeways and shared use trails,
 - b. Location maps in downtown areas and other major pedestrian districts
 - c. A route identification system and common set of signs for the regional bicycle network identified in this Bicycle and Pedestrian Master Plan.
- Policy 12.** Determine funding needs for expanding and improving bicycle and pedestrian facilities, and seek funding for those needs.
- Policy 13.** Encourage routine maintenance of bikeway and walkway network facilities, as funding and priorities allow, including regular sweeping of bikeways and shared-use pathways. Programs to support these maintenance efforts could include:
- a. Sidewalk repair programs, including incentive to property owners to improve adjoining sidewalks beyond any required maintenance,
 - b. Continued administration of the Bicycle Service Request Form Program to alert public works departments to bicycle-related hazards,
 - c. Develop and administer a Pedestrian Service Request Form Program similar to the Bicycle Service Request Form,
 - d. “Adopt a Trail” programs that involve volunteers for trail clean-up and other maintenance,
 - e. Enforcement of sweeping requirements of towing companies following automobile accidents,
 - f. Encourage those who drive from fields onto highways and roads to minimize the transfer of mud, dirt, gravel and sand from fields and dirt roads to the public roadways,
 - g. Encourage the removal of mud, dirt, gravel and sand that is transferred to the public roadways as soon as possible, and
 - h. Encourage active identification of funding for bikeway maintenance from potential sources including the Bicycle Transportation Account and prioritizing street sweeping on roadways with bikeways.

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- Policy 14.** Support the development and implementation of effective safety programs for adults and children to educate drivers, bicyclists, and pedestrians as to their rights and responsibilities, and adult and youth pedestrian and bicycle education and safety programs, including:
- Enforcement of pedestrian- and bicycle-related laws by local police departments,
 - Teaching of bicycle and pedestrian safety to school children and drivers, and
 - Informing interested agencies and organizations about available education materials and assistance such as those programs administered by the National Bicycle Safety Network and the National Safe Routes to School Partnership.
- Policy 15.** Support programs being developed, or in place in Monterey County, that encourage and promote bicycle and pedestrian travel. These programs could include:
- Producing and distributing the Agency's Monterey County Bicycle Map as resources allow,
 - Supporting programs that would encourage more students to walk or bicycle to school,
 - Continuing the encouragement of bicycling and walking as part of transportation demand management and commute alternatives programs, and
 - Continuing to work with local jurisdictions and partner agencies to sponsor Monterey County Bike Week as a mechanism for promoting bicycle travel and bicycle safety.
- Policy 16.** The Agency's Bicycle and Pedestrian Facilities Advisory Committee (Committee) will continue to review development proposals from local agencies and provide comments to public works staff to help resolve bicycle and pedestrian issues of concern and make sure that the proposed facilities are practical, safe and usable. The committee will develop countywide or sub-regional approaches that would help overcome obstacles standing in the way of achieving Agency's bicycle and pedestrian planning goals.
- Policy 17.** Minimize trail impacts to private lands including agricultural, residential and other land uses.
- Policy 18.** Avoid trail development on private lands when a feasible alternative alignment exists on adjacent public properties.
- Policy 19.** Provide amenities such as restrooms, drinking fountains, benches, lighting and others at major trailheads to enhance user experience.

1.2.5. Performance Measures

Performance measures monitor the progress made towards achieving the goals of the Bicycle and Pedestrian Master Plan, as listed on page 1-3. The measures outlined below should be reviewed and updated on a regular basis. Many of the performance measures include target dates. The 2015 target dates are those identified in the 2010 Regional Transportation Plan and have not been changed for consistency purposes. The 2016 target dates assume a five year time frame from Plan adoption and the expected time until the next Plan update.

Table 1-1: Performance Measures

Goal	Performance Measure
Goal 1. Increase and improve bicycle and pedestrian access across Monterey County.	Measure 1.A – Complete on average five percent of the regional system every year; system completion by 2031.
Goal 2. Maintain and improve the quality, operation and integrity of bikeway and walkway network facilities.	Measure 2.A - Encourage the development and administration of maintenance programs and service request forms.
Goal 3. Improve bicycle and pedestrian safety.	Measure 3.A - Reduce bicyclist and pedestrian related injuries and fatalities by five (5) percent by 2016.
Goal 4. Increase the number of commute, recreation and utilitarian bicycle and pedestrian trips.	Measure 4.A - Increase the number of bicycle trips from the existing 0.8 percent to three (3) percent by the year 2015. Measure 4.B - Increase the number of walking trips from the existing 3.8 percent to five (5) percent by the year 2015.
Goal 5. Increase the number of high quality support facilities to complement the bicycle network and walkway facilities.	Measure 5.A - Increase the number of public bicycle parking spaces by twenty-five (25) percent by 2016. Measure 5.B - Develop a coordinated bicycle and pedestrian wayfinding system and implement by 2021.
Goals 6. Increase education and awareness of the value of bicycle and pedestrian travel for commute and non-commute trips.	Measure 6.A - Increase distribution of the Agency Monterey County Bicycle Map by fifty (50) percent by 2016. Measure 6.B - Increase the number of Monterey County Bike Week participants by ten (10) percent by 2016. Measure 6.C - Increase the number of employers participating in Monterey County Bike Week Team Bike Challenge by fifty (50) percent by 2016.

1.3. Public Involvement

The Agency Board appoints representatives to the Committee from each of the twelve cities, the five supervisory districts and from area agencies including:

- Monterey Bay Unified Air Pollution Control District (MBUAPCD)
- Monterey-Salinas Transit (MST)
- Association of Monterey Bay Area Governments (AMBAG)
- County of Monterey Department of Public Works
- Salinas Bicycle and Pedestrian Advisory Committee
- The Velo Club of Monterey and the Pebble Beach Company



Figure 1-1: Agency Bicycle and Pedestrian Facilities Advisory Committee

This Committee provides input to Transportation Agency for Monterey County and its member agencies on key bicycle issues and projects. The BPC also helps build widespread community awareness, understanding and support for the bicycle and pedestrian transportation planning process, and continually seeks to encourage citizen participation in this process. The BPC has the ongoing task of recommending ways to implement the General Bikeways Plan as well as the Regional Transportation Plan's goals and objectives.

The Agency has forwarded the General Bikeways Plan to each of its member agencies for their review and public comment. Each local agency that adopts the plan will include public comment as part of their adoption process. The Agency Bicycle and Pedestrian Facilities Advisory Committee and the Agency Technical Advisory Committee have also reviewed and commented on the plan, providing public involvement from all the member agencies within Monterey County.

2. Existing Conditions

This chapter presents a review of existing conditions for bicycling and walking in Monterey County. The examination of the County's setting, land use, transit connections, existing bicycle and pedestrian facilities and support programs and barriers to multimodal travel in Monterey County identifies key opportunities and constraints.

2.1. Setting

Located at the northern end of California's central coast, Monterey County offers an ideal setting for bicycling and walking. Topography varies from flat lands near the coast to Fremont Peak at 3,169 feet of elevation.¹ Monterey County has a moderate climate, with temperatures typically falling between 55 and 70 degrees Fahrenheit year round. The Mediterranean climate is characterized by dry summers and wet winters.

Agriculture is a main industry in Monterey County, representing vast areas of potential bike routes through scenic landscapes. In 2004, the Agency began working with agricultural industry representatives and the bicycle community to develop policies that would support bicycle and pedestrian friendly facilities in agricultural land.

Monterey County's communities have concentrated populations that offer employment, shopping and entertainment destinations for commuting bicyclists and pedestrians. Table 2-1 lists the communities in Monterey County and their populations. Salinas, located in the northern county, is the most populated community with 150,724 residents.

Monterey County's diversity in communities and geography lends itself to being one of the most popular destinations in California. The County offers the following tourist attractions:

- Monterey Bay Aquarium
- Laguna Seca Raceway
- 25 golf courses, including Pebble Beach
- Salinas California Rodeo
- Monterey Jazz and Blues Festivals
- California International Air Show
- 368,000 acres of National Wilderness Forest Areas
- National Marine Sanctuary

Table 2-1: Population by Community

Community	Population
Salinas	142,880
Unincorporated County	100,163
Seaside	33,531
Monterey	28,114
Marina	17,853
Pacific Grove	14,608
Greenfield	14,428
Soledad	27,663
King City	11,293
Gonzales	8,481
Carmel-by-the-Sea	3,874
Del Rey Oaks	1,781
Sand City	253
Total	404,922

Source: American Community Survey 2005-09

¹ http://www.waymarking.com/waymarks/WM2YHW_Fremont_Peak_Top_of_Monterey_County_CA

In addition to the tourist attractions listed above, Monterey County hosts the following bicycling events.

- Sea Otter Classic
- 24-hours of Adrenaline
- AIDS Life Cycle

2.2. Land Use, Development and Activity Centers

Monterey County has a diverse range of land uses including resource conservation areas, agriculture, and cities with commercial areas and residential densities of five to 20 units per acre. The majority of development is in the north, near the Monterey Bay Peninsula. To the east and south are agriculture and smaller communities. Employment centers and transit hubs are in the County's larger cities in the north such as in Salinas and Monterey. Smaller activity centers also exist in the more rural parts of the County along Highway 101.

Figure 2-1 through Figure 2-3 present maps of existing land use in north county, the Greater Monterey Bay Area and the south county from the Monterey County General Plan.

The County's wide range of development patterns, from urban to rural, preclude a one-size-fits-all approach to bicycle and pedestrian planning. This Plan prioritizes regionally significant improvements that close network gaps, improve high collision areas, and make connections to cities and activity centers.

The diversity in landscapes attracts bicyclists of all trip purposes and skill levels. Recreational bicyclists likely ride in open and scenic landscapes. Commuter bicyclists likely ride in developed areas near activity centers near employment, shopping and entertainment.

The intensity and type of development influence pedestrian activity levels in Monterey County. Typically, people walk up to a quarter mile to a destination if a route has a modest level of pedestrian accommodations, e.g. sidewalks and safe crossings. Most pedestrian activity in Monterey County is concentrated in activity centers near transit, retail and places of employment. Cities with compact commercial districts e.g. Carmel-by-the-Sea and the City of Monterey, have high pedestrian activity levels for shopping and commute purposes.²

This Plan considers the County's land uses and setting as they relate to existing and potential bicyclist and pedestrian demand, focusing to improve regional bikeway connections and pedestrian conditions around regional attractions, i.e. commercial and employment centers.

² Carmel-by-the-Sea and the City of Monterey have 10 percent and 16 percent walk to work mode shares, respectively. (US Census, 2000)

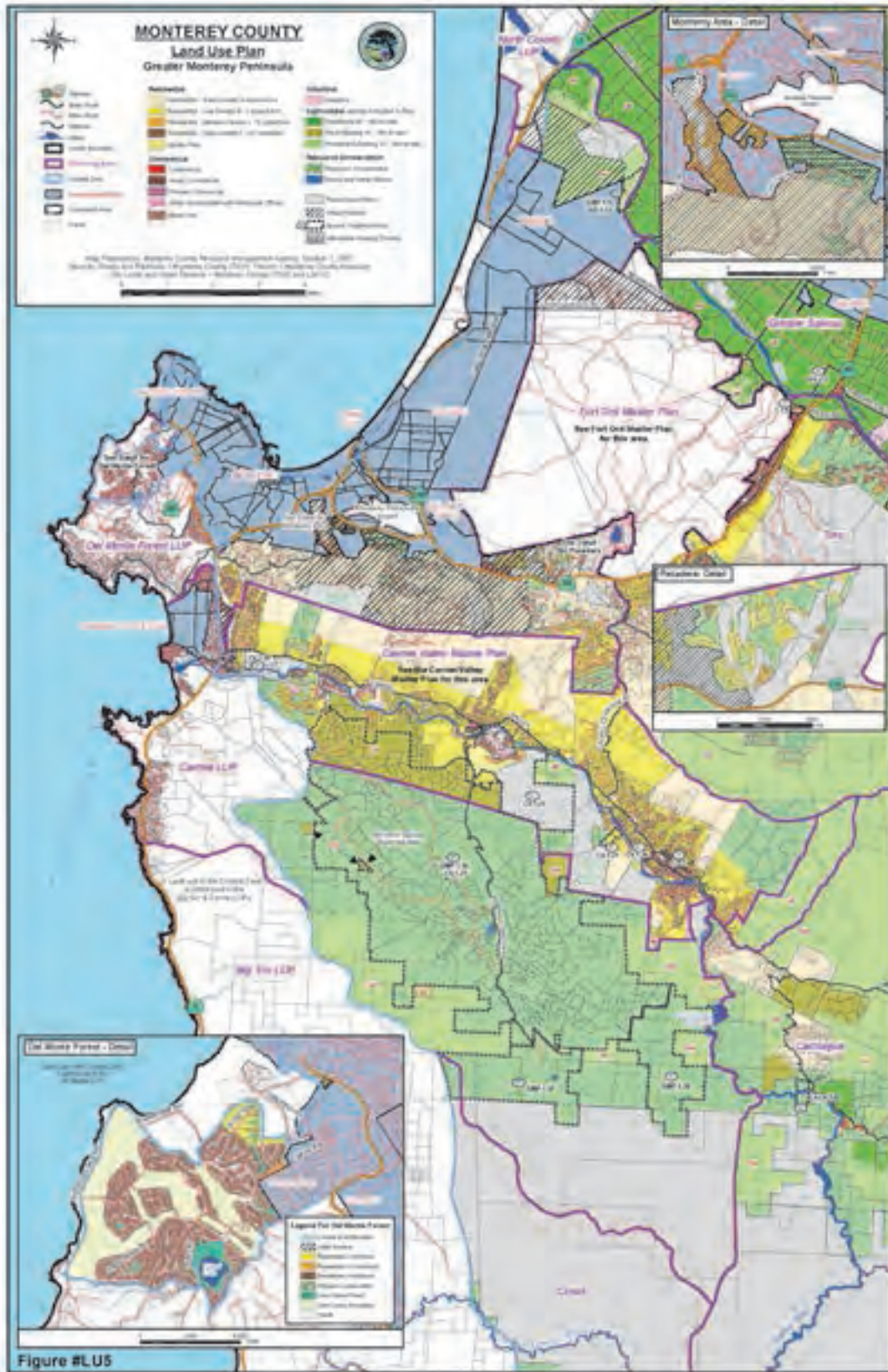


Figure 2-1: Greater Monterey Peninsula Land Use Map

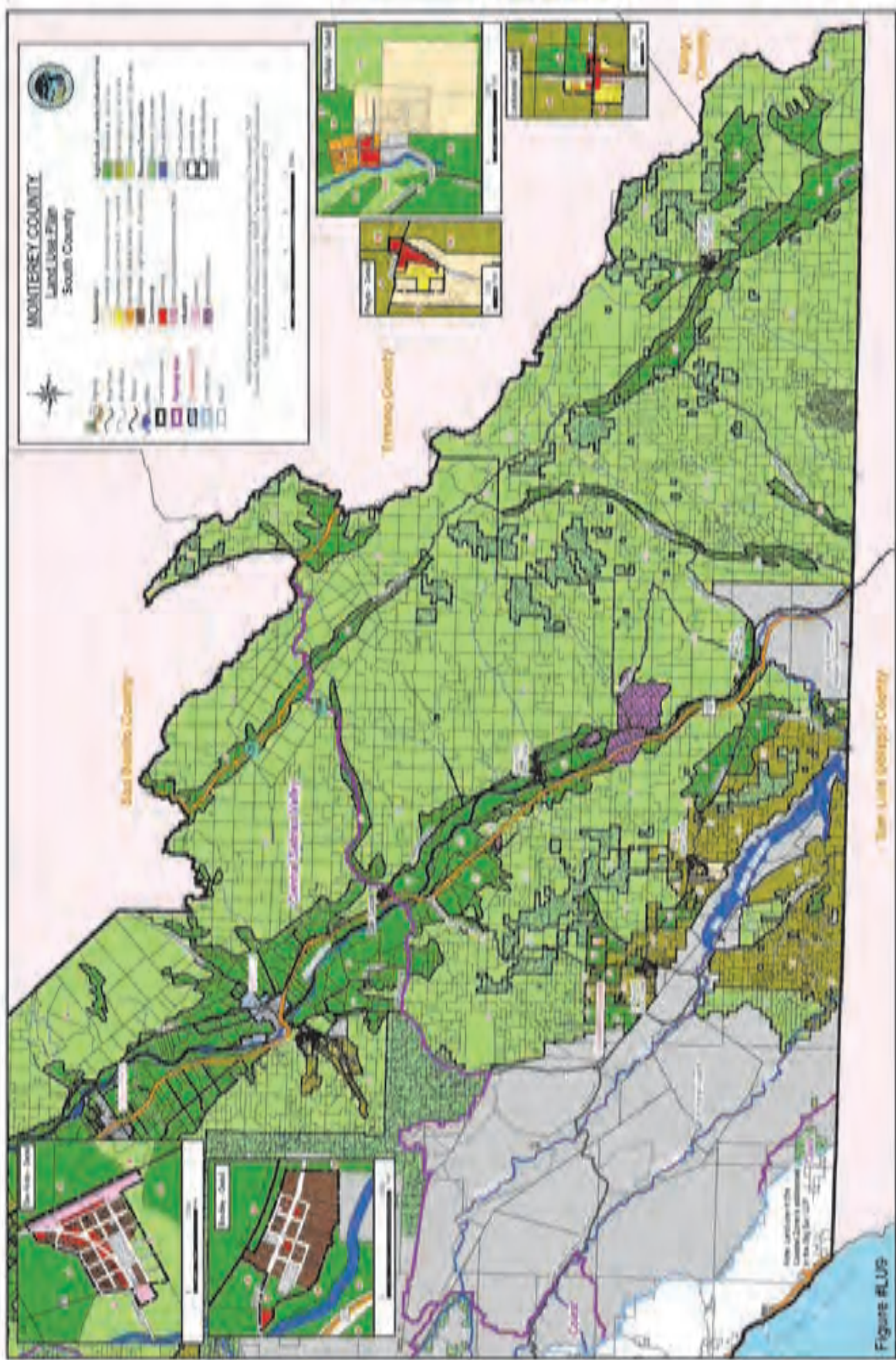


Figure 2-3: South County Land Use Map

2.3. Transportation System

Monterey County's transportation system is based largely two highways and County roadways connecting local roadway networks, which vary by community.

Highway 101 runs the length of the Monterey County, linking the cities of Salinas, Gonzales, Soledad, Greenfield and King City. Within these cities, Highway 101 creates barriers for bicyclists and pedestrians. Highway over- and under-crossings constrict roadway width and limit potential bicycle and pedestrian improvements. At-grade crossings commonly have multiple lanes and are challenging to cross by foot or bike.

Highway 1 runs the length of Monterey County's coastline. Much of Highway 1 runs through rural and rugged landscapes and provides two travel lanes with shoulders. As Highway 1 runs through the Monterey Bay Area, it becomes a freeway with two separated travel lanes in both directions. The highway's scenic views of the Pacific Ocean and access to beaches attract recreational motorists and bicyclists.

County roads such as Old Stage Road and Crescent Bluff Road outside of Salinas and Metz Road outside of Greenfield are potential regional bicycle connections. County roads vary in geometry, but commonly have two travel lanes with narrow shoulders. Farm equipment operators have the right to use county roadways and their needs were considered in developing bicycle facility recommendations.

Local roadways are where most bicycle and pedestrian activity occurs. The type and connectivity of roadways influence bicyclist and pedestrian travel patterns and levels of activity. Most communities in Monterey County have gridded roadway networks, which increases bicycle and pedestrian access to community destinations. Typically, gridded networks also disperse traffic over many roadways. This dispersion generally increases bicyclist and pedestrian comfort by avoiding concentrated areas of heavy traffic volumes. While many factors influence pedestrian activity, grid street networks connecting residents to compact commercial districts in Carmel-by-the-Sea and the City of Monterey are potential factors to these cities' high walk to work rates. Marina and Salinas, by comparison, have disconnected street networks that channel users onto arterial roadways and have low walk and bicycle to work rates. The roadway network types were considered in developing bicycle and pedestrian recommendations for communities.

2.4. Transit

Transit provides long distance mobility for bicyclists and pedestrians. Transit accommodations for pedestrians focus on transit station and stop access, i.e. ensuring pedestrians can walk comfortably to transit stops. Accommodations for bicyclists also focus on station and stop access. However, it also includes accommodations for transit riders to securely store their bicycles at transit stops and on or in transit vehicles. Figure 2-5, Figure 2-6 and Figure 2-7 show the major transit stations in Monterey County.

2.4.1. Monterey-Salinas Transit

Monterey-Salinas Transit (MST) is the major bus transit provider in Monterey County and provides 1,322 stops along 58 routes.

2.4.1.1. Bicycle Accommodations

MST bicycle transport service began in 1991. Two bicycles fit on the front mounted rack, and two inside the bus in the wheelchair locked area. The space inside the bus is available as passenger loads permit. Maximum bicycle size is 80" long by 40" high. Motorized bicycles are not allowed on MST buses. According to the 1996 Monterey Peninsula Airport Passenger Survey, MST currently carries more than 2,200 bicycles on buses every month. MST staff note that bus bike racks are often at capacity; however, California Highway Patrol concerns and regulations prohibit expanding rack capacity.



MST gave away pedestrian strobe lights October 27, 2010 to promote walking safely at night.

2.4.1.2. Pedestrian Accommodations

Pedestrian accommodations at transit stops include engineering treatments that improve pedestrian access and support facilities and programs that make stations and stops more attractive and comfortable to walk to.

MST offers an Adopt-a-Spot program for volunteers to maintain stops. Maintenance includes regular clean up and red curb painting.

In an effort to promote safe pedestrian access to transit stops, MST gave away pedestrian strobe lights in October 2010. Pedestrians wear the lights at night to increase their visibility.

2.4.2. Amtrak

Amtrak provides passenger rail and bus service throughout California and the United States. It has one rail station in Salinas and bus stops in Prunedale, Monterey, Seaside and Carmel.

Its Coast Starlight route from Seattle to Los Angeles stops at the Salinas Station on West Market Street at Lincoln Avenue. The Salinas Station provides one bicycle rack that accommodates seven bicycles. Amtrak permits passengers to check bicycles in and stow in the undercarriage or bring folding bicycles in train cars.

Amtrak provides detailed information about traveling with bicycles on the website below.

http://www.amtrak.com/servlet/ContentServer?c=AM_Content_C&pagename=am%2FLayout&cid=1241267294303

2.5. Bicycle Planning and Existing Bikeways in Monterey County

General Plans for the Monterey County region include goals to provide for a safe, convenient bicycle transportation system integrated with other modes, and policies to encourage bicycle use. In addition, the plans include policies to consider the needs of bicyclists and, where appropriate, provide for bicycles in the public right of way. Chapter 3 presents a review of relevant planning and policy documents.

Transportation Agency for Monterey County's Regional Transportation Plan (RTP) includes goals for maximizing the effectiveness of the transportation system to include better facilities for alternative

Chapter 2| Existing Conditions

transportation modes. Facilities pertinent to cycling include bikeways, Bike and Ride service (racks on buses), and bicycle racks and lockers.

Local, regional, and state bicycling programs have become stronger in recent years, due in part to:

- Increased funding available for bicycle programs
- Environmental concerns
- Limits of nonrenewable resources (fuel)
- Health and exercise trends

Most bicycle use occurs on streets and roads shared with motor vehicles and are not designated bikeway facilities, as described below. **Figure 2-4** presents cross-sections of each Caltrans bikeways classification.

Class 1: Dedicated bicycle/pedestrian path

Class 2: Striped and signed bicycle lane

Class 3: Signed bike route without lanes

Caltrans District 5, the district that includes Monterey, emphasizes alternative transportation modes, including bicycling, transit, and park and ride lots. Caltrans District 5 has worked with local and regional levels to promote safe access for commuter cyclists by improving bicycle facilities on state routes and responding to issues raised by Agency staff and the Bicycle and Pedestrian Facilities Advisory Committee.

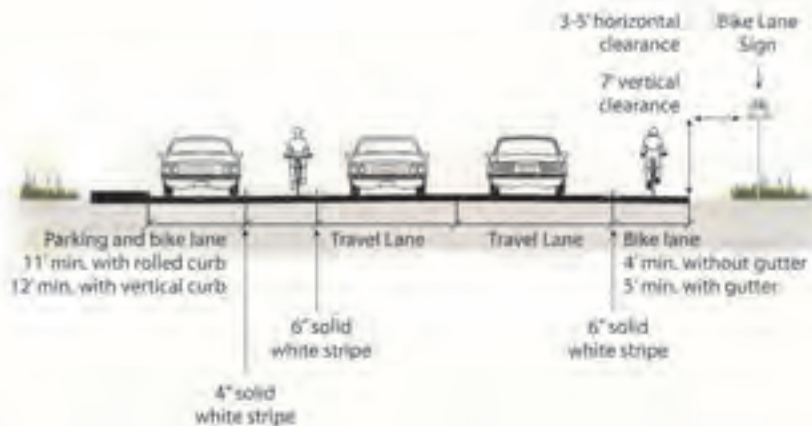
**CLASS I
Multi-Use Path**

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



**CLASS II
Bike Lane**

Provides a striped lane for one-way bike travel on a street or highway.



**CLASS III
Bike Route
Signed Shared Roadway**

Provides for shared use with motor vehicle traffic, typically on lower volume roadways.

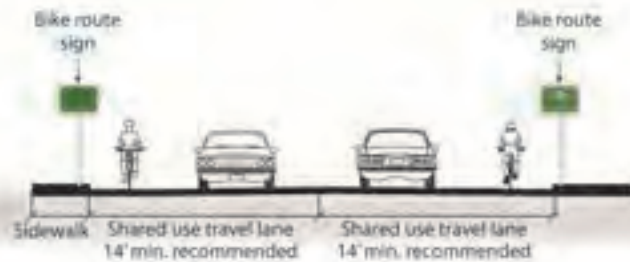


Figure 2-4: Caltrans Bikeway Classifications

2.5.1. Existing Bikeways

Table 2-2 presents the bikeway mileage by location in Monterey County. In total, Monterey County has 204.2 miles of bikeways. Class 2 bike lanes make up roughly half of the total bikeway network mileage.

Geographically, most bikeways are concentrated in developed communities. Salinas has the most bikeway miles of Monterey Communities with 74.4 miles followed by Marina with 15.9 miles and the City of Monterey with 11.7 bikeway miles. Within in Monterey County, but outside of cities, there are 45.6 bikeway miles. Region-wide, Class 3 bike routes on Caltrans Highways connect communities. These routes run along two lane and four lane separated highways typically with at least four-foot wide shoulders.

Figure 2-5 through Figure 2-7 present the existing bikeway network, illustrating where bikeways are concentrated and gaps exist in the regional network.

Table 2-2: Existing Bikeway Mileage by Location

Jurisdiction	Class 1	Class 2	Class 3	Total
County	8.1	25.8	11.7	45.6
Carmel	--	--	1.5	1.5
Del Rey Oaks	--	2.3	--	2.3
Gonzales	--	1.5	--	1.5
Greenfield	--	2.2	2.3	4.6
King City	0.5	--	--	0.5
Marina	4.1	10.4	1.4	15.9
Monterey	2.2	8.8	0.7	11.7
Pacific Grove	1.0	2.3	3.6	6.9
Salinas	7.2	33.6	33.6	74.4
Sand City	--	0.3	--	0.3
Seaside	3.3	7.0	--	10.3
Soledad	--	10.4	--	10.4
Caltrans	18.0	0.3	--	18.2
Grand Total	44.5	96.9	52.6	204.2



Figure 2-5: Existing Bicycle Network Northern Monterey County



Figure 2-7: Existing Bicycle Network Southern Monterey County

2.5.2. Existing Bicycle Support Facilities

Bicycle support facilities provide additional accommodations for bicyclists at the end of bicycle trips and include bicycle parking, showers and changing rooms. Bicycle support facilities are critical to make bicyclists feel that bicycling is encouraged and accepted.

2.5.2.1. Signage

Guide signage is a required for all Caltrans standard bikeways. Class 1, 2, and 3 bikeways shall have signs at the beginning of the bikeway and at major changes in direction. The County of Monterey and jurisdictions therein have installed bikeway guide signs that meet CA MUTCD standards, such as at the intersection of South Main Street and San Joaquin Street in Salinas.

Signage is also used to guide, warn and regulate roadway and path users, including bicyclists. Caution Watch for Bicyclists signs are used to warn motorists of potential bicyclist activity, such as where the Monterey Recreational Trail intersects Sand Dunes Road in Monterey. California Vehicle Code permits parking in bike lanes unless otherwise restricted, such as along Canyon Del Rey.

2.5.2.2. Bicycle Parking

Currently some developers will provide bicycle parking facilities in conjunction with new residential, commercial or industrial projects. Agency staff recommends that local jurisdictions make bicycle parking facilities a formal requirement by the zoning code (parking requirements) and condition of discretionary permits by each city's Planning Department where bicycle facilities will serve either employees or customers. Bicycle parking facilities include bike racks and bike lockers.

Bike lockers are enclosed facilities that provide a high level of safety for bicycles. Their use should be encouraged throughout the cities in Monterey County, but especially in locations where bicycles could be left without the owner's attention for extended periods of time (two hours or more), or at intermodal transportation links. Such locations may include, but are not limited to: transit centers, intermodal centers, park and ride lots, and bus stations. Bike lockers require more space and cost more than other available parking facilities, but provide the benefit of a high level of protection for bicycles that may outweigh the costs.

Appendix C provides a list of bicycle parking locations, type and capacities.



Signage directs bicyclists in Salinas.

Photo: Mari Lynch



Signage restricts parking in the bike lane.

Photo: Mari Lynch

2.5.2.3. Bicycle End of Trip Facilities

Bicycle end of trip facilities include showers and changing rooms. Bicyclists value these facilities because they can freshen up after a bike ride into work. The following employers provided discounted memberships to nearby gyms for employees that bicycle to work.

- Salinas Valley Memorial Hospital (1,400 employees)
- City of Salinas (592 employees)
- Hartnell Community College (250 employees)
- Monterey Peninsula Community College (300 employees)
- YMCA (four branches countywide) (200 employees)

2.5.2.4. Bike Rentals

Bicycle rentals in Monterey County primarily serve tourists interested in exploring the Monterey Bay area. Tourism represents a large portion of Monterey County's economy and a large number of bicyclists. Most bicycle rentals are located in the City of Monterey and surrounding areas.

2.5.3. Existing Bicycle Programs

2.5.3.1. Transportation Agency for Monterey County Bicycle Protection Program

Encouraging increased bicycle use for commuting purposes is a major goal of the Agency. The possibility of bicycle theft is a strong deterrent to bicycle use, and the Agency believes that provision of adequate numbers of secure bicycle parking facilities countywide is necessary to encourage bicycle use.

To help increase the number of secure bicycle facilities, the Agency initiated the Bicycle Protection Program, funded by AB2766 grant funds to help private businesses, local jurisdictions, school districts, and other public agencies in Monterey County acquire bicycle parking racks, and lockers with the intent of reducing air pollution associated with vehicle emissions. The program provides bicycle-parking facilities to businesses and agencies that agree to install them securely in a convenient location for use by patrons and/or employees and to monitor the usage of these facilities.

Having received grant funding during the years 2002, 2006 and 2007, the Agency provided agencies and businesses throughout Monterey County with 185 bike racks and lockers, with the total capacity to store 506 bikes. The vast majority of bicycle parking facilities provided under this program have taken the form of a variety of bike racks. These racks include wave, sidewinder and/or ribbon-type racks. Bicycle users and planners prefer these racks because they: do not cause wheel damage, require less space, are reasonably priced, come in sizes to meet each particular development's needs, offer better bicycle security, and are more aesthetic (they can be painted to match the development's color scheme). See **Appendix C** for a complete listing of bicycle parking facilities within Monterey County.

2.5.3.2. Bicycle Violator Safety Program

Monterey County Health Department provides bicycle safety classes for bicyclists cited for not wearing helmets. The classes cost 45 dollars (2011) and are held in Marina. Instructors teach the classes in English. Individuals interested in learning about bicycle safety, but were not cited for a helmet violation, are also welcome.

2.6.1. Existing Pedestrian Facilities

Existing pedestrian infrastructure varies widely in Monterey County from urban sidewalks to unpaved roadway shoulders in rural areas. The purpose of this Plan is to provide a summary of high-level pedestrian design and safety needs for Monterey County pedestrian place types, which include:

- **AMBAG Blueprint Priority Areas** – where local agencies should focus growth to achieve a “Sustainable Growth Scenario”. AMBAG defines these areas as within one half mile of a proposed Monterey Salinas Transit rapid bus line or light rail line or are zoned with at least 15 dwelling units per acre or as high density commercial and industrial.
- **Major Barrier Crossings** - where crossings inhibit pedestrian mobility and design barriers such as blocked or unprotected crossings of State routes, railroads, and large arterial roadways.
- **Safe Routes to School Areas** – where pedestrian and bicycle improvements are needed within one mile of a school.
- **Safe Routes to Transit** – should focus on the areas around the Monterey-Salinas Transit Regional Fixed Route service lines as determined in the Regional Transportation Plan, in addition to the Monterey-Salinas Bus Rapid Transit and Light Rail projects captured under 8.1.1 AMBAG Blueprint.
- **Regional Trails and Trail Access** - will consist of pathway construction, trailhead amenities, and crossing improvements along the Monterey Bay Sanctuary Trail and other trails of regional significance.

These pedestrian environments capture the majority of pedestrian trips in Monterey County. **Chapter 7** introduces typical improvement strategies to apply to these place types.

2.6.2. Existing Pedestrian Programs

2.6.2.1. Walk to School Day

International Walk to School Day is typically the first Thursday in October. In 2009, the County Sheriff's Department teamed up with Safe Kids Monterey to teach students at Castroville and McKinnon Elementary Schools safe pedestrian behaviors and hazard avoidance.

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3. Planning and Policy Review

This Plan builds on and supports a number of plans and policies of other agencies. These planning efforts were conducted by a variety of public agencies at the local, regional, state and federal level. The following chapters review these plans and policies documents relevant to this Bicycle and Pedestrian Master Plan to ensure this Plan's recommendations are consistent with adopted planning policies. Additionally, many of the reviewed documents identify bicycle and pedestrian improvements, which this Plan considers.

In addition to the documents reviewed in this section, this Plan is coordinated with many existing plans dealing with transportation:

- Monterey County General Plan and Area Plan
- Monterey County Local Coastal Development Plan
- Monterey-Salinas Transit Short Range Transit Plan
- North Monterey County Parks and Recreational Trails Plan
- Monterey Bay Unified Air Pollution Control Districts' Clean Air Plan and the Air Quality Management Plan
- Regional Transportation Plan for the Transportation Agency for Monterey County
- Local Circulation elements for each of the following member agencies:
 - Cities of Carmel, Gonzales, Greenfield, King City, Marina, Monterey, Pacific Grove, Salinas, Sand City, Seaside, Soledad and the County of Monterey
- Transportation Report for State Routes in Monterey County
- Congestion Management Program Model Trip Reduction Ordinance
- California Transportation Plan

These plans address the need to provide transportation connections between residential areas and activity centers. Goals of these plans emphasize promoting alternate modes of transportation, such as bicycling and walking, and greater interconnectedness between transportation modes: for example, providing bicycle racks on buses to allow people to use both buses and bicycles to reach their final destination. These plans emphasize funding constraints and environmental problems associated with increasing vehicle congestion. Additionally, they recognize the benefits of maximizing the efficiency of the existing transportation system by promoting alternate modes of transportation. The intention of this Plan is to highlight the importance of promoting bicycling and walking as an integrated part of the transportation system.

3.1. Regional Planning Documents

Regional bikeway planning documents address bikeways access and connections to regionally significant destinations. In the Monterey Bay Area, the Agency and County of Monterey are responsible for bikeway planning. In addition to the documents reviewed in this section, the County of Monterey General Plan and Area Plan set forth policies that support bicycle and pedestrian travel. These policies were reviewed and informed the development of this Plan's policies and recommendations. The review of these documents

ensures this Plan is consistent with regional planning goals, policies, and objectives. In addition, these regional documents identify regionally significant bicycle and pedestrian facilities, which are included in this Plan.

3.1.1. AMBAG’s Blueprint Report (2011)

The Association of Monterey Bay Area Government’s (AMBAG) Blueprint Report presents guidelines for communities in the Monterey Bay Area to grow in a sustainable fashion over the next 25 years. The Blueprint Report offers high-level guidance relative to this Countywide Bicycle and Pedestrian Plan by defining “Priority Areas” for sustainable growth. Priority areas are locations where implementing agencies should focus growth around transit and job centers. This focused growth includes improved bicycle and pedestrian access to transit, job centers and commercial areas. The Blueprint Report priority areas characteristics include:

- Coordinated regional plan for sustainable growth
- Medium to high residential and employment densities in Blueprint Priority Areas while maintaining existing average densities across the region
- New development with mix of different land uses
- More access to affordable/workforce housing in cities with large employment bases
- Multimodal focused transportation (streets for cars, buses, rail, bike and pedestrians)
- Most employment growth takes places in existing employment clusters
- Far less leapfrog development, mostly compact development
- Fiscal variances are tempered by some tax base sharing

The Blueprint priority areas informed the pedestrian recommendations in this Countywide Bicycle and Pedestrian Plan. Recommendations focus on access to schools, transit and regional destinations.

3.1.2. Transportation Agency for Monterey County’s Regional Transportation Plan (2010)

The Transportation Agency for Monterey County is responsible for periodically updating the Regional Transportation Plan (RTP) for Monterey County. The RTP provides a basis for local, state and federal transportation programming and planning funds over the next 25 years. The RTP sets forth bicycle and pedestrian supporting goals that inform the recommendations of this Countywide Bicycle and Pedestrian Plan.

The RTP sets forth the following goal and objectives that support bicycling and walking.

- Expand, improve, and maintain facilities for pedestrians and bicyclists that accommodate safe, convenient, and accessible bicycle and pedestrian transportation across Monterey County.
 - **Objective 1:** Increase the number of bicycle facility miles in Monterey County by 10 percent from 246 miles to 271 miles by the year 2015.
 - **Objective 2:** Increase the number of bicycle facility miles on the Monterey Bay Sanctuary Scenic Trail from the existing 14 miles to 30 miles, completing the trail by the year 2025.

- **Objective 3:** Increase the number of trips made by bicycle from the existing .8 percent to 3 percent by the year 2015.
- **Objective 4:** Update and distribute a revised copy of the Monterey County Bike Map by 2010.
- **Objective 5:** Annually administer Monterey County Bike Week, and preserve or increase public and private sponsorships for Bike Week activities.

The RTP identifies the following improvement opportunities.

- Expansion and integration of bicycle and pedestrian facilities in the Fort Ord area
- Bicycle lanes on Lighthouse Avenue between David Avenue and Lighthouse Avenue
- Bicycle lanes on Carmel Valley Road between Carmel Rancho Boulevard and State Route 1

The Bicycle and Pedestrian Travel Chapter of the RTP identifies the following improvement opportunities.

- Portions of the Monterey Bay Sanctuary Scenic Trail, from Pacific Grove to the Santa Cruz County line
- Pajaro River at the Thurwachter-McGowan Bridge
- Route 68, between Monterey and Salinas
- Route 183, between Castroville and Salinas
- Route 218, between Route 68 and the Coastal Trail
- Crossing the Union Pacific Railroad tracks to connect the town of Castroville with North Monterey County High School
- Castroville Boulevard and Highway 156
- Portions of the Pacific Coast Route (generally along Highway 1)
- Blanco Road, between Salinas and Marina

3.1.3. Transportation Agency for Monterey County's 2005 General Bikeways Plan

The Agency adopted its first Bikeways Master Plan in 2005. Its purpose was to identify existing and new bike facilities within the Monterey County region and prioritize the new facilities.

This Plan updates the 2005 Bikeways Master Plan, fulfilling Caltrans' requirement to update bicycle plans every five years to maintain eligibility for Bicycle Transportation Account funding. This update also adds a Pedestrian Master Plan component.

This Plan also builds on the goals, objectives and policies set forth in the 2005 Bikeways Master Plan to ensure consistency with superseding Plans, address current goals and to include provisions for pedestrians. The goals of the 2005 Bikeway Master Plan are listed below.

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1. Expand, improve, and maintain facilities for bicyclists that accommodate safe, convenient, and accessible bicycle transportation across Monterey County.
2. Increase number of commute trips by bicycle.
3. Increase number of recreation and non-commute trips by bicycle.
4. Increase number of shopping and errand trips by bicycle.
5. Increase education and awareness of the value of using bicycles for commute and non-commute trips.

The 2005 Bikeways Master Plan sets the following objectives, which are also set forth in the RTP.

- Increase the number of bikeway miles by 10 percent from 246 to 271 by 2015
- Increase the number of Sanctuary Scenic Trail miles from 14 to 30 by 2025
- Increase the number of trips made by from 0.8 percent to three percent by 2015

The proposed projects identified in the 2005 Bikeways Master Plan that have been constructed are listed below.

- 5th Avenue Class III, Alta to Winery, Gonzales
- Carmel Valley Class I Phase III, County
- Monterey Bay Scenic Trail, County (the Moss Landing segment is under environmental review; a section parallel to Highway 1 from Elkhorn Slough bridge to Jetty Road has been constructed)
- Beach Range Road Multi-Use Trail in Fort Ord Dunes State Park

The 2005 Bikeways Master Plan projects not yet constructed were considered for this Plan's recommendations.

3.1.4. Monterey Bay Sanctuary Scenic Trail Master Plan (2008)

The Agency produced the Monterey Bay Sanctuary Scenic Trail Master Plan to identify a continuous trail alignment from Pacific Grove to the Pajaro River to the Santa Cruz County Boundary along the Monterey coastline. This trail alignment is a section of the California Coastal Trail, the establishment of which is set forth by California legislation.

The Monterey Bay Sanctuary Scenic Trail will consist of a variety of bikeway types dependent on existing opportunities and constraints. The planned primary route will largely consist of paved and unpaved trails separated from roadways. Spurs and connector trails will consist of on and off-street facilities.

The Monterey Bay Sanctuary Scenic Trail Master Plan identifies a host of constraints including Caltrans ROW, agricultural and private lands and lands owned by the State. Agricultural lands are not only identified as constraints but opportunities as well. The Plan identifies opportunities for users to learn about some of the most fertile land in the nation and about the risks of sharing land with farming equipment.

The 2005 Bikeways Master Plan sets forth the objective of “Monterey County and the cities therein plan to increase the number of bicycle facility miles on the Monterey Bay Sanctuary Scenic Trail from the existing 14 miles to 30 miles, completing the trail by the year 2025.”

Planning and construction of the Monterey Bay Sanctuary Scenic Trail requires the coordination of the Agency, local jurisdictions and the Santa Cruz Transportation Commission.

3.1.5. Monterey County General Bikeways Plan (2008)

The Monterey County General Bikeways Plan identifies bicycle facility improvements in the unincorporated county. The General Bikeways Plan lists a number of goals to make bicycling in Monterey County safer, more convenient and pleasurable. The goals of special interest to this Plan are listed below.

- Provide opportunities and incentives to create a 10 percent mode shift from vehicles to bicycles.
- Bicycling shall be encouraged as a viable mode of transportation in all visitor-serving areas.
- Trails adjacent to agricultural areas should consider fencing and agricultural buffers and/or buffers that include plantings that prevent public access where agricultural products are grown.

In addition, inclusion of all projects identified in the 2005 General Bikeways Plan, the 2008 Monterey County General Bikeways Plan identifies the following priority bikeway projects.

- Carmel Valley Class I Project Phases I-IV
- Moss Landing Road Class II from South Highway 1 to North Highway 1
- Castroville Railroad Crossing Bicycle/Pedestrian Path
- Monterey Bay Sanctuary Scenic Trail- Moss Landing Segment (MBSST)
- Hall Road/Tarpey Road
- San Miguel Canyon Road

3.1.6. North County Land Use Plan and Moss Landing Community Plan

In 1972, the California State Legislature passed the Coastal Act to establish a framework for resolving competing land use along the coast. The Act prioritizes preservation and protection of natural habitat and directed local municipalities to develop coastal land use plans. The Monterey Board of Supervisors adopted the North County Land Use Plan in 1976 and last updated the plan in 1999.

The North County Land Use Plan emphasizes preservation of highway capacity for coastal access and coastal dependant-land uses. Accommodation of bicyclists is included in this effort. The plan calls for the improvement of bicycle paths by improving clarity of route markings, separating bicycle and heavy motorist traffic, and providing access to major coastal destinations. The plan sets for the following policies specific to bicycling in Monterey County. Action plans follow each policy.

- Bicycle shoulders should be provided and routes signed along Maher Road, Castroville Boulevard, and Dolan Road.
 - The County shall evaluate options for providing bicycle shoulders along Maher Road, Castroville Boulevard, and Dolan Road.

- The Bicentennial Bicycle Route should be improved by separating the bicycle path from Highway 1 traffic between the Pajaro River and Molera Road.
 - The State Department of Transportation shall initiate a study for the widening of the existing Highway 1 alignment. During evaluation of alignment adjustments for expansion, attention should be given to minimizing encroachment on agricultural uses, environmentally sensitive habitats and commercial uses. Alternative alignments for the Bicentennial Bicycle Route in this area should be considered in the study.

The North County Land Use Plan includes a community plan for Moss Landing, which plans land use for the community at full build out. Regarding bicycling, the Moss Landing Community Plan identifies the need for bicycle parking at Moss Landing State Beach.

3.2. City Plans

This Bicycle and Pedestrian Master Plan identifies bicycle and pedestrian facilities for the entire Monterey Bay County, including the cities therein. The following review of city plans relative to bicycle and pedestrian travel ensures this Plan is consistent with local policies, design guidelines, existing conditions and identified proposed facilities.

3.2.1. City of Salinas Bikeways Plan (2002)

Updated three times since 1991, the Salinas 2002 Bikeways Plan reports 64 miles of existing bikeways and 26 miles proposed bikeways. The plan identified the following priority bikeways that the City has yet to install.

- Natividad Creek/Gabilan Creek (Class I)
- Bridge Street from Rossi Street to North Main Street (Class II)
- Front Street from John Street to East Alisal Street (Class II)
- Terven Avenue from Sanborn Road to Airport Boulevard (Class II)

The goals set forth by the Salinas Bikeways Plan most relevant to this Plan are:

- Work with the Agency to develop a bikeway from southwest Salinas to the Monterey Peninsula
- Improve bikeway connections between north, south and east Salinas

3.2.2. City of Salinas Pedestrian Plan (2004)

In 2004, the City of Salinas adopted a Pedestrian Plan to satisfy its General Plan goals of becoming more pedestrian friendly and implementing New Urbanism principles.³ The Pedestrian Plan sets forth the following goals.

- Promote the development and design of pedestrian facilities that are convenient, safe, attractive, comfortable, interesting, and interconnected to provide continuity of travel
- Reduce the number of pedestrian-related accidents in Salinas

³ New Urbanism is an urban design movement that promotes pedestrian movement, drawing from traditional neighborhood designs popular before the rise of the automobile.

- Condition New Development to install appropriate streets, sidewalks, pedestrian access ramps, traffic calming measures, lighting and related facilities to encourage walking
- Develop a Traffic Calming Policy to address vehicular speeds in residential and commercial areas
- Develop a Suggested Routes to School Program for all elementary schools in Salinas
- Educate the general public to increase the number of overall walking trips within Salinas
- Identify needs of walking districts or areas to increase walking trips

To further develop a strategy for traffic calming, the Salinas adopted a Neighborhood Traffic Management Program, which outlines strategies for residents and the City to slow traffic on local roadways with the intent of increasing pedestrian safety.

Navajo Drive/Main Street intersection had eight pedestrian related collisions in 1999-2001, the most of any location in Salinas. East Market Street and Pajaro Street had the second most collisions with six. Neither intersection had a traffic signal at the time of the plan's development.

The 2004 Pedestrian Plan also identifies the following roadways as high-pedestrian activity areas.

- North Main Street at Harden Shopping Center, Sherwood Community Sports Complex, and Downtown
- Constitution Boulevard and Laurel Drive
- Hartnell College area
- North Sanborn Road and Garner Avenue
- Hospital area

The 2004 Pedestrian Plan provides a prioritized list of improvements, many of which are traffic signal installation, ADA ramp updates and sidewalk maintenance. These improvements are included in this Plan's pedestrian related improvements in Section 7.2.8.

3.2.3. City of Marina Pedestrian and Bicycle Master Plan (2010)

In 2010, the City of Marina adopted its Pedestrian and Bicycle Master Plan to achieve three purposes: provide guidelines for facilities improvements, position the City for grant and financing opportunities, and reduce the City's greenhouse gas emissions. The Plan prioritizes a range of bicycle and pedestrian facilities in an effort to meet the Complete Streets Act of 2011 and highlights policies from the City's General Plan to ensure consistency. The Plan envisions:

- A city within which the majority of the residences, businesses and community facilities are served by frequent cost effective transit.
- A city designed for attractive, comfortable, convenient, welcoming and secure walking for people of all ages and abilities, in which most housing, shops, businesses, plazas, civic buildings and other community facilities are within easy walking distance of each other.
- A balanced land use/transportation system minimizing induced traffic congestion, noise, excessive energy consumption, and air pollution.
- Physically and socially cohesive communities in which existing and future land uses, transportation facilities, and open spaces are well integrated.

- Ample opportunities for outdoor recreation for all residents, both within their immediate neighborhoods, elsewhere in the city, and in the immediate environs.

The Pedestrian and Bicycle Plan identifies the following priority projects, all of which are Class II bicycle lanes that the City has yet to install.

- Crescent Road
- De Forest Road
- Lake Drive
- Palm Avenue
- Carmel Avenue
- Cardoza Avenue
- Bostick Avenue
- Beach Road
- Seacrest Avenue

3.2.4. City of Monterey Bicycle Transportation Plan (2009)

The City of Monterey's Bicycle Transportation Plan supersedes the City's previous adoption of the 2005 Agency General Bicycle Plan. Their Plan also helps the City comply with the Urban Environment Accords and the U.S. Mayors Climate Agreement, both of which the Mayor of Monterey signed. The Urban Environment Accords holds Cities responsible to reduce the number of single-occupancy commuter trips and the U.S. Mayors Climate Agreement holds Cities responsible to reduce greenhouse gas emissions. The goal of the plan is to provide for efficient and safe bicycle travel, while increasing opportunities for bicycle ridership through bikeway interconnectedness and education for cyclists and motorists.

The plan identifies the following priority bikeways that have yet to be installed.

- North Fremont from Canyon Del Rey to Casa Verde (Class II)
- 3rd Street from Sloat to Aquajito (Class III)
- Pearl Street from Aquajito to Alvarado (Class III)
- Alvarado from Pearl Street to Monterey Peninsula Recreation Trail (Class III)
- Polk Street from Hartnell to Alvarado (Class II)
- Madison from Pacific to Harnell (Class II)
- Lighthouse Avenue from Line to Reaside (SB Class II)
- Olmsted Road from Garden to Highway 68 (Class II)
- Casanova from Montecito to Euclid (Class III)
- Laine Street from David to Reaside (Class III)

The City also identifies two bicycle boulevard routes. The East Downtown Bicycle Boulevard would be installed on Jefferson Street, Pearl Street and Third Street from Van Buren Street to Camino Aguajito, at which point the bicycle boulevard would continue towards Monterey Peninsula College and under Highway 1, continuing east on Mark Thomas Drive and onto North Fremont.

The New Monterey Bicycle Boulevard would be installed on Laine Street from David Street to Reaside Street, following Reside Street to Hawthorne to the Presidio.

3.2.5. City of Seaside Bicycle Transportation Plan (2007)

In 2007, the City of Seaside adopted its Bicycle Transportation Plan with the intent to increase regional bikeway connectivity and meet the demand of growth at Fort Ord and the California State University Monterey Bay Campus. Seaside's Bicycle Transportation Plan goals with regional significance include linking bikeways to the Intermodal Transit Center at Del Monte Boulevard and Broadway Avenue and develop bikeways that link Fort Ord and the CSU campus to Seaside proper.

In addition to complying with Caltrans Highway Design Manual and the California Manual on Uniform Traffic Control Devices design guidelines, Seaside provides for modified bike facility standards, which are listed below.

- Bikeway sign intervals shall not exceed 1,500 feet
- Thermoplastic shall be used for all roadway markings at a thickness of 90 millimeters and with adequate abrasive material
- Drop lanes at intersections shall be 100 long, and 200 feet long when both roadways are arterials

Regarding new facilities, the Seaside Bicycle Transportation Plan recommends new developments install bicycle boulevards. The plan identifies the following priority bikeways that the City has yet to install.

- Canyon Del Rey from Del Monte to Fremont (Class II)
- Coe Avenue from Pacific Crest to General Jim Moore Boulevard (Class II)
- Del Monte Boulevard from Broadway to Canyon Del Rey (Class II) and from Broadway to Fremont (Class III)
- California State University links on General Jim Moore Boulevard, First, Second and Third Streets (Class II)
- Monterey Bay Trail connections on First Street, Monterey Road/Fremont Boulevard, Del Monte Boulevard/Canyon Del Rey (bikeway type not identified)
- West Broadway from Del Monte to Fremont (Class II feasibility study)

3.2.6. City of Del Rey Oaks General Plan (1997)

The City of Del Rey Oaks last updated its General Plan in 1997. The Circulation Element sets forth the following policies regarding the accommodation of bicyclists and pedestrians:

- In order to provide or promote a safe, interconnected network of bicycle and pedestrian routes linking homes with places of work, school, recreations, shopping, transit centers and other activity centers both within the City and nearby, four Class II City Bike Routes are hereby designated and adopted:
 - Highway 218 within City limits; (City has installed this route)
 - North/South Road from City limit to Highway 218 (requested Fort Ord annexation area)
 - Carlton Drive from highway 218 to the City limit; (this Countywide Bicycle and Pedestrian Plan recommends Class II bicycle lanes on General Jim Moore Boulevard, which is parallel to Carlton Drive)

- South Boundary Road (requested Fort Ord annexation area)
- Any improvement, repavement or signalization on the three designated City Bike Routes permitted by the City shall include Type II bike lanes on both sides of the affected segment of those routes.
- New non-residential land uses which generate significant adverse traffic impacts shall dedicate an easement or make a monetary contribution, if appropriate, toward the completion of adopted Bicycle Routes.
- For all proposed new land uses in the City, provision for bicycle circulation, sidewalks and pedestrian-friendly design will be required.

3.3. State Policies

State planning and policy documents set forth policies and goals for Regional Transportation Planning Agencies and Metropolitan Planning Organizations to implement. These policies begin as Senate and Assembly Bills that the governor later signs to become Acts. This section reviews three bills that have recently become law governing bicycle and pedestrian accommodations and greenhouse gas emissions.

3.3.1. State Assembly Bill 32: Global Warming Solutions Act (2006)

Signed into law in 2006, the Global Warming Solutions Act sets discrete actions for California to reduce greenhouse gas emissions. The discrete actions focus on reducing emissions by increasing motor vehicle and shipyard efficiency and other strategies involving refrigerants, landfills and consumer products. While encouraging bicycling will help California to reach 1990 greenhouse gas emission levels in 2020, AB 32 does not identify it as a strategy.

3.3.2. State Assembly Bill 1358: Complete Streets Act (2008)

AB 1358 requires the legislative body of any City or County to, upon revision of a general plan or circulation element, ensure that streets accommodate all user types, e.g. pedestrians, bicyclists, transit riders, motorists, children, persons with disabilities and elderly persons. Beginning January 1, 2011, Cities and Counties must include accommodation of all street users in Circulation Element revisions.

3.3.3. State Senate Bill 375: Sustainable Communities (2009)

Signed into law in 2008, SB 375 links land use planning with greenhouse gas emissions, first requiring the State Air Resources Board to set emission reduction goals for metropolitan planning organizations (Association of Monterey Bay Area Governments AMBAG is the metropolitan planning organization for the Monterey Bay Area) and then requiring AMBAG to develop a land use scenario to meet that goal. AMBAG must make transportation funding decisions consistent with their new plan, namely by developing a Sustainable Communities Strategy (SCS) in the Regional Transportation Plan. The SCS must also be consistent with the Regional Housing Needs Assessment (RHNA) allocation. Aspects relevant to this County Bicycle and Pedestrian Master Plan are listed below.

- Air Resources Board (ARB) creation of regional targets for greenhouse gas emissions reduction tied to land use.
- Regional planning agencies must create a plan, including a Sustainable Communities Strategy, to meet those targets.
- Regional transportation funding decisions must be consistent with this new plan.
- RHNA guiding local housing efforts that are informed by efficient use of the transportation system.

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4. Needs Analysis

This chapter presents factors that influence bicycling and walking, which include:

- Bicyclist general needs and preferences
- Pedestrian general needs and preferences
- Land uses that attract bicyclists and pedestrians
- Estimated daily bicycle and pedestrian trips made in Monterey County
- Safety as measured by bicycle and pedestrian related collisions

Each of the needs listed above inform the recommendations presented in **Chapters 7 and 8**. The following analysis also satisfies Caltrans Bicycle Transportation Account (BTA) requirements ensuring the recommendations in this plan eligible for BTA funding. This needs analysis also provides supporting data for other funding applications.

4.1. Bicyclists' General Needs and Preferences

This Plan seeks to address the needs and preferences of all bicyclists and potential bicyclists and therefore it is important to understand their diverse needs in order to develop a successful plan. Bicyclists' needs and preferences vary between skill levels and their trip types. In addition, the propensity to bicycle varies from person to person, providing insight into potential increases in bicycling rates. Generally, bicycling propensity levels can be classified into four categories:⁴

- *Strong and Fearless* people will ride on almost any roadway despite the traffic volume, speed and lack of bikeway designation and are estimated to be less than one percent of the population.
- *Enthusied and Confident* people will ride on most roadways if traffic volumes and speeds are not high. They are confident in positioning themselves to share the roadway with motorists and are estimated to be seven percent of the population.
- *Interested but Concerned* people will ride if bicycle paths or lanes are provided on roadways with low traffic volumes and speeds. They are typically not confident cycling with motorists. Interested but Concerned people are estimated to be 60 percent of the population and the primary target group that will bicycle more if encouraged to do so.
- *No Way No How* are people that do not consider cycling part of their transportation or recreation options and are estimated to be 33 percent of the population.

Figure 4-1 presents a bicyclist typology scale.

⁴ Source: Roger Geller, Bicycle Coordinator, City of Portland, Oregon. Note: The categories are provided to inform the reader of different bicyclist types and not intended to be a strict categorization. The percentage of each bicyclist type may vary by locale. The percentage of each bicyclist type is of the population as a whole and not just of the bicycling population.

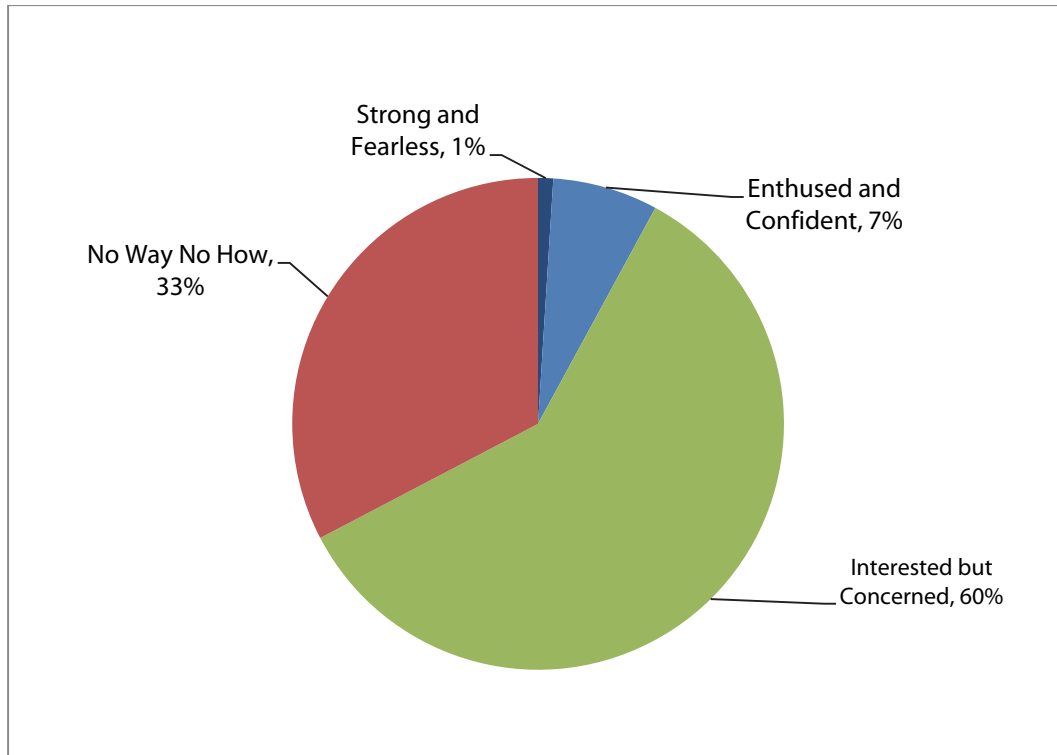


Figure 4-1: Bicyclist Typology Scale

4.2. Pedestrians' General Needs and Preferences

This Plan seeks to address the needs and preferences of all current and potential pedestrians. Pedestrian needs are more local than bicyclist needs because walking trips tend to be shorter.

Pedestrian needs include considerations for block length and roadway crossing distance as well as the presence of well designed facilities including sidewalks, curb ramps, crosswalks and support facilities. Support facilities include countdown signals, warning signage, street furniture, lighting and wayfinding signage.

Generally, pedestrian preferences include:

- Short block lengths
- Direct connections to destinations
- Wide sidewalks
- Pedestrian scaled lighting
- Street furniture
- Curb ramps
- Crosswalks
- Pedestrian countdown signals

4.3. Land Use and Demand for Bicycling and Walking

Land use types influence demand for bicycling and walking. Schools and major employers (commercial areas) are land uses that typically attract the majority of bicyclists and pedestrians. Major transit stations and parks also attract bicyclists and pedestrians. This section presents an overview of these land uses that provides support improving bicycle and pedestrian access to them. Figure 4-2 and Figure 4-3 present maps of school and employer locations as well as major transit stations and parks.

4.3.1. Schools

There are over 112,000 students enrolled in schools in Monterey and schools can be major bicyclist and pedestrian attractors. The majority of schools in Monterey County are in urbanized areas and can improve rates of walking and biking. Each school has unique opportunities and challenges that can either prevent or encourage students from walking or biking. Safely walking and bicycling to school requires a multi-disciplined approach including engineering improvements and education and encouragement programs. The first step to accommodate bicycling and walking to school is to identify how many students are in Monterey County and where they are enrolled. Table 4-1 presents the number of students enrolled in Monterey schools by grade. Figure 4-2 and Figure 4-3 present school locations. While it is unknown how many students walk and bike to school, improved safety and accessibility to schools can increase the number of students who walk or bike to school and encourage fewer automobile trips,

Table 4-1: School Enrollment by Grade Level

Grade Level	Estimate
Nursery school, preschool	6,981
Kindergarten	6,119
Grade 1 to grade 4	22,680
Grade 5 to grade 8	22,196
Grade 9 to grade 12	25,426
College, undergraduate years	24,276
Graduate or professional school	4,727
Total	112,405

Source: American Community Survey, 2005-09

4.3.2. Major Employers

This Plan works to improve bicycle and pedestrian commuting to work. Table 4-2 presents the major employers in Monterey County that have more than 500 employees. While some employer industries and locations may not be suitable for bicycle or pedestrian commuting due to distance and topography, other employer industries, such as hospitals and schools, are typically located in communities that have existing or potential bicycle and pedestrian facilities. Outreach to these employers to promote bicycling and walking to work could induce substantial mode shifts away from automobile commuting, which could potentially reduce traffic and automobile emissions.

Table 4-2: Major Employers in Monterey County

Employer Name	Location	Industry
Azcona Harvesting	44 El Camino, Greenfield	Harvesting-Contract
Bud Of California, Dole Fresh Vegetables	32655 Camphora Road, Soledad	Fruits & Vegetables-Growers & Shippers
California State Monterey Bay*	100 Campus Drive, Seaside	Schools
Community Hospital	23625 Holman Highway, Monterey	Mental Health Services
D'Arrigo Brothers Co	383 West Market Street, Salinas	Fruits & Vegetables-Growers & Shippers
Fresh Express	900 East Blanco Road, Salinas	Salads (Whls)
Hilltown Packing Co	375 West Market Street, Salinas	Harvesting-Contract
Hsbc Card Svc Inc	1441 Schilling Place, Salinas	Credit & Debt Counseling Services
Mann Packing Co	1250 Hanson Road, Salinas	Fruits & Vegetables-Growers & Shippers
Mc Graw-Hill Co	20 Ryan Ranch Road, Monterey	Publishers-Book (Mfrs)
Misionero Vegetables	33155 Gloria Road, Gonzales	Fruits & Vegetables-Growers & Shippers
Monterey Cnty Social Svc	713 La Guardia Street, Salinas	County Government-Social/Human Resources
Natividad Medical Ctr	1441 Constitution Boulevard, Salinas	Hospitals
Naval Postgraduate School	1 University Avenue, Monterey	Schools-Universities & Colleges Academic
Pebble Beach Resorts	2700 17 Mile Drive, Pebble Beach	Resorts
Salinas Valley Memorial	450 East Romie Lane, Salinas	Hospitals
Special Education School	901 Blanco Circle, Salinas	Schools
Taylor Farms California Inc	1207 Abbott Street, Salinas	Fruits & Vegetables-Growers & Shippers
US Defense Dept	400 Gigling Road, Seaside	Federal Government-National Security

Source: California Department of Finance, 2010

<http://www.labormarketinfo.edd.ca.gov/majorer/countymajorer.asp?CountyCode=000053>

* California State University Monterey Bay was not included in the California Department of Finance 2010 report of major employers. However, it is a major employer with approximately 700 total faculty and staff (http://www.calstate.edu/as/stat_abstract/stat0809/pdf/z7a09.pdf)

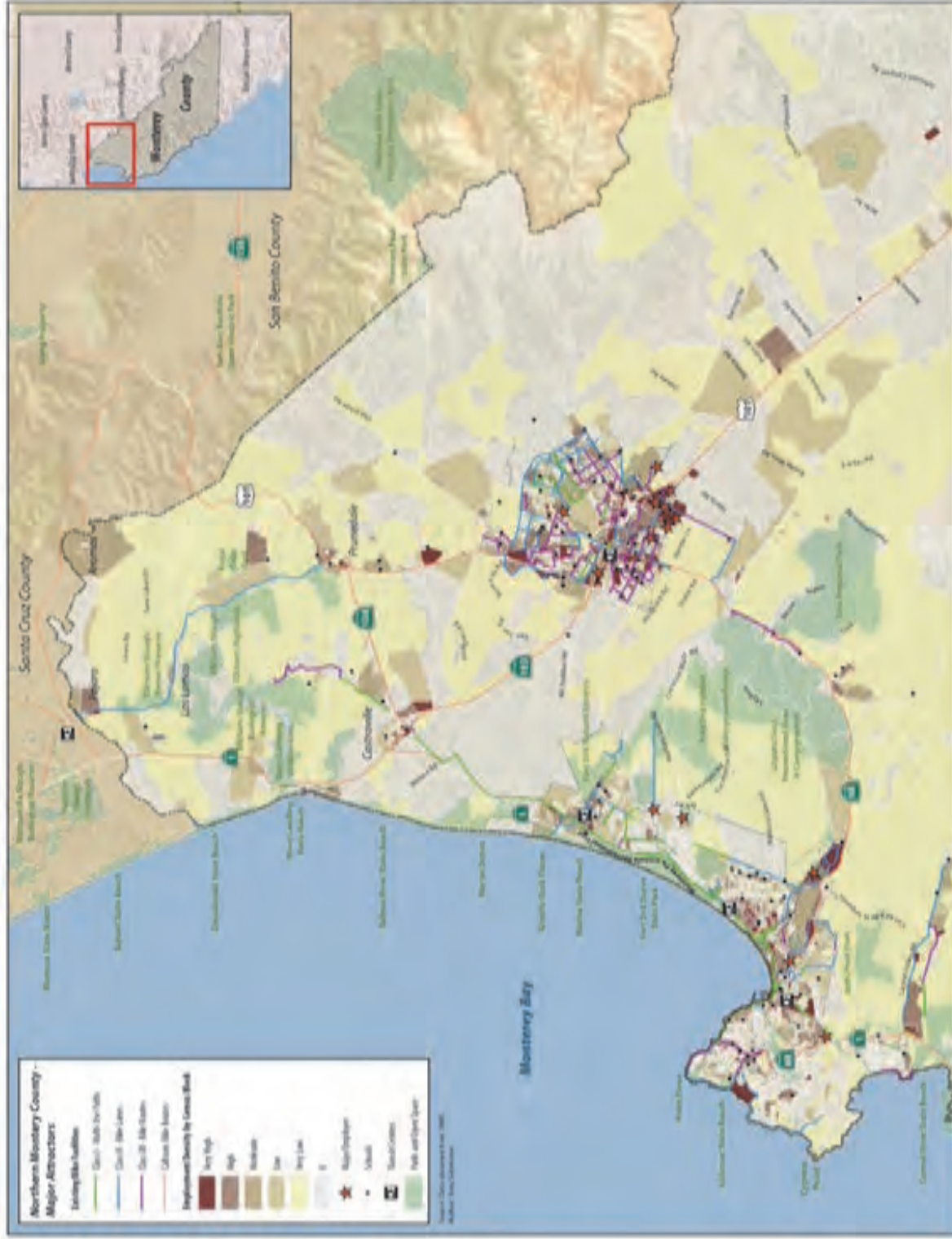


Figure 4-2: Bicycle and Pedestrian Attractors (North County)

4.4. Existing Bicycle and Pedestrian Activity

Bicycle and pedestrian daily trip estimates provide support for facility construction and program implementation. Policy makers can use the estimates provided in this Plan to inform their decisions to increase the integration of non-motorized modes into the transportation system. Agencies and departments that initiate project implementation can use the estimates to provide support for facility construction.

Bicycle and pedestrian data comes from a variety of sources. The US Census collects “Journey to Work” data, which is useful for comparing locations but is only one component in an estimate that considers other trip purposes. This section concludes with an estimated daily bicycle and pedestrian trips made in Monterey using additional data sources.

4.4.1. Journey to Work

The US Census data includes information for comparing bicycling rates in different locations. The Census only collects the primary mode residents use when commuting to work and not for other purposes, like school trips and shopping, thus many existing bicycle trips are not captured or represented. Table 4-3 presents journey to work data for the communities in Monterey County and, for comparison, data for California and the United States.

According to the US Census American Community Survey 2005-09, approximately 1,518 Monterey residents bicycle to work and 7,378 walked. Compared to California and the United States, the percentage of residents in the County of Monterey and communities therein that bicycle and walk are about the same.

The City of Monterey and Carmel-by-the-Sea residents walk to work more than other cities in the County. Potential reasons for high walk to work rates are that these cities have compact downtown shopping districts surrounded by walkable neighborhoods.

Table 4-3: Journey to Work Mode Share by Community

Place	Drove alone	Carpooled	Transit	Bicycle	Walked	Other means	Worked at home
Carmel-by-the-Sea	54%	12%	2%	1%	17%	0%	14%
Del Rey Oaks	82%	10%	2%	0%	1%	1%	2%
Gonzales	74%	19%	2%	0%	2%	2%	1%
Greenfield	72%	19%	1%	0%	3%	4%	1%
King City	50%	40%	0%	1%	7%	2%	1%
Marina	76%	14%	3%	0%	3%	1%	2%
Monterey	57%	9%	4%	3%	18%	2%	8%
Pacific Grove	75%	9%	1%	2%	5%	0%	6%
Salinas	70%	18%	3%	0%	2%	4%	3%
Sand City	55%	14%	0%	4%	5%	0%	21%
Seaside	67%	14%	7%	2%	5%	1%	3%
Soledad	71%	22%	2%	0%	2%	1%	2%
Unincorporated	75%	14%	1%	0%	2%	1%	7%
California	76%	11%	5%	0%	3%	1%	4%
United States	73%	12%	5%	1%	3%	1%	5%

Source: American Community Survey, 2005-09

US Census data reports commute time, which can be used as to identify locations where bicycle and walk to work rates have the potential to increase. US Census does not provide the data necessary to determine the commute times of residents that do not already bike or walk to work. However, most 10 minute or less commutes by motor vehicle can be assumed to be within biking distance. Table 4-4 presents the percent of residents with drive alone and carpool commute times of 10 minutes or less by community. The communities with the highest percent of residents with 10 minute or less commutes also have gridded street networks that directly connect residents to employment centers.

This analysis does not consider distances traveled to work and where residents work but community jobs/housing ratios suggests that residents in low population communities with low jobs/housing ratios have longer commutes and are therefore less inclined to bike or walk to work. The Agency RTP notes the following factors influencing resident commute behavior: in 2002, half of all new homes in Salinas were purchased by residents commuting to the Silicon Valley; vacation homes are prevalent on the Monterey peninsula and not available for workers (which artificially lowers the jobs/housing ratio).⁵

⁵ The Transportation Agency, Regional Transportation Plan, 2010

Table 4-4: Ten Minute or Less Commute Time by Community

Community	Commute less than 10 minutes	Jobs/Housing Ratio*
Carmel-by-the-Sea	31%	1.01
Pacific Grove	23%	0.86
King City	22%	0.99
Del Rey Oaks	20%	0.49
Monterey	18%	2.39
Soledad	16%	1.6
Gonzales	15%	0.53
Monterey County	13%	2.02
Greenfield	13%	0.33
Salinas	12%	1.18
Seaside	10%	0.61
Marina	10%	0.38
Sand City	8%	21.13

Sources: US Census American Community Survey, 2005-09, * AMBAG Population, Housing Unit and Employment Data, 2005 presented in the Agency Regional Transportation Plan.

4.4.2. Estimated Daily Bicycle and Pedestrian Trips

This Plan uses additional data sources presented in Table 4-5 and Table 4-6 to generate a more complete estimate of existing bicycle and pedestrian trips in Monterey County.

A key goal of this Plan is to maximize the number of bicyclists and pedestrians in order to realize multiple benefits, such as improved health and less traffic congestion, and maintenance of ambient air quality levels. In order to achieve this, a better understanding of the number of bicyclists and pedestrians is needed. The US Census collects only the primary mode of travel to work and it does not consider bicycle use when bicyclists ride to transit or school.

Alta Planning + Design has developed a bicycle model that estimates usage based on available empirical data. This model uses Monterey specific data from the US Census, American Community Survey; National Safe Routes to School survey information; and Federal Highway Administration college commute survey information. The steps used to calculate estimated bicycle and walk trips are outlined below.

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1. Bicycle/ Walk to work mode share:
 - a. Add number of bicycle commuters, derived from the US Census American Community Survey 2005-09 five year estimate.
2. Work at home bicycle mode share:
 - a. Add the number of those who work from home and likely bicycle, derived from assumption that 10 percent of those who work at home make at least one bicycle trip daily.
3. Bicycle to school mode share:
 - a. Add the number of students biking to school, derived from multiplying the K-12 student population by three percent.
 - b. Add the number of students biking to college, assuming 10 percent of residents enrolled in college bike to school.

The pedestrian trip model uses the same steps as the bicycle trip model, but with slightly different assumptions and includes pedestrian trips to transit.

An estimated 7,625 people bicycle daily in Monterey County, making 15,250 daily bicycle trips. This may be an underestimate of bicyclists and bicycle trips because recreational bicycle trips are not accounted for because they are difficult to track without supporting surveys or counts.

An estimated 19,680 people walk daily in Monterey County, making 39,360 daily walking trips. It should be noted that almost every person walks somewhere on any given day. This estimate focuses on commuting trips. **Table 4-5** and **Table 4-6** present detailed calculations and data sources used to estimate bicyclist and pedestrian daily trips and resulting air quality benefits.

Table 4-5: Estimated Daily Bicycle Trips (2009)

Variable	Figure	Source
Existing study area population	404,922	American Community Survey 2005-09*
Existing employed population	176,773	American Community Survey 2005-09
Existing bike-to-work mode share	0.9%	American Community Survey 2005-09
Existing number of bike-to-work commuters	1,590	Employed persons multiplied by bike-to-work mode share
Existing work-at-home mode share	4.4%	American Community Survey 2005-09
Existing number of work-at-home bike commuters	778	Assumes 10% of population working at home makes at least one daily bicycle trip
Existing transit-to-work mode share	2.5%	American Community Survey 2005-09
Existing transit-to-work commuters	133	Estimate of 3% transit to work commuters bike to transit based on survey results from the "Marina Service Area Study" (2009) and "South County Service Analysis" (2010)
Existing school children, (grades K-12)	76,421	American Community Survey 2005-09
Existing school children bicycling mode share	3.0%	Estimate based on National Safe Routes to School Partnership estimated 13% of children that walk or bike to school in the U.S. This analysis assumes 5% of those children bicycle and due to the rural setting of the County of Monterey, a slightly less percent of children (3%) are estimated to bicycle to school.
Existing school children bike commuters	2,293	School children population multiplied by school children bike mode share
Existing number of college students in study area	29,003	American Community Survey 2005-09
Existing estimated college bicycling mode share	10.0%	Review of bicycle commute share in seven university communities (source: National Bicycling & Walking Study, FHWA, Case Study No. 1, 1995).
Existing college bike commuters	2,900	College student population multiplied by college student bicycling mode share
Existing total number of bike commuters	7,694	Total bike-to-work, school, college and utilitarian bike trips. Does not include recreation.
Estimated Countywide Bicycle Mode Share	4%	Total daily bicycle trips / population (does not include recreational bicycle trips)
Estimated total daily bicycling trips	15,388	Total bicycle commuters x 2 (for round trips)

*Source: American Community Survey 2005-2009, <http://tinyurl.com/3rbvekh>

Table 4-6: Estimated Daily Walking Trips (2009)

Variable	Figure	Source
Existing study area population	404,922	American Community Survey 2005-09*
Existing employed population	176,773	American Community Survey 2005-09
Existing walk-to-work mode share	4.2%	American Community Survey 2005-09
Existing number of walk-to-work commuters	7,378	Employed persons multiplied by walk-to-work mode share
Existing work-at-home mode share	4.4%	American Community Survey 2005-09
Existing number of work-at-home walk commuters	1,948	Assumes 25% of population working at home makes at least one daily walking trip for any purpose.
Existing transit-to-work mode share	2.5%	American Community Survey 2005-09
Existing transit pedestrian commuters	3,374	Estimate of 75% transit to work commuters walk to transit based on survey results from the "Marina Service Area Study" (2009) and "South County Service Analysis" (2010)*
Existing school children, K-12	76,421	American Community Survey 2005-09
Existing school children walking mode share	8.0%	Estimate based on National Safe Routes to School Partnership estimated 13% of children that walk or bike to school in the U.S. This analysis assumes 8% of those children walk.
Existing school children walk commuters	6,114	School children population multiplied by school children walking mode share
Existing number of college students in study area	29,003	American Community Survey 2005-09
Existing estimated college walking mode share	10.0%	Estimate based on colleges in Monterey being commuter schools and have a lower than average pedestrian mode share.
Existing college walking commuters	2,900	College student population multiplied by college student walking mode share
Existing total number of walk commuters	21,714	Total walk-to-work, school, college and utilitarian walking trips. Does not include recreation.
Estimated countywide walk mode share	5%	Existing total number of walk commuters divided by existing study area population.
Estimated total daily walking trips	43,428	Total walk commuters x 2 (for round trips)

*Source: American Community Survey 2005-2009, <http://tinyurl.com/3rbvekh>

4.5. Collision Analysis

An analysis of bicycle and pedestrian related collisions informs this Plan's recommendations. The collision analyses presented below are categorized into bicycle and pedestrian collisions, both of which present collision data by year, location, violation type and parties at fault. The bicycle collision analysis also presents violation type by location. This provides further support for location specific recommendations.

4.5.1. Collision Data Source

Collision data was collected from the Statewide Integrated Traffic Records System (SWITRS), which is the statewide repository of all reported traffic collisions in California. SWITRS is regularly updated but the most recent data available is usually about one year old because the system relies on jurisdictions to report their data to Caltrans, who then processes the data. It for this reason and the Caltrans Bicycle Transportation Account requirement for bicycle plans to analyze the most recent five years of collision data that the collision analyses uses 2004 through 2009 data.

4.5.2. Bicycle Collisions by Year and Location

Table 4-7 presents bicycle related collisions by location and year. The bulleted list below highlights key findings.

- The number of bicycle collisions reached a high in 2006 with 130, but decreased in 2007 to 2009.
- Sand City reported the highest bicycle collision rate of 20 per 1,000 people (over six years), despite reporting only four total collisions in 2009.

Table 4-7: Bicycle Related Collisions by Location and Year

Year	Carmel	Gonzales	Greenfield	King City	Marina	Monterey City	Pacific Grove	Salinas	Sand City	Seaside	Soledad	Unincorporated	Total
2004	0	0	1	9	5	22	3	31	0	20	1	16	108
2005	1	1	5	1	7	22	4	42	0	18	1	15	117
2006	1	1	2	2	8	26	9	44	0	17	4	16	130
2007	2	2	6	3	7	21	9	48	0	16	3	8	125
2008	2	0	2	1	3	19	9	53	0	9	3	11	112
2009	0	2	1	0	4	17	7	30	4	8	3	21	97
Total	6	6	17	16	34	127	41	248	4	88	15	87	689
Population (1,000)	4.1	7.7	12.6	11.2	25.1	29.8	15.5	150.7	0.2	31.8	11.3	100.2	401.8
Collision Rate per 1,000	1.5	0.8	1.3	1.4	1.4	4.3	2.6	1.6	20.0	2.8	1.3	0.9	1.7

Source: Statewide Transportation Integrated Traffic Records System (SWITRS)

4.5.3. Bicycle Collisions by Traffic Violation and Party at Fault

Table 4-8 presents bicycle related collisions by traffic violation and party type at fault. The bulleted list below highlights key findings.

- Bicyclists were deemed responsible for 58 percent of collisions.
- Motorists were deemed responsible for 22 percent of collisions.
- Bicyclists most commonly rode on the wrong side of the road and violated automobile rights of way when committing traffic violations.
- Motorists most commonly violated other automobile rights of way when involved in bicycle related collisions.

Table 4-8: Violation and Faulty Parties in Bicycle Related Collisions

Violation	Bicycle	Vehicle	Tractor	Pedestrian	Not Stated	Total	Percent of Violations
Wrong Side of the Road	131	4	0	0	9	144	21%
Auto ROW	73	50	0	0	22	145	21%
Traffic Signals and Signs	41	11	0	0	5	57	8%
Improper Turning	40	34	0	0	13	87	13%
Brakes	37	5	0	0		42	6%
Unsafe Speed	18	10	0	0	3	31	4%
Not Stated	18	6	0	0	22	46	7%
Pedestrian Violation	12	1	0	1	0	14	2%
DUI	11	2	0	0	2	15	2%
Other Improper Driving	9	0	0	0	10	19	3%
Improper Passing	3	3	0	0	1	7	1%
Pedestrian ROW	2	10	1	0	4	16	2%
Unsafe Lane Change	2	0	0	0	0	2	0%
Unsafe Starting or Backing	1	10	0	0	3	14	2%
Unknown	1	2	0	0	28	31	4%
Lights	1	0	0	0	0	1	0%
Following too Closely	0	1	0	0	0	1	0%
Impeding Traffic	0	0	0	1	0	1	0%
Hazardous Parking	0	0	0	0	1	1	0%
Other than Drive	0	0	0	0	16	16	2%
Total	400	149	1	2	139	690	100%
Percentage at Fault	58%	22%	0%	0%	20%	100%	

Source: SWITRS

4.5.4. Bicycle Related Collisions by Traffic Violation and Location

Table 4-9 presents the percent of top five occurring bicycle related collisions by location. Only locations with significant percentages of bicycle related collisions are presented.

The bulleted list below highlights key findings.

- Differences between violation type reported by jurisdiction is presumably due to different jurisdictional reporting methods, e.g. SWITRS data reported 54.8 percent of all “other hazardous violations” occurred in Monterey City, while none occurred in Pacific Grove.
- Most wrong way riding, violation of automobile rights of way and traffic signals/signs occurred in Salinas.
- Most improper turning violations occurred in unincorporated Monterey County.

Table 4-9: Bicycle Related Traffic Violations by Location

Violation	Mari- na	Monterey City	Pacific Grove	Salinas	Seaside	Unincorporated County
Auto ROW	6.9%	22.8%	5.5%	41.4%	8.3%	7.6%
Wrong Side of the Road	4.2%	11.1%	0.7%	60.4%	11.8%	6.9%
Improper Turning	4.6%	9.2%	14.9%	18.4%	11.5%	34.5%
Traffic Signals and Signs	3.5%	12.3%	3.5%	35.1%	21.1%	12.3%
Other Hazardous Violation	7.1%	54.8%	0.0%	23.8%	7.1%	7.1%

Source: SWITRS

4.5.5. Pedestrian Collisions by Year and Location

Table 4-10 presents the number of pedestrian collisions and collision rates by City and year. The bulleted notes below highlight other notable findings.

- The number of pedestrian related collisions peaked in 2007 and 2008 at 150 and 151, respectively.
- Sand City reported the highest pedestrian collision rate of 19.6 collisions per 1,000 people. In comparison, most communities have a collision rate around 2.0.
 - Potential factors for pedestrian/vehicle conflicts in Sand City include a high number of potential conflict areas including high traffic volumes near the City’s commercial outlets, large multi-lane intersections, and frequent driveways.
- Unincorporated county reported the lowest pedestrian collision rate of 1.0, presumably due to low population, walking rates and development densities.

Table 4-10: Pedestrian Related Collisions by Location and Year

Year	Carmel	Gonzales	Greenfield	King City	Marina	Monterey City	Pacific Grove	Salinas	Sand City	Seaside	Soledad	Unincorporated	Total
2004	2	1	2	1	6	31	3	48	1	12	0	21	128
2005	3	2	4	4	5	30	5	45	0	13	4	18	133
2006	4		1	4	5	25	4	47	0	4	3	14	111
2007	4	4	11	6	4	21	4	65	2	14	1	14	150
2008	4		6		7	14	7	77	1	12	4	19	151
2009	2	2	2	4	4	14	4	62	0	3	5	19	121
Total	19	9	26	19	31	135	27	344	4	58	17	105	794
Population (1,000)	4.1	7.7	12.6	11.2	25.1	29.8	15.5	150.7	0.2	31.8	11.3	100.2	401.8
Collision Rate per 1,000	4.7	1.2	2.1	1.7	1.2	4.5	1.7	2.3	19.6	1.8	1.5	1.0	2.0

Source: SWITRS

4.5.6. Pedestrian Collisions by Traffic Violation and Party Type at Fault

Table 4-11 presents the violations committed at pedestrian related collisions and the faulty party type of the violations. The bulleted notes below highlight key finds regarding violations and parties at fault.

- Motorists were deemed responsible for 41 percent of pedestrian collisions
- Pedestrians were deemed responsible for 32 percent of collisions.
- Motorists most commonly violated pedestrian right of way when at fault.
- Pedestrians most commonly violated a traffic law specific to pedestrian movement, such as crossing where prohibited. This is likely due to long block lengths.

Table 4-11: Parties at Fault for Pedestrian Collisions

Violation	Pedestrian	Vehicle	Tractor	Bicycle	Not Stated	Total	Percent of Violations
Pedestrian ROW	4	181	3	2	89	279	35%
Pedestrian Violation	232	2	0	0	16	250	31%
Not Stated	14	14	0	1	22	51	6%
Unsafe Speed	0	33	0	0	9	43	5%
Unsafe Starting or Backing	0	28	1	0	8	37	5%
Improper Turning	0	25	2	0	10	37	5%
DUI	0	16	0	0	3	19	2%
Unknown	0		0	0	18	18	2%
Traffic Signals/Signs	0	5	0	0	8	13	2%
Improper Passing	0	4	0	0	5	9	1%
Auto ROW	0	3	0	0	5	8	1%
Other Improper Driving	0	4	0	0	3	7	1%
Wrong Side of the Road	0	2	0	2	3	7	1%
Other than Driver	0		0	0	7	7	1%
Other Hazardous Violation	1	4	0	0	1	6	1%
Impeding Traffic	1		0	0	0	1	0%
Fell Asleep	0	1	0	0	0	1	0%
Unsafe Lane Change	0	0	0	0	1	1	0%
Hazardous Parking	0	0	1	0	0	1	0%
Total Violations	252	322	7	5	208	794	100%
Percent of At-Fault Parties	32%	41%	1%	1%	26%	100%	

Source: SWITRS

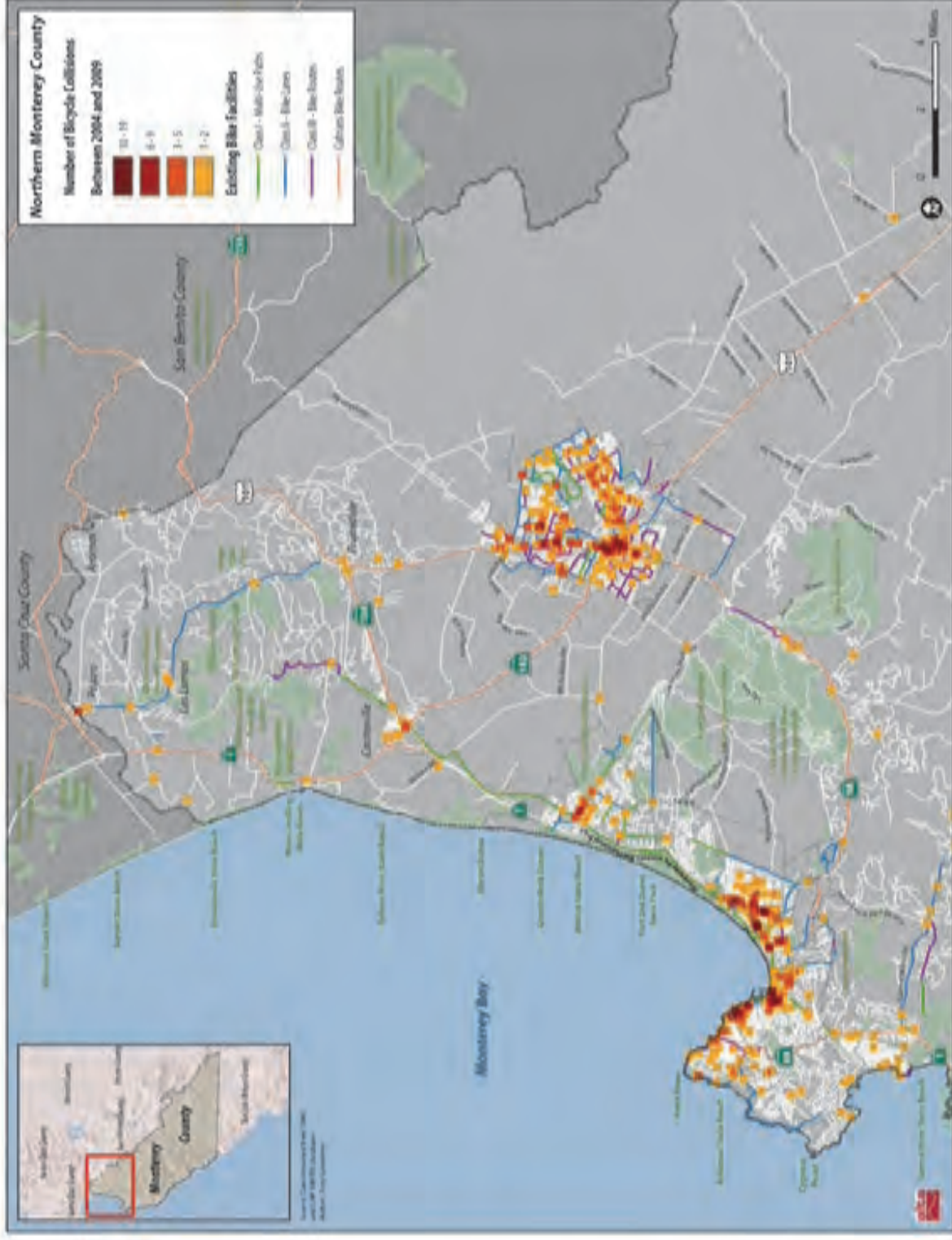


Figure 4-4: Bicycle Related Collisions Northern Monterey County

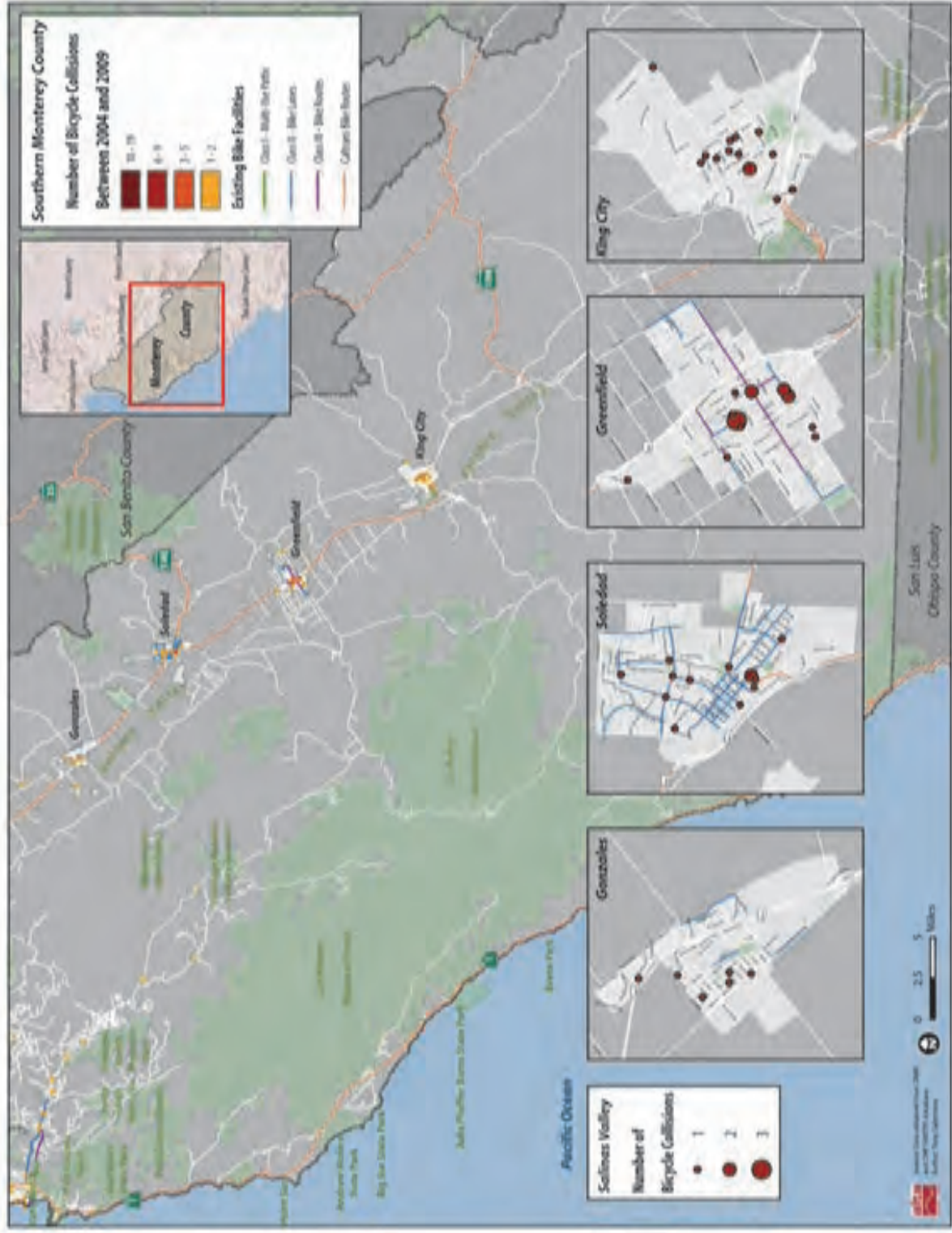


Figure 4-6: Bicycle Related Collisions Southern Monterey County

5. Benefits of Bicycling and Walking

Bicycling and walking provide a variety of benefits to the individual and to the public at large. This chapter introduces the benefits of bicycling and walking with respect to:

- Air quality
- Water quality
- Non-renewable resources
- Personal health
- Cost savings

This chapter concludes with an estimation of future bicycle and pedestrian trips made in Monterey County as a result of forecasted population growth and the implementation of the recommendations presented in this plan.

5.1. Air Quality

Each time someone in Monterey County walks or bicycles, a trip is completed that does not create air pollution. As Monterey County and its communities become more inviting to pedestrians and bicyclists, non-motorized trips to work, school, shopping outlets and recreational destinations will increase. Cumulatively, this pattern may reduce traffic in some areas and improve air quality.

Table 5-1 and Table 5-2 shows us the current estimated biking and walking trips presented in Chapter 4 to estimate current air quality benefits in Monterey County.

It is estimated that current biking trips in Monterey County result in a savings of approximately seven million pounds of greenhouse gas emissions a year. Current walking trips save approximately 3.3 million pounds of greenhouse gas emissions a year.

5.2. Water Quality

Bicycling and walking do not pollute water as driving an automobile otherwise would. Oil, petroleum products and other toxins from automobiles kill fish, plants and aquatic life. One quart of oil contaminates thousands of gallons of water and remains in the water because it is insoluble. These toxins, trace metals and degreasing agents used on automobiles contaminate drinking water and can cause major illness. Some of these toxins and metals are absorbed in various sea life and cause medical problems to people when eaten. Phosphorus and nitrogen cause explosive growth of algae, which depletes water of oxygen, killing fish and aquatic life.⁶ As a result of bicycling, people reduce the amount of vehicle miles traveled, which reduces the amount of oil released into the environment.

⁶ City and County of Honolulu Department of Environmental Services

Table 5-1: Estimated Vehicle Miles Replaced by Bicycling and Resulting Air Quality Benefits (2009)

Variable	Figure	Calculations and Sources
Vehicle Miles Reduced		
Reduced Vehicle Trips per Weekday	15,388	Assumes all bicycle trips replace vehicle trips as calculated in Table 4-5.
Reduced Vehicle Trips per Year	4,016,231	Reduced number of weekday vehicle trips multiplied by 261 (weekdays in a year)
Reduced Vehicle Miles per Weekday	31,982	Assumes average round trip travel length of 8 miles for adults/college students and 1 mile for schoolchildren
Reduced Vehicle Miles per Year	8,347,293	Reduced number of weekday vehicle miles multiplied by 261 (weekdays in a year)
Air Quality Benefits*		
Reduced Hydrocarbons (pounds/year)	25,028	Yearly mileage reduction multiplied by 1.36 grams per reduced mile
Reduced PM10 (pounds/year)	96	Yearly mileage reduction multiplied by 0.0052 grams per reduced mile
Reduced PM2.5 (pounds/year)	90	Yearly mileage reduction multiplied by 0.0049 grams per reduced mile
Reduced NOX (pounds/year)	17,482	Yearly mileage reduction multiplied by 0.95 grams per reduced mile
Reduced CO (pounds/year)	228,193	Yearly mileage reduction multiplied by 12.4 grams per reduced mile
Reduced CO2 (pounds/year)	6,790,571	Yearly mileage reduction multiplied by 369 grams per reduced mile
Reduced Greenhouse Gas Emissions (pounds/year)	7,061,459	

* Emissions rates from EPA report 420-F-05-022 "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks." 2005.

Table 5-2: Estimated Vehicle Miles Replaced by Walking and Resulting Air Quality Benefits

Variable	Figure	Calculations and Sources
Vehicle Miles Reduced		
Reduced Vehicle Trips per Weekday	43,428	Assumes all walking trips replace vehicle trips as calculated in Table 4-6.
Reduced Vehicle Trips per Year	11,334,698	Reduced number of weekday vehicle trips multiplied by 261 (weekdays in a year)
Reduced Vehicle Miles per Weekday	15,286	Assumes average round trip travel length of 1.2 miles for adults/college students and 0.5 mile for schoolchildren
Reduced Vehicle Miles per Year	3,989,643	Reduced number of weekday vehicle miles multiplied by 261 (weekdays in a year)
Air Quality Benefits*		
Reduced Hydrocarbons (pounds/year)	11,962	Yearly mileage reduction multiplied by 1.36 grams per reduced mile
Reduced PM10 (pounds/year)	46	Yearly mileage reduction multiplied by 0.0052 grams per reduced mile
Reduced PM2.5 (pounds/year)	43	Yearly mileage reduction multiplied by 0.0049 grams per reduced mile
Reduced NOX (pounds/year)	8,356	Yearly mileage reduction multiplied by 0.95 grams per reduced mile
Reduced CO (pounds/year)	109,066	Yearly mileage reduction multiplied by 12.4 grams per reduced mile
Reduced CO2 (pounds/year)	3,245,597	Yearly mileage reduction multiplied by 369 grams per reduced mile
Reduced Greenhouse Gas Emissions (pounds/year)	3,363,108	

* Emissions rates from EPA report 420-F-05-022 "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks." 2005.

5.3. Reduced Dependence on Non-Renewable Resources

Motor vehicle transportation consumes three-fourths of all oil and one-half of all energy used in California. This consumption will increase as congestion levels rise and commuter distances increase. An average Monterey County commuter uses 182 gallons of fuel each year. According to the U.S. Department of Transportation, the increase in the use of bicycles during the 1980s reduced the country's dependence on oil between 16 and 24 million barrels a year. Statewide statistics show that each motorist wastes about 43 gallons of motor fuel every year due to traffic congestion. This amounts to more than 817 million gallons wasted statewide. Wasted motor fuel is estimated to cost \$17 billion or approximately \$900 per motorist a year. Congestion costs California \$20.7 billion a year in lost time, fuel and productivity, according to the Texas Transportation Institute. As a result of bicycling, people reduce the amount of vehicle miles traveled, which reduces the amount of fuel consumed in transportation activities.

5.4. Health Benefits

Bicycling and walking create many health benefits, including:

- Enhancing cardiovascular fitness
- Reducing body fat
- Reducing stress levels
- Reduce cases of obesity

According to the Monterey County Health Department, 60 percent of all Monterey adults ages 18 through 64 and 42 percent of youth ages 12 to 17 were overweight in 2007. At the state level, the obesity rate among adults has increased 10% since 1991.⁷ Without regard to age, sex, or ethnic background, people over the age of 20 are 24 pounds heavier, children 6 to 11 years of age are almost nine pounds heavier, and teen boys are more than 15 pounds heavier than in the early 1960's.⁸

Increasing obesity rates is in part due to automobile trips replacing walking and bicycling trips for all but the shortest trips.⁹ The decline in walking and bicycling to school is one such example. In 1969, 48 percent of children ages five to 14 walked or biked to school; compared to 14 percent in 2009. Conversely, 12 percent of school children arrived at school by automobile in 1969 and 44 percent in 2009.¹⁰

Walking and biking can reduce the incidence of obesity. For children, the Center for Disease Control and Prevention recommends 60 minutes of daily aerobic exercise. The CDC recommends 75 to 150 minutes of vigorous exercise, in combination with muscle strengthening exercises, for adults on a weekly basis. For many adults and children, walking or biking to work or school is a viable option for achieving these recommended exercise regimens. For those living outside of walking or biking distances to school or work, the Monterey Bay Sanctuary Scenic Trail is great for recreational walking or biking.

⁷ Center for Disease Control and Prevention, <http://www.cdc.gov/obesity/data/trends.html>, accessed April 20, 2011.

⁸ October 27, 2004 issue of WebMD Medical News

⁹ October 27, 1999 issue of the JAMA

¹⁰ United States Department of Transportation, National Household Travel Survey

5.5. Cost Savings and Economic Benefits

Bicycling and walking save the residents of Monterey County money on a personal and community level. At the personal level, both modes require little money to own, operate and maintain compared to automobiles. Both modes are free to operate and bicycling requires minimal maintenance cost and most people can easily acquire the skills necessary to maintain a bicycle. In addition, the healthcare savings from obesity prevention, including walking and bicycling, amounts to approximately \$1,429 annually per capita.¹¹

At community and regional levels, bicycle and pedestrian infrastructure costs a fraction of total roadway costs. The estimated cost to implement this Bicycle and Pedestrian Master Plan is approximately \$190 million, equal a five miles of a four-lane freeway. The cost to maintain bicycle and pedestrian infrastructure is also a fraction of roadway maintenance due to the low impact bicycling and walking has on pavement and striping.

Constructing bicycle and pedestrian facilities not only provides residents with a means to travel without paying for gas or insurance but positively affects local economies. Table 5-3 shows pedestrian projects and bicycle projects generate more jobs per \$1 million spent than strictly road repairs and resurfacing. Direct jobs generated are those related to designing, engineering and constructing a project. Indirect jobs are those related to manufacturing construction items such as signs, striping and concrete. Induced jobs are those that support people working direct and indirect jobs, such as retail, food service and healthcare.

Table 5-3: Employment per \$1 Million Expenditures

Project Type	Direct jobs	Indirect jobs	Induced jobs	Total jobs	Employment multiplier*
Pedestrian projects	6	2.2	3.1	11.3	1.9
Bike lanes (on-street)	7.9	2.5	4	14.4	1.8
Bike boulevard (planned)	6.1	2.4	3.2	11.7	1.9
Road repairs and upgrades	3.8	1.5	2	7.4	1.9
Road resurfacing	3.4	1.5	1.9	6.8	2

Source: Political Economy Research Institute, *Estimating the Employment Impacts of Pedestrian, Bicycle and Road Infrastructure*, 2010.

* The number of indirect jobs created from every direct job.

5.6. Quality of Life

Quality of life is hard to measure. Quality of life is largely based on local attributes that make people happy about where they live, which includes attributes that bicycling addresses.

One reason why bicycling improves quality of life is that it is a flexible and inexpensive transportation choice. As noted in Section 5.5, bicycling is a very cost effective transportation mode both at a personal and community level. A bicyclist saves money from not having to pay for gas or parking. While a local economy benefits from the minimal costs, in comparison other transportation modes, of bicycle infrastructure and maintenance. These monetary savings directly and positively influence quality of life perception.

¹¹ Center for Disease Control and Prevention, 2009

Additionally, community character can be influenced by bicycle facilities in a positive manner. Generally, people enjoy using streets that are multi-modal and that accommodate bicyclists with on-street facilities and bicycle parking. Such streets encourage happenstance run-ins with friends and acquaintances, building a sense of community and belonging.

Community character can be also defined by events and entertainment, both of which are used by communities to rally support for bicycling. Bike-in movies, bike clubs, organized family bike rides or “kidical mass”, and providing valet bicycle parking at street festivals and fairs are ways to use bicycling to a build community and improve quality of life.

5.7. Future Usage

Alta has developed a Caltrans approved bicycle and pedestrian model that estimates future activity and benefits associated with increased biking and walking. **Table 5-4** and **Table 5-5** each quantify the estimated reduction in vehicle trips and miles as well as future air quality benefits for biking and walking for the year 2035, respectively.

The future activity estimates assume the County achieves the bicycle and walking rates set forth as objectives in this Plan. If target biking and walking mode share rates are reached, it may result in nearly 40,000 reduced annual vehicle trips in Monterey County as well as notable reductions in greenhouse gas emissions.

Table 5-4: Estimated Bicycle Activity and Resulting Air Quality Benefits in 2035

Variable	Figure	Source
Future Commute Statistics		
Future study area population	530,362	AMBAG estimate 2035
Future employed population	231,535	Assumes employed population will increase at the same rate as the overall population
Future bike-to-work mode share	3.0%	Assumes Plan objective of 3% bike mode share by 2015 will be achieved and remain at that level in 2035
Future number of bike-to-work commuters	6,946	Employed persons multiplied by bike-to-work mode share
Future work-at-home mode share	4.4%	Assumes percentage of work-at-home population will not change from ACS 2005-09 estimate
Future number of work-at-home bike commuters	5,094	Assumes 50% of population working at home makes at least one daily bicycle trip
Future transit-to-work mode share	2.5%	Assumes percentage of transit to work commuters will not change from ACS 2005-09 estimate
Future transit bicycle commuters	177	Assumes current bike to transit levels (3%) will remain the same
Future school children, ages 6-14 (grades K-8)	100,095	Assumes student population will increase at the same rate as the overall population
Future school children bicycling mode share	7.0%	Assumes mode share increases from current 5% to 7% with additional school focused improvements
Future school children bike commuters	7,007	School children population multiplied by school children bike mode share
Future number of college students in study area	37,988	Assumes the number of college students will increase at the same proportion as the total population
Future estimated college bicycling mode share	12.0%	Assumes college bike mode share will increase 2% over current bike to college mode share estimation
Future college bike commuters	4,559	College student population multiplied by college student bike mode share
Future total number of bicycle commuters	23,782	Total bike-to-work, school, college and utilitarian biking trips. Does not include recreation.
Future total daily biking trips	47,564	Total bicycle commuters x 2 (for round trips)
Future Vehicle Trips and Miles Reduction		
Reduced Vehicle Trips per Weekday	15,830	Assumes 73% of biking trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Trips per Year	4,131,719	Reduced number of weekday vehicle trips multiplied by 261 (weekdays in a year)
Reduced Vehicle Miles per Weekday	100,648	Assumes average round trip travel length of 8 miles for adults/college students and 1 mile for schoolchildren
Reduced Vehicle Miles per Year	26,269,121	Reduced number of weekday vehicle miles multiplied by 261 (weekdays in a year)
Future Air Quality Benefits*		
Reduced Hydrocarbons (pounds/year)	78,762	Yearly mileage reduction multiplied by 1.36 grams per reduced mile
Reduced PM10 (pounds/year)	301	Yearly mileage reduction multiplied by 0.0052 grams per reduced mile
Reduced PM2.5 (pounds/year)	284	Yearly mileage reduction multiplied by 0.0049 grams per reduced mile
Reduced NOX (pounds/year)	55,018	Yearly mileage reduction multiplied by 0.95 grams per reduced mile
Reduced CO (pounds/year)	718,127	Yearly mileage reduction multiplied by 12.4 grams per reduced mile
Reduced CO2 (pounds/year)	21,370,081	Yearly mileage reduction multiplied by 369 grams per reduced mile

*Emissions rates from EPA report 420-F-05-022 "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks." 2005.

Table 5-5: Estimated Pedestrian Activity and Resulting Air Quality Benefits in 2035

Variable	Figure	Source
Future Commute Statistics		
Future study area population	530,362	AMBAG estimate 2035
Future employed population	231,535	Assumes employed population will increase at the same rate as the overall population
Future walk-to-work mode share	5.0%	Assumes Plan objective of 5% walk mode share by 2015 will be achieved and remain at that level in 2035
Future number of walk-to-work commuters	11,577	Employed persons multiplied by walk-to-work mode share
Future work-at-home mode share	4.4%	Assumes percentage of work-at-home population will not change from ACS 2005-09 estimate
Future number of work-at-home walk commuters	5,094	Assumes 50% of population working at home makes at least one daily walking trip
Future transit-to-work mode share	2.5%	Assumes percentage of transit to work commuters will not change from ACS 2005-09 estimate
Future walk to transit commuters	4,420	Employed persons multiplied by transit mode share. Assumes existing percent of transit to work commutes (75%) will not change
Future school children, ages 6-14 (grades K-8)	100,095	Assumes student population will increase at the same rate as the overall population
Future school children walking mode share	10.0%	Assumes mode share increases from current 8% to 10% with additional school focused improvements
Future school children walk commuters	10,010	School children population multiplied by school children walking mode share
Future number of college students in study area	37,988	Assumes the number of college students will increase at the same proportion as the total population
Future estimated college walking mode share	12.0%	Assumes college walking mode share will increase at the same rate as the walk to work mode share
Future college walking commuters	4,559	College student population multiplied by college student walking mode share
Future total number of walk commuters	35,658	Total walk-to-work, school, college and utilitarian walking trips. Does not include recreation.
Future total daily walking trips	71,316	Total walk commuters x 2 (for round trips)
Future Vehicle Trips and Miles Reduction		
Reduced Vehicle Trips per Weekday	24,029	Assumes 73% of walking trips replace vehicle trips for adults/college students and 53% for school children
Reduced Vehicle Trips per Year	6,271,450	Reduced number of weekday vehicle trips multiplied by 261 (weekdays in a year)
Reduced Vehicle Miles per Weekday	25,121	Assumes average round trip travel length of 1.2 miles for adults/college students and 0.5 mile for schoolchildren
Reduced Vehicle Miles per Year	6,556,507	Reduced number of weekday vehicle miles multiplied by 261 (weekdays in a year)
Future Air Quality Benefits*		
Reduced Hydrocarbons (pounds/year)	19,658	Yearly mileage reduction multiplied by 1.36 grams per reduced mile
Reduced PM10 (pounds/year)	75	Yearly mileage reduction multiplied by 0.0052 grams per reduced mile
Reduced PM2.5 (pounds/year)	71	Yearly mileage reduction multiplied by 0.0049 grams per reduced mile
Reduced NOX (pounds/year)	13,732	Yearly mileage reduction multiplied by 0.95 grams per reduced mile
Reduced CO (pounds/year)	179,237	Yearly mileage reduction multiplied by 12.4 grams per reduced mile
Reduced CO2 (pounds/year)	5,333,756	Yearly mileage reduction multiplied by 369 grams per reduced mile

*Emissions rates from EPA report 420-F-05-022 "Emission Facts: Average Annual Emissions and Fuel Consumption for Gasoline-Fueled Passenger Cars and Light Trucks." 2005.

6. Bicycle Network and Projects

This chapter presents the bikeway network and projects as identified by:

- Bikeways proposed in adopted County and city bicycle plans
 - Class I multi-use paths identified in the Monterey Bay Sanctuary Scenic Trail Master Plan (2007). Project names used in this Plan, i.e. Sanctuary Scenic Trail and Segment number, are consistent with those in the Trail Master Plan.
- Bikeways submitted by local jurisdictions as part of this Plan’s survey to the cities and County
- Bikeways recommended by the Bicycle and Pedestrian Facilities Advisory Committee
- Improving connections within and between communities

The bikeway projects are intended to make bicycling more comfortable and accessible for bicyclists of all skill levels and trip purposes. The type of user, e.g. novice or experienced, was considered when identifying the appropriate bikeway type. Recommended bikeways are organized by jurisdiction, as outlined below.

Chapter Organization

6.1.	Bicycle Parking and End-of-Trip Facilities.....	6-3
6.2.	Trail Signage.....	6-4
6.3.	County of Monterey.....	6-5
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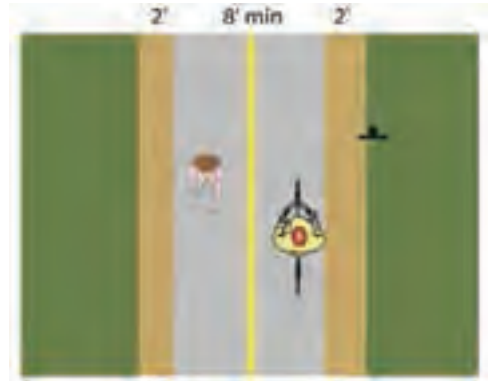
This Plan recommends three bikeway types as classified by Caltrans, as described below and presented to the right.

Class I multi-use paths provide for bicycle and pedestrian travel on a paved right-of-way completely separated from roadways. These facilities are typically used by recreational and casual bicyclists. Commuting bicyclists will also use Class I facilities that provide access to work or school.

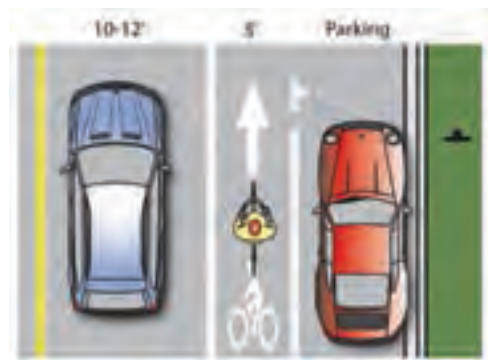
Class II bicycle lanes provide a signed, striped and stenciled lane for one-way travel on both sides of a roadway. These facilities are typically used by commuting bicyclists and bicycle enthusiasts. Casual bicyclists will also use Class II facilities if traffic speeds and volumes are relatively low. Class II bicycle lanes are often recommended on roadways with moderate traffic volumes and speeds where separation from motorists can increase the comfort of bicyclists.

Class III bicycle routes provide for shared roadway use and are generally identified only by signs. These facilities may have a wide travel lane or shoulder that allow for parallel travel with motorists.

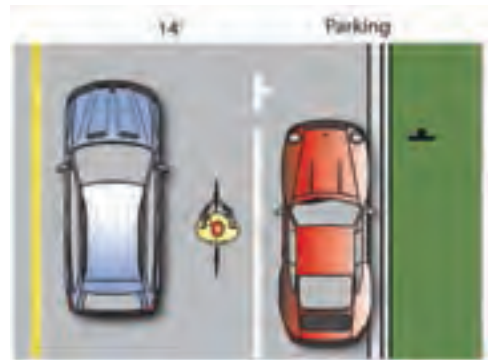
Bicycle Boulevards (as proposed in Monterey and around California State University) include additional treatments that enhance Class III bicycle routes, e.g. pavement stencils and unique signage.



Class I bikeways are separated from the roadway.



Class II bike lanes provide a striped travel lane on roadways for bicyclists.



Class III bicycle routes are signed roadways indicating a preferred bicycle route.

Table 6-1 presents a summary of the bikeway projects identified in this chapter. The projects include 563 miles of bikeways, connecting residents to community destinations as well as providing recreational opportunities. The estimated cost to implement the entire network is approximately \$117 million. Complete build out of the network is not possible in the short term and a detailed tiering and phasing plan is presented in Chapter 8.

Table 6-1: Summary of Bikeway Projects Countywide

Class	Sum of Miles	Sum of Cost Estimate
1	63.21	\$83,205,800
2	273.24	\$17,619,445
3*	221.32	\$16,463,300
Bicycle Boulevard	5.55	\$52,960
Total	563.33	\$117,341,505

* Cost of Highway 68 bridge widening over Salinas River is \$15 million

The recommendations are organized by jurisdiction to facilitate ease of implementation by responsible agencies. Each section summarizes the existing planning and policy documents and land use characteristics that affect bicycle planning, followed by recommended bikeway projects. The projects are presented in maps and tables. The tables describe the project and also indicate the project ranking.

In order to assist the Agency identify regionally significant bicycle projects that will help guide the allocation of administered funds, each project was scored based on how it satisfies a number of criteria. The criteria include:

- Gap closure in network
- Collision/safety
- Local connections
- Project cost
- Connections to activity centers

The criteria were reviewed by the Committee, Agency staff and representatives of the local jurisdictions. A detailed explanation of the project scoring methodology is described in detail in Chapter 8 but for jurisdictional summary purposes the project ranking is included in this chapter.

6.1. Bicycle Parking and End-of-Trip Facilities

Bicycle parking is an important and necessary complement to any bicycle network. Without adequate bicycle parking, people may not feel encouraged to bicycle to a destination. In addition, installing the appropriate type of bicycle parking facility is also important. In general, bicycle racks are appropriate for parking durations less than two hours and bicycle lockers are appropriate for longer durations.

End-of-trip facilities also complement the bicycle network and encourage people to bicycle. Showers and changing facilities accommodate bicyclists who need to freshen up after their trip. The Association of Pedestrian and Bicycle Professional's Bicycle Parking Guide is a great resource to help determine the appropriate type of bicycle parking facility, number of parking spaces and how and where to install parking facilities.

Selecting the appropriate type of bicycle parking and identifying end-of-trip facility locations are best completed at the local level. This Plan recommends local jurisdictions and transit agencies identify locations where bicycle parking and end-of-trip facilities are needed, especially at civic buildings, parks, schools and retail outlets.

Appendix C provides a list of existing bicycle parking locations in the County of Monterey and the communities therein.

6.2. Trail Signage

Monterey County and the communities therein boast some of the most scenic bicycle and pedestrian trails in the County. Nearly 44 miles of Class I multi-use path exists in Monterey County and 57 more miles are recommended in this Plan. These existing and recommended paths are critical connections for non-motorized commuters and tourists traveling between communities.

Signage displaying where bicyclists and pedestrian should travel is inconsistent along segments of existing paths, primarily along the Monterey Bay Recreational Trail. Signage that displays path user rules and directions to popular destinations in a consistent manner is most effective at achieving desired user behavior.

This Plan recommends local jurisdictions coordinate in the design and installation of consistent path signage.

6.3. County of Monterey

6.3.1. Planning and Policy Context

6.3.1.1. Association of Monterey Bay Area Governments Blueprint Report (2011)

The Association of Monterey Bay Area Governments (AMBAG) developed a “blueprint” to plan land use and transportation in a regional context, providing long-term guidance for local jurisdictions to remain consistent with regional goals that respond to projected future population growth. The Blueprint presents a Sustainable Growth Scenario that focuses development around job and transit rich areas. This scenario includes “priority areas” where all transportation modes should be accommodated, including bicyclists and pedestrians. Chapter 3 provides a more detailed review of the Blueprint.

6.3.1.2. Monterey County General Bikeways Plan (2008)

The Monterey County General Bikeways Master Plan includes all recommended projects identified in the 2005 General Bikeways Plan that are in the incorporated county in addition to the priority bikeway projects listed below.

- Carmel Valley Class I Project Phases I-IV
- Spreckels Boulevard
- Moss Landing Road Class II from South Highway 1 to North Highway 1
- Castroville Railroad Crossing Bicycle/Pedestrian Path
- Monterey Bay Sanctuary Scenic Trail

Chapter 3 provides a more detailed review of the County Bikeways Master Plan.

6.3.2. Existing Conditions

The existing land use in the unincorporated county is largely rural, undeveloped or parkland. The population of the unincorporated area totals 100,200. The 2000 US census reports that no resident bicycles to work. However, many people to bicycle in the area for other purposes. Bicycling for recreation and exercise, typically for long distances, is popular in the unincorporated County. Existing bikeway mileage in this area totals 45.6 miles with 8.1 miles of Class I, 25.8 Class II and 11.7 Class III bikeways. The existing bikeways are shown on Figures 6-1 through 6-3.

For the years 2004 through 2009, 87 bicycle related collisions occurred in the unincorporated county, accounting for 13 percent of all bicycle related collisions in Monterey County. Locations with a concentrated number of collisions are Pajaro and Castroville. Figures 4-4 through 4-6 show collision locations throughout Monterey County.

6.3.3. Bikeway Projects

Figure 6-1, Figure 6-2 and Figure 6-3 present the bikeway projects in the unincorporated Monterey County.



Figure 6-2: County of Monterey Bikeway Projects (Peninsula)

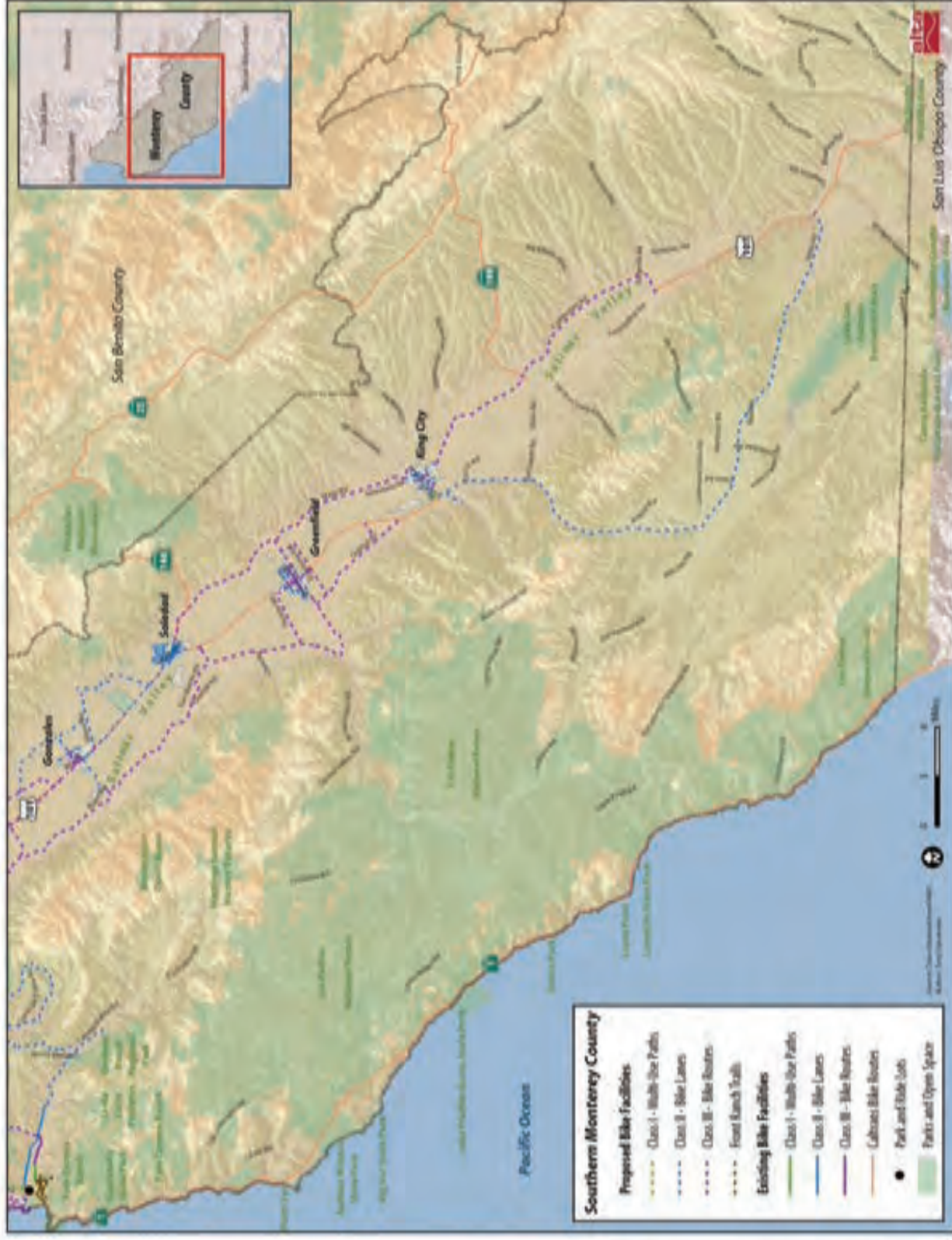


Figure 6-3: County of Monterey Bikeway Projects (South)

Table 6-2 presents descriptions of each bikeway project including bikeway type, length, estimated cost, and project rank. Those identified in italics and with an asterisk are the top ranking three projects in the unincorporated County.

Table 6-2: Monterey County Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Carmel River Bridge	1	Carmel River (N)	Carmel River (S)	0.08	\$540,000	385
<i>Castroville Bicycle Path and Railroad Crossing*</i>	1	<i>Axtell St</i>	<i>Castroville Blvd</i>	<i>0.31</i>	<i>\$5,995,000</i>	<i>3</i>
Gen Jim Moore Path	1	Eucalyptus Rd	City Limits	1.85	\$1,112,800	59
Hatton Canyon Path	1	Rio Rd	Carmel River Bridge	0.24	\$144,200	196
Hatton Canyon Path	1	Carmel Valley Rd	Hwy 1	2.60	\$1,68,600	14
Intergarrison Trail	1	Fort Ord Dunes	Reservation Rd	4.90	\$2,525,000	69
Jonathan St	1	Salinas Rd	Florence St	0.14	\$83,600	323
Meridian Rd Path	1	375' S of Meridian Rd	390' N of Meridian Rd	0.15	\$87,900	403
Pajaro Rail Line	1	Salinas Rd	Pajaro River Levee	0.69	\$413,200	366
Pajaro River Levee	1	Pajaro Rail Line	Drainage Pond/Miller Property	0.69	\$413,700	367
Reservation Rd Path	1	Reservation Rd	Creekside Terrace	0.22	\$129,500	63
Salinas Valley - Seaside Trail	1	Hwy 218/General Jim Moore Blvd	Intergarrison Rd	6.09	\$3,654,000	71
Sanctuary Scenic Trail Segment 10	1	Neponset Rd	Lapis Rd	2.42	\$2,057,100	370
Sanctuary Scenic Trail Segment 11	1	Neponset Rd	Monte Rd	0.79	\$634,400	368
Sanctuary Scenic Trail Segment 12	1	Salinas River and Hwy 1	Salinas River State Beach	1.82	\$5,552,000	404
Sanctuary Scenic Trail Segment 14	1	Molera Rd	Monterey Dunes Way	0.40	\$2,799,000	372
<i>Sanctuary Scenic Trail Segment 14</i>	<i>1</i>	<i>Nashua Rd</i>	<i>Potrero Rd</i>	<i>3.40</i>	<i>\$257,600</i>	<i>223</i>
Sanctuary Scenic Trail Segment 14A	1	Salinas River State Beach	Potrero Rd	1.29	\$835,400	369
Sanctuary Scenic Trail Segment 15	1	Moss Landing Rd	Hwy 1 Elkhorn Slough Bridge	0.74	\$5,082,000	9
Sanctuary Scenic Trail Segment 17A	1	Pajaro River	Tafton Rd	0.11	\$699,200	405
Sanctuary Scenic Trail Segment 17B	1	Tafton Rd	McGown Rd	1.44	\$1,659,200	406
Sanctuary Scenic Trail Segment 7	1	Lapis Rd	Dunes Dr	0.69	\$3,411,000	373
Sanctuary Scenic Trail Segment 8	1	Nashua Rd	Lapis Rd	1.88	\$5,855,100	78
Sanctuary Scenic Trail Segment 9	1	Lapis Rd	Monte Rd	0.89	\$36,800	363
York - Blue Larkspur Path	1	York Rd	Blue Larkspur Ln	0.87	\$520,600	197

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Project	Class	Start	End	Miles	Cost	Rank
York School Path	1	Blue Larkspur Ln	York School	0.24	\$141,000	324
15th Ave	2	Bay View Ave	Rio Rd	0.80	\$34,300	22
Abbott St	2	Harkins Rd	Firestone Business Park	2.93	\$126,200	371
Artichoke Ave	2	Merritt St/Poole St	Hwy1/Watsonville Rd	0.98	\$42,100	144
Blackie Rd	2	Hwy 101	Hwy 183	4.81	\$207,000	41
Blanco Rd	2	Luther Way	Abbott St	2.50	\$107,300	6
<i>Blanco Rd*</i>	2	<i>Research Rd</i>	<i>Luther Way</i>	5.16	\$221,880	4
Blue Larkspur Ln	2	York Rd	end of Blue Larkspur	0.64	\$27,300	30
Camphora Gloria Rd	2	Gloria Rd	Hwy 101	5.27	\$226,800	77
Carmel Valley Rd	2	Loma del Rey	Via Contenta	6.47	\$278,200	64
Castroville Blvd - Dolan Rd	2	San Miguel Canyon Rd	Hwy 1	6.64	\$285,300	65
Cherry Ave	2	10th St	end of 10th St	0.36	\$15,400	315
Crazy Horse Canyon Rd	2	Hwy 101	San Juan Grade Rd	3.78	\$162,600	76
Cross Rd	2	Reese Rd	Pesante Rd	0.71	\$30,700	359
Davis Rd	2	Reservation Rd	Blanco Rd	2.10	\$90,300	182
<i>Davis Rd*</i>	2	<i>Blanco Rd</i>	<i>Rossi St</i>	1.75	\$3,411,000	5
Drainage Pond/Miller Property	2	Florence Extension	Levee	0.37	\$16,100	354
Elkhorn Rd	2	Paradise Valley Rd	Hall Rd	4.52	\$194,200	220
Espinosa Rd	2	Hwy 101	Hwy 183	4.93	\$211,900	42
Florence Ave	2	Pajaro River Levee	End of Florence Ave	0.29	\$12,500	313
Front Rd Extension	2	Camphora Gloria Rd	Encinal St	2.20	\$94,700	37
Gloria Rd	2	Hwy 101	Camphora Gloria	3.77	\$162,000	75
Gonzales River Rd	2	River Rd	Alta St	2.52	\$108,300	218
Harkins Road	2	Nutting Street	5th Street	1.55	\$66,700	70
Harrison Rd	2	Damian Wy	Russell Rd (Salinas)	1.90	\$81,700	36
Hwy 156	2	Prunedale Rd	Castroville Blvd	4.27	\$183,800	40
Hwy 68	2	San Benancio Rd	Salinas Creek Bridge (S)	4.40	\$189,300	13
Hwy 68	2	Salinas Creek Bridge (N)	Salinas City Limit	1.45	\$62,300	148
Hwy 68	2	Viejo Rd	Presidio Blvd	2.32	\$99,600	38
Intergarrison Rd	2	Reservation Rd	Old County Rd	0.61	\$26,200	170
Iverson Rd	2	5th St (from Gonzales City Limits)	Old Stage Rd	4.66	\$200,400	242
Iverson Rd	2	Johnson Canyon Rd	Gloria Rd	2.17	\$93,500	241
Johnson Canyon Rd	2	650' NE of Herold Pkwy	Iverson Rd	1.09	\$47,000	210
Jolon Rd	2	Hwy 101	Nacimiento Lake Dr	39.29	\$1,689,300	68
Lanini Rd	2	Tavernetti Rd	Tavernetti Rd Hwy 101 On Ramp	0.67	\$28,900	74
Las Lomas Dr	2	Hall Rd	Clausen Rd	0.75	\$32,300	360
Laureles Grade Rd	2	Hwy 68	Carmel Valley Rd	5.86	\$251,800	222
Main St	2	Grant St	Lincoln St	0.14	\$6,200	341
McCoy Road	2	Soledad Prioson Rd	Camphora Gloria Rd	2.01	\$86,600	61

Project	Class	Start	End	Miles	Cost	Rank
Meade St (Extension)	2	Tembladera St	Artichoke Ave (Extension)	0.04	\$1,800	268
Monte Rd - MBSST	2	Nashua Rd	Lapis Rd	1.88	\$80,840	215
Moss Landing Rd	2	Potrero Rd	end of Moss Landing Rd	0.74	\$31,800	254
Natividad Rd	2	Boronda Rd	Old Stage Rd	2.14	\$92,000	217
Old Stage - San Juan Grade	2	Herbert Rd	Crazy Horse Canyon Rd	1.18	\$50,700	58
Park Rd	2	Ryan Ranch Rd	end of Park Rd	0.07	\$3,000	134
Pine Canyon Rd	2	Jolon Rd	Pine Meadow Dr	1.35	\$58,200	239
Portola Dr	2	Torero Dr	Muleta Dr	0.38	\$16,400	316
Prunedale North Rd	2	San Miguel Canyon Rd	300' S of Hwy 156 overpass	1.06	\$45,700	23
Reservation Rd	2	Blanco Rd	Hwy 68	5.51	\$236,800	221
Rio Road	2	Atherton Dr	Hwy 1	0.44	\$18,900	317
Rogge Rd	2	San Juan Grade Rd	Natividad Rd	1.29	\$55,600	213
S Prunedale Rd	2	300' S of Hwy 156 overpass	Blackie Rd	0.95	\$40,700	209
Salinas Rd	2	Salinas Rd	Werner Rd	0.02	\$1,100	390
Salinas Rd	2	Hwy 1	Salinas Rd/County Rd 12	1.62	\$69,500	177
Salinas Rd - Hall Rd - Tarpey Rd	2	Porter Dr	San Juan Rd	1.73	\$74,400	214
Salinas St	2	Haight St	Merritt St	0.34	\$14,500	127
San Benancio - Corral de Tierra Rd Loop	2	Hwy 68	Hwy 68	12.34	\$530,400	225
San Juan Grade Rd	2	Porter Dr	Hwy 101	8.87	\$381,200	66
San Juan Grade Rd	2	Porter Dr	Florence Ave	0.11	\$4,900	50
San Juan Grade Rd	2	Herbert Rd	Rogge Rd	2.05	\$88,300	10
South Boundary Rd	2	City Limit	Barloy Canyon Rd	3.32	\$142,800	39
Tavernetti Rd	2	Lanini Rd	Soledad Prison Rd	2.20	\$94,400	62
Werner Rd	2	Salinas Rd	Elkhorn Rd	0.22	\$9,300	345
York Rd	2	"Trail Rd"/York Rd	end of York	1.14	\$49,200	193
5th St	3	Herold Pkwy	650' N of Herold Pkwy	0.13	\$400	329
Abrams Dr	3	Imjin Rd	Intergarrison Rd	0.91	\$2,700	160
Aguajito Rd (Highway ramp signage)	3	Hwy 1	Monhollan Rd	2.53	\$7,600	15
Alisal - Old Stage Rd - San Juan Grade Rd	3	San Juan Grade Rd	Old Stage Rd Hwy 101 On Ramp	23.00	\$69,000	194
Alta St/Old US Hwy 101	3	Foletta Rd	10th St	1.23	\$3,700	49
Arroyo Seco Rd	3	Fort Romie Rd	Elm Ave	8.04	\$24,100	238
Arroyo Seco Rd	3	Fort Romie	Hwy 101	1.69	\$5,100	201
Bishop St	3	Salinas Rd	Florence Ave	0.12	\$400	263
Blackie Rd	3	Castro St	Merritt St	0.07	\$200	154
Bluff Rd	3	Hwy 1	Pajaro River	1.70	\$5,100	395
Brooklyn St	3	San Juan Rd	Bishop St	0.19	\$600	278

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Project	Class	Start	End	Miles	Cost	Rank
Canada de la Segunda	3	Hwy 68	Carmel Valley Rd	4.14	\$12,400	29
Castro St	3	Blackie Rd	Wood St	0.28	\$800	132
Castroville Blvd	3	Del Monte Farms Rd	Dolan Rd	0.32	\$1,000	230
Cattleman Rd	3	Wildhorse Canyon Rd	Paris Valley Rd	16.83	\$50,500	57
Central Ave	3	Elm Ave	Hwy 101	7.21	\$21,600	237
Chualar River Rd	3	River Rd	Grant St	2.56	\$7,700	52
Copper - Nashua Rd	3	Blanco Rd	Monte Rd	4.89	\$14,700	73
El Camino Real	3	City Limits	Susan Ln	0.19	\$600	375
Elm Ave	3	Metz Rd	3rd St (Greenfield)	2.15	\$6,500	186
Elm Ave	3	Arroyo Seco Rd	13th St	4.74	\$14,200	56
Espinosa Rd	3	Central Ave	Susan Ln (to Hwy 101)	1.82	\$5,500	233
Espinosa Rd	3	Patricia Ln	Elm Ave	2.73	\$8,200	206
Foletta Rd	3	Chualar River Rd	Alta St/Old US Hwy 101	4.14	\$12,400	55
Fort Romie Rd	3	River Rd	Arroyo Seco Rd	3.87	\$11,600	235
Fremont St	3	Salinas Rd	End of Fremont St	0.13	\$400	294
Geil St	3	Wood St	Hwy 156 Bike/Ped Overcrossing	0.19	\$600	99
Grant St	3	Hwy 101	Payson St	0.60	\$1,800	158
Hwy 1	3	Ocean Ave	Carmel High School	0.23	\$700	279
McGowan Rd - MBSST	3	Trafton Rd	Santa Cruz Co Line	0.70	\$2,100	392
Mead St	3	Tembladera St	Gambetta Middle School	0.34	\$1,000	156
Meridian Rd	3	Castroville Blvd	Hwy 156	2.74	\$8,200	54
Mesa Verde	3	Wildhorse Canyon Rd/Hwy 101	1st St	2.56	\$7,700	53
Metz Rd	3	Soledad City Limits	King City City Limits	18.47	\$55,400	228
Moro Rd	3	San Miguel Canyon Rd	Hwy 101	1.93	\$5,800	51
Old Stage - San Juan Grade	3	Crazy Horse Canyon Rd	County Limit	4.25	\$12,800	236
Old Stage Rd	3	Associated Ln/101	Alta St	0.36	\$1,100	198
Omart Rd	3	Del Monte Farms Rd	Meridian Rd	0.15	\$500	388
Pajaro - Axtell - Benson Rte	3	Merritt St	Benson Rd	0.51	\$1,500	120
Payson St - Chualar Rd	3	Grant St	Old Stage Rd	1.41	\$4,200	200
Pesante Rd	3	Hwy 101	Cross Rd	0.68	\$2,000	336
Reese Cir - Country Meadows Rd	3	Blackie Rd	Damian Wy	1.09	\$3,300	47
River Rd	3	Hwy 68	Fort Romie Rd	23.39	\$70,200	195
San Juan Grade Rd	3	Russell Rd	Rogge Rd	0.40	\$1,200	10
Sanlias Creek Bridge	3	South of Salinas Creek	North of Salinas Creek	0.20	\$600	155
Seymour St	3	Salinas St	Washington St	0.76	\$2,300	306
Strawberry Rd	3	San Miguel Canyon Rd	Elkhorn Rd	3.32	\$10,000	207
Susan Ln	3	El Camino Real	Espinosa Rd	0.32	\$1,000	389

Project	Class	Start	End	Miles	Cost	Rank
Tavernetti Rd	3	Hwy 101 Overpass	Gloria Rd	0.18	\$500	229
Teague Ave	3	Central Ave	Hwy 101	1.22	\$3,700	231
Thorne Rd	3	Arroyo Seco Rd	El Camino Real	3.50	\$10,500	234
Trafton Rd	3	Bluff Rd	2nd Bend in Trafton Rd	0.58	\$1,800	391
Trafton Rd	3	Salinas Rd	McGowan Rd	2.58	\$7,700	344
Trafton Rd - MBSST	3	Salinas Rd	Pajaro River Trails	1.00	\$3,000	393
Tustin Rd	3	Hwy 101	Echo Valey Rd	1.94	\$5,800	202
Valley/Willow Rd	3	Meridian Rd	Elkhorn School	0.19	\$600	331
Wildhorse Canyon Rd	3	Cattlemen Rd	Mesa Verde Rd	0.15	\$500	44
Williams Rd	3	Boronda Rd	Old Stage Rd	1.12	\$3,400	48
Wood St	3	Merritt St	Castro St	0.25	\$700	103

The bikeway projects for unincorporated Monterey County include 391 bikeway miles and will cost approximately \$58 million dollars (Table 6-3).

Table 6-3: Monterey County Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	34.92	\$46,328,900
2	187.64	\$11,404,120
3	172.93	\$519,200
Total	391.49	\$58,252,220

6.4. Carmel-by-the-Sea

6.4.1. Planning and Policy Context

6.4.1.1. General Plan

The City of Carmel-by-the-Sea adopted its most recent general plan in 2010. The Circulation Element of the General Plan notes that all bikeways in Carmel are Class III bicycle routes, the designation of which requires only signs. The Circulation Element notes a focus on safety and maintenance of bicycle routes rather than the construction of new bikeways due to the build-out of the City. Policy O2-6 directs the City to promote and participate in alternative transportation (including bicycles) encouragement programs.

6.4.2. Existing Conditions

The City of Carmel-by-the-Sea is the second least populous city in Monterey County with approximately 4,100 residents. The City has one and half miles of bikeway, a Class III bicycle route along Scenic Road and is shown on Figure 6-4.

The 2000 US Census reports no Carmel resident bicycles to work. However, this does not mean people do not bicycle in Carmel. During the years 2004 to 2009, 19 bicycle related collisions occurred in Carmel, resulting in the City having second highest collision rate of all cities in Monterey County. Figure 4-5 in Chapter 4 presents the bicycle related collision locations in Carmel-by-the-Sea.

6.4.3. Bikeway Projects

Figure 6-4 presents the bikeway projects in Carmel-by-the-Sea.



Figure 6-4: Carmel-by-the-Sea Bikeway Projects

Table 6-4 presents descriptions of each bikeway project and includes bikeway type, length, estimated cost, and project rank. All projects in Carmel-by-the-Sea are Class 3 Bicycle Routes connecting residents across the City. Those identified in italics and with an asterisk are the top ranking three projects.

Table 6-4: Carmel Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Canyon/Flanders/Carmel Hills	1	Hatton Canyon	Ocean Ave	1.17	\$666,900	387
Rio Road	2	Lasuen Dr	Atherton Dr	0.24	\$10,300	311
4th Ave Segment	3	San Antonio Ave	Carmelo St	0.05	\$100	327
8th Ave Segment	3	Scenic Rd	San Carlos St	0.38	\$1,100	333
Camino del Monte Ave Segment	3	San Carlos St	Serra Ave	0.49	\$1,500	334
Carmelo St Segment	3	4th Ave	15th Ave	0.90	\$2,700	337
<i>Ocean Ave Segment *</i>	3	<i>San Carlos St</i>	<i>Hwy 1</i>	<i>0.61</i>	<i>\$1,800</i>	<i>304</i>
Ocean Ave Segment	3	San Antonio Ave	Scenic Rd	0.05	\$100	328
San Antonio Ave	3	Carmel Way	Ocean Ave	0.30	\$900	332
San Carlos St - Rio Rd Rte	3	Lasuen Dr	Camino del Monte Ave	1.15	\$3,400	308
<i>Scenic Rd*</i>	3	<i>8th Ave</i>	<i>Ocean Ave</i>	<i>0.17</i>	<i>\$500</i>	<i>295</i>
<i>Serra Ave *</i>	3	<i>Camino del Monte Ave</i>	<i>Hwy 1</i>	<i>0.39</i>	<i>\$1,200</i>	<i>302</i>

The bikeway projects for Carmel includes nearly six bikeway miles and will cost approximately \$690,500 to construct (Table 6-5).

Table 6-5: Carmel Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	1.17	\$666,900
2	0.24	\$10,300
3	4.48	\$13,300
Total	5.89	\$690,500

6.5. Del Rey Oaks

6.5.1. Planning and Policy Context

6.5.1.1. General Plan

The Del Rey Oaks City Council amended the City's most current General Plan in 1997. The Circulation Element sets forth the following policies most related to bicycling.

- Provide safe, convenient, energy-conserving, comfortable and healthful transportation for all people and goods by the most efficient and appropriate transportation modes that meet current and future travel needs of the City's residents.
- Provide or promote travel by mean other than single-occupant automobile.
- Improve and maintain a transportation network of streets, transit, pedestrian paths and bikeways.

Bicycle and pedestrian circulation and facilities policies designate the following roadways as Class II bicycle routes.

- Highway 218 within City limit (City has since installed)
- North/South Road from Highway 218 to City limit (requested Fort Ord annexation area)
- Carlton Drive from Highway 218 to City limit (this Countywide Bicycle and Pedestrian Plan recommends Class II bicycle lanes on General Jim Moore Boulevard, which is parallel to Carlton Drive)
- South Boundary Road (requested Fort Ord annexation area)

6.5.2. Existing Conditions

Del Rey Oaks has a population of 1,650 residents primarily living along Canyon Del Rey Boulevard. Del Rey Oaks has 1.9 miles of Class II bikeways making up the Ragsdale Drive loop, which accesses light industrial land uses. Figure 6-5 presents the existing bikeways.

The US Census reports one percent of residents bicycle to work. During the years 2004 through 2009, one bicycle collision occurred on the intersection of Route 218 and Del Rey Gardens (Figure 4-5, Chapter 4).

6.5.3. Bikeway Projects

Figure 6-5 presents the Del Rey Oaks bikeway projects.

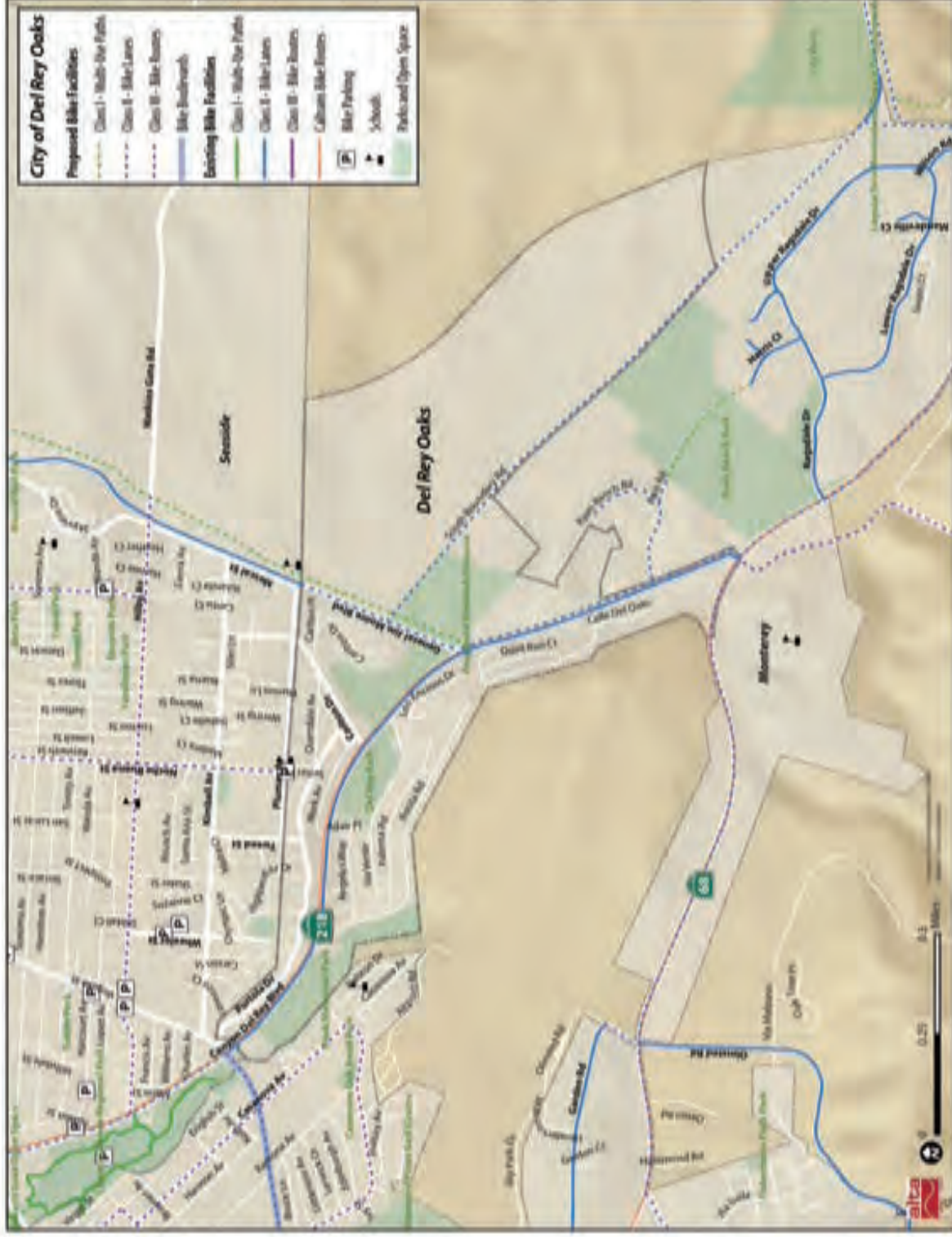


Figure 6-5: Del Rey Oaks Bikeway Projects

Table 6-6 presents the bikeway projects in Del Rey Oaks. All the facilities are Class 2 Bike Lanes providing important connections across the City. Those identified in italics and with an asterisk are the top ranking three projects in Del Rey Oaks.

Table 6-6: Del Rey Oaks Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
<i>Canyon del Rey Blvd*</i>	2	<i>General Jim Moore Blvd</i>	<i>Hwy 68</i>	0.76	\$32,500	2
<i>General Jim Moore*</i>	2	<i>Canyon del Rey Blvd</i>	<i>City Limits</i>	0.43	\$18,300	18
Ryan Ranch Rd	2	Canyon del Rey Blvd	end of Ryan Ranch	0.42	\$18,000	138
<i>South Boundary Rd*</i>	2	<i>Gen Jim Moore Blvd</i>	<i>York Rd</i>	1.73	\$74,200	35

The bikeway projects for Del Rey Oaks include three bikeways miles and will cost approximately \$143,000 to construct. Table 6-7 presents the summary miles and costs for Del Rey Oaks.

Table 6-7: Del Rey Oaks Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	3.33	\$143,000
Total	3.33	\$143,000

6.6. Gonzales

6.6.1. Planning and Policy Context

6.6.1.1. General Plan

The City of Gonzales adopted its most current General Plan in January 2011. The Circulation Element requires that all arterial and collector roadways provide Class I or II “bicycle/pedestrian” paths and presents the following implementing actions.

- CIR 1.1.4 Design all new collector streets with one travel lane in each direction and sufficient room for parking, sidewalks, and bicycle lanes.
- CIR 1.1.5 Design local streets in a manner that is consistent with the street system in place in the older portions of Gonzales and in a manner that encourages pedestrian and bicycle traffic.
- CIR 5.1.10 Design Streets for Pedestrians and Bicyclists. Ensure that street designs provide adequate safety provisions for bicycles and pedestrians.

Policy CIR 8.1. sets forth for the City to increase bicycle and pedestrian opportunities including the following projects.

- Construct a linear park along Johnson Canyon Creek
- Ensure any redesign of the Fifth Street/Highway 101 interchange places high priority on providing safe movement of bicyclists and pedestrians

6.6.2. Existing Conditions

The City of Gonzales has 8,174 residents in approximately one square mile of area. Highway 101 bisects the city, creating a barrier for bicyclists commuting between residential areas on the east side of the highway and commercial and retail opportunities on the west side of the highway. The city has two Class II bicycle lanes, one on Herold Parkway, which is the eastern edge of current development and one on Alta Street. The bikeways are shown on Figure 6-6.

The 2000 US Census reports one percent of residents bicycle to work. During the years 2004 to 2009, nine bicycle related collisions occurred in Gonzales, resulting in a low collision rate (1.2%) in comparison to other cities in Monterey County. Figure 4-6 in Chapter 4 shows the bicycle related collisions in Gonzales.

6.6.3. Bikeway Projects

Figure 6-6 presents the recommended bikeway projects in Gonzales.



Figure 6-6: Gonzales Bikeway Projects

Table 6-8 represents the bikeway projects in Gonzales. The projects include a number of Class 2 Bike Lanes while the majority of projects are Class 3 Bike Routes connecting residents to retail destinations. Those identified in italics and with an asterisk are the top ranking three projects in Gonzales.

Table 6-8: Gonzales Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
4th St	2	Center St	Gonzales High School	0.14	\$6,100	310
Alta St	2	1st St	C St	0.21	\$9,000	164
C St	2	Belden St	Alta St	0.10	\$4,500	161
Fanoe Rd	2	Rhone Rd	5th St	0.96	\$41,100	364
10th St	3	Alta St/Old US Hwy 101	Belden St	0.10	\$300	183
1st St	3	Alta St	Elko St	0.25	\$700	296
<i>5th St*</i>	3	<i>Alta St</i>	<i>Herold Pkwy</i>	<i>0.81</i>	<i>\$2,400</i>	<i>159</i>
7th St	3	Alta St	Del Monte Cir	0.52	\$1,600	303
<i>Alta St*</i>	3	<i>Existing BL on Alta St</i>	<i>Hwy 101 Overpass</i>	<i>0.42</i>	<i>\$1,200</i>	<i>46</i>
Alta St	3	10th St	1st St	0.64	\$1,900	335
Belden St	3	5th St	3rd St	0.14	\$400	293
Belden St	3	10th St	5th St	0.35	\$1,100	297
Belden St	3	3rd St	C St	0.35	\$1,100	298
Del Monte Cir	3	7th St	Rincon Rd	0.08	\$200	374
<i>Fairview Dr*</i>	3	<i>Elko St</i>	<i>5th St</i>	<i>0.50</i>	<i>\$1,500</i>	<i>157</i>
Rincon Rd	3	Del Monte Rd	5th St	0.21	\$600	330

Table 6-9 presents a summary of bikeway project miles and costs. Implementation of the projects would add nearly six miles of bikeways and with an estimated cost of \$73,700.

Table 6-9: Gonzales Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	1.41	\$60,700
3	4.37	\$13,000
Total	5.78	\$73,700

6.7. Greenfield

6.7.1. Planning and Policy Context

6.7.1.1. General Plan

The City of Greenfield adopted its most current general plan in 2005. Among the key issues identified in the Circulation Element are identifying measures to increase bicyclist safety and encouraging bicycle usage. Bicycle supportive policies include:

- Policy 3.3.1. Provide maximum opportunities for bicycle and pedestrian circulation on existing and new roadway facilities.
- Policy 3.3.2. Incorporate convenient bicycle and pedestrian access and facilities in new public and private development projects where appropriate.
- Policy 3.3.3. Create a bicycle and pedestrian system that provides connections throughout Greenfield and within the region designed to serve both recreational and commuter users.
- Policy 3.3.4. Design new roadway facilities to accommodate bicycle and pedestrian traffic.

6.7.2. Existing Conditions

Greenfield has 12,600 residents in approximately one and half square miles of area. Land use is primarily residential with retail along El Camino Real. Elementary and high schools are located on El Camino Real at the northern extent of the city, while the middle school is located in the southwest of the city on Elm Street. The 2000 US Census reports no one bicycled to work. The existing bikeway network, shown in Figure 6-7, includes a Class III Bike Route on Oak Avenue and a number of short Class II Bike Lanes.

During the years 2004 to 2009, 26 bicycle related collisions occurred in Greenfield, the majority were along El Camino Real. Figure 4-6 in Chapter 4 presents the bicycle-related collisions.

6.7.3. Bikeway Projects

Figure 6-7 presents the Greenfield bikeway projects.



Figure 6-7: Greenfield Bikeway Projects

Table 6-10 presents the bikeway projects in Greenfield. The projects include a number of Class 2 Bike Lanes where right-of-way allows. Class 3 Bike Routes complete the connections across the City. Those identified in italics and with an asterisk are the top ranking three projects in Greenfield.

Table 6-10: Greenfield Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
12th St	2	Elm Ave	550' N of Walnut Ave	0.86	\$36,800	192
13th St	2	Oak Ave	Apple Ave	0.25	\$10,800	165
3rd St	2	Walnut Ave	Elm Ave	0.75	\$32,300	320
Apple Ave	2	Thorp Ave	4th St	0.51	\$21,700	190
<i>Apple Ave*</i>	2	<i>13th St</i>	<i>El Camino Real</i>	<i>1.00</i>	<i>\$43,000</i>	<i>146</i>
Elm Ave	2	4th St	3rd St	0.25	\$10,700	379
<i>Elm Ave*</i>	2	<i>13th St</i>	<i>El Camino Real</i>	<i>1.00</i>	<i>\$43,200</i>	<i>147</i>
Pine Ave	2	690' W of El Camino Real	end of Pine Ave	0.34	\$14,500	400
Walnut Ave	2	10th St	El Camino Real	0.13	\$5,400	178
Walnut Ave	2	Hwy 101	2nd St	0.79	\$33,800	191
4th St	3	Elm Ave	Apple Ave	0.50	\$1,500	376
Apple Ave	3	El Camino Real	end of Apple	0.33	\$1,000	179
El Camino Real	3	Thorne Rd	Walnut Ave	0.93	\$2,800	307
<i>El Camino Real*</i>	3	<i>Apple Ave</i>	<i>Hwy 101 Ramp</i>	<i>0.89</i>	<i>\$2,700</i>	<i>122</i>

Table 6-11 presents a summary of bikeway project miles and costs. Implementation of all projects would add nearly nine miles of bikeways and would cost an estimated \$260,200.

Table 6-11: Greenfield Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	5.86	\$252,200
3	2.66	\$8,000
Total	8.52	\$260,200

6.8. King City

6.8.1. Planning and Policy Context

6.8.1.1. General Plan

The King City Council adopted the most current General Plan in November 1998. At the time of adoption, King City did have any designated bikeways. The Circulation Element states that the City will promote the use of non-motorized transportation modes where appropriate.

6.8.2. Existing Conditions

King City has 11,200 residents, one percent of which bicycle to work. The city is bound by Highway 101 to south and Metz Road to the east, providing a fairly continuous grid network for bicyclists to travel. Commercial retail lines Broadway Street, which bisects the city. One, half mile, Class I multi-use pathway is located in at the southwest end of the city, connecting San Antonio Drive and County Road G14. **Figure 6-8** presents this path's location.

During the years 2004 to 2009, 16 bicycle related collisions occurred in King City. The majority of the collisions were on 3rd Street and Broadway. **Figure 4-6** in **Chapter 4** presents the bicycle related collisions.

6.8.3. Bikeway Projects

Figure 6-8 presents the bikeway projects in King City.



Figure 6-8: King City Bikeway Projects

Table 6-12 presents descriptions of each bikeway project by bikeway type and includes estimated cost and project rank. The projects connect residents across the city and provide routes on roadways parallel to busier streets such as Broadway. Those identified in italics and with an asterisk are the top ranking three projects in King City.

Table 6-12: King City Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
1st St	2	Metz Rd	Hwy 101	1.30	\$55,800	365
Bitterwater Rd	2	Airport Dr	1st St	0.51	\$21,700	382
Broadway	2	San Lorenzo Park	Mildred Ave	0.85	\$36,500	321
<i>Broadway*</i>	2	<i>Mildred Ave</i>	<i>San Lorenzo St</i>	<i>0.12</i>	<i>\$5,100</i>	<i>271</i>
Canal St	2	Division St	River Dr	0.29	\$12,300	312
Ellis St	2	1st St	Mildred Ave	0.57	\$24,400	290
Metz Rd	2	Airport Rd	1st St	0.72	\$30,800	384
San Antonio Dr	2	Metz Rd	Broadway	1.55	\$66,500	322
San Antonio Dr	2	Metz Rd	Bitterwater Rd	0.52	\$22,500	383
Vanderhurst Ave	2	King St	Villa Dr	0.86	\$36,900	292
Airport Rd	3	Metz Rd	Bitterwater Rd	0.91	\$2,700	377
Broadway Cir	3	San Antonio Dr	River Dr	0.39	\$1,200	299
<i>Broadway*</i>	3	<i>San Lorezno St</i>	<i>1st St</i>	<i>0.45</i>	<i>\$1,400</i>	<i>104</i>
<i>Canal St*</i>	3	<i>Broadway</i>	<i>Division St</i>	<i>0.29</i>	<i>\$900</i>	<i>280</i>
Division St	3	Canal St	1st St	0.70	\$2,100	305

Table 6-13 presents a summary of bikeway project miles and project costs. The projects would add ten miles to the existing bikeway network and would cost approximately \$320,800.

Table 6-13: King City Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	7.27	\$312,500
3	2.74	\$8,300
Total	10.01	\$320,800

6.9. Marina

6.9.1. Planning and Policy Context

6.9.1.1. General Plan

The City of Marina last amended its general plan in 2006. Policy 3.15 sets forth that all collector streets, existing and future shall provide bicycle lanes within or adjacent to the roadway. Policy 3.18 further strengthens policy 3.15 by restricting additional roadway width to selected roadway extensions to accommodate only transit, bicycles or pedestrians.

The General Plan identifies the following opportunities for bicycle facilities.

- Marina Heights
- Southern extension of DeForest Road
- Extension of Crescent Avenue

6.9.1.2. Bicycle and Pedestrian Plan

The City of Marina adopted its first Bicycle and Pedestrian Plan in 2010, which identifies deficiencies in and improvements to the non-motorized transportation network. The plan presents a prioritized listing of recommended bikeways, which includes bicycle lanes on DeForest Road and Crescent Avenue.

6.9.2. Existing Conditions

The City of Marina has 25,100 residents, one percent of whom bicycle to work, according to the 2000 US Census. Marina's roadway network includes a number of cul-de-sacs, which directs bicyclists to use collector and arterial roadways. There are 16.7 miles of bikeways, the majority being Class II bicycle lanes. The Monterey Peninsula Recreation Trail runs on the west side of Del Monte Road, providing a critical north-south connection through the western part of the city. **Figure 6-9** presents the existing bikeways in Marina.

During the years 2004 through 2009, 34 bicycle related collisions occurred in Marina. The collision rate for this time period is 1.4 per 1,000 residents, 0.3 points below the average rate for the entire county. Collisions were concentrated along Carmel Ave and Reservation Road. **Figure 4-5** in **Chapter 4** presents the bicycle related collision locations.

6.9.3. Bikeway Projects

Figure 6-9 presents the bikeway projects in Marina.



Figure 6-9: Marina Bikeway Projects

Table 6-14 presents descriptions of each bikeway project by bikeway type and includes estimated cost and project rank. The bikeway projects provide bike lane connections from the residential communities to community destinations including transit and the Monterey Peninsula Recreational Trail. Those identified in italics and with an asterisk are the top ranking three projects in Marina.

Table 6-14: Marina Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Patton Pkwy Path	1	Reindollar Ave	Patton Pkwy	0.50	\$297,600	224
Bayer Dr	2	Bostick Ave	end of Bayer Dr	0.42	\$18,000	401
Bayer Dr - California Ave Path	2	Carmel Ave/Salinas Ave	California Ave	0.86	\$37,100	208
Bayer St - Bostick Ave	2	Reindollar Ave	Reservation Rd	0.59	\$25,300	169
Beach Rd	2	Monte Rd	Costa del Mar Rd	0.65	\$28,000	171
Berney Dr	2	Reindollar Ave	Hillcrest Ave	0.10	\$4,200	378
Cardoza Ave	2	Beach Rd	end of Cardoza Ave	0.49	\$21,200	168
Carmel Ave	2	Sunset Ave	Salinas Ave	1.27	\$54,800	173
Carmel Ave	2	Sunset Ave	Monte Rd	0.16	\$7,000	187
Crescent Ave	2	Reservation Rd	end of Reservation Rd	0.49	\$21,200	318
Crescent Ave + Extension	2	Hillcrest Ave	Carmel Ave	0.14	\$6,200	163
Crescent St	2	Reindollar Ave	end of Crescent St	0.13	\$5,700	339
Crestview Ct	2	Reservation Rd	end of Crestview Ct	0.12	\$5,100	288
de Forest Rd	2	Costa del Mar Rd	Reservation Rd	0.40	\$17,400	189
Ellen Ct	2	Reindollar Ave	end of Ellen Ct	0.15	\$6,500	396
Hillcrest Ave	2	Redwood Dr	end of Hillcrest Ave	0.84	\$36,100	362
Imjin Rd	2	8th St	12th St	0.33	\$14,000	399
<i>Imjin Rd/12th St*</i>	2	<i>Imjin Rd</i>	<i>Reservation Rd</i>	2.72	\$2,200,000	1
Lake Dr	2	Robin Dr	174' E of Hwy 1	0.51	\$22,000	319
Lake Dr	2	174' E of Hwy 1	end of Lake Dr	0.29	\$12,600	348
Lynscott Dr	2	Carmel Ave	Reservation Rd	0.31	\$13,200	349
Melania Rd	2	Peninsula Dr	Beach Rd	0.33	\$14,400	180
Neeson Rd	2	Imjin Rd	end of Neeson Rd	0.53	\$22,700	356
Palm Ave	2	Lake Dr	Sunset Ave	0.35	\$15,200	289
Palm Ave	2	Lake Dr	Clarke Pl	0.03	\$1,200	300
<i>Peninsula Dr*</i>	2	<i>Viking Ln</i>	<i>Melanie Rd</i>	0.03	\$1,300	67
Proposed St - The Dunes	2	3rd St	300' N of 10th St	0.76	\$32,900	361
Redwood Dr	2	Reindollar Ave	end of Redwood Dr	0.35	\$15,200	314
Reindollar Ave	2	Bostick Ave	Monte Rd	1.27	\$54,800	174
Reservation Rd	2	Salinas Ave	Blanco Rd	1.39	\$59,900	176
Robin Dr	2	Lake Dr	Reservation Rd	0.02	\$1,000	244
Salinas Ave	2	Carmel Ave	Reservation Rd	0.27	\$11,800	166
Seacrest Ave	2	Carmel Ave	Reservation Rd	0.29	\$12,300	273
Sunset Ave	2	Reindollar Ave	Carmel Ave	0.28	\$12,200	380

Project	Class	Start	End	Miles	Cost	Rank
Vaughn Ave	2	Reindollar Ave	Carmel Ave	0.28	\$12,200	346
Viking Ln*	2	Reservation Rd	Peninsula Dr	0.11	\$4,900	135

Table 6-15 presents the bikeway project summary of bikeway miles and costs. Implementation of the projects would add nearly 17.8 miles of bikeways and would cost an estimated \$3.1 million. In addition, \$65,000 is estimated to cover maintenance of the Class I path along Del Monte Boulevard from Marina Greens to Reindollar Avenue.

Table 6-15: Marina Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	0.50	\$297,600
2	17.31	\$2,827,600
Total	17.81	\$3,125,200

6.10. City of Monterey

6.10.1. Planning and Policy Context

6.10.1.1. General Plan

The City of Monterey last amended its general plan in 2009. The circulation element sets forth an extensive set of policies and programs that support bicycling. The policies and programs listed below hold most relevance to this Plan.

- Policy b.4. Reinforce the visual, pedestrian, and bicycle connection between City neighborhoods and the Bay so that residents have exceptional non-automobile access to the Bay.
- Program c.II. To better link the Downtown with the waterfront, construct an attractive pedestrian bridge between Spanish Plaza and the Wharf parking lot to provide a direct bicycle connection from Downtown to the Recreation Trail.
- Program d.I.3. Plan and support a continuous east west Class I/Class II bikeway that connects the Monterey Peninsula with Salinas.

6.10.1.2. Bicycle Plan

The City of Monterey adopted its Bicycle Plan in 2009, in response to implementing the Mayor's signing of the Urban Climate Accords and the US Mayors Climate Agreement. The Bicycle Plan presents the following proposed bikeways that will improve regional connectivity. Chapter 3 presents the City of Monterey Bicycle Plan in more detail.

- Munras Avenue between El Dorado Road and Fremont Street
- Abrego Street between Fremont Street and Del Monte Avenue
- Washington Street between Pearl Street and the Recreation Trail

6.10.2. Existing Conditions

The City of Monterey has 29,800 residents, two percent of whom bicycle to work. Many employment opportunities are located along Washington Street and Fremont Street. Located at the south end of Monterey Bay, the City of Monterey is also a scenic destination for recreational bicyclists, ranging from beginners to the experienced. The City's bicycle network totals 11.7 miles and is comprised of two miles of Class I, nine miles of Class II and one mile of Class III bikeways. **Figure 6-10** presents the existing bikeways in the City of Monterey.

During the years 2004 to 2009, 123 bicycle related collisions occurred in the City of Monterey; this is noticeably more collisions than other communities in the County. The majority of the bicycle related collisions occurred in downtown Monterey. **Figure 4-5** in **Chapter 4** presents the bicycle related collisions in the City of Monterey.

6.10.3. Bikeway Projects

Figure 6-10 presents the bikeway projects in the City of Monterey.



Figure 6-10: City of Monterey Bikeway Projects

Table 6-16 presents the bikeway projects in the City of Monterey. The projects include a number of Class 2 Bike Lanes where right-of-way allows. Class 3 Bike Routes complete the connections across the City. The City of Monterey has also identified a Bike Boulevard (BB) network along Laine Street, Van Buren Street, Pearl Street, Aguajito Road and others. Those identified in italics and with an asterisk are the top ranking three projects in the City of Monterey.

Table 6-16: City of Monterey Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Ryan Ranch Park Path	1	Park Rd	Harris Ct	0.32	\$191,900	151
Soledad - Viejo	1	Munras Ave	Existing Path	0.70	\$421,700	153
Van Buren St Path	1	Seeno St	near Artillery St	0.05	\$27,400	251
Camino Aguajito	2	Monterey Peninsula Recreational Trail	Fremont St	0.47	\$20,400	96
Fairground Rd	2	Airport Rd	Casa Verde	0.21	\$9,030	94
Foam St	2	David Ave	Lighthouse Ave	0.79	\$33,800	255
Fremont Blvd	2	Canyon del Rey Blvd	Casa Verde	0.70	\$30,100	91
<i>Fremont St*</i>	2	<i>Abrego St</i>	<i>Camino Aguajito</i>	<i>0.55</i>	<i>\$23,700</i>	<i>83</i>
Josselyn Canyon Rd	2	Hwy 68	Mark Thomas Rd	1.47	\$63,400	149
Lighthouse Ave	2	David Ave	Private Bolio Rd	0.74	\$31,900	291
Munras Ave	2	Soledad Dr	El Dorado St	0.80	\$34,400	113
Olmsted Rd	2	Hwy 68	Garden Rd	0.10	\$4,200	185
Soledad - Viejo	2	Munras Ave	Existing Path	0.69	\$29,700	142
Soledad Dr	2	Pacific St	Munras Ave	0.08	\$3,400	269
Van Buren St	2	Scott St	Seeno St	0.05	\$2,200	243
York Rd	2	Hwy 68	South Boundary Rd	0.37	\$15,700	137
<i>Abrego St*</i>	3	<i>Webster St</i>	<i>Del Monte Ave</i>	<i>0.29</i>	<i>\$900</i>	<i>79</i>
<i>Abrego St*</i>	3	<i>El Dorado St</i>	<i>Webster St</i>	<i>0.29</i>	<i>\$900</i>	<i>82</i>
Airport Rd - Euclid Ave	3	Casanova Ave	Fremont St	0.69	\$2,100	281
Casa Verde Way	3	Hwy 1	Del Monte Ave	0.22	\$700	88
Casa Verde Way	3	Fremont Blvd	Hwy 1	0.20	\$600	101
Casanova Ave	3	Montecito Ave	Euclid Ave	0.73	\$2,200	283
David Ave	3	Cannery Row	Hwy 68	1.32	\$4,000	125
English Ave	3	Del Monte Ave	Montecito Ave	0.22	\$700	265
Fairground Rd	3	Garden Rd	Montsalas Dr	0.07	\$200	115
Franklin St	3	Van Buren St	Bowen St	0.65	\$2,000	259
Hoffman Ave	3	Laine St	Monterey Peninsula Recreational Trail	0.28	\$800	249
Jefferson-Skyline Route	3	Alvarado St	Hwy 68	2.57	\$7,700	108
Montecito Ave	3	Casa Verde Way	English Ave	0.43	\$1,300	266
Oliver St	3	Van Buren St	Monterey Peninsula Recreational Path	0.18	\$500	246

Project	Class	Start	End	Miles	Cost	Rank
Pacific St	3	Pacific St Bike Lane at Martin St	Madison St	0.23	\$700	248
Pacific St	3	Soledad Dr	Pacific St Bike Lane	0.70	\$2,100	282
3rd St Bicycle Boulevard	BB	Sloat Ave	Camino Aguajito	0.24	\$1,900	258
Alvarado St Bicycle Boulevard	BB	Pearl St	Monterey Peninsula Recreational Trail	0.37	\$3,000	245
Casa Verde Way - Bike Boulevard	BB	Fremont Blvd	Fairground Rd	0.08	\$640	102
Fairground Rd - Bike Boulevard	BB	Garden Rd	Casa Verde	0.24	\$10,320	95
Herman - Madison Route Bicycle Boulevard	BB	Via del Rey	Pacific St	0.35	\$2,800	260
Laine St Bicycle Boulevard	BB	David Ave	Lighthouse Ave	0.82	\$6,500	261
Pearl-Jefferson-Johnson-Skyline Route Bicycle Bou*	BB	Camino Aguajito	Alvarado St	0.69	\$5,600	90
Polk St Bicycle Boulevard	BB	Pacific St	Pearl St	0.05	\$400	116
Polk St Bicycle Boulevard	BB	Alvarado St	Hartnell St	0.10	\$800	227
Van Buren St Bicycle Boulevard	BB	Madison St	Scott St	0.45	\$3,600	250

Table 6-17 presents the bikeway project summary of bikeway miles and costs. Implementation of the projects would add 21 miles of bikeways and would cost an estimated \$1 million.

Table 6-17: City of Monterey Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost
1	1.07	\$641,000
2	7.02	\$301,930
3	9.08	\$27,400
BB	3.76	\$38,460
Total	20.93	\$1,008,790

6.11. Pacific Grove

6.11.1. Planning and Policy Context

6.11.1.1. General Plan

The City of Pacific Grove adopted its most recent general plan in 1994. Many of the policies and programs related to bicycling in Pacific Grove support the improvement of the Monterey Peninsula Recreational Trail. Other policies most relevant to this Countywide BPP are listed below.

- | | |
|------------|--|
| Program GG | Coordinate bicycle and pedestrian route planning with the City of Monterey, the Pacific Grove Unified School District, Monterey County, the State Department of Parks and Recreation, the U.S. Coast Guard, and the Monterey Peninsula Regional Park District. |
| Policy 27 | Pursue the acquisition and development of the remainder of the Southern Pacific right-of-way within Pacific Grove for recreational, trail, and open space use. |

6.11.1.2. Coastal Trails Master Plan

The City of Pacific Grove adopted a Coastal Parks Plan in 1998. Goal 6 of the plan sets forth a provision for the City to establish a safe and continuous coastal bikeway by implementing phase III of the city's bikeways plan. As of the development of this Plan, the City has a continuous coastal bikeway comprised of Class I, II and III bikeway designations.

6.11.2. Existing Conditions

The City of Pacific Grove has 15,000 residents, two percent of whom bicycle to work. Employment opportunities are located along Lighthouse Avenue, in downtown. Recreational bicyclists from beginner to experienced also bicycle in Pacific Grove, many of whom use the Monterey Recreational Trail along the Bay. Pacific Grove's bicycle network totals 5.9 miles, comprised of 2.3 Class II and 3.6 Class III. The Monterey Bay Scenic Trail also runs through Pacific Grove and is in Caltrans jurisdiction. **Figure 6-II** presents the existing bikeways in Pacific Grove.

During the years 2004 through 2009, 41 bicycle related collisions occurred in Pacific Grove, which was slightly above the county average. The collisions occurred throughout the City but were more prevalent on Ocean View Road and Sunset Drive. **Figure 4-5** in **Chapter 4** presents the bicycle related collisions in Pacific Grove.

6.11.3. Bikeway Projects

Figure 6-II presents the bikeway projects in Pacific Grove.



Figure 6-11: Pacific Grove Bikeway Projects

Table 6-18 presents the Pacific Grove bikeway projects. The projects include connections across the City connecting residents to downtown and to the Bay. Those identified in italics and with an asterisk are the top ranking three projects in the Pacific Grove.

Table 6-18: Pacific Grove Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
<i>Forest Ave (restripe)*</i>	2	<i>Sinex Ave</i>	<i>Ocean View Blvd</i>	0.68	\$29,347	112
<i>Ocean View Ave*</i>	2	<i>Asilomar Blvd</i>	<i>17 Mile Dr</i>	2.31	\$99,100	17
Pine Ave	2	Alder St	Eardley Ave	1.12	\$500,000	326
17 Mile Dr	3	Hwy 68	840' S of Hwy 68	0.16	\$500	117
<i>17 Mile Dr*</i>	3	<i>Sunset Dr</i>	<i>Jewell Ave</i>	0.81	\$2,400	105
17 Mile Dr/Carmel Way	3	17 Mile Dr	San Antonio Ave	2.22	\$6,700	205
19th St - Park St	3	Jewell Ave	Hwy 68	0.99	\$3,000	285
19th St - Park St	3	Jewell Ave	Hwy 68	0.99	\$3,000	338
Asilomar Blvd	3	Sunset Dr	Sinex Ave	0.23	\$700	118
Asilomar Blvd	3	Lighthouse Ave	Ocean View Blvd	0.37	\$1,100	119
Jewell Ave	3	Lighthouse Ave	17th St	0.78	\$2,300	284
Lighthouse Ave	3	17 Mile Dr	Asilomar Blvd	0.47	\$1,400	252
Lighthouse Ave	3	Ocean View Blvd	Asilmoar Blvd	0.22	\$600	264
Pine Ave	3	Eardley Ave	David Ave	0.05	\$100	276
Sinex Ave	3	Asilomar Blvd	19th St	0.90	\$2,700	123

Table 6-19 presents the bikeway project summary miles and costs. Implementation of the bikeway projects would add 13 miles to the bicycle network and would cost an estimated \$656,000.

Table 6-19: Pacific Grove Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	4.11	\$628,447
3	9.23	\$27,600
Total	13.34	\$656,047

In addition to bikeways, the City submitted bikeway signage spot improvements and locations for new bike parking that are listed below. Cost for the bikeway signage and bike parking is estimated to total \$5,000.

Bikeway Signage Improvements

- Forest Ave and Sinex Ave
- 19th St and Park St
- Asilomar Blvd intersections

New Bike Racks

- Forest Ave and Gibson Ave
- Fountain and Lighthouse Ave
- Grand Ave and Central Ave
- Lovers Point (2)
- Ocean View and Asilomar Blvd
- Asilomar State Beach
- Asilomar Blvd at Lighthouse Ave
- Central Ave at Lighthouse Ave
- Forest Ave and Pine Ave

6.12. Salinas

The Salinas Bicycle and Pedestrian Advisory Committee reviews bicycle-related issues and provides input on bicycle programs/projects within Salinas. Salinas Bicycle and Pedestrian Advisory Committee also promotes bicycling through special events held within the City and/or County, and supports educational and enforcement activities to enhance bicycle safety throughout the community.

6.12.1. Planning and Policy Context

6.12.1.1. General Plan

The City of Salinas adopted its most current General Plan in 2002. The following policy and program item directly address bicycle planning in Salinas.

Policy COS 7.11 Supports the development of trails along easements, utility corridors, drainage corridors and other natural features.

Implementation Program item C-12 identifies the Public Works Department to continue to implement the Bikeways Plan.

The City's website, below, provides the entire General Plan.

<http://www.ci.salinas.ca.us/services/commdev/generalplan.cfm>

6.12.1.2. Bikeways Plan

The Salinas 2002 Bikeways Plan reports 64 miles of existing bikeways and 26 miles of proposed bikeways. The City's website, below, provides an updated map with the remaining unconstructed bikeways.

<http://www.ci.salinas.ca.us/leadership/boards/bicycle/BicycleCommittee.cfm>

The goals set forth by the Salinas Bikeways Plan most relevant to this Plan are:

- Work with the Agency to develop a bikeway from southwest Salinas to the Monterey Peninsula
- Improve bikeway connections between north, south and east Salinas

6.12.2. Existing Conditions

Salinas is the most populous city in Monterey County, with over 150,000 residents. Commercial land use, where many bicyclist destinations are located, is mostly in the areas adjacent to Main Street and Alisal Street. These areas represent regional attractions for motorists, pedestrians and bicyclists. **Figure 6-12** presents the existing bikeways in Salinas.

The 2000 US Census reports one percent of Salinas residents bike to work, which is the typical percent reported by other cities in the County. While 35 percent of bicycle related collisions in Monterey County occurred in Salinas, the City has relatively average collision rate (collisions per residents) compared to the County as a whole. **Figure 4-4** in **Chapter 4** presents the bicycle-related collision locations in Salinas for the years 2004-2009.

6.12.3. Bikeway Projects

Figure 6-12 presents the Salinas bikeway projects.

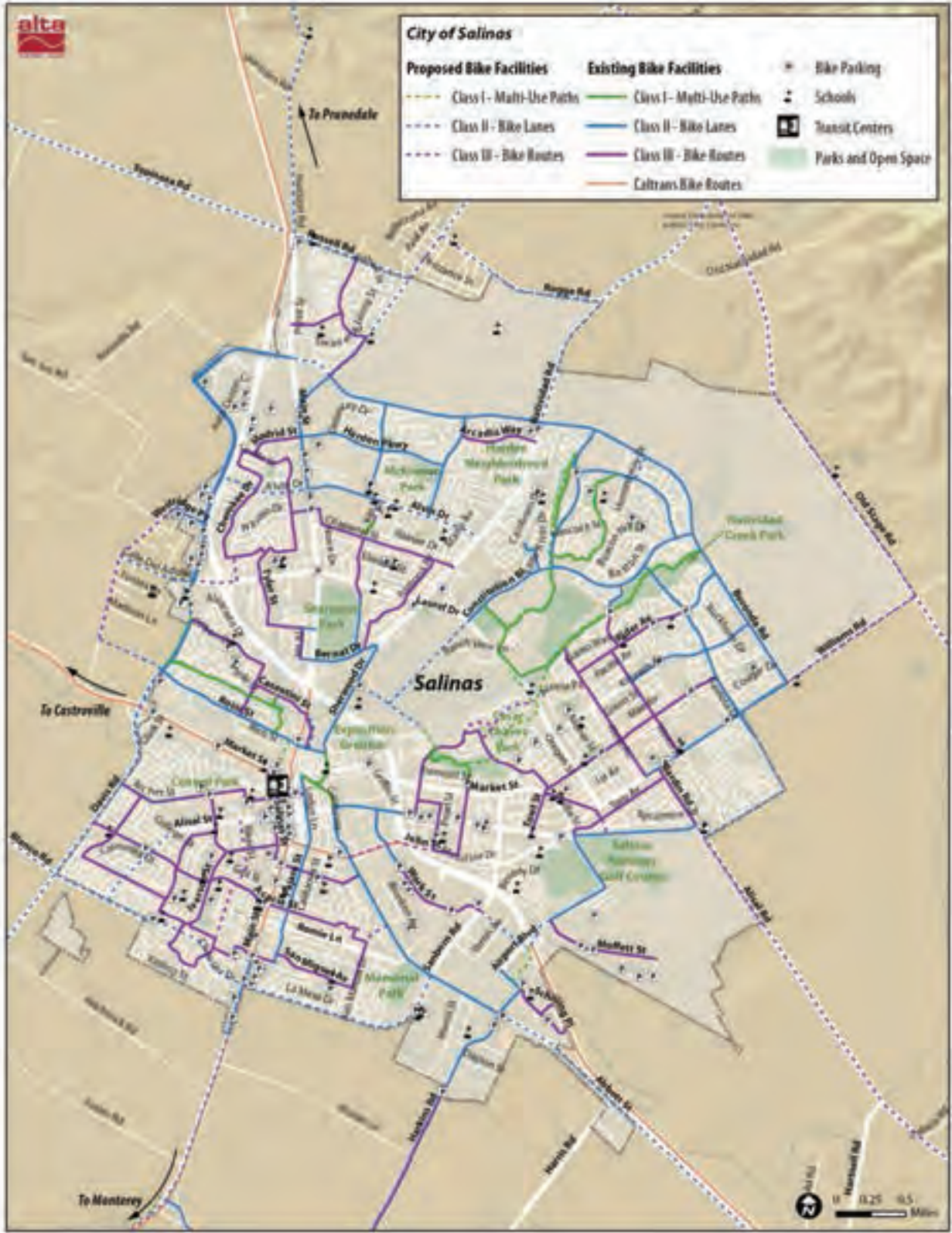


Figure 6-12: Salinas Bikeway Projects

Table 6-20 presents the Salinas bikeway projects. The projects include filling in a number of bikeway network gaps and improving connections across the City. Those identified in italics and with an asterisk are the top ranking three projects in the Salinas.

Table 6-20: Salinas Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Airport Blvd Path	1	Airport Blvd	Hansen St	0.30	\$181,600	275
Cesar Chavez Park - Natividad Creek Path	1	Cesar Chavez Park	Natividad Creek	1.08	\$648,800	114
Davis Rd Median Path	1	Larkin St	Calle del Adobe	0.30	\$180,400	262
Davis Rd Path	1	Larkin St	Rossi St	0.41	\$246,000	25
E Laurel Path	1	Sanborn Rd	650 ft south of Ranch View Ln	0.29	\$174,000	325
<i>Gabilan Creek Path*</i>	<i>1</i>	<i>Danbury St</i>	<i>Constitution Blvd</i>	<i>0.88</i>	<i>\$569,300</i>	<i>11</i>
Madeira Ave Path	1	Madeira Ave	Yorkshire Way	0.18	\$108,600	150
Martella St Path	1	Rossi St	Station Pl cul-de-sac	0.21	\$124,000	80
Natividad Creek Path	1	Boronda Rd	Las Casitas Dr	0.59	\$355,400	152
Airport Blvd	2	Terven Ave	de la Torre	0.12	\$5,300	106
Airport Blvd	2	Moffett St	existing bike lane on Airport Blvd	0.13	\$5,700	107
Alisal St	2	Blanco Rd	College Dr	0.65	\$27,900	24
Alvin Dr	2	Main St	Hwy 101	0.61	\$26,300	128
Alvin Dr	2	Kip Dr	Natividad Rd	0.75	\$32,400	129
Boronda Rd	2	San Juan Grade Rd	Main St	0.32	\$13,700	126
Calle del Adobe	2	Davis Rd	Boronda Rd	0.57	\$24,600	26
Casentini - Bridge	2	Main St	Rossi St	0.24	\$10,100	110
<i>Central Ave*</i>	<i>2</i>	<i>Davis Rd</i>	<i>Hartnell College</i>	<i>0.45</i>	<i>\$19,200</i>	<i>12</i>
Constitution Blvd Extension	2	Laurel Dr	Proposed Sherwood PI Extension	0.83	\$35,600	143
Davis Rd	2	Laurel Dr	Larkin St	0.60	\$25,700	111
Freedom Pkwy + Extension	2	Tuscany Blvd	Alisal Rd	1.15	\$49,200	33
Hemingway Dr	2	Nantucket Blvd	Boronda Rd	0.17	\$7,500	188
Rossi St Extension	2	Davis Rd	Boronda Rd	0.51	\$22,000	181
Russell Rd	2	Main St	San Juan Grade Rd	0.89	\$38,100	32
<i>San Juan Grade Rd*</i>	<i>2</i>	<i>Russell Rd</i>	<i>Boronda Rd</i>	<i>0.91</i>	<i>\$39,200</i>	<i>10</i>
Sherwood PI Extension	2	Sherwood Dr	Yorkshire Way	0.57	\$24,500	141
Terven Ave	2	Sanborn Pl	Airport Blvd	0.42	\$18,200	274
Adams St	3	Tulane St	Laurel Dr	0.18	\$500	277
Alisal Rd	3	Bardin Rd	City Limits	0.86	\$2,600	28
Boronda Rd	3	proposed Rossi St Extension	Davis Rd	1.15	\$3,500	124
Calle del Adobe	3	Adams St	Davis Rd	0.31	\$900	92
John St	3	Abbott St	Wood St	0.63	\$1,900	89
Kip Dr	3	Block Ave	Alvin Dr	0.14	\$400	87

Project	Class	Start	End	Miles	Cost	Rank
Los Palos Dr	3	Manor Dr	Abbott St	0.20	\$600	100
Madeira Ave	3	Circle Dr	St Edwards Ave	0.25	\$700	131
Maplewood Dr	3	Grove St	Sierra Dr	0.07	\$200	256
Market St	3	Cross Ave	Alisal St	0.11	\$300	97
Riker St	3	Woodside Dr	Alisal St	0.90	\$2,700	253
St Edwards Ave	3	Circle Dr	Laurel Dr	0.51	\$1,500	133

Table 6-21 presents the bikeway project summary miles and costs. Implementation of the bikeway projects would add over 19 miles to the bicycle network and would cost an estimated \$3 million.

Table 6-21: Salinas Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	4.24	\$2,588,100
2	9.89	\$425,200
3	5.31	\$15,800
Total	19.44	\$3,029,100

6.13. Sand City

6.13.1. Planning and Policy Context

6.13.1.1. General Plan

Sand City adopted its most recent General Plan in 2002. The General Plan's Circulation element identifies a proposed Class I path between La Playa Avenue and Tioga Avenue. The Circulation Element sets forth the following policies most directly related to this Countywide Bicycle and Pedestrian Plan.

- Facilitate the coast-side completion of the remaining segment of the coastal bicycle trail connecting Marina to the Monterey Peninsula in conjunction with project approvals in the North of Tioga Coastal district.
- Include bicycle and pedestrian facilities within any new connection between the southeast portion of the city and the South of Tioga Coastal district or improvement projects involving the Tioga Avenue overpass and Playa Avenue undercrossing.
- A complete, integrated program for future rail, bike lanes, sidewalks and boardwalks, parking and shuttle service should be pursued by the City to connect all districts with the coastal area and to transport visitors to the beach.

6.13.2. Existing Conditions

Sand City is the smallest city in Monterey County, with 200 residents, 21 percent of whom bicycle to work. Regional commercial land use makes up most of Sand City, representing many employment opportunities. Sand City's bikeway mileage totals 0.3 miles, all of which are designated Class II bike lanes. The Monterey Bay Scenic Trail also runs along Highway 1 and is in Caltrans jurisdiction. **Figure 6-13** presents the existing bikeways in Sand City.

During the years 2004 through 2009, four bicycle related collisions occurred in Sand City, all of which occurred in 2009, resulting the highest collision rate in the county. The majority of collisions occurred on Del Monte Boulevard, Fremont Boulevard and Broadway Avenue. **Figure 4-5** in **Chapter 4** presents the bicycle related collisions.

6.13.3. Bikeway Projects

Figure 6-13 presents the bikeway projects in Sand City.



Figure 6-13: Sand City Bikeway Projects

Table 6-22 presents the Sand City bikeway projects. The projects include connections across the city as well as recreational facilities including a segment of the Sanctuary Scenic Trail. Those identified in italics and with an asterisk are the top ranking three projects in Sand City. The replacement of lighting along the Sanctuary Scenic Trail is included in the Sand City pedestrian projects.

Table 6-22: Sand City Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Peninsula Path	1	Vista del Mar St	Peninsula Trail near La Playa Ave	0.19	\$112,100	130
<i>Sanctuary Scenic Trail Segment 4B*</i>	1	<i>Tioga Ave</i>	<i>Monterey Peninsula Recreational Trail</i>	<i>0.42</i>	<i>\$292,600</i>	<i>21</i>
<i>Union Pacific Railroad Rail with Trail*</i>	1	<i>Tioga Ave</i>	<i>La Playa Ave</i>	<i>0.22</i>	<i>\$129,500</i>	<i>81</i>
La Playa Ave	2	Metz Rd	Noche Buena St	0.49	\$20,900	85
Tioga Ave	2	Sand Dunes Dr	Metz Rd	0.18	\$7,800	93
California Ave	3	Contra Costa St	Tioga Ave	0.47	\$1,400	267
Contra Costa St	3	California Ave	Del Monte Blvd	0.23	\$700	257
<i>Tioga Ave*</i>	3	<i>Metz Rd</i>	<i>Del Monte Blvd</i>	<i>0.15</i>	<i>\$400</i>	<i>84</i>

Table 6-23 presents the bikeway project summary miles and costs. Implementation of the bikeway projects would add 2.34 miles to the bicycle network at an estimated cost of \$565,400.

Table 6-23: Sand City Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	0.82	\$534,200
2	0.67	\$28,700
3	0.85	\$2,500
Total	2.34	\$565,400

6.14. Seaside

6.14.1. Planning and Policy Context

6.14.1.1. General Plan

The City of Seaside adopted its most recent general plan in 2004. The general plan sets forth the following policies and programs that support bicycling. Implementation Plan C-3.4.2 requires new development and redevelopments to accommodate bicyclists and identifies bicycle improvement opportunities on Del Monte, Fremont and Broadway.

6.14.1.2. Bicycle Plan

The City of Seaside adopted its current Bicycle Transportation Plan in 2007. The recommendations in the plan include provisions for new developments to install bicycle boulevards and for Class II bike lanes on Eucalyptus Drive, Broadway Avenue and Monterey Road as well as Class III bike routes on La Salle, Military and Hilby Avenues.

6.14.2. Existing Conditions

The City of Seaside has 31,800 residents, one percent of whom bicycle to work. Regional and heavy commercial land use is mostly located between Del Monte Avenue and Fremont Boulevard. Seaside's bicycle network totals 10.3 miles, with 3.3 miles of Class I and 7.0 miles of Class II bikeways. **Figure 6-14** presents the existing bikeways in Seaside.

During the years 2004 through 2009, 88 bicycle related collisions occurred in Seaside, resulting a high collision rate per number of residents relative to the entire county. **Figure 4-5** in **Chapter 4** presents the bicycle related collisions in Seaside.

6.14.3. Bikeway Projects

Figure 6-14 presents the bikeway projects in Seaside.



Figure 6-14: Seaside Bikeway Projects

Table 6-24 presents the Seaside bikeway projects. The projects include bikeways that cross the City connecting residents to schools, retail and recreation. Those identified in italics and with an asterisk are the top ranking three projects in Seaside.

Table 6-24: Seaside Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Peninsula Path Connection	1	Laguna Grande Regional Park	Laguna del Rey	0.06	\$36,800	72
1st St	2	Beach Range Road	2nd Ave	0.43	\$18,500	139
6th Division Circle	2	Gigling Rd	Monterey Rd	0.10	\$4,200	232
<i>Broadway*</i>	2	<i>Del Monte Blvd</i>	<i>Mescal St</i>	1.58	\$67,900	7
<i>Canyon del Rey Blvd*</i>	2	<i>Fremont Blvd</i>	<i>Del Monte Blvd</i>	0.67	\$28,800	31
Coe Ave	2	Hibiscus Heights	General Jim Moore Blvd	0.72	\$31,000	172
<i>Del Monte Blvd*</i>	2	<i>Canyon del Rey Blvd</i>	<i>Broadway</i>	0.20	\$8,700	19
Eucalyptus Rd	2	Parker Flats	General Jim Moore Blvd	1.55	\$66,600	240
Gen Jim Moore Path	2	Normandy Rd	Divarty St	1.16	\$49,902	34
Gigling Rd	2	7th Ave	6th Division Cir	1.11	\$47,800	211
Light Fighter Dr	2	Gen Jim Moore Blvd	Hwy 1	0.66	\$28,200	358
Melmedy Rd	2	Gigling Ave	General Jim Moore Blvd	0.34	\$14,600	350
Monterey Rd	2	6th Division Cir	Buna Rd	1.59	\$68,400	60
Parker Flats	2	Gigling Rd	Eucalyptus Rd	1.16	\$49,700	212
Fremont Blvd	3	Military Ave	Hwy 1 Ramp	0.16	\$500	98
Hilby Ave	3	Canyon del Rey Blvd	Watkins Gate Rd	1.55	\$4,600	270
Hwy 1 Crossing	3	Fremont Blvd	Monterey Rd	0.03	\$100	86
La Salle Ave	3	Del Monte Blvd	Nadina St	1.23	\$3,700	286
Military Ave	3	Fremont Blvd	Paralta Ave	1.25	\$3,700	287
Noche Buena St	3	Plumas Ave	Military Ave	1.69	\$5,100	272
San Pablo Ave	3	General Jim Moore Blvd	Yosemite St	0.40	\$1,200	301
Yosemite St	3	Hilby Ave	Military Ave	1.34	\$4,000	309

Table 6-25 presents the Seaside project summary miles and costs. Implementation of the projects would add 19 miles to the bikeway network and would cost an estimated \$544,002.

Table 6-25: Seaside Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	0.06	\$36,800
2	11.26	\$484,302
3	7.65	\$22,900
Total	18.98	\$544,002

6.15. Soledad

6.15.1. Planning and Policy Context

6.15.1.1. General Plan

The City of Soledad adopted its most recent general plan in 2005. The Circulation Element sets forth a set of bicycle supporting policies mostly addressing design issues. Policy L-31 is most relevant to this Countywide BPP, stating that the downtown area along First Street shall be developed as a physical and social center. Pedestrian and bicycle access shall to downtown be improved. The general plan also identifies the closure of Bryant Canyon Road to automobiles for non-motorized purposes.

6.15.2. Existing Conditions

The City of Soledad has 11,300 residents, one percent of whom bicycle to work. Employers in Soledad are located in downtown along Front Street. The existing bicycle network in Soledad totals 8.7 miles, all of which are Class II bicycle lanes connecting to Front Street in downtown and on most major roadways except Front Street. During the years 2004 through 2009, 15 bicycle related collisions occurred in Soledad, resulting in a lower than average collision rate relative to the entire county. Figure 4-6 in Chapter 4 presents the bicycle related collision locations in Soledad.

6.15.3. Bikeway Projects

Figure 6-15 presents the bikeway projects in Soledad.



Figure 6-15: Soledad Bikeway Projects

Table 6-26 presents the Soledad bikeway projects. The projects include completing a number of connections across the City. Those identified in italics and with an asterisk are the top ranking three projects in Soledad.

Table 6-26: Soledad Bikeway Recommendations

Project	Class	Start	End	Miles	Cost	Rank
<i>Front St*</i>	2	<i>East St</i>	<i>4th St</i>	0.59	\$25,200	27
<i>Kidder St*</i>	2	<i>Front St</i>	<i>Market St</i>	0.18	\$7,800	109
Nestles Rd	2	Los Coches Rd	Front St	0.48	\$20,700	381
<i>Orchard Lane*</i>	2	<i>Metz Rd</i>	<i>Asilomar Rd</i>	0.52	\$22,300	140
San Vincente Rd	2	Vista del Sol Rd	Hwy 101	1.00	\$42,800	145

Table 6-27 presents the Soledad project summary miles and costs. Implementation of the projects would add nearly three miles to the bikeway network and would cost an estimated \$118,800.

Table 6-27: Soledad Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	2.76	\$118,800
Total	2.76	\$118,800

6.16. Caltrans

A number of bikeways in this countywide plan are in the jurisdiction of the California Department of Transportation (Caltrans). These bikeway projects will be a critical part of the countywide network. Caltrans has jurisdiction over the State Routes in Monterey County. Local jurisdictions and the County should coordinate with Caltrans to develop the bikeways listed in Table 6-28.

Table 6-28: Caltrans Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Hilltown Park Path Segment	1	Speckels Blvd	Reservation Rd	0.89	\$532,000	226
Hwy 68 Segment	2	Prescott Ln	Presidio Blvd	0.48	\$20,800	402
<i>Hwy 68 Segment*</i>	2	<i>Joselyn Canyon Rd</i>	<i>San Benancio Rd</i>	<i>8.17</i>	<i>\$351,300</i>	<i>8</i>
Crazy Horse Canyon Rd - Echo Valley Rd Segment	3	Hwy 101	Encho Valley Rd/Tustin Rd	0.87	\$2,600	199
El Camino Real - 101 - Patricia Ln Segment	3	El Camino Real	Espinosa Rd	0.64	\$1,900	184
<i>Hwy 101 Overpass Segment*</i>	3	<i>Alta St</i>	<i>Tavernetti Rd</i>	<i>0.27</i>	<i>\$800</i>	<i>45</i>
<i>Hwy 68 Bridge Widening at Salinas River Segment *</i>	3	<i>Hwy 68</i>	<i>Salinas River</i>	<i>0.25</i>	<i>\$15,800,000</i>	<i>16</i>

Table 6-29 presents the Caltrans project summary miles and costs. Implementation of the projects would add nearly 16 miles to the bikeway network and would cost an estimated \$16.9 million.

Table 6-29: Caltrans Bikeway Project Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	0.89	\$532,000
2	8.65	\$372,100
3	2.03	\$15,805,300*
Total	11.57	\$16,709,400
<i>* \$15.8 estimated for bridge widening and Class 3 installation</i>		

6.17. California State Parks

Segments of the Sanctuary Scenic Trail are in the jurisdiction of California State Parks. It is recommended local jurisdictions and the County coordinates with California State Parks on the development of the bikeways listed in Table 6-30.

Table 6-30: California State Parks Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
Sanctuary Scenic Trail Segment 5*	1	Ford Ord State Park	Hwy 1 and Marina Dr	4.85	\$982,800	43
Sanctuary Scenic Trail Segment 5A*	1	Ford Ord State Park	Hwy 1 and Marina Dr	1.74	\$152,000	219
Sanctuary Scenic Trail Segment 6*	1	Marina Dr and Hwy 1	Dunes Dr and Reservation Rd	1.67	\$90,200	216
Sanctuary Scenic Trail Segment 13	1	Sanlias River State Beach	Sandholdt Rd	3.85	\$4,792,600	386
Sanctuary Scenic Trail Segment 16A	1	Jetty Rd	Trafton Rd	3.61	\$9,940,000	407
Sanctuary Scenic Trail Segment 16B	1	Jetty Rd	Trafton Rd	3.83	\$15,796,500	408

Table 6-31 presents the State Park project summary miles and costs. Implementation of the projects would add over 19 miles to the bikeway network and would cost an estimated \$32 million.

Table 6-31: California State Parks Bikeway Projects Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
1	19.55	\$31,754,100
Total	19.55	\$31,754,100

6.18. California State University Monterey Bay

California State University Monterey Bay submitted bicycle facility projects within and near campus. These projects are primarily located south of Imjin Road in Marina and Seaside and include bicycle boulevard facilities (BB), which include additional treatments to enhance Class 3 bicycle routes.

Table 6-32: California State University Monterey Bay Bikeway Projects

Project	Class	Start	End	Miles	Cost	Rank
2nd Ave N Extension	2	Imjin Rd	Cypress Knolls	1.31	\$56,500	175
2nd Ave*	2	3rd St	1st St	0.26	\$11,400	20
3rd Ave	2	8th St	Imjin Rd/12th St	0.37	\$15,800	353
3rd St	2	General Jim Moore Blvd	1st St	0.37	\$15,700	167
3rd St	2	1st Ave	2nd Ave	0.29	\$12,300	398
4th Ave	2	9th St	12th St	0.29	\$12,300	347
5th Ave	2	8th St	12th St	0.35	\$15,050	351
7th St	2	1st Ave	2nd Ave	0.28	\$12,200	397
8th St	2	Proposed St - The Dunes	2nd Ave	0.15	\$6,400	342
8th St	2	2nd Ave	5th Ave	0.62	\$26,600	357
8th St	2	Hwy 1	1st Ave	0.10	\$4,400	394
9th St	2	1st Ave	Proposed St - The Dunes	0.16	\$7,000	343
9th St	2	1st Ave	3rd Ave	0.47	\$20,100	355
9th St Extension	2	3rd Ave	5th Ave	0.35	\$15,300	352
California Ave*	2	Carmel Ave	Reservation Rd	0.29	\$12,500	136
General Jim Moore	2	Divarty St	Inter-Garrison	0.14	\$5,996	203
3rd St*	BB	7th Ave	General Jim Moore Blvd	0.69	\$5,600	162
7th Ave	BB	3rd St	Gigling Rd	0.75	\$6,000	204
Divarty St	BB	7th Ave	General Jim Moore Blvd	0.72	\$5,800	340

Table 6-33 presents the California State University Monterey Bay project summary miles and costs. Implementation of the projects would add eight miles to the bikeway network and would cost an estimated \$266,946.

Table 6-33: California State University Monterey Bay Bikeway Projects Summary Miles and Costs

Class	Sum of Miles	Sum of Cost Estimate
2	5.80	\$249,546
BB	2.16	\$17,400
Total	7.97	\$266,946

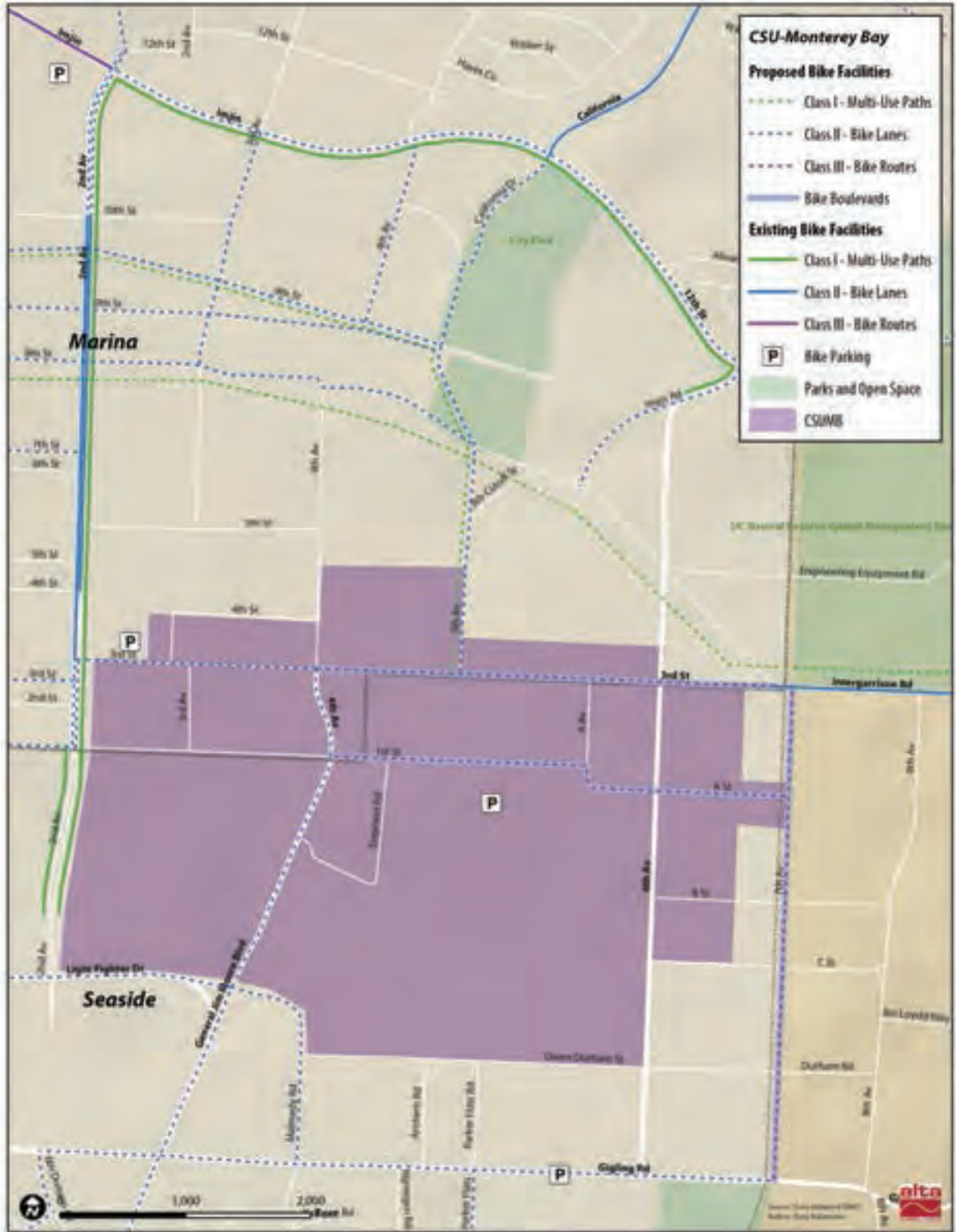


Figure 6-16: California State University Monterey Bay Bikeway Projects

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7. Pedestrian Improvements

While walking is the least expensive and for some, the only transportation mode, implementing, building, and maintaining a high quality pedestrian system requires comprehensive planning and long term funding. Everyone who lives in and visits Monterey County is a pedestrian; whether they walk to work, walk to school, walk to transit, or walk from their car to a shopping destination. Walking trips form the foundation of our transportation system and provide connectivity to automobile and transit modes. For these reasons, this 2011 Transportation Agency for Monterey County (Agency) Bicycle and Pedestrian Plan includes the following recommendations to focus investment in capital projects to improve walking:

- Definitions for countywide pedestrian priority areas
- Locally-identified pedestrian projects for potential implementation in the short-term
- Evaluation criteria for use in future Agency calls-for-projects

The recommended countywide pedestrian priority area definitions provide the Agency with a starting point for focusing scarce financial resources in the areas where people walk most often and where people need to walk but encounter significant barriers. First and foremost, these pedestrian priority areas emphasize investment in areas where people walk frequently including downtowns, school zones, transit stops, and regional trails. In addition to these areas with concentrated walking trips, investment should also be focused in areas where people frequently need to walk but encounter significant gaps in the pedestrian network due to lack of facilities and high-speed, high volume traffic. These areas include crossings of major arterials, at-grade highways, and interchanges in areas where there are pedestrian attractors and generators.

This plan includes locally-identified pedestrian projects that reflect local priorities at the time that this Plan was prepared. These projects should be considered for short-term implementation provided that they fall within the recommended countywide pedestrian priority areas and that they rank favorably according to the additional criteria recommended below. These projects are not guaranteed funding by virtue of listing in this Plan, but are considered likely candidate projects.

Finally, this plan recommends preliminary evaluation criteria that can be refined and adopted by the Agency for use in future evaluation of pedestrian projects submitted by local jurisdictions in response to call-for-projects under various funding programs including TDA Article 3 and any future sales tax measures.

7.1. Countywide Pedestrian Priority Areas

Pedestrian trips are and will continue to be concentrated in key geographic areas in Monterey County, as introduced above, thus it is important to focus investment of scarce resources in these geographic areas. AMBAG's *Envisioning the Monterey Bay Area: A Blueprint for Sustainable Growth and Smart Infrastructure Blueprint* (AMBAG Blueprint) provides a regional, consensus-based starting point for focusing pedestrian investment for Monterey County in the short-term. The AMBAG Blueprint Priority Areas capture existing concentrations of residential land use, commercial and employment centers, and industrial that offer potential for future infill development. These AMBAG Blueprint Priority Areas are outlined in greater detail below, under 8.1.1. The AMBAG Blueprint Priority Areas do not however capture other areas that are important for

Monterey County pedestrian infrastructure investment. This Plan adds the following additional geographic priorities to the AMBAG Blueprint Priority Areas: major barriers to walking, safe routes to school areas, and safe routes to transit connections.

7.1.1. AMBAG Blueprint Priority Areas

The AMBAG Blueprint describes how communities in Monterey County can grow in a sustainable fashion. The Blueprint's Sustainable Growth Scenario identifies priority areas for compact development centered around transit and job centers. **Figure 7-1** and **Figure 7-2** present the locations of these Priority Areas. The AMBAG Blueprint Priority Areas capture existing concentrations of residential land use, commercial and employment centers, and industrial that offer potential for future infill development.

AMBAG's specific methodology defines the priority areas by the following characteristics:

- Areas within one half mile of proposed transit stops for Monterey-Salinas Bus Rapid Transit line and TAMC's Light Rail Line
- Areas identified in City and County General Plans as:
 - Density of 15 dwelling units per acre or higher
 - Higher density commercial and industrial areas
- Areas were excluded if they:
 - Fell within an open space, agricultural or conservation easement area
 - Did not fall within at least one of the following: transit corridor, city boundary, sphere of influence or in an annexation area

Future pedestrian infrastructure investments in the Blueprint Priority Areas should at minimum include creation of a continuous pedestrian network through construction of new sidewalks and intersection improvements and crossing improvements. Sidewalks in these more dense areas with higher walking rates should ideally include a planted/furniture zone, a wide pedestrian through zone, and a frontage zone.

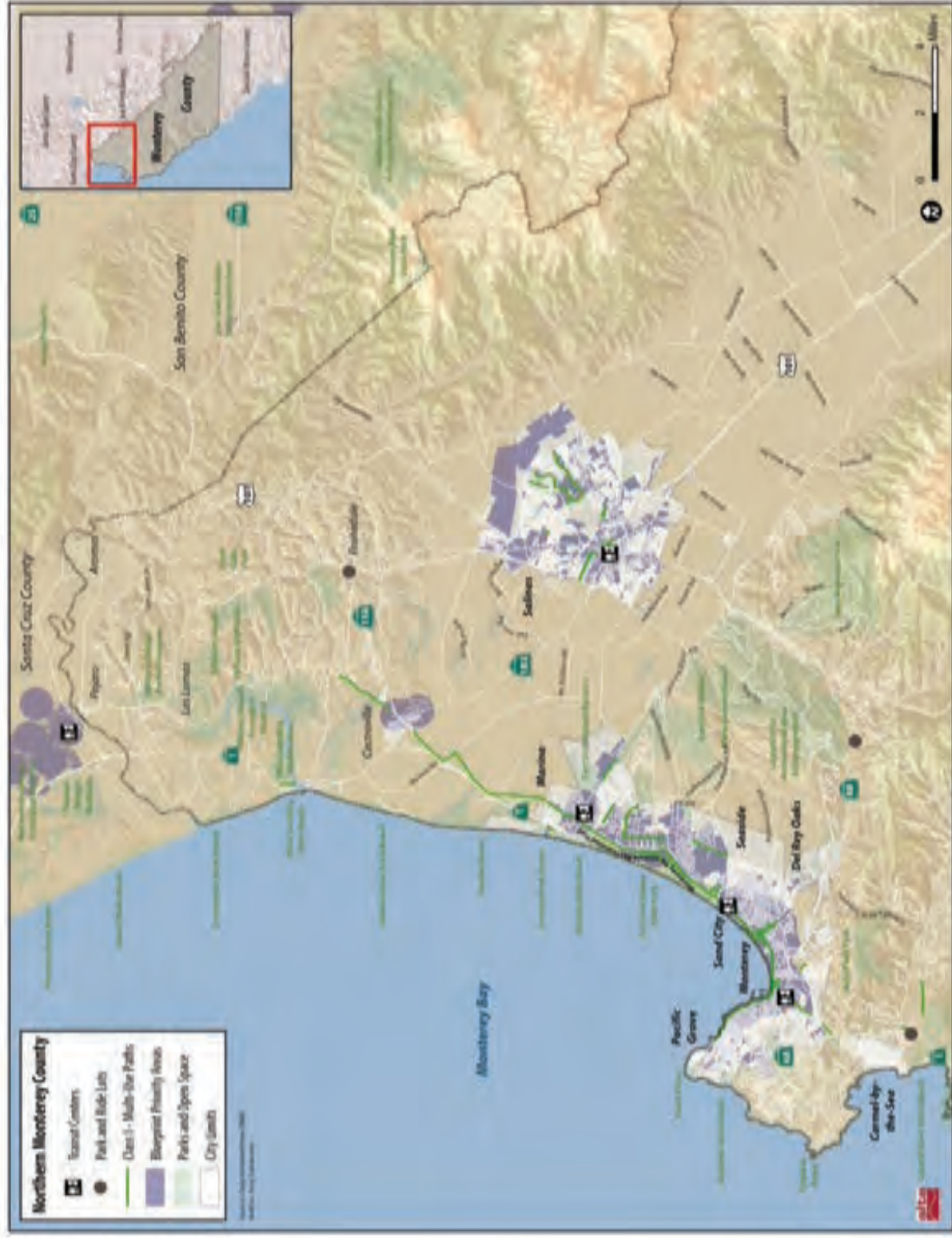


Figure 7-1: Northern County AMBAG Blueprint Priority Areas

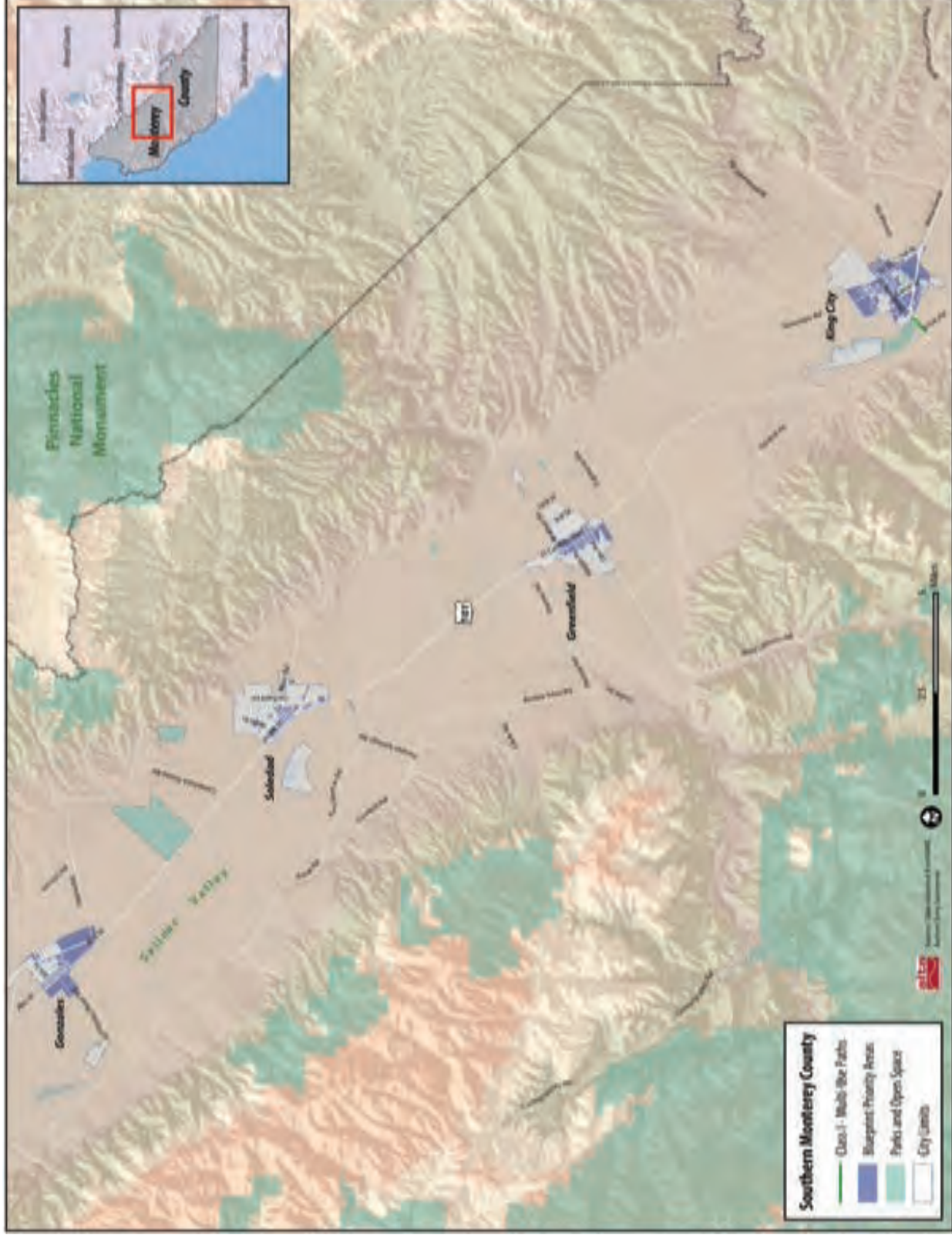


Figure 7-2: Southern County AMBAG Blueprint Priority Areas

7.1.2. Major Barrier Crossing Areas

Major barriers to walking that influence countywide pedestrian mobility and safety include both physical barriers, long and design barriers such as blocked or long unprotected crossings of State routes, railroads, and large arterial roadways.. Major barrier crossing improvements benefit both bicyclists and pedestrians. New or improved crossings for pedestrians are especially beneficial where they would connect pedestrian attractors and generators that are currently separated such as a crossing improvement or sidewalk gap closure project on a major arterial that connects a school site to an isolated neighborhood. Additionally, new or reconstructed freeway interchanges can benefit from additional design improvements to encourage safe convenient pedestrian and bicycle access or dedicated bicycle and pedestrian overcrossings.

Projects in these focus areas will generally consist of crossing and sidewalk improvements on major arterials designated in the Monterey County Regional Road System (Monterey County Regional Transportation Plan, 2010) pedestrian over and undercrossings at freeway interchange and ramp areas, improvements to at-grade arterial intersections, and pedestrian-related improvements to interchanges.

7.1.3. Safe Routes to School Areas

Safe Route to School improvements facilitate walking and bicycling to schools in Monterey County. A two-mile radius around a school is considered the highest priority for Safe Routes to School infrastructure improvements. Pedestrian improvements in Safe Routes to School areas will improve safety and help encourage children to walk to school.

Projects in these priority areas may include sidewalk installation along school access routes, development of improved pedestrian crossings, and traffic calming measures to help reduce motor vehicle speeds.

7.1.4. Safe Routes to Transit Areas

Access to transit can be a challenge for pedestrians and is a priority improvement for the Transportation Agency for Monterey County. In some cases, there are few or no safe and convenient walkways between residential areas and transit stops and stations. Intersections and crossings near station areas can be challenging and unpleasant to navigate because of large intersections and vehicular volume and speeds. Pedestrian improvements in transit areas will improve safety while making transit accessible to more people.

Priority Safe Routes to Transit should focus on the Monterey-Salinas Transit Regional Fixed Route service lines as determined in the Regional Transportation Plan, in addition to the Monterey-Salinas Bus Rapid Transit and Light Rail projects captured under AMBAG Blueprint. Projects within these priority areas will generally consist of sidewalks, wayfinding signage, intersection improvements within a half-mile radius of Amtrak and future light rail and a quarter-mile of major bus lines, and bus stop and transit station amenities that improve the pedestrian experience.

7.1.5. Regional Trails and Trail Access

Regional trail facilities meet important recreation and transportation needs for Monterey County residents. Trails are typically a significant investment for implementing agencies, and to protect this investment, trail use should be maximized by providing convenient pedestrian access and safe crossings of roadways.

Projects in these priority areas will consist of pathway construction, trailhead amenities, and crossing improvements along the Monterey Bay Sanctuary Trail and other trails of regional significance.

7.2. Project Lists and Categories

As part of this Plan’s development, a request for priority pedestrian projects was sent to all communities within Monterey County. The following communities and agencies submitted projects.

- County of Monterey
- Carmel by the Sea
- Gonzales
- King City
- Marina
- Pacific Grove
- Salinas
- Seaside
- Soledad
- California State University Monterey Bay

Communities described submitted projects at varying levels of detail and costs and some communities did not provide project costs. In order to develop cost estimates for all of the submitted projects, Table 7-1 lists the methodologies used to develop cost estimates where submitted project descriptions were incomplete or inconsistent.

Table 7-1: Project Cost Estimation by Submitted Project Description Level of Detail

Project Description Level of Detail	Project Cost Estimation Methodology
No cost estimate provided	Estimates developed using Table 7-2 planning level cost assumptions
Project cost included bicycle facilities	Cost of bicycle facilities estimated using Section 8.2.1 planning level cost assumptions and subtracted from total cost
No cost estimate provided and insufficient project detail	No cost estimate developed and noted with “NA”
Project described as “various locations” communitywide	Planning level cost estimate per mile provided
Sidewalks and paths	Cost estimates developed assuming project is needed on one street side, unless otherwise noted or if the community provided a cost estimate

In order to provide a summary of proposed pedestrian improvements on a countywide level, as presented in Table 8-9 and Table 8-10, each submitted project was categorized into a:

- **Sidewalk** – four feet wide and includes curb gutter.
- **Path**– soft-surface path and intended for multiple user types
- **Intersection Improvement** – includes engineering intensive improvements such as intersection reconfiguration and traffic signal installation.
- **Crossing Improvement** – includes striping and signage installation to improve pedestrian crossings.
- **Maintenance Project** – includes restriping and repairing multi-use paths.
- **Amenities Project** –includes lighting enhancements, benches and trash receptacles.

The City of Salinas also submitted non-infrastructure projects that were categorized into “planning” or “programs”. The City of Pacific Grove submitted one project on school property, which was categorized as “school”.

Table 7-2 presents pedestrian facility construction item costs used to calculate the cost of sidewalks and soft-surface walkways per mile. Lump sums are provided for pedestrian facilities that are primarily comprised of a few construction items.

Table 7-2: Pedestrian Facilities Cost Assumptions

Item	Quantity	Units	Unit Cost	Total
Sidewalk				
Concrete	21,120	SF	\$15	\$ 316,800
Curb Gutter	5,280	LF	\$35	\$ 184,800
Clearing Grubbing	21,120	SF	\$1.50	\$ 31,680
Curb Ramp	8	EA	\$4,000	\$ 32,000
Sidewalk per mile				\$ 570,000
Soft Surface Walkway				
Erosion Control	1	LS	\$12,000	\$ 12,000
Clearing Grubbing	1	LS	\$12,000	\$ 12,000
Earthwork	1	LS	\$20,000	\$ 20,000
Aggregate Base	1,030	TON	\$50	\$ 51,500
Decomposed Granite	700	TON	\$95	\$ 66,500
Header Board	14,600	LF	\$8	\$ 116,800
Driveway Modification	1,080	SF	\$85	\$ 91,800
Tree/Stump Removal	40	EA	\$600	\$ 24,000
Tree Replacement	1	LS	\$65,000	\$ 65,000
Soft Surface Walkway per mile				\$ 460,000
Crosswalk	1	EA	\$1,000	\$ 1,000
Raised Textured Crosswalk	480	SF	\$15	\$ 7,200
Traffic Signal Reconfiguration	1	EA	\$250,000	\$ 250,000
Pre Fabricated Bridge	2,400	SF	\$150	\$ 360,000
Renovate Bridge	2,400	SF	\$75	\$ 180,000
Maintenance (resurfacing)	1	MI	\$200,000	\$ 200,000
Pedestrian Amenities				
Lighting	10	EA	5,000	\$ 50,000
Bench	2	EA	1,000	\$ 2,000
Trash Receptacle	2	EA	800	\$ 1,600
Pedestrian Amenities per mile				\$ 53,600

7.2.1. County of Monterey

Table 7-3 presents specific priority pedestrian improvement projects in unincorporated Monterey County. Project costs were provided by the County. Figure 7-3, Figure 7-4 and Figure 7-5 present maps of Moss Landing, Las Lomas and Carmel Valley, respectively. Figure 7-3 shows the location of the proposed Monterey Bay Sanctuary Trail, which is discussed in Chapter 6.

Table 7-3: County of Monterey Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
Berry Rd	End	End/Elkhorn Slough	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.44	\$2,110,000
Boling Rd	Las Lomas Dr	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.29	\$1,650,000
Boronda Rd & Rancho Rd @ Carmel Valley Rd			Intersection	Widen And Reconfigure Intersection		\$1,017,000
Clausen Rd	Las Lomas Dr	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.29	\$1,650,000
Country Club Dr & Carmel Valley Rd			Intersection	Widen And Reconfigure Intersection		\$1,017,000
Gregory Rd	Overpass Road	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.16	\$1,775,000
Hall Rd	1668 Feet West of Las Lomas Drive	655 Feet East of Las Lomas	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.45	\$2,440,000
Hwy 1 / Oliver Rd	Oliver Rd	Crossroads Mall	Sidewalk	Separated Crossing Over Hwy 1 At Terminus Of New Hatton Bike Path	0.41	NA
Las Lomas Dr	Thomas Road	Sill Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.57	\$1,660,000
Miller Rd	Sill Rd	Overpass Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.34	\$1,945,000
Moss Landing Road	South end of Hwy 1	North end of Hwy 1	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.71	\$2,856,000
Oak Rd	Berry Road	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.12	\$610,000
Overpass Rd	Las Lomas Dr	Miller Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.32	\$1,775,000
Sandholt Rd	North of MBARI	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.33	\$8,961,000

TAMC | Bicycle and Pedestrian Master Plan

Location	Start	End	Type	Description	Mileage	Cost
Sill Rd	Beginning	Kinghall Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.37	\$2,500,000
Thomas Rd	Las Lomas Dr	Overpass Rd	Sidewalk	New sidewalks, curb, gutter, drainage and roadway improvements	0.31	\$1,720,000
Willow Rd	Hall Rd	Berry Rd	Sidewalk	New sidewalks, curb, gutter, drainage and roadway improvements	0.17	\$950,000
Total					5.28	\$34,636,000



Figure 7-3: County of Monterey (Moss Landing) Pedestrian Projects



Figure 7-4: County of Monterey (Las Lomas) Pedestrian Projects

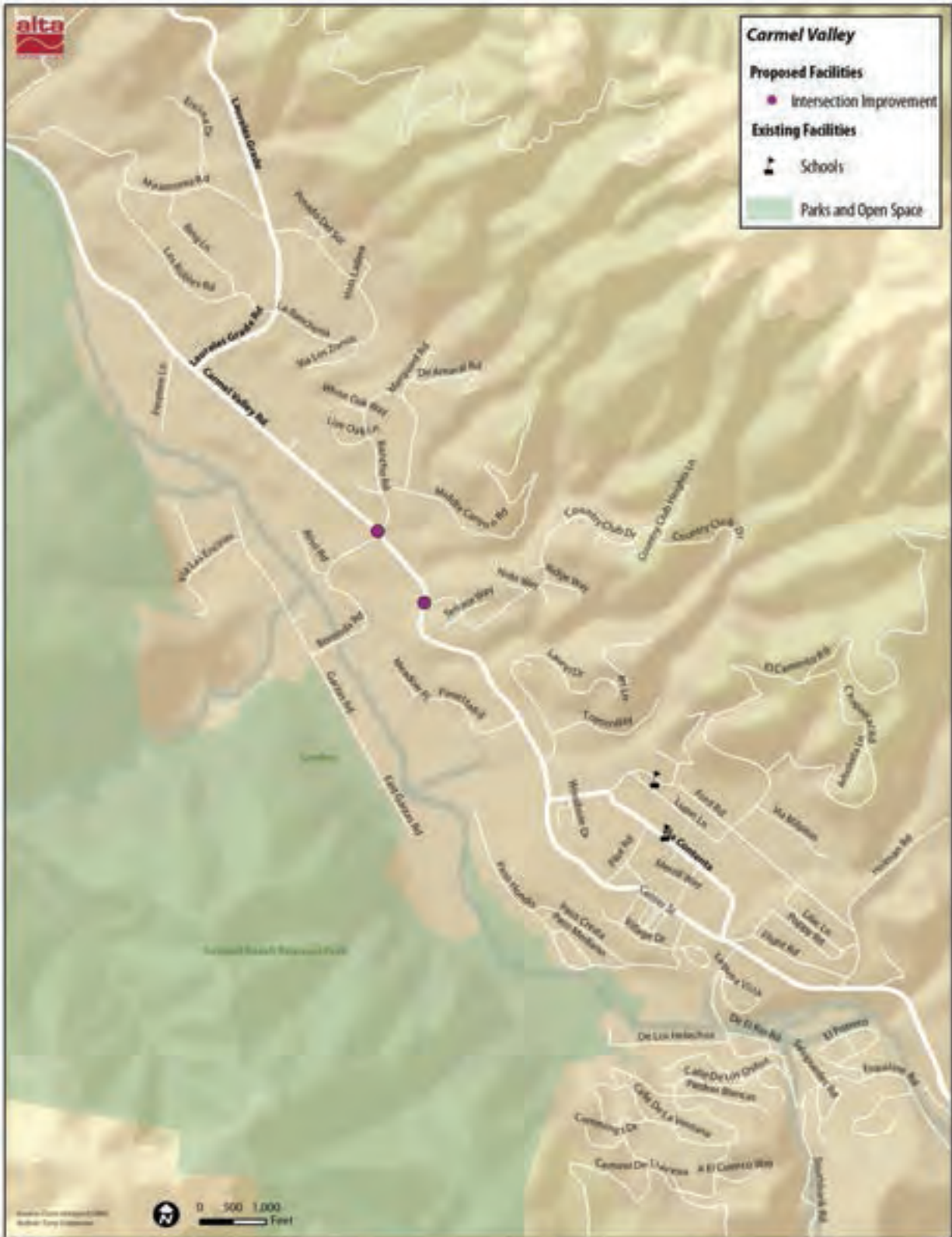


Figure 7-5: County of Monterey (Carmel Valley) Pedestrian Projects

7.2.2. Carmel by the Sea

Specific pedestrian priority projects for Carmel by the Sea are presented in Table 7-4. Carmel by the Sea submitted projects that included bicycle facilities but did not provide cost estimates. Project cost estimates were developed using the cost assumptions provided in Table 7-2 and only estimate costs for pedestrian facilities. Figure 7-6 presents a map of the projects, including the Hatton Canyon Class 1 path presented in Chapter 6.

Table 7-4: Carmel by the Sea Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
15th Ave	Carmelo St	Monte Verde St	Path	Separated Soft-Scape Walkway / Class 2 Bike Lane	0.15	\$69,000
Canyon/Flanders /Carmel Hills Dr	Hatton Canyon	Ocean Av	Class I Path	Separated Walkway / Class I Bike Path Joining Hatton Canyon Path & Carmel High School	1.17	\$666,900*
Carmel River	Rio Park	Ribera Rd bluffs	Bridge	Renovate existing pedestrian bridge & add second bridge for access across River & Lagoon via sewer treatment & other properties		\$540,000
Carmelo St	River Beach	Santa Lucia Av	Path	Separated Soft-Scape Walkway / Class 2 Bike Lane	0.42	\$193,200
Carpenter St	Ocean Ave	Hwy 1	Path	Separated Soft-Scape Walkway / Class 2-3 Bike Lane	0.85	\$741,000
Hwy 1	Monastery Beach	Point Lobos	Sidewalk	Separated Walkway / Class 3 Bike Path	1.57	\$894,900
Hwy 1 & Carpenter St			Crossing	Raised & Bricked Crosswalk At Northern Entrance To Carmel		\$188,100
Hwy 1 & Ocean Ave			Crossing	Raised & Bricked Crosswalk At High School & Main Entrance To Carmel		\$199,500
Hwy 1 & Rio Rd			Intersection	Raised & Bricked Crosswalk At Southern Entrance To Carmel		\$114,000
Junipero Ave	Ocean Ave	Santa Lucia Ave	Path	No Description	1.40	\$644,000
Junipero St & Ocean Ave			Crossing	Raised & Bricked Crosswalks Plus Landscaped Island(S) At 5-Way Intersection		
Lasuen Dr	14th Ave	Rio Rd	Sidewalk	Separated Walkway / Class 3 Bike Path	0.29	\$165,300
Rio Rd	Hwy 1	Junipero St	Sidewalk	Gap Closure: Walkway On Both Sides Of Road With Landscaped Separation / Class 1 Bike Path	0.73	\$416,100
Santa Lucia Ave	Rio Rd	Scenic Rd	Path	Separated Soft-Scape Walkway	0.55	\$253,000
Scenic Rd	Ocean Ave	8th Ave	Path	No Description	0.17	\$78,200

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Location	Start	End	Type	Description	Mileage	Cost
Scenic Rd	Martin Way	River Beach	Path	Separated Soft-Scape Walkway / Class 2 Bike Lane	0.49	\$279,300
Serra Ave / San Carlos St	Santa Lucia Av	Hwy 1	Path	Separated Soft-Scape Walkway / Class 2-3 Bike Lane	1.96	\$901,600
Total					9.75	\$5,677,200
* Project is also considered a bikeway project. Its cost is accounted for in the bikeway project lists.						



Figure 7-6: Carmel Pedestrian Projects

7.2.3. Gonzales

Table 7-5 presents specific priority pedestrian improvement projects in the City of Gonzales. The majority of the improvements address pedestrian crossing improvements at uncontrolled intersections. Highway 101 bisects the City and presents a major pedestrian barrier. To overcome this pedestrian network challenge, the City of Gonzales seeks to provide a pedestrian overcrossing at Fifth Street and Highway 101. Project cost estimates were provided by the City. Figure 7-7 presents a map of the projects.

Table 7-5: City of Gonzales Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
5th St	Ricon Rd	Elko St	Path	Multi-Use Path	0.23	\$300,000
5th St & Elko St			Intersection	Traffic signal installation		\$450,000
5th St & Fermin Rd Crossing			Intersection	Traffic signal installation		\$1,600,000
5th St & Herold Pkwy			Intersection	Lighted crosswalk installation, traffic signal installation		\$900,000
5th St & Hwy 101 Overpass			Intersection	Pedestrian overcrossing and traffic signal installation		\$650,000
5th St & Rincon Rd			Intersection	Traffic signal installation		\$480,000
Citywide			Sidewalk	Gap closure		\$1,500,000
Citywide			Intersection	Curb ramp installation		\$1,500,000
Citywide			Sidewalk	Sidewalk repair and maintenance		\$2,000,000
Elko St	4th St	5th St	Amenities	Lighting and benches	0.07	\$90,000
Herold Pkwy & Gloria Rd			Intersection	Traffic signal installation		\$450,000
Total					0.30	\$9,920,000



Figure 7-7: Gonzales Pedestrian Projects

7.2.4. King City

Table 7-6 presents specific priority pedestrian improvement projects in King City. The majority of the improvements address sidewalk gaps and curb ramp installation. Project cost estimates were developed using the cost assumptions provided in Table 7-2. The cost assumptions for sidewalks include costs for eight curb ramps per mile, which was assumed given the project description provided by the City. In addition, sidewalk installation is assumed to be on one side of the street. Figure 7-8 presents a map of the projects.

Table 7-6: King City Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
3rd St	Pearl St	Vivian St	Sidewalk	Sidewalk And Curb Ramp Installation	0.07	\$39,900
Airport Blvd	Bitterwater Rd	Metz Rd	Sidewalk	Sidewalk And Curb Ramp Installation	0.91	\$518,700
Broadway & Mildred Ave			Crossing	Intersection redesign and traffic signal installation		\$250,000
Canal St	Reich St	Talbot St	Sidewalk	Sidewalk And Curb Ramp Installation	0.08	\$45,600
Canal St & Hwy 101			Intersection	Curb ramp installation on Cal Trans R.O.W		
Carlson St	3rd St	2nd St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
Copley St	Ellis St	Orchard St	Sidewalk	Sidewalk And Curb Ramp Installation	0.13	\$74,100
Division St	Vanderhurst Ave	1st St	Sidewalk	Sidewalk And Curb Ramp Installation	0.29	\$165,300
Ellis St	2nd St	3rd St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
Mildred Ave	Reich St	Talbot St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
Mildred Ave	Division St	Reich St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
Monte Vist Pl	Reich St	Talbot St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
Pearl St	2nd St	1st St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
Reich St	Monte Vista Pl	7th St	Sidewalk	Sidewalk And Curb Ramp Installation	0.12	\$68,400
Talbot St	Canal St	Mildred Ave	Sidewalk	Sidewalk And Curb Ramp Installation	0.11	\$62,700
Total					2.25	\$1,532,500



Figure 7-8: King City Pedestrian Projects

7.2.5. Marina

Table 7-7 presents specific priority pedestrian improvement projects submitted by the City of Marina and California State University Monterey Bay. The majority of the improvements address sidewalk gaps and crosswalk striping. Project cost estimates were developed using the cost assumptions provided in Table 7-2. Sidewalk installation is assumed to be on one side of the street. Figure 7-9 presents a map of the projects submitted by the City of Marina, including the Patton Parkway Path presented in Chapter 6.

Table 7-7: Marina Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
Abdy Way	Healy Ave	Drew St	Sidewalk	Sidewalks	0.31	\$176,700
Beach Rd	Cardoza Ave	Fitzgerald Cir	Sidewalk	Sidewalks	0.52	\$296,400
Begonia Cir/Michael Dr	Beach Rd	Turn in Michael Dr	Sidewalk	Sidewalks	0.13	\$74,100
California Ave	Reservation Road	Carmel Ave	Sidewalk	Sidewalks	0.28	\$159,600
California Ave	Tamara Court	End	Sidewalk	Sidewalks	0.78	\$444,600
Cardoza Ave	Abdy Way	Belle Dr	Sidewalk	Sidewalks	0.10	\$57,000
Carmel Ave	Bayer Street	Salinas Ave	Sidewalk	Sidewalks	0.06	\$34,200
Carmel Ave	Crescent Ave	Vaughan Ave	Sidewalk	Sidewalks	0.08	\$45,600
Carmel Ave	Del Monte Blvd	Sunset Ave	Sidewalk	Sidewalks	0.16	\$91,200
Carmel Ave (both sides)	Seacrest Ave	Crescent Ave	Sidewalk	Sidewalks	0.28	\$159,600
Crescent Ave	Carmel Ave	Reservation Rd	Sidewalk	Sidewalks	0.27	\$153,900
Del Monte Blvd	Palm Ave	Mortimer Lane	Sidewalk	Sidewalks	0.17	\$96,900
Del Monte Blvd	Reservation Road	Beach Road	Sidewalk	Sidewalks	0.44	\$250,800
Del Monte Blvd & Palm Ave			Intersection	Restripe Crosswalks		\$4,000
Del Monte Blvd & Reservation Rd			Crossing	Restriping: Remove one of two right turn lanes; Restripe Crosswalks		\$96,900
Drew St	Abdy Way	Lakewood Dr	Sidewalk	Sidewalks	0.34	\$193,800
Healy Ave	Abdy Way	Marina Drive	Sidewalk	Sidewalks	0.15	\$85,500
Lake Dr	Messinger Dr	Hilo Ave	Sidewalk	Sidewalks	0.24	\$136,800
Marina Drive	Legion Way	Healy Ave	Sidewalk	Sidewalks	0.08	\$45,600
Paddon Pl	Lake Dr	Marina Dr	Sidewalk	Sidewalks	0.16	\$91,200
Palm Ave	Lake Dr	Del Mote Blvd	Sidewalk	Sidewalks	0.18	\$102,600
Palm Ave	Elm Ave	Sunset Ave	Sidewalk	Sidewalks	0.11	\$62,700
Redwood Drive	Hillcrest Ave	Carmel Ave	Sidewalk	Sidewalks	0.12	\$68,400
Reindollar Ave	Del Monte Blvd	Sunset Ave	Sidewalk	Sidewalks	0.18	\$102,600
Reindollar Ave	California Ave	Eddy Circle	Sidewalk	Sidewalks	0.08	\$45,600

Location	Start	End	Type	Description	Mileage	Cost
Reindollar Ave	Vera Lane	Vaughan Ave	Sidewalk	Sidewalks	0.16	\$91,200
Reservation Rd	Crestview Ct	Lynscott Dr	Sidewalk	Sidewalks	0.36	\$205,200
Salinas Ave	Carmel Ave	Reservation Rd	Sidewalk	Sidewalks	0.27	\$153,900
Seacrest Ave	Carmel Ave	Reservation Rd	Sidewalk	Sidewalks	0.29	\$165,300
Zanetta Dr	Reindollar Ave	Hillcrest Ave	Sidewalk	Sidewalks	0.13	\$74,100
Total					6.43	\$3,766,000



Figure 7-9: Marina Pedestrian Projects

7.2.6. City of Monterey

Table 7-8 presents the pedestrian projects and costs submitted by the City of Monterey. Projects focus on filling sidewalk gaps and installing ADA curb ramps. The City may also consider studying the Monterey Recreational Trail crossings in Cannery Row to identify crossing improvements. Figure 7-10 presents a map of the projects, including the Soledad-Viejo Class I path listed in Table 6-16.

Table 7-8: City of Monterey Pedestrian Projects

Location	Start	End	Type	Description	Mileage	Cost
English Ave	Monterey Bay Coastal Trail	Grant Ave	Sidewalk		0.16	\$91,200
English Ave & Monterey Bay Coastal Trail			Intersection			\$700,000
Hawthorne St & Pvt Bolio Rd			Intersection			\$350,000
Mark Thomas Dr	Sloat Ave	Garden Rd	Sidewalk	Construct sidewalk on north side of Mark Thomas Drive. Fills critical gap in Safe Route to School for Santa Catalina School.	0.60	\$850,000
Monterey Bay Coastal Trail Crossings	David Ave	Casa Verde	Crossing	Construct pedestrian and bike safety improvements at 11 uncontrolled trail crossings.		\$660,000
Pacific St	Colton St	Martin St	Sidewalk	Construct sidewalk on west side of Pacific. Carries pedestrians from Monterey Vista Neighborhood to the signalized intersection of Pacific / Martin for safe crossing.	0.10	\$250,000
Pearl Ave	Calle Principal	Camino Aguajito	Sidewalk	Construct ADA curb ramps at 10 intersections. Constructs ADA curb ramps and curb extensions along the length of the Pearl Street bike boulevard.	0.91	\$750,000
Sloat Ave & 5th St			Crossing			\$400,000
Soledad Dr	Munras Ave	Via Gayuba	Sidewalk	Install sidewalk, curb & gutter on north side of Soledad Drive. Fills critical gap in Safe Route To School for Monte Vista and Colton Schools.	0.83	\$980,000
Soledad Dr & Munras Ave			Intersection	Intersection Realignment and Sidewalk. Replaces uncontrolled intersection with 3-way stop, adds school crosswalks, installs ADA ramps, and improves pedestrian crossing safety.		\$500,000

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Location	Start	End	Type	Description	Mileage	Cost
Van Buren & Corp Ewing Rd			Intersection	Constructs ped & bike path. Fills critical gap that connects the New Monterey Neighborhood through the Lower Presidio to Downtown without crossing Lighthouse Avenue.		\$1,700,000
Total					2.60	\$7,231,200



Figure 7-10: City of Monterey Pedestrian Projects

7.2.7. Pacific Grove

Specific priority pedestrian projects for the City of Pacific Grove are presented in Table 7-9. The City of Pacific Grove seeks to install sidewalks where there are none, improve pedestrian access to shopping and schools and improve intersections with pedestrian elements. Project cost estimates were provided by the City. Figure 7-11 presents a map of the projects.

Table 7-9: Pacific Grove Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
Central Ave & Grand Ave			Crossing	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$50,000
Citywide			Sidewalk	Gap closure		\$100,000
Congress Ave (Forest Grove School)	Hwy 68	Forest Grove School	Sidewalk	New Sidewalk On East Side Of Congress Avenue, Along High School Stadium	0.23	\$100,000
David Ave	SaveMart Driveway	West end of David Avenue	Sidewalk	New Sidewalk On South Side Of David Avenue	0.40	\$700,000
Forest Ave & Forest Hill Blvd			Crossing	Lighted crosswalk, pavement markings, signs		\$170,000
Forest Ave & Grove Market			Crossing	Mid-block crosswalk, bulb out, pavement markings, loading zone switch		\$20,000
Forest Ave & Sinex Ave			Intersection	Traffic signal upgrade, modify existing signals, include countdown ped signals and vehicle detection		\$300,000
Fountain Ave & Central Ave			Intersection	Re-align and narrow intersection, consider round-about		\$300,000
Jewell Ave & Pacific Ave			Crossing	Pedestrian crossing, new stop sign, curb extension		\$100,000
Lighthouse Ave & 17th St			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$100,000
Lighthouse Ave & Congress Ave			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$300,000
Lighthouse Ave & Forest Ave			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$300,000
Lighthouse Ave & Grand St			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$75,000
Monterey Recreational Trail			Maintenance	General maintenance of the trail.		\$100,000

Location	Start	End	Type	Description	Mileage	Cost
Ocean View Avenue Access to Trail			Crossing	Bulb outs, crosswalks		\$400,000
Spruce Ave (Robert Down Elementary School)	12th St	13th Street	School	Add Passenger Loading Zones	0.03	\$50,000
Total					0.66	\$3,165,000



Figure 7-11: Pacific Grove Pedestrian Projects

7.2.8. Salinas

Specific priority pedestrian projects for Salinas are presented in Table 7-10. The City of Salinas' pedestrian improvements include curb ramp upgrades, curb ramp installation and installation of lighted crosswalks. Project cost estimates were provided by the City. Figure 7-12 presents a map of the projects, including Class I projects that are listed in Chapter 6.

Table 7-10: Salinas Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
2003-2004 North Salinas ADA Pedestrian Ramps			Crossing	Deficient Pedestrian Access Ramps West Alvin Drive, East Alvin Drive, Linwood Drive, Lassen Avenue, Modoc Avenue, Rainier Avenue, Parkside Street, Baldwin Street, Sherwood Drive and a portion of Natividad Road		\$480,000
2004-2005 East Salinas Area St Lights - Phase VIII			Amenities	Street Light Upgrade Rider Avenue, Alamo Way, Gee Street, South Elm Street, Holly Street		\$220,000
2004-2005 North Main St ADA Pedestrian Ramp Project			Crossing	Deficient Pedestrian Access Ramps- North Main Street (Bernal Drive – Lamar Street), West Curtis Street, Tyler Street (West Curtis – Laurel Drive), East Curtis Street, Chaparral Street (North Main Street - Linwood Drive), Maryal Drive (Chaparral Street – E		\$332,000
Bernal Dr	Main St	Sherwood Dr	Sidewalk	Widen Bernal Drive, Construct Sidewalk & Retaining Wall On North Side Between Main St & Rosarita Drive	0.53	\$1,647,000
Central Ave & Cayuga St			Crossing	Install Lighted Crosswalk with Curb Return Improvements		\$150,000
Chaparral St & Linwood Dr			Intersection	Deficient Pedestrian Access Ramps		\$25,000
City-wide Sidewalk St Inventory			Program	Survey of City Pedestrian Facilities		\$20,000
E Alisal St & Towt St			Intersection	Traffic Signal Installation		\$275,000
E Market St & Pajaro St			Crossing	Install Lighted Crosswalk and improve signing		\$100,000
John St & Los Padres Elementary School			Crossing	Install Lighted Crosswalk		\$100,000
John Steinbeck U.S Post Office Accessibility			Crossing	New curb, gutter, sidewalk, pedestrian ramps, and minor drainage improvements.		\$41,000
N Main St & Chaparral St			Intersection	Deficient Pedestrian Access Ramps		\$25,000
N Main St & Navajo St			Crossing	Lack of Sidewalk; deficient pedestrian access ramp, Install Lighted Crosswalk		\$136,400
N Sanborn Rd & Kimmel St			Intersection	Traffic Signal Installation		\$275,000
Natividad St & Sorentini Dr			Crossing	Install Lighted Crosswalk		\$100,000

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Location	Start	End	Type	Description	Mileage	Cost
Northridge Mall's North Main Str Frontage			Intersection	Deficient Pedestrian Access Ramps		
Pedestrian Safety Education Program			Program	Implement Pedestrian Safety Education for motorists and pedestrians; Streets Smarts Program		\$250,000
S Main St Corridor Project			Intersection	Deficient Pedestrian Access Ramps		NA
Traffic Calming Policy			Planning	Develop Policy – Being Prepared		\$20,000
Williams Rd & John St @ E Alisal St			Intersection	Install Pedestrian Access Ramps		NA
Total					0.53	\$4,196,400



Figure 7-12: Salinas Pedestrian Projects

7.2.9. Seaside

Table 7-11 presents the specific priority pedestrian improvements submitted by the City of Seaside. The City seeks to improve the pedestrian environment with sidewalk widening, crossing and curb ramp improvements. Project cost estimates were developed using the cost assumptions provided in Table 7-2. Sidewalk installation is assumed to be on one side of the street. Figure 7-13 presents a map of the projects submitted by the City of Seaside.

Table 7-11: Seaside Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
Broadway Ave & San Lucas St			Intersection	Signal installation, crosswalk, sidewalk curb and gutter		\$54,200
Broadway Ave & Terrace St			Crossing	Sidewalk curb, gutter, crossing improvements		\$63,200
W Broadway Ave	Del Monte Blvd	Fremont Blvd	Sidewalk	Widen Sidewalks, Ped And Bicycle Facilities	0.41	\$108,300
Total					0.41	\$225,700



Figure 7-13: Seaside Pedestrian Projects

7.2.10. Sand City

Table 7-12 presents the priority pedestrian project submitted by the City of Sand City. The City did not provide project detail. Project scope is assumed to replace approximately 100 lighting fixtures. Figure 6-13 shows location of proposed lighting replacement.

Table 7-12: Sand City Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
Sanctuary Scenic Trail				Replace lighting along the trail.		\$50,000
Total					0.41	\$50,000

7.2.11. Soledad

Table 7-13 presents the priority pedestrian improvement types and general locations in the City of Soledad. Planning level cost estimates and a map of the projects are not provided because the submitted projects did not indicate specific locations. Pedestrian projects are described with unit cost assumptions for informational purposes. A map of pedestrian projects in Soledad is not provided due to the general project descriptions.

Table 7-13: Soledad Pedestrian Improvements

Location	Improvement Description	Cost Assumption
Various locations	Construct lighted crosswalks in front of local schools	\$120,000/ea
Various locations	Replace damaged and broken cross walks with new thermoplastic striping	\$6/SF
Various locations	Construct countdown ped signals at two signalized intersections	\$40,000/ea
Various locations	Remove and replace non ADA ramps	\$4,000/ea
Various locations	Construct missing sidewalk	\$540,000/mi
Various locations	Remove raised and broken sidewalk with new sidewalk	\$200,000/mi

7.2.12. California State University Monterey Bay

Specific pedestrian priority projects for California State University Monterey Bay are presented in Table 7-14. The projects primarily include providing pedestrian connections from the roadway network to campus buildings and athletic areas. Project cost estimates were developed using cost assumptions provided in Table 7-2. Figure 7-14 presents a map of the facilities.

Table 7-14: California State University Monterey Bay (Seaside and Marina) Pedestrian Improvements

Location	Start	End	Type	Description	Mileage	Cost
2nd Ave to Otter Sports Center	2nd Ave	Otter Sports Center	Sidewalk	Sidewalks	1.00	\$570,000
2nd Ave to Sports Fields	2nd Ave	Sports Fields		New sidewalk walkway path	1.30	\$741,000
4th St	General Jim Moore Blvd	Black Box Cabaret	Sidewalk	New Sidewalk	0.33	\$188,100
5th Ave	8th Street	Inter-Garrison	Path	Two-Way Pedestrian And Bicycling Path On West Side Of Street.	0.35	\$199,500
B St	6th Ave	Watershed Institute	Sidewalk	New Sidewalk	0.20	\$114,000
Divarty St	General Jim Moore Blvd	5th Ave	Sidewalk	Sidewalks	0.37	\$210,900
Divarty St (north and south side)	2nd Ave	General Jim Moore Blvd	Sidewalk	Sidewalks	0.37	\$210,900
General Jim Moore Blvd to Stadium	General Jim Moore Blvd	Stadium	Sidewalk	New Sidewalk Walkway Path	0.29	\$165,300
Inter-Garrison Rd (south side)	4th Ave	5th Ave	Sidewalk	New Sidewalk	0.22	\$125,400
Inter-Garrison Rd (south side)	2nd Ave	Ocean Hall (closest building)	Sidewalk	New Sidewalk	0.10	\$57,000
Inter-Garrison Rd south to Science Bldg	Inter-Garrison Rd	Science Bldg	Sidewalk	New Sidewalk Walkway Path	0.08	\$45,600
Inter-Garrison Rd south to Science Bldg	Inter-Garrison Rd	Science Bldg	Sidewalk	New Sidewalk Walkway Path	0.20	\$114,000
Total					4.81	\$2,741,700



Figure 7-14: California State University Monterey Bay Pedestrian Projects

7.3. Recommended Pedestrian Project Prioritization Criteria

This section describes criteria that can be used to prioritize pedestrian projects during the Transportation Agency for Monterey County funding process. The Agency distributes state and federal funding for local and regional transportation projects, including approximately \$250,000 per year from Transportation Development Act Article 3. These criteria reflect the goals and policies of this Plan, and ask the following questions:

- Does the project fall within a pedestrian priority area?
- Does the project improve pedestrian safety?
- Does the project provide for or improve facilities for people with disabilities, children, seniors, or a vulnerable population?
- Is the project identified in the priority project list?
- Is the project consistent with relevant pedestrian design guidelines?

7.3.1. Improvement Located In a Countywide Pedestrian Priority Area

Projects located in the Countywide Pedestrian Priority Areas including AMBAG Blueprint priority areas, major barrier crossing improvements, safe routes to school priority areas, safe routes to transit priority area and regional trail access areas as described in Section 7.1 should receive priority over projects that do not.

7.3.2. Pedestrian Safety

Pedestrian safety is a key concern within the county and should be considered when identifying potential projects. A high rate of pedestrian injuries and fatalities suggest the pedestrian realm is an unsafe place to travel and may benefit from enhanced pedestrian facilities focusing on safety. While the total number of reported pedestrian collisions in a given area is readily available, it is often difficult to establish a rate—pedestrian collisions per pedestrian exposed to motor vehicles. When available, pedestrian collision rate should be considered to identify potential projects. When not available, number of pedestrian related collisions should be used.

7.3.3. Provides for Vulnerable Communities

There are vulnerable and underserved communities that would benefit significantly from improved pedestrian infrastructure. They include: people with disabilities, children, and seniors, and people living in lower income underserved communities. People with disabilities often face transportation challenges, and require a connected transportation network that meets or exceeds ADA guidelines. Children and seniors are more at risk of being injured or killed in a car crash than other age groups. People living in underserved communities are more likely to walk than other income groups. Projects that address the needs of people with disabilities, children, seniors and those living in underserved communities should receive priority over those projects that do not.

7.3.4. Priority Project List

Projects listed on the priority project list in Section 7.2 were identified by local jurisdictions as high priority and of citywide importance. Projects on the priority project list should receive priority over projects that do not.

7.3.5. Consistency with Design Guidelines and Complete Streets Policies

Projects that meet or exceed the design guidelines listed in Table 7-15, should receive priority over those that do not. For additional reference, the Pedestrian Design Guidelines included in Appendix B of this document, provide a toolbox of potential strategies to improve walking conditions.

Table 7-15: Design Guidelines for Pedestrian Priority Areas

	AMBAG Blueprint Priority Areas	Major Barrier Crossings	Safe Routes to School	Safe Routes to Transit	Regional Trails and Trail Access
Streets & Sidewalks	<ul style="list-style-type: none"> • 6' - 16' sidewalk • Vertical curb and gutter • Obstacles removed from pedestrian way • ADA-compliant curb ramps • Pedestrian-scale lighting • 5' landscape buffer • Street trees • On-street parking or bike lane buffer 	<ul style="list-style-type: none"> • 10' - 20' paths or min. 5' detached sidewalks; wider pathways where high pedestrian and/or bicycle demand expected • Min. 12' path if vertical enclosure • Obstacles removed from pedestrian way • ADA-compliant curb ramps • Pedestrian-scale lighting, min. at crossings 	<ul style="list-style-type: none"> • 4' – 12' sidewalk or pathway • Vertical curb and gutter where sidewalks exist • Obstacles removed from pedestrian way • ADA-compliant pathways • Pedestrian-scale lighting, min. at crossings 	<ul style="list-style-type: none"> • 6' - 16' sidewalk • Vertical curb and gutter • Obstacles removed from pedestrian way • ADA-compliant curb ramps • Pedestrian-scale lighting • Minimum 5' landscape buffer • Street trees • On-street parking or bike lane buffer 	<ul style="list-style-type: none"> • 10' - 20' paths • Obstacles removed • ADA-compliant curb ramps • Pedestrian-scale lighting, min. at crossings • Min. 12' path if vertical enclosure

	AMBAG Blueprint Priority Areas	Major Barrier Crossings	Safe Routes to School	Safe Routes to Transit	Regional Trails and Trail Access
Crossings	<ul style="list-style-type: none"> • Marked crossings at signalized and stop controlled locations • Accessible pedestrian signals • High visibility, enhanced crossings at uncontrolled locations • High visibility, enhanced mid-block crossings where appropriate • Median islands • Bulb-outs • Max 300' between crossings 	<ul style="list-style-type: none"> • Max 1 mile between crossings • Marked crossings at signalized and stop controlled locations on access routes to barrier crossing 	<ul style="list-style-type: none"> • Marked crossings at signalized and stop controlled locations • High visibility, enhanced crossings at uncontrolled locations, including possible raised crosswalks • Median islands and bulbouts possible 	<ul style="list-style-type: none"> • Marked crossings at signalized and stop controlled locations • Accessible pedestrian signals • High visibility, enhanced crossings at uncontrolled locations • High visibility, enhanced mid-block crossings where appropriate • Median islands • Bulb-outs • Max 300' between crossings 	<ul style="list-style-type: none"> • Marked crossings at signalized and stop controlled locations • Accessible pedestrian signals • High visibility, enhanced crossings at uncontrolled locations • High visibility, enhanced mid-block crossings where appropriate • Median islands and bulbouts possible
Pedestrian Realm Vitality	<ul style="list-style-type: none"> • Medium/high density housing, employment • Regional, community shopping destinations • Public art • Street fairs • Street furniture • Wayfinding • Sidewalk seating/cafes • Show windows • Vendor carts • Awnings/shade structures • Paseos 	<ul style="list-style-type: none"> • Street furniture • Wayfinding • Crime prevention through environmental design measures (lighting, visibility, regular maintenance, etc.) 	<ul style="list-style-type: none"> • Slow zones for vehicles • Walking programs (e.g. walking school bus) 	<ul style="list-style-type: none"> • Medium/high density housing, employment • Regional, community shopping destinations • Public art • Street fairs • Street furniture • Wayfinding • Sidewalk seating/cafes • Show windows • Vendor carts • Awnings/shade structures • Paseos 	<ul style="list-style-type: none"> • Street furniture • Wayfinding • Crime prevention through environmental design measures (lighting, visibility, regular maintenance, etc.)

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8. Project Implementation

This chapter presents the methodology used to identify bicycle projects of regional significance as well as a strategy for project implementation. This Plan is intended to guide the Agency identify and assist with funding projects of regional significance. The Plan includes over 400 bicycle projects and phased implementation of the projects will take significant amounts of time and financial resources. The following outlines the priority projects and the methodology used to identify them.

The Agency's primary role regarding bicycle and pedestrian facilities is to distribute funding to local agencies for projects. Ultimately, cities, the County and other agencies are responsible for implementing projects.

8.1. Bicycle Project Implementation

8.1.1. Bicycle Project Ranking Methodology

This section describes the methodology used to prioritize bikeway projects. Projects were scored and prioritized based on a defined set of criteria focused on safety, gap closure, local connections, feasibility and community (destination) connections. The intent of prioritizing projects is to identify projects of regional significance and to develop a phased approach to completing a countywide bicycle network, beginning with a set of short term, achievable, projects that best meet the objectives of this Plan.

The criteria outlined below were developed to score projects based on how well they achieve the objectives of this Plan. Based on Agency staff input, Collisions/Safety, Gap Closure and Local Connections hold the most importance thus were allotted the most possible points. Project Feasibility was added to serve as a measurement for the ability of a project to be implemented. Community Connections was divided into three sub-criteria that measured connections to employment centers, activity centers and transit. Projects could score a maximum five points for each sub-criterion for a total possible score of 15. The maximum potential score for each project is 100.

Table 8-1 describes the ranking criteria. The criteria include:

1. Collisions/Safety (0-25 points)
2. Gap Closure (0-25 points)
3. Local Connections (0-20 points)
4. Feasibility (0-15 points)
5. Community Connections (0-15 points, summed from the following)
 - a. Employment connections (0-5 points)
 - b. Activity center connections (0-5 points)
 - c. Multimodal connections(0-5 points)

Based on the nature of the criterion, the project received a score, score/no score, or with a scaled range from zero to maximum score. For example, employment connections range by the number of employees per mile. The point range for employment connections reflects this with a scoring range from zero to five. By contrast, a project either meets or does not meet the local connections criterion and therefore receives zero or twenty points.

Table 8-1: Ranking Criteria

Criteria	Description	Maximum Score
Gap Closure in Network	Projects that complete a continuous connection between cities and communities close will have higher scores. Projects will be scored with either a zero or twenty-five (25).	25
Collisions/Safety	This ranking is based on available collision data identifying corridors with high incidents of bicycle related collisions (2004-2009) within a quarter mile buffer of the proposed improvement. Projects will be scored on a scaled ranking from zero to twenty-five (25) based on number of collisions per mile. Projects that address areas with the highest number of collisions are scored with a twenty-five (25).	25
Local Connections	Projects that contribute to a continuous connection between cities communities will receive higher scores. Projects will be scored by either a zero or twenty (20).	20
Project Feasibility	Project cost affects the ability to implement a facility. Projects that are lower cost will have higher scores. Projects will be scored on a scaled ranking from zero to fifteen (15) based on the Plan developed cost estimates.	15
Activity Center Connections	Employment, community and multimodal center connections	15
Employment Centers	Projects that connect to employment centers will receive higher scores. Scoring for this criterion will be based on the US Census American Community Survey employment data (2008). Projects will be scored on a scaled ranking from zero to five based on number of employees within one mile.	(5)
Community Centers	Projects that connect to activity centers such as schools, shopping centers or recreational areas will score higher. Projects will be scored with either a zero or five.	(5)
Multimodal Centers	Projects that connect to multimodal centers including park-and-ride lots, rail, bus, aviation and maritime traffic will score higher. Projects will be scored by either a zero or five.	(5)
<i>Maximum Score</i>		100

8.1.2. Bikeway Tier Description

After projects were scored based on how they satisfy each criterion, projects were then categorized into short-term, mid-term and long-term phase tiers, as shown in Table 8-2. The tiers are intended to organize the projects to facilitate implementation. Tier 1 project are those that closely meet the countywide goals and have the highest potential and are intended for implementation within five years. Tier 2 projects are intended for mid-term implementation, within the next ten years. Tier 3 projects have long-term potential and are intended for implementation within the next twenty years.

Table 8-2: Project Phasing Tiers

Tier	Overall Score	Description
Tier 1	70 and higher	Tier 1 projects have the highest potential and are intended for implementation within 1-5 years. These projects are high priority and identified in Section 8.1.6.
Tier 2	20-69	Tier 2 projects intended for implementation within 6-10 years.
Tier 3	0-20	Tier 3 projects are projects not currently ready to be implemented but will be included as long-term potential projects over the next 11-20 years.

Appendix D lists all the bikeway projects by rank and tier.

8.1.3. Bikeway Cost Assumptions

Table 8-3 presents per mile bikeway cost estimates based on standard quantities of construction items. Because this is a planning level document, estimated costs do not consider project-specific factors such as intensive grading, landscaping, intersection modifications and right-of-way acquisition. However, a number of project specific costs were used when member agencies were able to provide the data.

Table 8-3: Bikeway Cost Assumptions Per Mile

Item	Quantity	Units	Unit Cost	Total
Class 3 Bike Route				
Bike Route Sign/Wayfinding ¹	10	EA	\$ 300	\$ 3,000
Total Cost Per Mile				\$ 3,000
Class 3 Bike Route with Shared Lane Markings (Applied to Bicycle Boulevard projects)				
Bike Route Sign/Wayfinding	10	EA	\$ 300	\$ 3,000
Shared Lane Markings ²	20	EA	\$ 250	\$ 5,000
Total Cost Per Mile				\$ 8,000
Class 2 Bike Lanes				
Bike Lane Sign/Wayfinding	10	EA	\$ 300	\$ 3,000
Striping Removal	10,560	LF	\$ 1.25	\$ 13,200
Striping and Stenciling	10,560	LF	\$ 2.50	\$ 26,400
Total Cost Per Mile				\$ 43,600
Class 1 Shared Use Path - 10' paved, 2' shoulders				
Wayfinding	4	EA	\$ 300	\$ 1,200
Clear and Grub	73,920	SF	\$ 1.00	\$ 73,920
Asphalt Concrete Pavement	52,800	SF	\$ 8.00	\$ 422,400
Decomposed Granite Shoulders	21,120	SF	\$ 5.00	\$ 105,600
Striping ³	15,840	LF	\$ 2.50	\$ 39,600
Total Cost Per Mile				\$ 642,720

¹ Assumes five signs per mile in each direction.

² Assumes approximately one shared lane marking per 500 feet in each direction.

³ Includes center stripe and striping along path edges.

8.1.4. Bikeway Cost by Jurisdiction and Improvement Type

Implementation of the bikeway network identified in this plan would cost approximately \$115 million dollars. Table 8-5, on the following page, presents recommended bikeway network cost by jurisdiction and bikeway classification and shows Class 1 pathways costs make up 70 percent, Class 2 bike lanes make up 15 percent, and Class 3 make up 15 percent of the total bike network cost. Class 3 projects include the Highway 68 bridge widening at the Salinas River, which is estimated to cost approximately \$15.8 million and will include a Class 3 bicycle route.

8.1.5. Bikeway Cost by Tier

Using the planning level cost estimates described earlier, the recommended bikeway network will cost approximately \$117 million. Table 8-4 presents the cost estimates for each tier.

Table 8-4: Bikeway Cost by Tier

Tier	Cost Estimate
1	\$36,382,680
2	\$29,924,675
3	\$51,207,950
Total	\$117,515,305

Table 8-5: Bikeway Cost by Jurisdiction

Jurisdiction Class	Sum of Miles	Sum of Cost
County of Monterey		
1	34.92	\$46,328,900
2	187.64	\$11,404,120
3	172.93	\$519,200
County Total	391.08	\$58,252,220
Carmel by the Sea		
1	1.17	\$666,900
2	0.24	\$10,300
3	4.48	\$13,300
Carmel by the Sea Total	5.89	\$690,500
Del Rey Oaks		
2	3.33	\$143,000
Del Rey Oaks Total	3.33	\$143,000
Gonzales		
2	1.41	\$60,700
3	4.37	\$13,000
Gonzales Total	5.78	\$73,700
Greenfield		
2	5.86	\$252,200
3	2.66	\$8,000
Greenfield Total	8.52	\$260,200
King City		
2	7.27	\$312,500
3	2.74	\$8,300
King City Total	10.00	\$320,800
Marina		
1	0.50	\$297,600
2	17.31	\$2,827,600
Marina Total	17.81	\$3,125,200
Monterey		
1	1.07	\$641,000
2	7.02	\$301,930
3	9.08	\$27,400
BB	3.39	\$35,560
Monterey Total	20.56	\$1,005,890
Pacific Grove		
2	4.11	\$628,447
3	9.23	\$27,600
Pacific Grove Total	13.34	\$656,047
Salinas		
1	4.24	\$2,588,100
2	9.89	\$425,200
3	5.31	\$15,800
Salinas Total	19.44	\$3,029,100
Sand City		
1	0.82	\$534,200
2	0.67	\$28,700
3	0.85	\$2,500
Sand City Total	2.34	\$565,400
Seaside		
1	0.06	\$36,800
2	11.26	\$484,302
3	7.65	\$22,900
Seaside Total	18.98	\$544,002

Jurisdiction Class	Sum of Miles	Sum of Cost
Soledad		
2	2.76	\$118,800
Soledad Total	2.76	\$118,800
CA State Parks		
1	19.55	\$31,754,100
CA State Parks Total	19.55	\$31,754,100
Caltrans		
1	0.89	\$532,000
2	8.65	\$372,100
3	2.03	\$15,805,300
Caltrans Total	15.97	\$16,709,400
CSUMB		
2	5.80	\$249,546
BB	2.16	\$17,400
CSUMB Total	7.97	\$266,946
Grand Total	563.33	\$117,515,305

Table 8-6: Bikeway Costs by Class

Class	Miles	Cost Estimate
1	63.21	\$83,379,600
2	273.24	\$17,619,445
3	221.32	\$16,463,300*
Bicycle Boulevard	5.55	\$52,960
Total	563.33	\$117,515,305

* \$15.8 million estimated for the Highway 68 bridge widening that will include a Class 3 bicycle route.

8.1.6. Priority Bikeway Projects

All bikeway projects were scored and evaluated based on the criteria described in Section 8.1 and evaluated by Agency Staff, member agencies and Bicycle and Pedestrian Facilities Advisory Committee members. Table 8-7 presents the priority bikeway projects. A complete list of projects organized the rank and tier are presented in Appendix D.

Table 8-7: Priority Bikeway Projects

Rank	Name	Class	Start	End	Miles	Jurisdiction	Cost
1	Imjin Rd/12th St	2	Imjin Rd	Reservation Rd	2.72	Marina	\$2,200,000
2	Canyon del Rey Blvd	2	General Jim Moore Blvd	Hwy 68	0.76	Del Rey Oaks	\$32,500
3	Castroville Bicycle Path and Railroad Crossing	1	Axtell St	Castroville Blvd	0.31	County	\$5,995,000
4	Blanco Rd	2	Research Dr	Luther Way	5.16	County	\$221,880
5	Davis Rd	2	Blanco Rd	Rossi St	1.75	County	\$3,411,000
6	Blanco Rd	2	Luther Way	Abbott St	2.50	County	\$107,300
7	Broadway	2	Del Monte Blvd	Mescal St	1.58	Seaside	\$67,900
8	Hwy 68 Segment	2	Joselyn Canyon Rd	San Benancio Rd	8.17	Caltrans	\$351,300
9	Sanctuary Scenic Trail Segment 15	1	Moss Landing Rd	Elkhorn Bridge (N)	0.74	County	\$5,082,000
10	San Juan Grade Rd	2	Russell Rd	Boronda Rd	0.91	Salinas	\$39,200
10	San Juan Grade Rd	2	Herbert Rd	Rogge Rd	2.05	County	\$88,300
10	San Juan Grade Rd	3	Russell Rd	Rogge Rd	0.40	County	\$1,200
11	Gabilan Creek	1	Danbury St	Constitution Blvd	0.88	Salinas	\$569,300
12	Central Ave	2	Davis Rd	Hartnell College	0.45	Salinas	\$19,200
13	Hwy 68	2	San Benancio Rd	Salinas Creek Bridge (S)	4.40	County	\$189,300
14	Hatton Canyon Path	1	Carmel Valley Rd	Hwy 1	2.60	County	\$1,689,600
15	Aguajito Rd	3	Hwy 1	Monhollan Rd	2.53	County	\$7,600
16	Hwy 68 Bridge Widening at Salinas River Segment	3	Hwy 68	Salinas River	0.25	Caltrans	\$15,800,000
17	Ocean View	2	Asilomar Blvd	17 Mile Dr	2.31	Pacific Grove	\$99,100
18	General Jim Moore	2	Del Rey Oaks City Limit	Canyon Del Rey Blvd	0.43	Del Rey Oaks	\$18,300
19	Del Monte Blvd	2	Canyon del Rey Blvd	Broadway	0.20	Seaside	\$8,700
20	2nd Ave	2	3rd St	1st St	0.26	CSUMB	\$11,400
21	Sanctuary Scenic Trail Segment 4B	1	Tioga Ave	Monterey Peninsula Recreational Trail	0.42	Sand City	\$292,600
22	15th Ave	2	Bay View Ave	Rio Rd	0.80	County	\$34,300
23	Prunedale North Rd	2	San Miguel Canyon Rd	300' S of Hwy 156 overpass	1.06	County	\$45,700

8.2. Pedestrian Project Implementation

8.2.1. Pedestrian Project Prioritization

Agency staff and Bicycle and Pedestrian Committee members selected the top scoring Class 1 projects as priority pedestrian projects because they serve a wide range of users and can improve the pedestrian environment. Pedestrians are anticipated to use these paths for utilitarian and recreational purposes. Because these paths are physically separated from roadways, they are anticipated to be used by people of all ages and abilities.

8.2.2. Pedestrian Cost Assumptions

Table 8-8 presents pedestrian facility construction item costs used to calculate the cost of sidewalks and soft-surface walkways per mile. Lump sums are provided for pedestrian facilities that are primarily comprised of a few construction items.

Table 8-8: Pedestrian Facilities Cost Assumptions

Item	Quantity	Units	Unit Cost	Total
Sidewalk				
Concrete	21,120	SF	\$15	\$ 316,800
Curb Gutter	5,280	LF	\$35	\$ 184,800
Clearing Grubbing	21,120	SF	\$1.50	\$ 31,680
Curb Ramp	8	EA	\$4,000	\$ 32,000
Sidewalk per mile				\$ 570,000
Soft Surface Walkway				
Erosion Control	1	LS	\$12,000	\$ 12,000
Clearing Grubbing	1	LS	\$12,000	\$ 12,000
Earthwork	1	LS	\$20,000	\$ 20,000
Aggregate Base	1,030	TON	\$50	\$ 51,500
Decomposed Granite	700	TON	\$95	\$ 66,500
Header Board	14,600	LF	\$8	\$ 116,800
Driveway Modification	1,080	SF	\$85	\$ 91,800
Tree/Stump Removal	40	EA	\$600	\$ 24,000
Tree Replacement	1	LS	\$65,000	\$ 65,000
Soft Surface Walkway per mile				\$ 460,000
Crosswalk	1	EA	\$1,000	\$ 1,000
Raised Textured Crosswalk	480	SF	\$15	\$ 7,200
Traffic Signal Reconfiguration	1	EA	\$250,000	\$ 250,000
Pre Fabricated Bridge	2,400	SF	\$150	\$ 360,000
Renovate Bridge	2,400	SF	\$75	\$ 180,000
Maintenance (resurfacing)	1	MI	\$200,000	\$ 200,000
Pedestrian Amenities				
Lighting	10	EA	\$5,000	\$ 50,000
Bench	2	EA	\$1,000	\$ 2,000
Trash Receptacle	2	EA	\$800	\$ 1,600
Pedestrian Amenities per mile				\$ 53,600
Bathroom in wooden enclosure	1	EA	\$8,000	\$ 8,000
Pedestrian Amenities per mile w/ bathroom				\$ 61,600

8.2.3. Pedestrian Project Cost by Jurisdiction and Improvement Type

Construction cost of the pedestrian facilities submitted is estimated at \$74 million dollars. This amount does not include additional costs associated with construction, including administration, design, engineering, mobilization or traffic control. Table 8-9 lists improvement types and costs by jurisdiction. Sidewalk construction makes up 72 percent of pedestrian facilities cost, as shown in Table 8-10.

Table 8-9: Pedestrian Facilities Cost by Jurisdiction

Jurisdiction	Improvement	Sum of Miles	Sum of Cost
County of Monterey			
	Intersection		\$2,034,000
	Sidewalk	5.28	\$32,602,000
County Total		5.28	\$34,636,000
Carmel by the Sea			
	Bridge		\$540,000
	Crossing		\$387,600
	Intersection		\$114,000
	Path	7.16	\$3,159,300*
	Sidewalk	2.59	\$1,476,300
Carmel Total		9.75	\$5,677,200
Gonzales			
	Amenities	0.07	\$90,000
	Intersection		\$6,030,000
	Path	0.23	\$300,000
	Sidewalk		\$3,500,000
Gonzales Total		0.30	\$9,920,000
King City			
	Crossing		\$250,000
	Intersection		NA
	Sidewalk	2.25	\$1,282,500
King City Total		2.25	\$1,532,500
Marina			
	Crossing		\$96,900
	Intersection		\$4,000
	Sidewalk	6.43	\$3,665,100
Marina Total		6.43	\$3,766,000
Monterey			
	Crossing		\$1,060,000
	Intersection		\$3,250,000
	Sidewalk	2.60	\$2,921,200
Monterey Total		2.60	\$7,231,200

Jurisdiction	Improvement	Sum of Miles	Sum of Cost
Pacific Grove			
	Crossing		\$740,000
	Intersection		\$1,375,000
	Maintenance		\$100,000
	School	0.03	\$50,000
	Sidewalk	0.63	\$900,000
Pacific Grove Total		0.66	\$3,165,000
Salinas			
	Amenities		\$220,000
	Crossing		\$1,439,400
	Intersection		\$600,000
	Planning		\$20,000
	Program		\$270,000
	Sidewalk	0.53	\$1,647,000
Salinas Total		0.53	\$4,196,400
Sand City			
	Amenities	1.27	\$50,000
Sand City Total		1.27	\$50,000
Seaside			
	Crossing		\$63,200
	Intersection		\$54,200
	Sidewalk	0.41	\$108,300
Seaside Total		0.41	\$225,700
CSUMB			
	Path	0.35	\$199,500
	Sidewalk	4.46	\$2,542,200
CSUMB Total		4.81	\$2,741,700
Grand Total		34.29	\$73,141,700

*Cost does not include Canyon/Flanders/Carmel Hills path, which is accounted for in the bikeways project list.

Table 8-10: Costs by Improvement

Improvement Type	Sum of Mileage	Sum of Cost
Amenities	1.34	\$360,000
Bridge		\$540,000
Crossing		\$4,037,100
Intersection		\$13,461,200
Maintenance		\$100,000
Path	7.74	\$3,658,800*
Planning		\$20,000
Program		\$270,000
School	0.03	\$50,000
Sidewalk	25.18	\$50,644,600
Total	34.29	\$73,141,700

* Does not include Canyon/Flanders/Carmel Hill path cost, which is accounted for in the bikeways project list.

8.2.4. Priority Pedestrian Projects

Table 8-11 lists the top five pedestrian priority projects, which are also the top scoring Class 1 multi-use path projects when using the bikeway scoring criteria. Agency staff and Bicycle and Pedestrian Committee members prioritized the top scoring Class 1 projects because they serve the widest range of users.

The projects are listed based on how well they fill gaps in the existing network, connect to community destinations and employment centers, and how well they address safety concerns. The top priority project, Castroville Path and Railroad Crossing fills a critical gap separating the residents of Castroville from the existing Castroville path along Castroville Boulevard, which leads to North Monterey High School. In addition, this project includes facilities to control pedestrian crossings of the railroad tracks.

Table 8-11: Pedestrian Priority Projects

Project	Class	Start	End	Miles	Jurisdiction	Cost
Castroville Path and Railroad Crossing	1	Axtell St	Castroville Blvd	0.31	County	\$5,995,000
Sanctuary Scenic Trail 15	1	Moss Landing Rd	Elkhorn Bridge (N)	0.74	County	\$5,082,000
Gabilan Creek Path	1	Danbury St	Constitution Blvd	0.88	Salinas	\$569,300
Hatton Canyon Path	1	Carmel Valley Rd	Hwy 1	2.60	County	\$1,689,600
Sanctuary Scenic Trail Segment 4B	1	Tioga Ave	Monterey Peninsula Recreational Trail	0.42	Sand City	\$292,600

* Carmel residents are the primary beneficiaries of Hatton Canyon Path, which runs along Highway 1 in County jurisdiction.

8.2.5. Priority Project Summary

The highest priority projects are estimated to cost \$48million as shown in Table 8-12.

Table 8-12: Priority Project Costs

Project Type	Cost Estimate
Priority Bikeways	\$36,282,680
Priority Pedestrian Projects	\$13,628,500
Total	\$47,752,280*

* Gabilan Creek and Hatton Canyon Paths are both bicycle and pedestrian priority projects and their costs are counted only once in the total cost calculation line.

9. Funding

The Agency administers two funding sources for bicycle and pedestrian projects in Monterey County: Transportation Development Act Article 3 and the Bicycle Protection Program. Transportation Development Act and Bicycle Protection Program funds are just two of many funding sources available for bicycle and pedestrian projects. To implement the projects recommended in this Plan, local cities and the County will need to draw from many different funding sources. This chapter provides implementing agencies with a list of potential sources to fund bicycle and pedestrian projects and programs.

Bicycle and pedestrian funding is administered at all levels of government. This chapter begins with explaining the current state of federally-administered funding and the anticipated new transportation bill, which influences State, regional and local funding. **Table 9-1** lists the funding sources and summarizes important funding source components, such as funding amount available, application deadlines and eligible applicants.

Given the countywide scope of this Plan, this chapter provides a menu of potential funding sources intended to provide a reference for implementing agencies but does not identify a funding strategy for each project.

9.1. Federal

SAFETEA-LU, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, is the primary federal funding source for bicycle and pedestrian projects. SAFETEA-LU is the fourth iteration of the transportation vision established by the Intermodal Surface Transportation Efficiency Act (1991). Also known as the federal transportation bill, Congress passed the \$286.5 billion SAFETEA-LU bill in 2005. SAFETEA-LU expired in 2009, at which time Congress approved extending funds through 2010. When the next multi-year federal transportation bill is reauthorized, funding available for bicycle and pedestrian projects is likely to change. Historically, these modes have received larger allocations with each new multi-year transportation bill.

The Federal Highway Administration (FHWA) is charged with obligating transportation funding and provides bicycle and pedestrian funding through seven programs:

- American Recovery and Reinvestment Act
- Congestion Mitigation and Air Quality Improvement Program
- Surface Transportation Program set aside for safety
- Surface Transportation Program set aside for transportation enhancements
- Safe Routes to School and Non-motorized Transportation Pilot Program
- Regional Trails Program

Figure 9-1 presents the total amount obligated to the programs listed above since 2000. The programs listed above are not the sole sources for bicycle and pedestrian funding. Larger highway projects paid for through other funding streams can include bicycle and pedestrian facilities, which are not accounted for in **Figure 9-1**.

Table 9-1 lists the funding sources and summarizes important funding source components, such as funding amount available, application deadlines and eligible applicants.

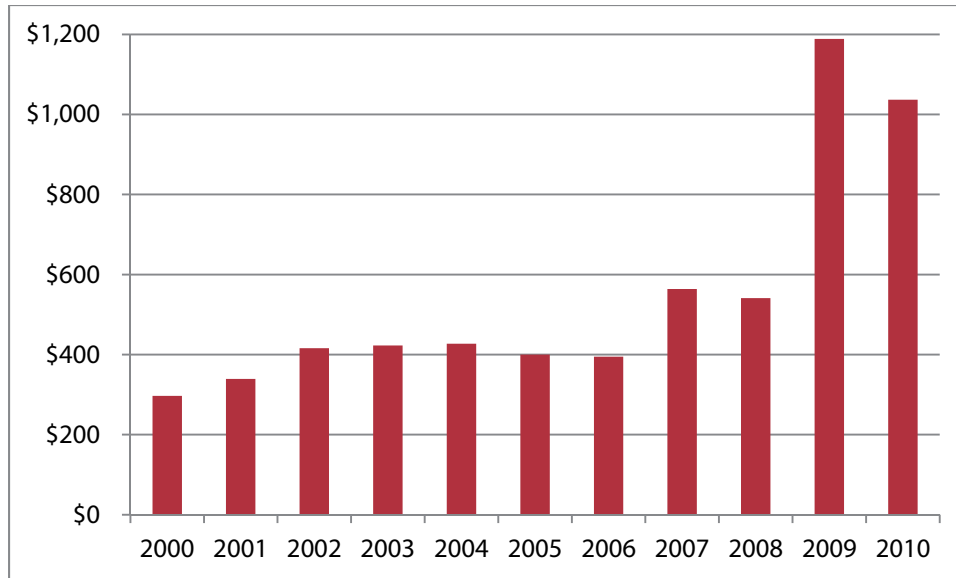


Figure 9-1: Federal Obligations for Bicycle and Pedestrian Projects in Millions (Source: FHWA)

9.2. State

After the FHWA obligates funds for bicycle and pedestrian projects, it allocates those funds to state agencies responsible for fund administration. Caltrans, the State Resources Agency, and regional planning agencies administer bicycle and pedestrian funding in California. Figure 9-2 shows how Federal transportation funding generally flows to State and regional agencies. Most, but not all of these funding programs emphasize transportation modes and purposes that reduce auto trips and provide inter-modal connections. SAFETEA-LU programs require local matches between zero percent and 20 percent. SAFETEA-LU funds primarily capital improvements and safety and education programs that relate to the surface transportation system.

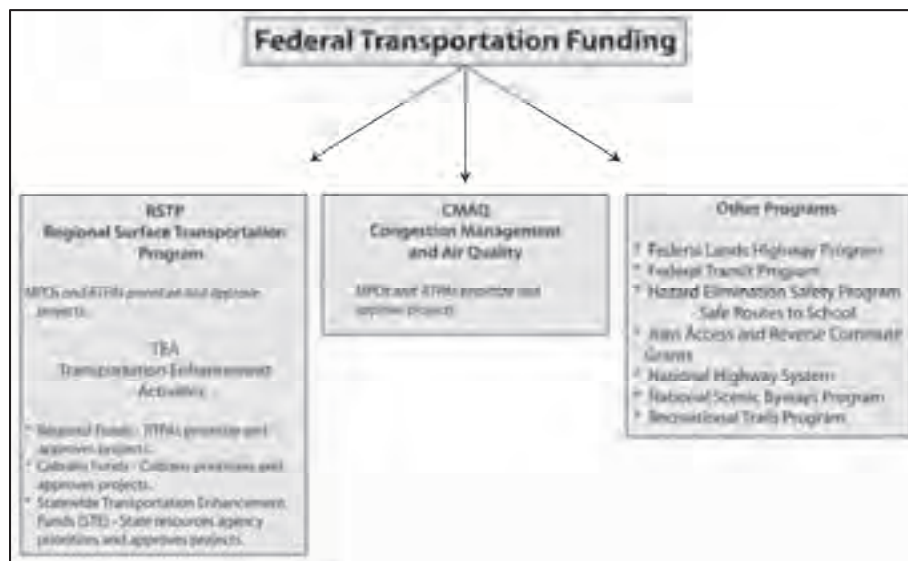


Figure 9-2: Transportation Funding Flow Chart

Figure 9-3 shows the amount of bicycle and pedestrian funds spent in California since 2000. In addition to federally obligated funds, California also provides competitive grant opportunities through the Bicycle Transportation Account, State Coastal Conservancy and a Safe Routes to School Program separate from that at the federal level.

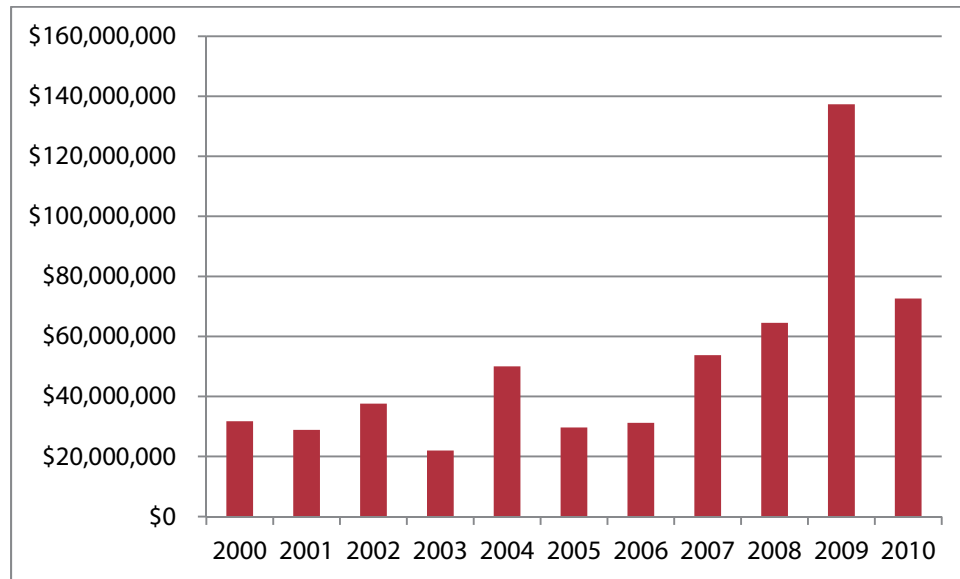


Figure 9-3: California Spending on Bicycle and Pedestrian Projects (Source: FHWA)

9.3. Regional

9.3.1. Regional Surface Transportation Program Funds

The Agency administers Regional Surface Transportation Program funds, which was established by the State of California to utilize federal Surface Transportation Program funds for a wide variety of transportation projects. The State allows the Agency to exchange these federal funds for state funds to maximize the ability of local public works departments to use the funds on a wide variety of projects including street and road maintenance. The Agency for Monterey County has the responsibility to distribute these exchanged funds to the local jurisdictions. The exchanged funds are distributed on a fair share and competitive basis. Annual apportionments of Regional Surface Transportation Program funds range from \$3 to \$4 million and may be used on on-street bicycle facilities.

9.3.2. Transportation Development Act

Transportation Development Act funds are derived from a ¼ cent general sales tax collected by the State and returned to Monterey County. Annual apportionments average around \$12,000,000. Two percent of Local Transportation Funds can be used for planning and constructing bicycle and pedestrian facilities.

9.3.3. Transportation Enhancements

Transportation Enhancement funds are for constructing transportation projects that are over and above the "normal" types of projects. The goal of program is to enhance the transportation system aesthetically and through support of non-motorized transportation. Projects may include but are not limited to streetscaping

and landscaping along roadways, bicycle facilities, and decorative sidewalks. Annual apportionments of Transportation Enhancement funds average around \$800,000.

9.4. Local

Local cities and the County of Monterey will design, construct and maintain the bicycle and pedestrian infrastructure. The countywide bicycle network and pedestrian facilities are drawn from the plans and proposed projects of local agencies. Local agencies should refer to the detailed project tables and detailed maps provided in Chapters 6 and 7 to identify proposed projects.

9.4.1. Construction

Cities and the County have limited funds available to construct and maintain all infrastructure, including bicycle and pedestrian projects. The Agency will use this Plan to prioritize funds from the Transportation Develop Act and Regional Surface Transportation Program. Many local implementing agencies may also apply for grant funding to construct bicycle and pedestrian facilities. Maximum grant awards for bicycle and pedestrian projects tend to be low—ranging up to a million dollars. Cities and the County may also consider funding bicycle and pedestrian infrastructure identified in this Plan as part of conditions of development, based on the impact the development has on bicycle and pedestrian circulation. Pedestrian streetscape improvements can be codified in city design guidelines and constructed with new development or redevelopment.

Other local sources of construction funding include creating an assessment district or business improvement district to fund construction and maintenance costs.

9.4.2. Maintenance

New bicycle and pedestrian projects will increase costs of operations and maintenance for local implementing agencies. Maintenance and operations for on-street bikeways can typically be rolled into existing street sweeping and repaving programs, but maintenance of sidewalks, pathways, and bridges will require significant additional resources.

Ideally, funding for maintenance and operations should be secured before local implementing agencies decide to construct new bicycle or pedestrian infrastructure. As grant funding is generally not available for on-going costs of maintenance and operations, local implementing agencies will need to identify local revenues to fund these activities. Local funding mechanisms for maintenance include development of a local assessment district, business improvement district, community facilities district, and requiring property owners to maintain adjacent sidewalks and pathways. Any funding source should include an automatic increase linked to inflation and bring in enough to support a reserve fund for larger maintenance needs, such as emergency repair, path resurfacing, or bridge replacement.

Local implementing agencies may also consider volunteer community-based maintenance and patrols for pathways, and adopt-a-trail programs. The costs of administering these programs should be weighed against the benefits of reduced maintenance and operations costs.

Table 9-1: Funding Sources

Source	Due Date	Admin Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Federally-Administered Funding									
Transportation, Community and System Preservation Program	Varies, generally January or February.	Federal Transit Administration	\$204 m nationally in 2009	20%	States, MPOs, local governments and tribal agencies	X	X	X	Because TCSP program is one of many programs authorized under SAFETEA-LU, current funding has only been extended through March 4 of 2011, and program officials are not currently accepting applications for 2011. In most years, Congress has identified projects to be selected for funding through the TCSP program. the Agency will need to work with AMBAG, Caltrans and Members of Congress to gain access to this funding. Online resource: http://www.fhwa.dot.gov/discretionary/tcsp2012info.htm
Rivers, Trails and Conservation Assistance Program	Aug 1 for the following fiscal year	National Service Parks	Program staff time is awarded.	Not applicable	Public agencies			X	RTCA staff provides technical assistance to communities so they can conserve rivers, preserve open space, and develop trails and greenways. Online resource: http://www.nps.gov/nrcr/programs/rtca/contactus/cu_apply.html
National Scenic Byways Program	Varies by agency	Federal Highway Administration	\$3 m annually nationwide	20%	State agencies	X	X	X	NSB funds may be used to fund on-street or off-street facilities, intersection improvements, user maps and other publications. Projects must be located along a National Scenic Byway. Highway 1 south of the City of Monterey is a designated Nation Scenic Byway. Online resource: http://www.bywaysonline.org/grants/
Paul S. Sarbanes Transit in Parks and Public Lands Program	Varies, Generally October.	Federal Transit Administration	\$27 m in 2009	Not available	Federal, State, local and tribal agencies that manage federal lands	X	X		Funds transportation modes that reduce congestion in parks and public lands. Online resource: http://www.fta.dot.gov/grants/13094_6106.html

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Source	Due Date	Admin Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
State-Administered Funding									
Bicycle Transportation Account	March (2011)	Caltrans	\$7.2 m	min. 10% local match on construction	Public agencies	X	X	X	Eligible projects must improve safety and convenience of bicycle commuters. In addition to construction and planning, funds may be used for right of way acquisition. Online resource: http://www.dot.ca.gov/hq/LocalPrograms/bta/btawebPage.htm
Federal Routes Safe to School	Mid-July	Caltrans	\$46 m	none	State, city, county, MPOs, RTPAs and other organizations that partner with one of the above.		X	X	Construction, education, encouragement and enforcement program to encourage walking and bicycling to school. Online resource: http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/srts.htm
California Routes Safe to School	Varies	Caltrans	\$24.5 m	10%	city, county		X	X	SR2S is primarily a construction program to enhance safety of pedestrian and bicycle facilities near schools. Online resource: http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/sr2s.htm
Recreational Trails Program	October	CA Dept. of Parks and Recreation	\$1.3 m in 2010	12%	Agencies and organizations that manage public lands	X	X	X	Funds can be used for acquisition of easements for trails from willing sellers. Online resource: http://www.parks.ca.gov/?page_id=24324
State Coastal Conservancy	Rolling	State Coastal Conservancy	Varies	None	Public agencies, non-profit organizations	X	X	X	Projects must be in accordance with Division 21 and meet the goals and objectives of the Conservancy's strategic plan. Online resource: http://scc.ca.gov/category/grants/
Community Based Transportation Planning	March (2011)	Caltrans	\$3 m	20%	MPO, RPTA, city, county		X		Eligible projects that exemplify livable community concepts including enhancing bicycle and pedestrian access. Online resource: http://www.dot.ca.gov/hq/tpp/grants.html

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Source	Due Date	Admin Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Land and Water Conservation Fund	March	NPS, CA Dept. of Parks and Recreation	\$2.3 m in CA in 2009	50% + 2-6% administrative surcharge	Cities, counties and districts authorized to operate, acquire, develop and maintain park and recreation facilities	X		X	Fund provides matching grants to state and local governments for the acquisition and development of land for outdoor recreation areas. Lands acquired through program must be retained in perpetuity for public recreational use. Individual project awards are not available. The Department of Parks and Recreation levies a surcharge for administering the funds. Online resource: http://parks.ca.gov/?Page_id=21360
Environmental Enhancement and Mitigation Program	October (2010)	California Natural Resources Agency	\$10 m	None	Federal, State, local agencies and NPO		X	X	EEPP funds projects in California, at an annual project average of \$250,000. Funds may be used for land acquisition. Online resource: http://resources.ca.gov/eem/
Petroleum Violation Escrow Account	Not Applicable	Caltrans	Varies annually	None	Local and regional agencies		X	X	Funds programs based on public transportation, computerized bus routing and ride sharing, home weatherization, energy assistance and building energy audits, highway and bridge maintenance, and reducing airport user fees. Interested local agencies should contact their State Legislator. Online resource: http://www.dot.ca.gov/hq/LocalPrograms/lam/prog_g/g22state.pdf
Office of Traffic Safety (OTS) Grants	January	Caltrans	Varies annually	None	Government agencies, state colleges, state universities, city, county, school district, fire department, public emergency service provider			X	Funds safety improvements to existing facilities, safety promotions including bicycle helmet giveaways and studies to improve traffic safety. Online resource: http://www.ots.ca.gov/Grants/Apply/default.asp

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Source	Due Date	Admin Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Community Development Block Grants	Varies between grants	U.S. Dept. of Housing and Urban Development (HUD)	\$42.8 m	Varies between grants	City, county	X	X	X	Funds local community development activities such as affordable housing, anti-poverty programs, and infrastructure development. Can be used to build sidewalks, recreational facilities. Online resource: http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs
River Parkways	Varies	California Natural Resources Agency	\$30 m		Public agencies and Non-profits	X	X	X	Projects must meet at least two of the following five statutory conditions: <ul style="list-style-type: none"> • Recreation • Habitat Protection • Flood Management • Conversion to River Parkways • Conservation and Interpretive Enhancement Online resource: http://resources.ca.gov/grant_programs.html#
Locally-Administered Funding									
Regional Surface Transportation Program	Varies	Caltrans, the Agency	Varies annually	Not applicable	Regional, local agencies	X	X		The Agency prioritizes and approves projects receiving RSTP funds.
Transportation Development Act Article 3 (2% of total TDA)	Jan.	the Agency	varies	None	City, county, joint powers agency	X	X		Projects must be included in either a detailed circulation element or plan included in a general plan or an adopted comprehensive bikeway plan and must be ready to implement within the next fiscal year. Online resource: http://www.tamcmonterey.org/programs/bikeped/related_prog.html
Mello-Roos Community Facilities Act	Not Applicable	City, county, special district, joint powers authority	Varies	Not Applicable	city, county, special district, school district, joint powers of authority		X	X	Property owners within the district are responsible for paying back the bonds. May include maintenance. Online resource: http://www.treasurer.ca.gov/cdiac/reporting/mello-roos/reportingguide.asp

Source	Due Date	Admin Agency	Annual Total	Matching Requirement	Eligible Applicants	Planning	Construction	Other	Comments
Other Funding Sources									
Bikes Belong Grant	Multiple dates throughout year.	Bikes Belong	Not Available	50% minimum	organizations and agencies		X	X	Bikes Belong provides grants for up to \$10,000 with a 50% match that recipients may use towards paths, bridges and parks. Online resource: http://www.bikesbelong.org/grants/apply-for-a-grant/how-to-apply-for-a-bikes-belong-grant/
Volunteer and Public-Private Partnerships	Not Applicable	City, county, joint powers authority	Varies	Not Applicable	Public agency, private industry, schools, community groups		X	X	Requires community-based initiative to implement improvements. Online resource: http://www.dot.ca.gov/hq/innovfinance/Public-Private%20Partnerships/PPP_main.html

* Due dates are subject to change due to pending authorization of a new federal transportation bill.

9.5. Finance Plan

This section presents a 20 year financial plan based on the bicycle and pedestrian project cost estimates presented in Chapter 8 as well as typical funding sources. Table 9-2 presents a summary of costs organized by phasing tier and jurisdiction. The table also presents the likely funding sources by group – local, regional, State and Federal.

The funding source percentages applied is based on how typical bicycle and pedestrian projects are often funded in California. Communities may fund projects in different ways and the actual percentages of funding by source may differ.

Table 9-2: Phased Finance Plan by Jurisdiction (\$ millions)

Phase/Jurisdiction	Bike Projects Cost Estimates	Pedestrian Projects Cost Estimates *	Local - 10%	Regional - 15%	State - 25%	Federal - 50%
Priority/Short Term (5 year)	\$36.20	\$0.00	\$3.62	\$5.43	\$9.05	\$18.10
Caltrans	\$16.15	NA	NA	NA	\$4.09	\$8.08
CSUMB	\$0.01	NA	NA	NA	\$0.00	\$0.01
CA State Parks	\$0.00	NA	NA	NA	\$0.00	\$0.00
County of Monterey	\$16.87	NA	\$1.69	\$2.53	\$4.22	\$844
Carmel by the Sea	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
Del Rey Oaks	\$0.05	NA	\$0.01	\$0.01	\$0.01	\$0.03
Gonzales	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
Greenfield	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
King City	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
Marina	\$2.20	NA	\$0.22	\$0.33	\$0.55	\$1.10
Monterey	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
Pacific Grove	\$0.10	NA	\$0.01	\$0.01	\$0.02	\$0.05
Salinas	\$0.63	NA	\$0.06	\$0.09	\$0.16	\$0.31
Sand City	\$0.29	NA	\$0.03	\$0.04	\$0.07	\$0.15
Seaside	\$0.08	NA	\$0.01	\$0.01	\$0.02	\$0.04
Soledad	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
Mid Term (10 year)	\$29.92	\$36.60	\$2.99	\$4.49	\$7.48	\$14.96
Caltrans	\$0.54	NA	NA	NA	\$0.13	\$0.27
CSUMB	\$0.10	\$1.37	NA	NA	\$0.37	\$0.74
CA State Parks	\$1.23	NA	NA	NA	\$0.31	\$0.61
County of Monterey	\$22.00	\$69.27	\$2.89	\$13.69	\$22.82	\$45.63
Carmel by the Sea	\$0.02	\$11.35	\$0.12	\$1.71	\$2.84	\$5.69
Del Rey Oaks	\$0.09	NA	\$0.01	\$0.01	\$0.02	\$0.05
Gonzales	\$0.03	\$19.84	\$0.20	\$2.98	\$4.97	\$9.94

Phase/Jurisdiction	Bike Projects Cost Estimates	Pedestrian Projects Cost Estimates *	Local - 10%	Regional - 15%	State - 25%	Federal - 50%
Greenfield	\$0.23	NA	\$0.02	\$0.04	\$0.06	\$0.12
King City	\$0.19	\$3.07	\$0.05	\$0.49	\$0.81	\$1.63
Marina	\$0.73	\$7.53	\$0.15	\$1.24	\$2.07	\$4.13
Monterey	\$1.01	\$14.46	\$0.25	\$2.32	\$3.87	\$7.73
Pacific Grove	\$0.56	\$6.33	\$0.12	\$1.03	\$1.72	\$3.44
Salinas	\$2.40	\$8.39	\$0.32	\$1.62	\$2.70	\$5.40
Sand City	\$0.27	\$0.10	\$0.03	\$0.06	\$0.09	\$0.19
Seaside	\$0.42	\$0.45	\$0.05	\$0.13	\$0.22	\$0.44
Soledad	\$0.10	NA	\$0.01	\$0.01	\$0.02	\$0.05
Long Term (20 year)	\$51.21	\$36.60	\$5.12	\$7.68	\$12.80	\$25.61
Caltrans	\$0.02	NA	NA	NA	\$0.01	\$0.01
CSUMB	\$0.15	\$5.48	NA	NA	\$1.41	\$2.82
CA State Parks	\$30.53	NA	NA	NA	\$7.63	\$15.26
County of Monterey	\$19.38	\$69.27	\$2.63	\$13.30	\$22.16	\$44.33
Carmel by the Sea	\$0.67	\$11.35	\$0.18	\$1.80	\$3.01	\$6.01
Del Rey Oaks	\$0.00	NA	\$0.00	\$0.00	\$0.00	\$0.00
Gonzales	\$0.04	\$19.84	\$0.20	\$2.98	\$4.97	\$9.94
Greenfield	\$0.03	NA	\$0.00	\$0.00	\$0.01	\$0.01
King City	\$0.13	\$3.07	\$0.04	\$0.48	\$0.80	\$1.60
Marina	\$0.19	\$7.53	\$0.09	\$1.16	\$1.93	\$3.86
Monterey	\$0.00	\$14.46	\$0.14	\$2.17	\$3.62	\$7.23
Pacific Grove	\$0.00	\$6.33	\$0.06	\$0.95	\$1.58	\$3.17
Salinas	\$0.00	\$8.39	\$0.08	\$1.26	\$2.10	\$4.20
Sand City	\$0.00	\$0.10	\$0.00	\$0.02	\$0.03	\$0.05
Seaside	\$0.04	\$0.45	\$0.01	\$0.07	\$0.12	\$0.25
Soledad	\$0.02	NA	\$0.00	\$0.00	\$0.01	\$0.01

Table 9-3 presents the estimated funds available for the recommended bicycle and pedestrian facilities over a 20 year period. The funding amounts are based on past experiences in Monterey County and are provided for reference. Of the available funding sources, only the Transportation Development Act (Article 3) sets a percentage (2%) for agencies to plan and construct bicycle and pedestrian facilities. As discussed on page 9-3, all Surface Transportation and Transportation Enhancements Program funds may be used for bicycle and pedestrian related projects. However, both programs provide agencies flexible use of funds. The Agency allocates a portion of Regional Surface Transportation Program funds to local agencies by formula and the remaining funds through competitive grants. Local agencies use discretion regarding the use of allocated funds, typically using funds for facility maintenance and grant matches.

Table 9-3: Historic Bicycle and Pedestrian Annual Funding Source Amounts in Monterey County (\$ millions)

Funding Source	Amount Programmed	Amount for Bike/Ped
Regional Surface Transportation Program	\$4.0	NA
Transportation Development Act	\$12.0	\$0.24
Transportation Enhancements	\$0.8	\$0.08

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Appendix A. Bicycle Design Guidelines

This appendix presents an overview of bicycle facility designs, based on appropriate California Manual of Uniform Traffic Control Devices (California MUTCD) and Highway Design Manuals, and supplemented by AASHTO and NACTO best practices. The purpose is to provide readers and project designers with an understanding of the facility types that are proposed in the Plan, and with specific treatments that are recommended or required.

The guidelines present standards and recommendations that specifically provide for consistency in the Monterey County, or where details are needed beyond what is provided by state and federal design standards. All projects must also meet state and federal design standards. Therefore, in addition to these Design Guidelines, engineers, planners and designers should also refer to the following documents and their subsequent updates when planning and designing bicycle and pedestrian facilities.

Signage in Monterey County is governed by the California MUTCD. As of January 21, 2010, the California Department of Transportation (Caltrans) has revised the California MUTCD 2010 to include FHWA's 2003 MUTCD Revision 2 dated December 21, 2007. FHWA has released the new 2009 MUTCD but it is not effective in California until Caltrans and the California Traffic Control Devices Committee (CTCDC) review it and incorporate the changes into California MUTCD through formal efforts. California has until January 15, 2012 to accomplish this task and a Draft 2011 MUTCD is currently under review. In the event that a specific treatment is not in the California MUTCD, it may be necessary to go through experimental testing procedures. Experimental testing is overseen by the California Traffic Control Devices Committee.

The following manuals, guides, policies, directives, and plans informed these design guidelines:

- California Manual on Uniform Traffic Control Devices, 2010 Update.
http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd2010.htm
- Manual on Uniform Traffic Control Devices (MUTCD), Federal Highway Administration.
<http://mutcd.fhwa.dot.gov/>
- Caltrans Policies and Directives. <http://www.dot.ca.gov/hq/traffops/signtech/signdel/policy.htm> including:
 - Traffic Operations Policy Directive 09-06 “Provide Bicycle and Motorcycle Detection on all new and modified approaches to traffic-actuated signals in the state of California.”
 - Caltrans Deputy Directive DD-64 “Complete Streets – Integrating the Transportation System.”
 - Caltrans Highway Design Manual. <http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm>
 - Caltrans Design Information Bulletins. <http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm> including:
 - DIB 80-01 Roundabouts

- DIB 82-03 Design Information Bulletin 82-03 “Pedestrian Accessibility Guidelines for Highway Projects”
 - Caltrans Standard Plans.
http://www.dot.ca.gov/hq/esc/oe/project_plans/HTM/06_plans_disclaim_US.htm
- ADA Accessibility Guidelines for Buildings and Facilities (ADAAG). <http://www.access-board.gov/adaag/html/adaag.htm>
- Revised Draft Guidelines for Accessible Public Rights-of-Way, Access Board. <http://www.access-board.gov/prowac/draft.htm>
- Guidelines for the Development of Bicycle Facilities, AASHTO. Guidelines for the Planning, Design, and Operations of Pedestrian Facilities, AASHTO. <https://bookstore.transportation.org/home.aspx>
- A Policy on Geometric Designs of Highways, AASHTO.
https://bookstore.transportation.org/Item_details.aspx?id=110
- National Association of City Transportation Officials Urban Bikeway Design Guide
<http://nacto.org/cities-for-cycling/design-guide/>

This appendix is not intended to replace existing state or national mandatory or advisory standards, nor the exercise of engineering judgment by licensed professionals.

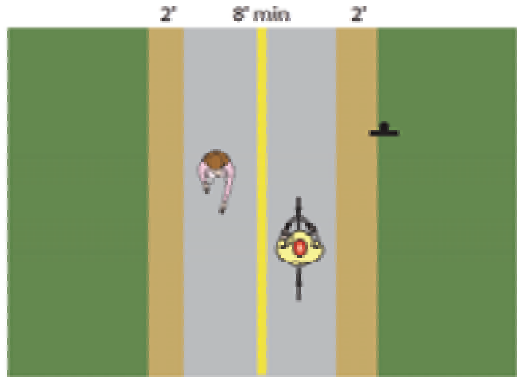
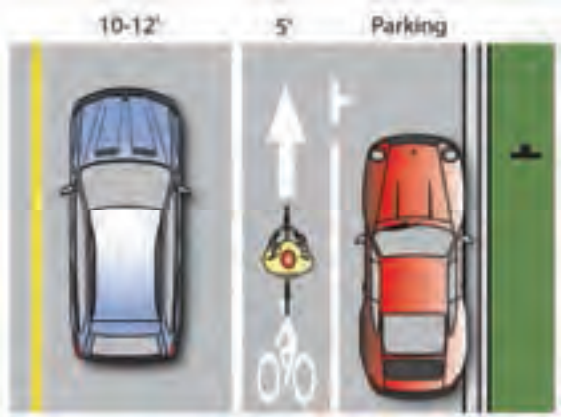
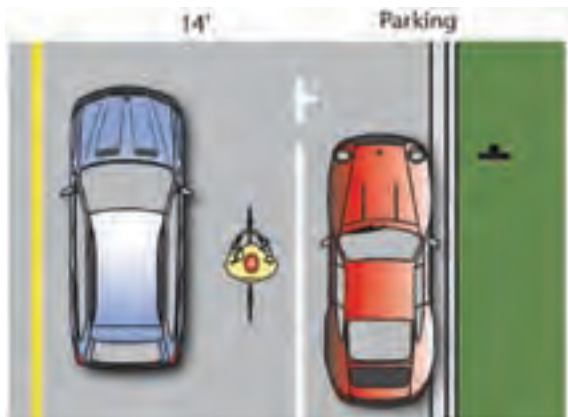
Cost estimates cited in the document reflect 2009 dollars and are included for reference only. All costs are for equipment and materials, and do not include labor. Actual costs to construct the facilities may vary depending on market fluctuations, design specifications, engineering requirements and availability of materials.

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A.1. Bikeway Classification

A.1.1. Bikeway Classification Overview

Discussion	Design Example
<p>Caltrans has defined three types of bikeways in Chapter 1000 of the Highway Design Manual: Class I/shared use path, Class II/Bike Lane, and Class III/Bike Route. This document uses the generic terms “shared use path”, “bike lane” and “bike route”.</p>	 <p style="text-align: center;">2' 8' min 2'</p>
<p>Design Summary</p> <p>Path Width:</p> <ul style="list-style-type: none"> • 8 feet is the minimum allowed for a two-way bicycle path and is only recommended for low traffic situations. • 10 feet is recommended in most situations and will be adequate for moderate to heavy use. • 12 feet is recommended for heavy use situations with high concentrations of multiple users such as joggers, bicyclists, rollerbladers and pedestrians. A separate track (5' minimum) can be provided for pedestrian use. <p>Bike Lane Width with Adjacent On-Street Parking: 5 feet minimum recommended when parking stalls are marked</p> <p>Bike Lane Width without Adjacent Parking: 4 feet minimum when no gutter is present (rural road sections) 5 feet minimum when adjacent to curb and gutter (3' more than the gutter pan width if the gutter pan is greater than 2')</p> <p>Recommended Width: 6 feet where right-of-way allows</p> <p>Lane Width for Bicycle Route With Wide Outside Lane: Fourteen feet (14') minimum is preferred. Fifteen feet (15') should be considered if heavy truck or bus traffic is present. Bike lanes should be considered on roadways with outside lanes wider than 15 feet.</p>	<p style="text-align: center;"><i>Class I Shared Use Bike Path</i></p>  <p style="text-align: center;">10-12' 5' Parking</p> <p style="text-align: center;"><i>Class II Bike Lane</i></p>  <p style="text-align: center;">14' Parking</p> <p style="text-align: center;"><i>Class III Bike Route</i></p>

Recommended Design

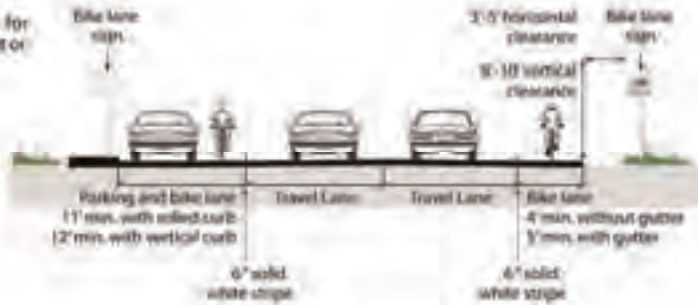
**CLASS I
Multi-Use Path**

Provides a completely separated right of way for the exclusive use of bicycles and pedestrians with crossflow minimized.



**CLASS II
Bike Lane**

Provides a striped lane for one-way bike travel on a street or highway.



**CLASS III
Bike Route
Signed Shared Roadway**

Provides for shared use with pedestrian or motor vehicle traffic, typically on lower volume roadways.



Guidance

- Caltrans Highway Design Manual (Chapter 1000: Sections 1003.1(1) and (2), 1003.2(1), 1003.3(1), and 1003.5)
- California MUTCD Chapter 9
- AASHTO Guide for the Development of Bicycle Facilities, Chapter 2

Cost

- Class I Path: \$500,000 - \$4,000,000 per mile
- Class II Bike Lane: \$5,000 - \$500,000 per mile
- Class III Bike Route: \$1,000 - \$300,000 per mile

A.2. Shared Use Paths

A shared use path (Class I) allows for two-way, off-street bicycle use and also may be used by pedestrians, skaters, wheelchair users, joggers and other non-motorized users. These facilities are frequently found in parks, along rivers, beaches, and in greenbelts or utility corridors where there are few conflicts with motorized vehicles. Class I facilities can also include amenities such as lighting, signage, and fencing (where appropriate).

General Design Practices

Both the California Highway Design Manual Chapter 1000 and the AASHTO Guide for the Development of Bicycle Facilities generally recommend against the development of shared use paths directly adjacent to roadways. Also known as “sidepaths,” these facilities create a situation where a portion of the bicycle traffic rides against the normal flow of motor vehicle traffic and can result in wrong-way riding when either entering or exiting the path. This can also result in an unsafe situation where motorists entering or crossing the roadway at intersections and driveways do not notice bicyclists coming from their right, as they are not expecting traffic coming from that direction. Stopped cross-street motor vehicle traffic or vehicles exiting side streets or driveways may frequently block path crossings. Even bicyclists coming from the left may also go unnoticed, especially when sight distances are poor.

Shared use paths may be considered along roadways under the following conditions:

- The path will generally be separated from all motor vehicle traffic.
- Bicycle and pedestrian use is anticipated to be high.
- In order to provide continuity with an existing path through a roadway corridor.
- In order to direct bicycle and pedestrian traffic away from freeway ramps
- The path can be terminated at each end onto streets with good bicycle facilities, or onto another well-designed path.
- There is adequate access to local cross-streets and other facilities along the route.
- The total cost of providing the proposed path is proportionate to the need.

As bicyclists gain experience and realize some of the advantages of riding on the roadway, many stop riding on paths adjacent to roadways. Bicyclists may also tend to prefer the roadway as pedestrian traffic on the bicycle path increases due to its location next to an urban roadway. When designing a bikeway network, the presence of a nearby or parallel path should not be used as a reason to not provide adequate shoulder or bicycle lane width on the roadway, as the on-street bicycle facility will generally be superior to the “sidepath” for experienced bicyclists and those who are cycling for transportation purposes. Bicycle lanes should be provided as an alternate (more transportation-oriented) facility whenever possible.

A.2.1. Pathway Design

Discussion

Ten-foot wide paved paths are usually best for accommodating all uses, and better for long-term maintenance and emergency vehicle access. When motor vehicles are driven on shared use paths, their wheels often will be at or very near the edges of the path. Since this can cause edge damage that, in turn, will reduce the effective operating width of the path, adequate edge support should be provided. Edge support can be either in the form of stabilized shoulders, a concrete “ribbon curb” along one or more edges of the path, or constructing additional pavement width or thickness. Constructing a typical pavement width of 10 feet, where right-of-way and other conditions permit, lessens the edge raveling problem.

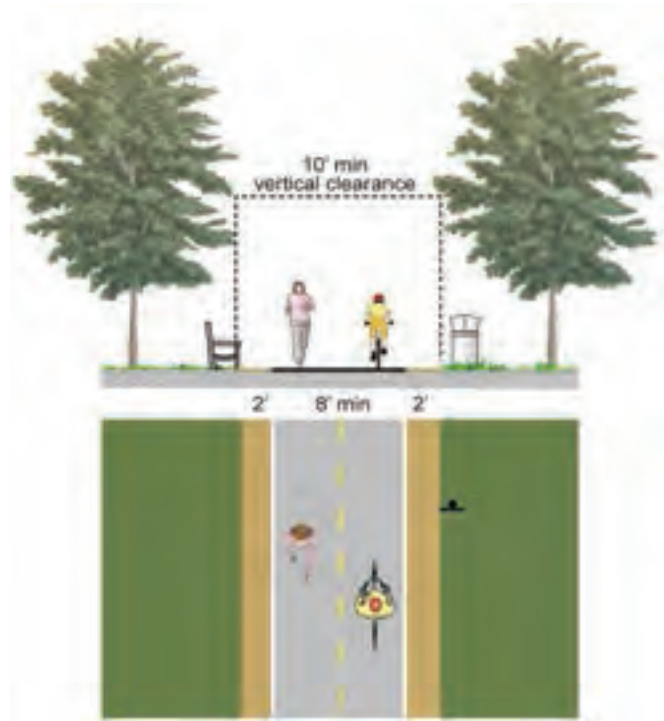
Surfacing and Path Construction

Thicker surfacing and a well-prepared sub-grade will reduce deformation over time and reduce long-term maintenance costs. At a minimum, off-street paths should be designed with sufficient surfacing structural depth for the sub-grade soil type to support maintenance and emergency vehicles.

Asphalt and concrete are the most common surface treatment for multi-use paths, however the material composition and construction methods used can have a significant determination on the longevity of the pathway. Surface selection should take place during the design process.

If trees are adjacent to the path, a root barrier should be installed along the path to avoid root uplift.

Recommended Design



Design Summary

Width

8 feet minimum paved path width (Caltrans). AASHTO recommends a paved width of 10 feet.

A 3 to 4-foot wide native surface path may be considered alongside shared-use paths for runners.

Paving

Hard, all-weather pavement surfaces are usually preferred over those of crushed aggregate, sand, clay or stabilized earth (AASHTO).

Separation From Highway

When two-way shared use paths are located adjacent to a roadway, wide separation between a shared use path and the adjacent highway is desirable. Bike paths closer than 5 feet from the edge of the shoulder shall include a physical barrier to prevent bicyclists from encroaching onto the highway (Caltrans). Where used, the barrier should be a minimum of 42 inches high (AASHTO).

Design Example



	Guidance
	<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000 Section 1003.1(1) and (2), and 1003.5) • AASHTO Guide for the Development of Bicycle Facilities, Chapter 2 • California MUTCD Chapter 9B. Signs Guidelines for Accessible Public Rights-of-Way
	Cost
	<ul style="list-style-type: none"> • Class I Path: \$500,000 - \$4,000,000 per mile (Note 1: This assumes an asphalt or concrete path. Note 2: The concrete option is likely to cost 50 percent more than a standard asphalt pathway.)

A.2.2. Bollards

Discussion

Minimize the use of bollards to avoid creating obstacles for bicyclists. Bollards, particularly solid bollards, have caused serious injury to bicyclists. The California MUTCD explains, "Such devices should be used only where extreme problems are encountered" (Section 9C.101). Instead, design the path entry and use signage to alert drivers that motor vehicles are prohibited.

Bollards are either fixed or removable and may be flexible or rigid. Flexible bollards and posts are designed to give way on impact and can be used instead of steel or solid posts. Bollards are typically installed using one of two methods: 1) The bollard is set into concrete footing in the ground; and 2) the bollard is attached to the surface by mechanical means (mechanical anchoring or chemical anchor).

Design Summary

- Where removable bollards are used, the top of the mount point should be flush with the path's surface so as not to create a hazard. Posts shall be permanently reflectorized for nighttime visibility and painted a bright color for improved daytime visibility.
- Striping an envelope around the post is recommended.
- When more than one post is used, an odd number of posts at 1.5m (5-foot) spacing is desirable. Wider spacing can allow entry by adult tricycles, wheelchair users and bicycles with trailers.

Guidance

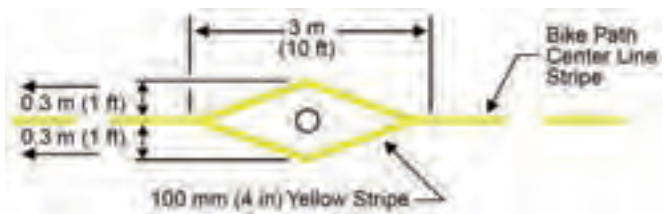
- MUTCD – California Supplement (Section 9C.101-CA)
- AASHTO Guide for the Development of Bicycle Facilities Chapter 2

Cost

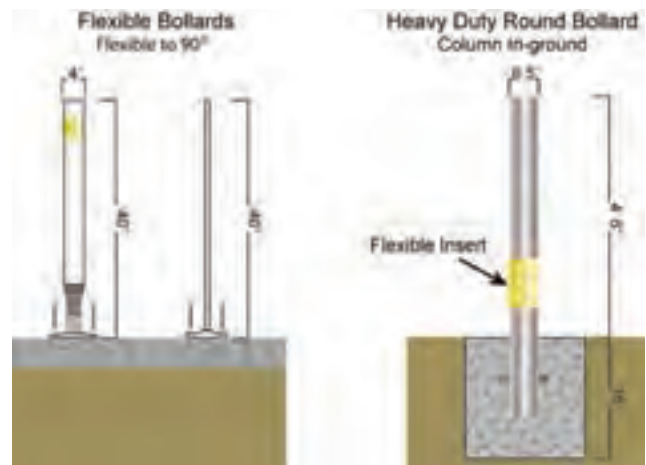
- Bollard, fixed: \$220 - \$800 each
- Bollard, removable: \$680 - \$940 each

Recommended Design

Barrier Post Striping



Flexible Bollards



Source: Lighthouse Bollards



Source: Andian Sales

Removable Bollards



Source: Reliance Foundry Co. Ltd

A.2.3. Recommended Path Signage

Discussion	Recommended Design
<p>Custom signage may be installed to guide trail users on proper trail etiquette (see graphic), especially in areas where conflicts are likely to occur. Because pedestrians typically travel at slower speeds than bicyclists, it is recommended that any signage direct pedestrians to walk on the right. Where signage is necessary, any of the three types of signage to the right are recommended as ways to encourage path users to yield to each other and to keep the paths clear.</p> <p>A centerline marking is particularly beneficial in the following circumstances: A) Where there is heavy use; B) On curves with restricted sight distance; and C) Where the path is unlighted and nighttime riding is expected.</p>	
Design Summary	 <p style="text-align: center;"><i>User Etiquette Signs along Multi-Use Paths</i></p>
Guidance	Cost
<ul style="list-style-type: none"> • MUTCD, Sections 9B.12 and 9C.03 • MUTCD – California Supplement, Section 9B.11 and 9C.03 • AASHTO Guide for the Development of Bicycle Facilities, Chapter 2 	<ul style="list-style-type: none"> • Signs, trail regulation: \$150 each • Signs, trail wayfinding / information: \$500 - \$2,000 each

A.3. Pathway Crossing

Shared use paths can intersect with roadways at midblock locations, or as part of a roadway-roadway intersection. Common issues at intersections of shared use paths and roadways include:

- Bicyclists entering or exiting the path may travel against motor vehicle traffic;
- Motorists crossing the shared use path at driveways and intersections may not notice path users, particularly path users coming from the right;
- Stopped motor vehicle traffic or vehicles exiting side streets or driveways may block the path; and
- Motorists may not expect or be able to yield to fast-moving bicyclists at the intersection.

Treatments

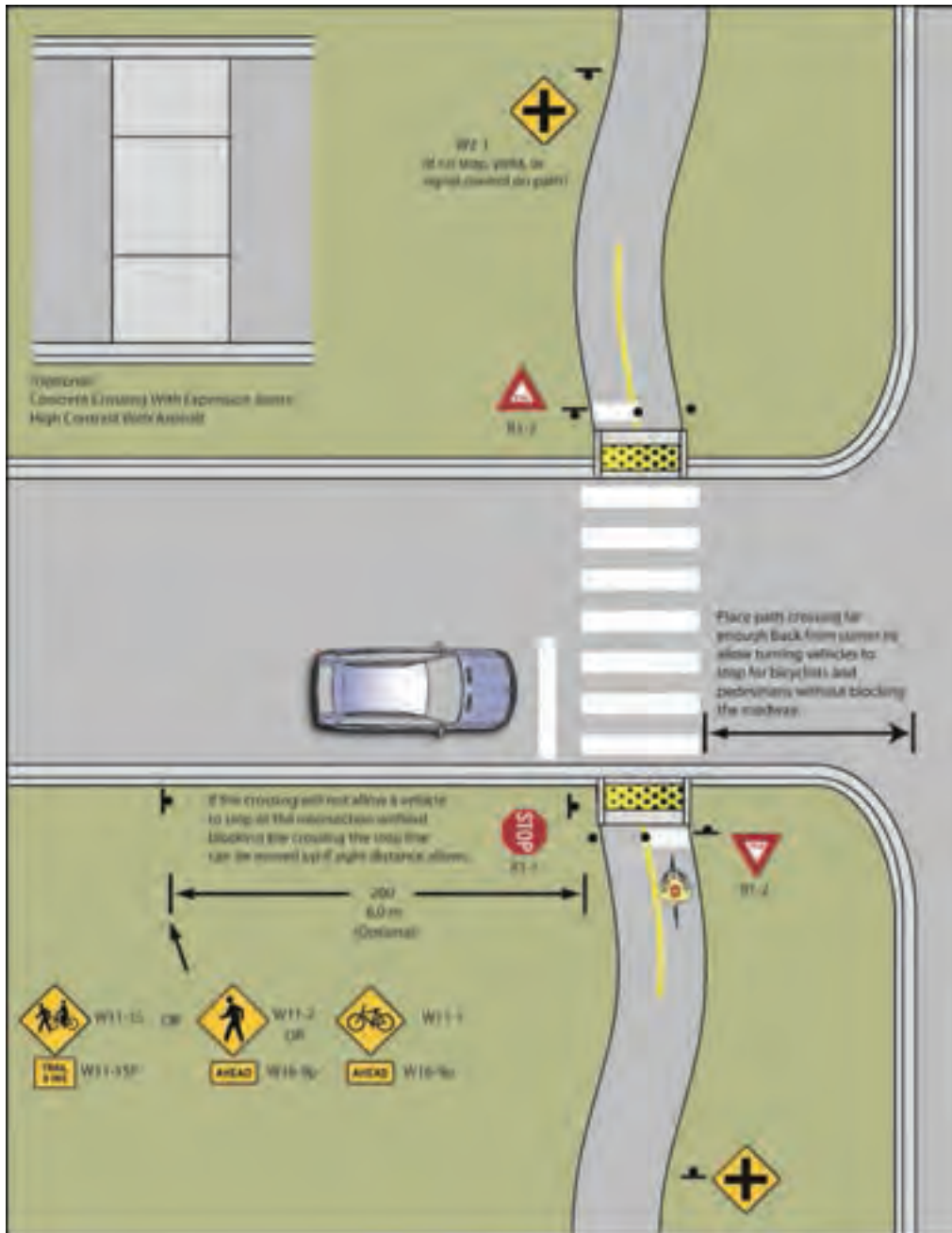
Bicycle and pedestrian pathway designers and traffic engineers generally have four options for designing multi-use pathway crossings. These include:

- Option 1- Reroute to the nearest at-grade controlled intersection crossing;
- Option 2- Create a new at-grade midblock crossing with traffic controls where the pathway intersects with the roadway;
- Option 3- Create a new unprotected midblock crossing where the pathway intersects with the roadway; and
- Option 4- Create a grade-separated undercrossing or overcrossing of the roadway where the pathway intersects the roadway.



A.3.1. Path Crossing at Intersection

Discussion	Design Summary
<p>The evaluation of a roadway crossing involves analysis of vehicular traffic and path user travel patterns, including speeds, street width, traffic volumes (average daily traffic, peak hour traffic), line of sight, and trail user profile (age distribution and destinations).</p> <p>When engineering judgment determines that the visibility of the intersection is limited on the shared-use path approach, Intersection Warning signs should be used.</p>	<p>A path should be routed to a signalized intersection if the path would cross a major arterial with a high ADT within 350 feet of a signalized intersection.</p> <p>Signage Intersection Warning (W2-1 through W2-5) signs may be used on a roadway, street, or shared-use path in advance of an intersection to indicate the presence of an intersection and the possibility of turning or entering traffic. A trail-sized stop sign (R1-1) should be placed about 5 feet before the intersection.</p> <p>Traffic Calming Reducing the speed of the conflicting motor vehicle traffic should be considered. Options may include: transverse rumble strips approaching the trail crossing or sinusoidal speed humps.</p> <p>Crosswalk Markings Colored and/or high visibility crosswalks should be considered.</p> <p>Path Speed Control A chicane, or swerve in multi-use path approaching the crossing is recommended to slow bicyclist speed. Path users traveling in different directions should be separated either with physical separation (bollard or raised median) or a centerline. If a centerline is used, it should be striped for the last 100 feet of the approach.</p>

Recommended Design



Recommended "Typical" At-Grade Crossing at an Intersection Where Trail is Adjacent to a Road

Design Example	Recommended Design (Continued)
 <p> <i>Typical “at grade” roadway crossing. Source: PBIC Image Library Photographer: Danny McCullough</i> </p>	 <p> Barricade with sign: Pedestrians and Bikes Use Crosswalk (R95, R96, R96B) </p> <p> Basic Criteria: Signalized Intersection with crosswalk within 350' of path¹ Crossing Major Arterial with high ADT (See ADT vs Ped plot)² </p> <p> Sources: 1. California MUTCD, 2006 2. Investigation of Exposure Based Accident Areas: Crosswalks, Local Street, and Arterials: Knoblauch, 1987 </p>
<p>Guidance</p>	
<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000 Section 1003.1(4)) • MUTCD – California Supplement, Part 9 • AASHTO Guide for the Development of Bicycle Facilities and “A Policy on the Geometric Design of Highways and Streets” • FHWA-RD-87-038 Investigation of Exposure-Based Pedestrian Accident Areas: Crosswalks, Sidewalks, Local Streets, and Major Arterials. 	
<p>Cost</p>	
<ul style="list-style-type: none"> • Crosswalk, Transverse (parallel) Lines: \$320 - \$550 each • Crosswalk, Thermoplastic: \$6 per square foot • Stop bar: \$210 each • Stop Limit Bars / Yield Teeth: \$210 - \$530 each • Stop Pavement Markings: \$420 each • Curb Ramps, Retrofit (diagonal, per corner): \$800 – 5,340 each • Curb Ramps, Retrofit (perpendicular, per corner): \$5,340 - \$10,000 each • Signs, High-Visibility: \$430 each • Bollard, fixed: \$220 - \$800 each • Bollard, removable: \$680 - \$940 each 	

Recommended “Typical” At-Grade Crossing of a Major Arterial at an Intersection Where Trail is Within 350 Feet of a Roadway Intersection

A.3.2. Uncontrolled Mid-Block Crossing

Discussion

The table on the following page is a summary for implementing at-grade roadway crossings in Monterey County. The number one (1) indicates a ladder style crosswalk with appropriate signage is warranted. (1/1+) indicates the crossing warrants enhanced treatments such as flashing beacons, or in-pavement flashers. (1+/3) indicates Pedestrian Light Control Activated (Pelican), or Hawk signals should be considered.

Design Summary

Placement

Mid-block crosswalks should be installed where there is a significant demand for crossing and no nearby existing crosswalks.

Yield Lines

If yield lines are used for vehicles, they shall be placed 20 to 50 feet in advance of the nearest crosswalk line to indicate the point at which the yield is intended or required to be made and 'Yield Here to Pedestrians' signs shall be placed adjacent to the yield line. Where traffic is not heavy, stop or yield signs for pedestrians and bicyclists may suffice.

Warning Signs

The Bicycle Warning (W11-1) sign alerts the road user to unexpected entries into the roadway by bicyclists, and other crossing activities that might cause conflicts.

Pavement Markings

A ladder crosswalk should be used. Warning markings on the path and roadway should be installed.

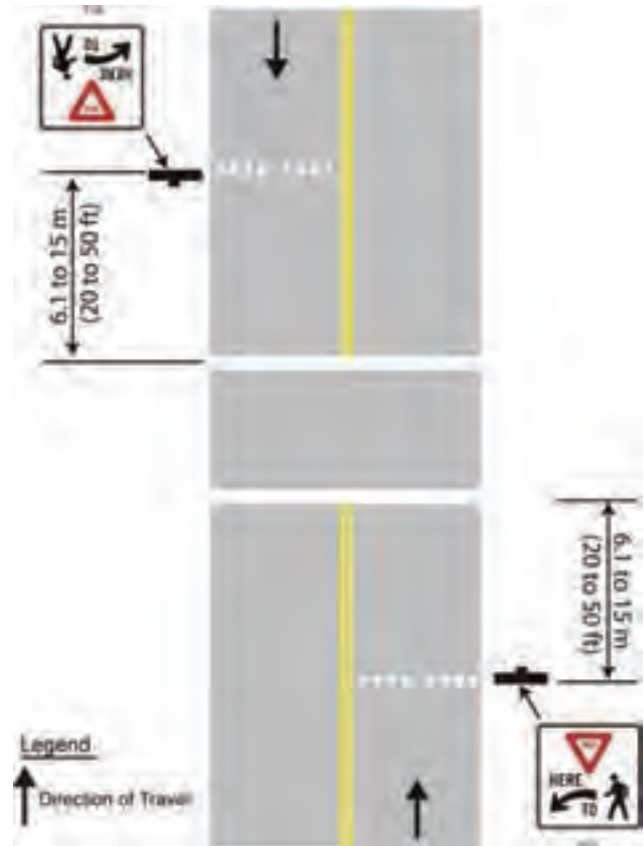
Other Treatments

See table on the following page to determine if treatments such as raised median refuges, flashing beacons should be used.

Beacons


See A.3.3 Crossing in this document

Recommended Design



Source: California MUTCD, Figure 3B-15



Guidance	Recommended Design (continued)
<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000) • MUTCD – California Supplement, Parts 2 and 9 • AASHTO Guide for the Development of Bicycle Facilities 	 <p style="text-align: center;">CA MUTCD</p>
Cost	
<ul style="list-style-type: none"> • \$250-\$400 per sign • \$1.60 per LF of thermoplastic • \$1,000 per new curb ramp 	

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT < 9,000			Vehicle ADT (> 9,000 to 12,000)			Vehicle ADT >12,000 to 15,000			Vehicle ADT > 15,000		
	Speed Limit**											
	<30 MPH	35 MPH	40 MPH	<30 MPH	35 MPH	40 MPH	<30 MPH	35 MPH	40 MPH	<30 MPH	35 MPH	40 MPH
2 Lanes	1	1	1/1+	1	1	1/1+	1	1	1+/3	1	1/1+	1+/3
3 Lanes	1	1	1/1+	1	1/1+	1/1+	1/1+	1/1+	1+/3	1/1+	1+/3	1+/3
Multi-Lane (4 or more lanes) with raised median***	1	1	1/1+	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3
Multi-Lane (4 or more lanes) without raised median	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3

*General Notes: Crosswalks should not be installed at locations that could present an increased risk to bicyclists and pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossing safer, nor will they necessarily result in more vehicles stopping for bicyclists and pedestrians. Whether or not marked crosswalks are installed, it is important to consider other facility enhancements (e.g. raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding which treatment to use. For each trail-road way crossing, an engineering study is needed to determine the proper location. For each engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, etc. may be needed at other sites.

**Where the speed limit exceeds 40 MPH (64.4 km/h), marked crosswalks alone should not be used at unsignalized locations.


***The raised median or crossing island must be at least 4 ft (1.2 m) wide and 6 ft (1.8 m) long to adequately serve as a refuge area for pedestrians in accordance with MUTCD and AASHTO guidelines. A two-way center turn lane is not considered a median.
 1 = Type 1 Crossings. Ladder-style crosswalks with appropriate signage should be used.
 1/1+ = With the higher volumes and speeds, enhanced treatments should be used, including marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

1+/3 = Carefully analyze signal warrants using a combination of Warrant 2 or 5 (depending on school presence) and EAU factoring. Make sure to project usage based on future potential demand. Consider Pelican or Hawk signals in lieu of full signals. For those intersections not meeting warrants or where engineering judgment or cost recommends against signalization, implement Type 1 enhanced crosswalk markings with marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

A.3.3. Crossing Beacons

Discussion	Recommended Design
<p>Beacons are typically used to supplement advance warning signals or at midblock crosswalks.</p> <p>Types of Beacons</p> <p>MUTCD identifies the following types of flashing beacons relevant to shared use trail - roadway intersections:</p> <ul style="list-style-type: none"> • Intersection control beacon - a beacon used only at an intersection to control two or more directions of travel • Warning beacons - a beacon used only to supplement an appropriate warning or regulatory sign or marker • Stop beacons - a beacon used to supplement a STOP sign, a DO NOT ENTER sign, or a WRONG WAY sign <p>Experimental Treatments</p> <p>There are other experimental pedestrian beacons that have been shown to have higher yielding rates than the standard flashing beacon. These include:</p> <ul style="list-style-type: none"> • The Rectangular-Shaped Rapid Flash LED Beacons, which have been shown to have an 80 to 90 percent compliance rate in the field; and • The Pedestrian Hybrid Beacon, or High-Intensity Actuated Crosswalk (HAWK). The HAWK has a driver yielding rate of 97 percent and reduces pedestrian-motor vehicle crashes by 58 percent. <p>The application of experimental treatments within California should follow the California Traffic Control Devices Committee’s (CTCDC) approval process (http://www.dot.ca.gov/hq/traffops/signtech/newtech/).</p> <p>Note that the CTCDC has not approved the HAWK treatment to date.</p>	<div> </div> <p style="text-align: center;"><i>HAWK Crossing</i> (This beacon type has not been approved for use in California)</p> <p>Design Summary</p> <p>Traffic Control Signal Warrants</p> <p>MUTCD Section 4C.01 identifies the minimum use and spacing parameters that must be met in order to warrant installation of a beacon.</p> <p>Overhead flashing pedestrian beacons are governed under Section 4K.03 of the CA MUTCD.</p> <p>CA MUTCD Section 4K.103 (CA) permits flashing beacons at school crosswalks. Section 4C.06 describes warrants (i.e., minimum requirements) for installation of a signal on a route to school.</p>
<p>Guidance</p> <ul style="list-style-type: none"> • MUTCD – California Supplement, Sections 4C and 4K • ITE – Alternative Treatments for At-Grade Pedestrian Crossings 	<p>Cost</p> <ul style="list-style-type: none"> • Signs, Overhead Beacon: \$15,000-\$55,120 each • Detection, Automated Beacon: \$800 each • Crossing, Hawk: \$50,000 each • Actuated Pedestrian Crossing: \$40,000 each

A.3.4. Signalized Mid-Block Crossing

Discussion	Recommended Design
<p>Warrants from the MUTCD combined with sound engineering judgment should be considered when determining the type of traffic control device to be installed at path-roadway intersections. Traffic signals for path-roadway intersections are appropriate under certain circumstances. The MUTCD lists 11 warrants for traffic signals, and although path crossings are not addressed, bicycle traffic on the path may be functionally classified as vehicular traffic and the warrants applied accordingly.</p> <p>Pedestrian volumes can also be used for warrants.</p> <p>Experimental Treatment</p> <p>A Toucan crossing (derived from: “two can cross”) is used in higher traffic areas where pedestrians and bicyclists are crossing together.</p>	
Design Summary	
<p>Warrants</p> <p>Section 4C.05 in the CAMUTCD describes pedestrian volume minimum requirements (referred to as warrants) for a mid-block pedestrian-actuated signal.</p> <p>Pavement Markings</p> <p>Stop lines at midblock signalized locations should be placed at least 40 feet in advance of the nearest signal indication.</p>	
Design Example	Guidance
 <p><i>Toucan Crossing (This experimental treatment has not been approved for use in California)</i></p>	<p>Guidance</p> <ul style="list-style-type: none"> MUTCD – California Supplement, Chapters 3 and 9 and Section 4C.05 and 4D AASHTO Guide for the Development of Bicycle Facilities, Chapter 2 <p>Cost</p> <ul style="list-style-type: none"> Crossing, Toucan: \$90,000 each

A.4. On-Street Bicycle Facility Design

Bike Lanes

Bike lanes or Class II bicycle facilities (Caltrans designation) are defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes are generally found on major arterial and collector roadways and are 4 to 7 feet wide. Bike lanes can be found in a large variety of configurations, and can even incorporate special characteristics including coloring and placement, if beneficial.

Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions and facilitate predictable behavior and movements between bicyclists and motorists. Bicyclists may leave the bike lane to pass other bicyclists, make left turns, avoid obstacles or debris, and to avoid other conflicts with other roadway users.

General Design Guidance:

Width: Varies depending on roadway configuration, see following pages for design examples.

Striping:

Line separating vehicle lane from bike lane (typically left sideline): 6 inches

Line separating bike lane from parking lane (if applicable): 4 inches

Dashed white stripe when:

- Vehicle merging area: Varies
- Delineate conflict area in intersections(optional): Length of conflict area

Signage:

Use R-81 Bike Lane Sign at:

- Beginning of bike lane;
- Far side of all intersection crossings;
- At approaches and at far side of all arterial crossings;
- At major changes in direction; and
- At intervals not to exceed ½ mile.



R-81 Sign

Pavement Markings:

There are three potential variations of pavement markings for bike lanes allowed by the California MUTCD. Most cities nationwide use the graphic representation of cyclist with directional arrow (pictured right). This stencil should be used at:

- Beginning of bike lane;
- Far side of all bike path (Class I) crossings;
- At approaches and at far side of all arterial crossings;
- At major changes in direction;
- At intervals not to exceed ½ mile; and
- At beginning and end of bike lane pockets at approach to intersection.



Recommended
Bike Lane Stencil

A.4.1. Bike Lane with No On-Street Parking

Discussion	Recommended Design
<p>Recommended bicycle lane width is 5 feet minimum when adjacent to curb and gutter. Wider bicycle lanes are desirable in certain circumstances such as on higher speed arterials (45 mph+) where a wider bicycle lane can increase separation between passing vehicles and bicyclists. Appropriate signing and stenciling is important with wide bicycle lanes to ensure motorists do not mistake the lane for a vehicle lane or parking lane. Bicycle lanes wider than seven feet are not recommended.</p>	<p>The diagram illustrates the recommended design for a Class II bike lane. The top portion shows a side view of a road with a car in a 10-12' lane, a cyclist in a 5' min lane, and a tree with an 'R81 Bike Lane Sign'. The bottom portion shows a top-down view of the car, cyclist, and a green-paved area.</p>
<p>Design Summary</p> <p>Bike Lane Width:</p> <p>4 feet minimum when no gutter is present (rural road sections)</p> <p>5 feet minimum when adjacent to curb and gutter (3' more than the gutter pan width if the gutter pan is greater than 2')</p> <p>Recommended Width:</p> <p>6 feet where right-of-way allows</p>	
Guidance	Cost
<ul style="list-style-type: none"> • MUTCD • Caltrans Highway Design Manual (Chapter 1000) • MUTCD – California Supplement • AASHTO Guide for the Development of Bicycle Facilities 	<ul style="list-style-type: none"> • Class II Bike Lane: \$5,000-\$500,000 per mile

A.4.2. Bike Lane With On-Street Parallel Parking

Discussion	Recommended Design
<p>Bike lanes adjacent to parallel parking should be designed to be wide enough to allow bicyclists to ride outside of the “door zone” (i.e., five feet minimum).</p>	
<p>Design Summary</p> <p>Bike Lane Width:</p> <p>5 feet minimum recommended when parking stalls are marked</p> <p>7 feet maximum (wider lanes may encourage vehicle loading in bike lane)</p> <p>12 feet for a shared lane adjacent to a curb face (13 feet is preferred where parking is substantial or turnover is high), or 11' minimum for a shared bike/parking lane on streets without curbs where parking is permitted.</p>	
<p>Guidance</p>	<p>Cost</p>
<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000) • MUTCD – California Supplement • AASHTO Guide for the Development of Bicycle Facilities 	<ul style="list-style-type: none"> • Class II Bike Lane: \$5,000-\$500,000 per mile

A.5. Bike Routes

Bike routes, or Class III bicycle facilities – (Caltrans designation) are defined as facilities shared with motor vehicles. They are typically used on roads with low speeds and traffic volumes, however can be used on higher volume roads with wide outside lanes or with shoulders. Bike routes can be established along through routes not served by shared use paths (Class I) or bike lanes (Class II), or to connect discontinuous segments of bikeway. A motor vehicle driver will usually have to cross over into the adjacent travel lane to pass a bicyclist, unless a wide outside lane or shoulder is provided.

Bicycle Routes can employ a large variety of treatments from simple signage to complex treatments including various types of traffic calming and/or pavement stenciling. The level of treatment to be provided for a specific location or corridor depends on several factors.

General Design Guidance:

Signing:

Use D11-1 Bicycle Route Sign at:


- Beginning or end of bicycle route (with applicable M4 series sign);
- Entrance to bicycle path (Class I) – optional;
- At major changes in direction or at intersections with other bicycle routes (with applicable M7 series sign); and
- At intervals along bicycle routes not to exceed ½ mile.



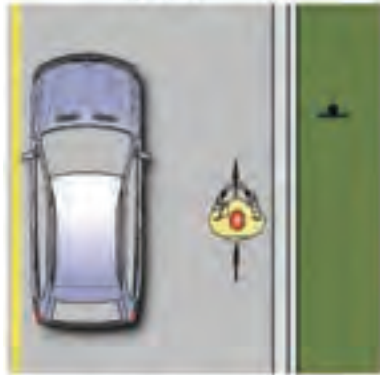
D11-1 Sign

Pavement Markings:

Shared Lane Markings may be applied to bicycle routes per A.5.2 Class III Bike Route with Shared Lane Markings .

A.5.1. Bike Route	
Discussion	Design Summary
<p>Bicycle routes on local streets should have vehicle traffic volumes under 1,000 vehicles per day. Traffic calming may be appropriate on streets that exceed this limit.</p> <p>Bicycle routes may be placed on streets with outside lane width of less than 15 feet if vehicle speeds and volumes are low.</p> <p>Where bicycle routes are placed on rural roadways with narrow travel lanes a striped shoulder should be provided for bicycle use.</p>	<p>Width of roadway:</p> <ul style="list-style-type: none"> • 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. • 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 <p>Width of shoulder (see recommended design on following page):</p> <ul style="list-style-type: none"> • A minimum four-foot clear shoulder width is recommended for the following roadway classifications: <ul style="list-style-type: none"> ○ Urban Local ○ Local • A minimum five-foot shoulder width is preferable for all collectors, especially for new roadways or when an existing roadway is rehabilitated. Four-foot shoulder widths are acceptable for collectors, especially where the existing roadway is 32-feet wide. Collectors include the following roadway classifications: <ul style="list-style-type: none"> ○ Urban Major Collector ○ Rural Major Collector ○ Rural Minor Collector • A minimum six-foot shoulder width is recommended for the following roadway classifications: <ul style="list-style-type: none"> ○ Urban Principal Arterial – Interstate ○ Urban Principal Arterial – Other Freeways or Expressways ○ Urban Other Principal Arterial ○ Urban Minor Arterial ○ Rural Principal Arterial – Interstate ○ Rural Other Principal Arterial ○ Rural Minor Arterial <p>Bicycle Route signage may include City specific logos.</p> <p>Route signage should be applied at intervals frequent enough to keep bicyclists informed of changes in route direction and to remind motorists of the presence of bicyclists.</p>
Signage Example	
	
Guidance	
<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000) • MUTCD – California Supplement • AASHTO Guide for the Development of Bicycle Facilities 	
Cost	
<p>Class III Bike Route: \$1,000-\$40,000 per mile (assumes no major renovation is required)</p> <p>\$150,000 - \$300,000 (assuming moderate to major roadway renovation)</p>	

Recommended Design



Local Roadways with Wide Outside Lane



Local Roadways with Shoulder Stripe

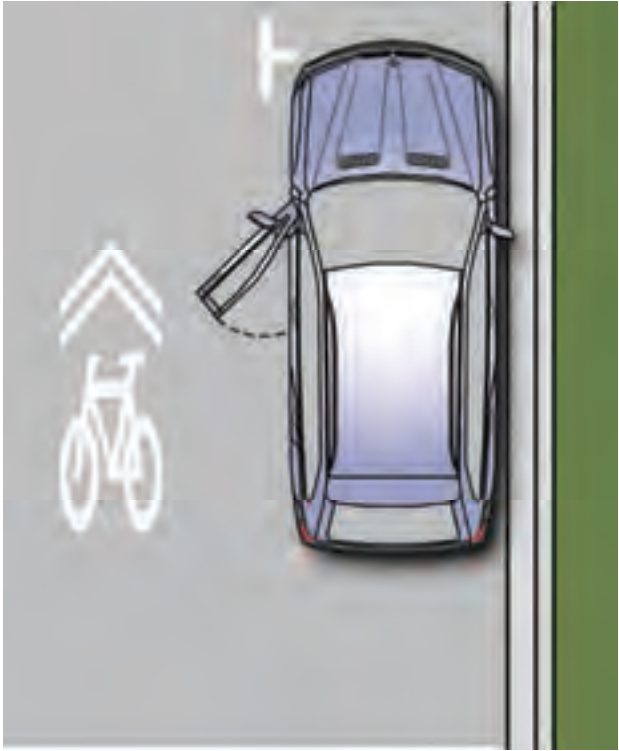


Collector Roadways with Shoulder Stripe and Wide Shoulder




Arterials with Shoulder Stripe and Wide Shoulder


A.5.2. Class III Bike Route with Shared Lane Markings (SLM)

Discussion	Recommended Design
<p>Shared Lane Marking (SLM) stencils (also called “Sharrows”) have been introduced for use in California as an additional treatment for bike route (Class III) facilities and are currently approved in conjunction with on-street parking. The stencil can serve a number of purposes, such as making motorists aware of the need to share the road with bicyclists, showing bicyclists the direction of travel, and, with proper placement, reminding bicyclists to bike further from parked cars to prevent “dooring” collisions.</p> <p>The 2010 California MUTCD specifies that SLM only be used on roadways with parallel parking, but the forthcoming 2011 edition will give local engineers greater discretion with SLM placement on roadways with or without parking.</p> <p>SLM should be placed a minimum of 11 feet from the curb. Where there are two or more travel lanes per direction, if the outside lane is less than 14 feet, or where there is high parking turnover or where bicyclists may need positioning guidance, the SLM may be placed in the middle of the outside travel lane. Additionally SLM’s may be placed where drivers may need additional notice to expect bicyclists.</p> <p>Though not always possible, placing the SLM markings outside of vehicle tire tracks will increase the life of the markings and the long-term cost of the treatment.</p>	
<p>Design Summary</p>	
<p>Door Zone Width:</p> <p>The width of the door zone is generally assumed to be 2.5 feet from the edge of the parking lane.</p> <p>Recommended SLM placement:</p> <p>A minimum of 11.5 feet from edge of curb where on-street parking is present.</p> <p>Where there are two or more travel lanes per direction, if the outside lane is less than 14 feet, or where there is high parking turnover or where bicyclists may need positioning guidance, the SLM may be placed in the middle of the outside travel lane.</p>	<p>Guidance</p> <ul style="list-style-type: none"> MUTCD – California Supplement, Section 9C.103 <p>Cost</p> <ul style="list-style-type: none"> Stencils only: \$250 each

A.5.3. Additional Bike Route Signage

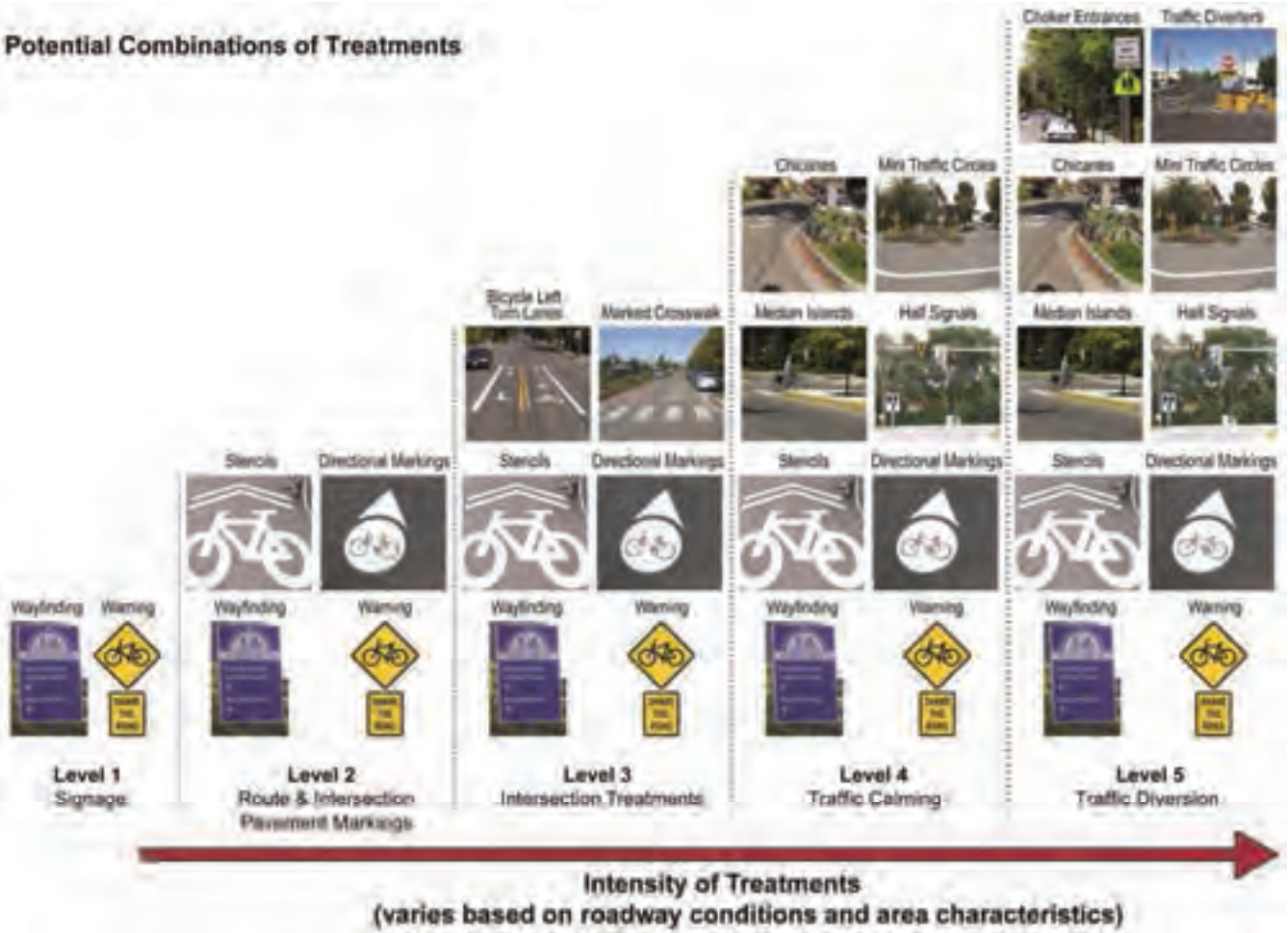
Discussion	Recommended Design
<p>'Share the Road' signs are intended to 'reduce motor vehicle/bicyclist conflict' and are appropriate to be placed on routes that lack paved shoulders or other bicycle facilities. They typically work best in rural situations, or when placed near activity centers such as schools, shopping centers and other destinations that attract bicycle traffic.</p> <p>In urban areas, many cities around the country have been experimenting with a new type of signage that encourages bicyclists to take the lane when the lane is too narrow. This type of sign is becoming known as BAUFL (Bikes Allowed Use of Full Lane). This can be quantified to lanes being less than 14 feet wide with no parking and less than 22 feet wide with adjacent parallel parking. The 2009 update to the MUTCD recognizes the need for such signage and has designated the white and black sign at right (R4-11). The 2010 CA MUTCD states that Shared Lane Markings (which serve a similar function as Bikes May Use Full Lane signage) should not be placed on roadways that have a speed limit above 40 mph. Dedicated bicycle facilities are recommended for roadways with speed limits above 40 mph where the need for bicycle access exists.</p>	<div style="text-align: center;">  <p>R4-11</p> <p><i>Share The Road Signs (National MUTCD)</i></p> </div>
Design Summary	
<p>Placement:</p> <p>Signs should be placed at regular intervals along routes with no designated bicycle facilities.</p>	
Guidance	
<ul style="list-style-type: none"> • MUTCD – California Supplement Section 9C.103 	
Cost	
<ul style="list-style-type: none"> • Sign, regulation: \$150 each 	

A.5.4. Bicycle Boulevards

Discussion	Design Example
<p>Bicycle boulevards have been implemented in a variety of locations including Palo Alto, San Luis Obispo, Berkeley and Davis, California and Portland, Oregon. Bicycle boulevards, also known as bicycle priority streets, are non-arterial streets that are designed to allow bicyclists to travel at a consistent, comfortable speed along low-traffic roadways and to cross arterials conveniently and safely. Bicycle boulevards typically include treatments that allow bicyclists to travel along the bicycle boulevard with minimal stopping while discouraging motor vehicle traffic. Traffic calming and traffic management treatments such as traffic circles, chicanes, and diverters are used to discourage motor vehicles from speeding and using the bicycle boulevard as a cut-through. Quick-response traffic signals, median islands, or other crossing treatments are provided to facilitate bicycle crossings of arterial roadways.</p>	 <p><i>CSUMB Bicycle Boulevard Sign</i></p>
<p>Design Summary</p>	<p>See next page for potential bicycle boulevard treatments</p>
<ul style="list-style-type: none"> • Residential streets with low traffic volumes (typically between 3000 to 5000 average daily vehicles). • Can include secondary commercial streets. • Bicycle boulevard pavement markings should be installed in conjunction with wayfinding signs. • Can be designed to accommodate the particular needs of the residents and businesses along the routes, and may be as simple as pavement markings with wayfinding signs or as complex as a street with traffic diverters and bicycle signals. 	
<p>Guidance</p>	
<ul style="list-style-type: none"> • This treatment is not currently present in any State or Federal design standards • Berkeley Bicycle Boulevard Design Tools and Guidelines: http://www.ci.berkeley.ca.us/ContentDisplay.aspx?id=6652 	
<p>Cost</p>	
<ul style="list-style-type: none"> • \$310,500 per mi (source: San Benito Bike Plan, 2009) 	

Bicycle Boulevard Treatment Continuum

Potential Combinations of Treatments



A.5.5. Buffered Bike Lanes

Discussion

A buffered bike lane, also called an enhanced bike lane or protected bike lane, is a five-foot-wide bike lane that is buffered by a striped “shy zone” between the bike lane and the moving vehicle lane. With the shy zone, the buffered lane offers a more comfortable riding environment for bicyclists who prefer not to ride adjacent to traffic. This design makes movement safer for both bicyclists and vehicles. Motorists can drive at a normal speed and only need to watch for cyclists when turning right at cross-streets or driveways and when crossing the buffered lane to park. The advantages of the buffered bicycle lane design are that it provides a more protected and comfortable space for cyclists than a conventional bike lane and does not have the same turning movement constraints as cycletracks that accommodate two-way bicycle travel along one side of the roadway.

The buffer area may only be painted on the road or it may be physically separated by devices such as bollards.

Design Summary

- A spatial buffer increases the distance between the bike lane and the automobile travel lane or the parking zone.
- Appropriate for roadways with high automobile traffic speeds and volumes, and/or high volume of truck/oversized vehicle traffic, and roadways with bike lanes adjacent to high turnover on-street parking.

Design Example

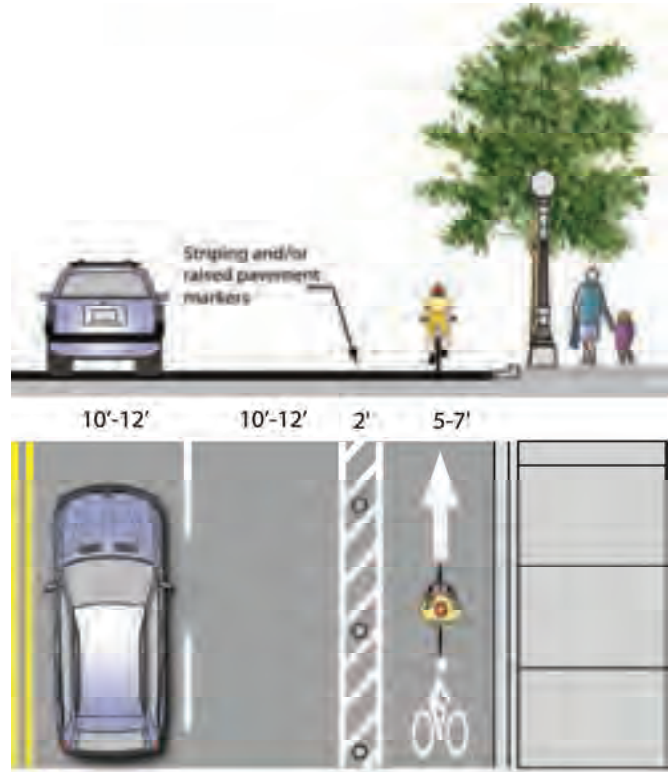


Buffered bike lane in Fairfax, CA

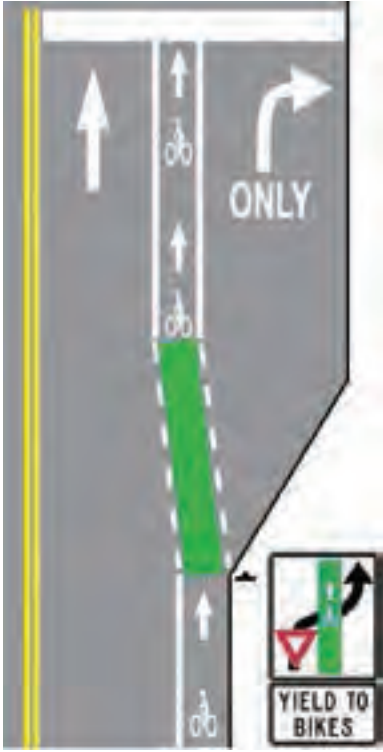

Cost

- Bike lanes with 2-foot buffers on each side were installed for 3,000 linear feet in Portland for \$45,000 in 2009.

Recommended Design



A.5.6. Colored Bike Lanes

Discussion	Recommended Design
<p>Color applied to bike lanes helps alert roadway users to the presence of bicyclists and clearly assigns right-of-way to cyclists. Motorists are expected to yield to cyclists in these areas. Some cities apply color selectively to highlight potential conflict zones, while others use it to mark all non-shared bicycle facilities in high volume traffic situations.</p> <p>Color Considerations:</p> <p>There are three colors commonly used in bicycle lanes: blue, green, and red. All help the bike lane stand out in merging areas. The City of Portland began using green lanes in 2008, and the Federal Highway Administration recently issued an interim approval for green pavement markings in bike lanes.</p> <p>Material Options:</p> <p>Colored bike lanes require additional cost to install and maintain. Techniques include:</p> <ul style="list-style-type: none"> • Paint – less durable and can be slippery when wet • Colored asphalt – colored medium in asphalt during construction – most durable. • Colored and textured sheets of acrylic epoxy coating. 	 <p><i>Colored bike lanes used to designate a conflict zone</i></p>
Design Summary	
<ul style="list-style-type: none"> • Bike lane width: See A.4 On-Street Bicycle Facility Design. • Appropriate for heavy auto traffic streets with bike lanes; at transition points where cyclists, motorists and/or pedestrians must weave with one another; conflict areas or intersections with a record of crashes; and to emphasize bicycle space in unfamiliar or unique design treatments. 	
Design Example	Guidance
	<ul style="list-style-type: none"> • http://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/index.htm

A.5.7. Drainage Grates

Discussion

Utility infrastructure within the roadway can present significant hazards to bicyclists. Manholes, water valve covers, drain inlets and other obstructions can present an abrupt change in level, or present a situation where the bicyclist's tire could become stuck, potentially creating an accident. As such, every effort should be made to locate such hazards outside of the likely travel path of bicyclists on new roadway construction.

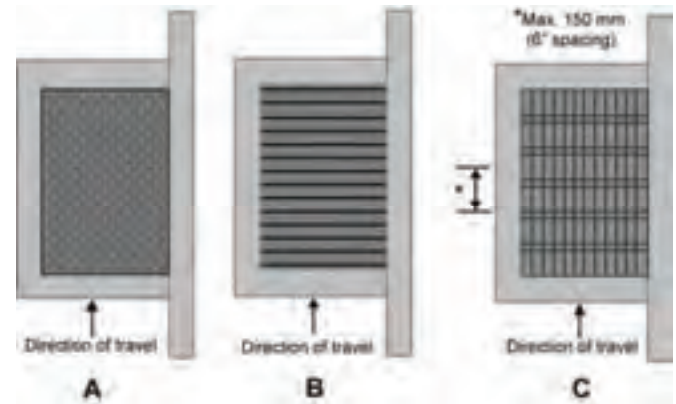
For existing roadways, the roadway surface can be ground down around the manhole or drainage grate to be no more than half an inch of vertical drop. When roadways undergo overlays, this step is often omitted and significant elevation differences can result in hazardous conditions for bicyclists.

Bicycle drainage grates should not have longitudinal slats that can catch a bicycle tire and potentially cause an accident. Acceptable grate designs are presented (top right) as A: patterned, B: transverse grate, or C: modified longitudinal with no more than 6" between transverse supports). Type C is the least desirable as it could still cause problems with some bicycle tires.

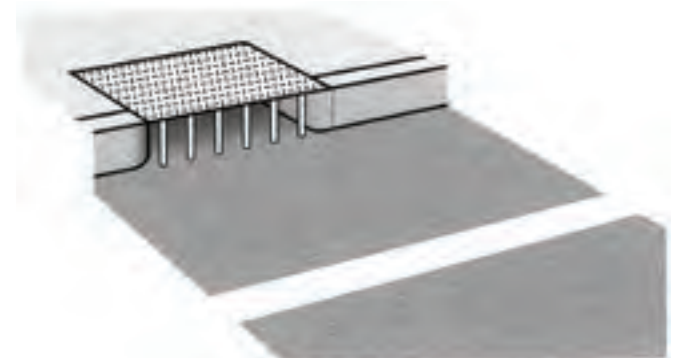
The drop in-inlet avoids all issues with grates in the bicyclists' line of travel, however, these drainage inlets are not recommended by Caltrans for use on California Highways.

The CA MUTCD recommends providing a diagonal solid white line for hazards or obstructions in bikeways (see right).

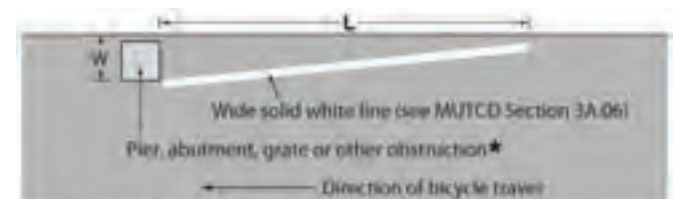
Recommended Design



Bicycle Compatible Drainage Grates



Drop-in inlet flush with in the curb face (Oregon DOT)



$L = WS$, where W is the offset in feet and S is bicycle approach speed in mph

★ Provide an additional foot of offset for a raised obstruction and use the formula $L = (W + 1) S$ for the taper length

Design Summary

Placement:

Manholes should be placed outside of any bike lanes. Drainage grates should be of one of the types at right.




Guidance

- Caltrans Highway Design Manual (Chapter 1000)
- MUTCD – California Supplement
- AASHTO Guide for the Development of Bicycle Facilities

Cost

- Striping: \$2 per linear foot
- Drainage grate: \$500

A.5.8. Bicycle Access During Construction Activities

Discussion	Recommended Design
<p>When construction impedes a bicycle facility, the provision for bicycle access should be developed during the construction project planning. Caltrans Traffic Operations Policy Directive 11-01 amends and provides typical applications for accommodating bicyclists in temporary traffic control zones. When existing accommodations for bicycle travel are disrupted or closed, existing conditions for bicyclist should be replicated through the zone.</p> <p>Long detour routing should be avoided.</p> <p>Advance warning of the detour should be placed at appropriate locations and clear wayfinding should be implemented to enable bicyclists to continue safe operation along travel corridor. Bicyclists shall not be led into conflicts with auto traffic, work site vehicles, or equipment.</p>	 <p>M4-9a M4-9c</p> <p>National MUTCD</p>  <p>W11-1 W16-1</p> <p>California MUTCD</p>
Design Summary	
<p>Detours should be adequately marked with standard temporary route and destination signs (M409a or M4-9c). The Pedestrian/Bicycle Detour sign should have an arrow pointing in the appropriate direction.</p> <p>When existing accommodations for bicycle travel are disrupted or closed in a long-term duration project and the roadway width is inadequate for allowing motor vehicles and bicyclists to travel side-by-side, “share the road” signage (W11-1 and W16-1) should be used to advise motorists of the presence of bicyclists in the travel lane.</p> <p>Signs should be placed so that they do not block the bicyclist’s path of travel and they do not narrow any existing pedestrian passages to less than 1200 mm (48 in).</p>	
Design Example	Guidance
	<ul style="list-style-type: none"> • MUTCD (Section 6F.53) • California MUTCD – Part 6 • California Highway Design Manual • Caltrans Traffic Operations Policy Directive 11-01 <hr/> <p>Cost</p> <ul style="list-style-type: none"> • Sign, regulation: \$150 each

A.6. Intersection and Interchange Design for Bicyclists

Adequately accommodating bicyclists at traffic intersections and interchanges can be challenging for traffic engineers as the needs and characteristics of bicycles and motor vehicles vary greatly. This chapter contains sections on detection of bicycles at signals, bicycle pavement markings at signals, and bicycle signals.

A.6.1. Bicycle Detection at Signalized Intersections

Discussion

Traffic Operations Policy Directive 09-06, issued August 27, 2009 by Caltrans modified CA MUTCD 4D.105 to require bicyclists to be detected at all traffic-actuated signals on public and private roads and driveways. If more than 50 percent of the limit line detectors need to be replaced at a signalized intersection, then the entire intersection should be upgraded so that every line has a limit line detection zone. Bicycle detection must be confirmed when a new detection system has been installed or when the detection system has been modified.

The California Policy Directive does not state which type of bicycle detection technology should be used. Two common types of detection are video and in pavement loop detectors. Push buttons may not be used as a sole method of bicycle detection.

Design Summary

Limit Lines

- The Reference Bicycle Rider must be detected with 95% accuracy within a 6 foot by 6 foot Limit Line Detection Zone.

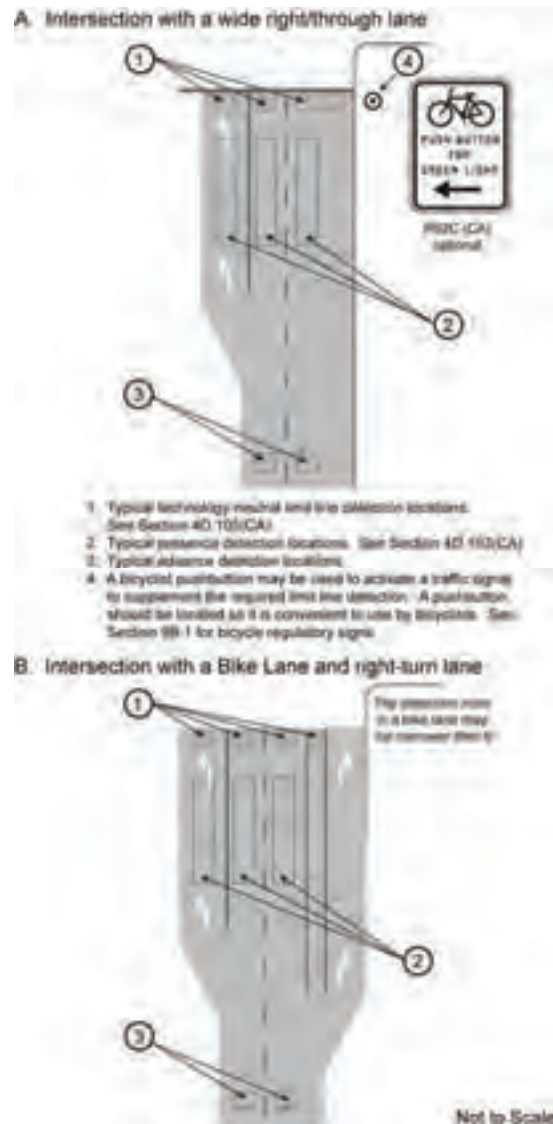
Loop Detection

- In order to minimize delay to bicyclists, it is recommended to install one loop about 100 feet from the stop bar within the bike lane, with a second loop located at the stop bar.


Details of saw cuts and winding patterns for inductive detector loop types appear on Caltrans Standard Detail ES-5B.

NOTE: In California, Caltrans "Type C" and "Type D" quadruple loop detectors have been proven to be the most effective at detecting bicycles at signalized intersections.

Recommended Design



Source: Traffic Operations Policy Directive 09-06
Video Detection – Designs not available

Design Example	Guidance		
 <p><i>Type "C" loop detector in use in California (Pavement stencil shown does not meet CAMUTCD)</i></p>	<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000) • Caltrans Standard Plans (1999) ES-5B • MUTCD – California Supplement • AASHTO Guide for the Development of Bicycle Facilities • Caltrans Traffic Operation Policy Directive 09-06 <table border="1"> <thead> <tr> <th>Cost</th> </tr> </thead> <tbody> <tr> <td> <ul style="list-style-type: none"> • Bicycle Loop Detector: \$1,000-\$2,500 each </td> </tr> </tbody> </table>	Cost	<ul style="list-style-type: none"> • Bicycle Loop Detector: \$1,000-\$2,500 each
Cost			
<ul style="list-style-type: none"> • Bicycle Loop Detector: \$1,000-\$2,500 each 			

A.6.2. Loop Detector Pavement Markings and Signage

Discussion

Bicycle Detector Pavement Markings guide bicyclists to position themselves at an intersection to trigger signal actuation. Frequently these pavement markings are accompanied by signage that can provide additional guidance (see right).

Design Summary

Locate Bicycle Detector Pavement Marking over center of quadrupole loop detector if in bike lane, or where bicycle can be detected in a shared lane by loop detector or other detection technology.

Design Example



Guidance

- Caltrans Highway Design Manual (Chapter 1000)
- Caltrans Standard Plans (1999) ES-5B
- MUTCD – California Supplement
- AASHTO Guide for the Development of Bicycle Facilities

Cost

- Bicycle Loop Detector, Install stencils: \$100 per intersection leg

Recommended Design

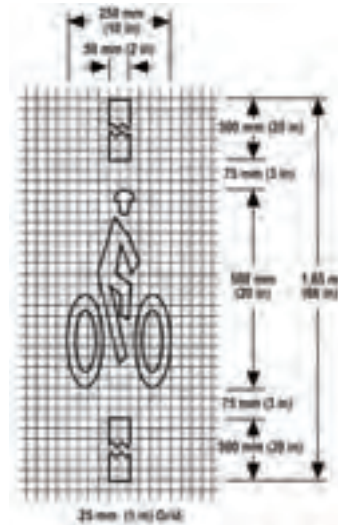


Figure 9C-7 – CAMUTCD



Accompanying Signage (R10-22)

A.6.3. Bike Lane at Intersection with Right Turn Only Lane

Discussion

A bicyclist continuing straight through an intersection from the right of a right turn lane would be inconsistent with normal traffic behavior and would violate the expectations of right-turning motorists. Specific signage, pavement markings and striping are recommended to improve safety for bicyclists and motorists.

The appropriate treatment for right-turn only lanes is to place a bike lane pocket between the right-turn lane and the right-most through lane or, where right-of-way is insufficient, to drop the bike lane entirely approaching the right-turn lane. The design (right) illustrates a bike lane pocket, with signage indicating that motorists should yield to bicyclists through the merge area.

Dropping the bike lane is not recommended, and should only be done when a bike lane pocket cannot be accommodated.

Travel lane reductions may be required to achieve this design.

Some communities have experimented with colored bicycle lanes through the weaving zone. See Portland's Blue Bike Lanes: <http://www.portlandonline.com/shared/cfm/image.cfm?id=58842>.

Where the right turn only lane is separated with a raised island, the island should be designed to allow adequate width to stripe the bike lane up to the intersection.

Recommended Design



Bike Lane Next to a Right Turn Only Lane

Design Summary

Bike Lane Placement

A through bicycle lane shall not be positioned to the right of a right turn only lane.

Bike Lane Width

Bike Lane through merge area of 5 feet is required.

Bike Lane Striping

When the right through lane is dropped to become a right turn only lane, the bicycle lane markings should stop at least 100 feet before the beginning of the right turn lane. Through bicycle lane markings should resume to the left of the right turn only lane (MUTCD).

Where motorist right turns are permitted, the solid bike lane shall either be dropped entirely, or dashed beginning at a point between 100 and 200 feet in advance of the intersection.



Bike Lane Next to a Right Turn Only Lane Separated by a Raised Island

Design Summary (continued)	
Signage Refer to CA MUTCD.	
Guidance	
<ul style="list-style-type: none">• Caltrans Highway Design Manual (Chapter 1000)• MUTCD – California Supplement Section 9C.04• AASHTO Guide for the Development of Bicycle Facilities	

A.6.4. Bicycle Boxes

Discussion

A bike box is generally a right angle extension to a bike lane at the head of a signalized intersection. The bike box allows bicyclists to get to the front of the traffic queue on a red light and proceed first when that signal turns green. The bike box can also act as a storage area if heavy bicycle traffic exists. On a two-lane roadway the bike box can also facilitate left turning movements for bicyclists. Motor vehicles must stop behind the white stop line at the rear of the bike box.

Bike Boxes should be located at signalized intersections only, and right turns on red should be prohibited unless a separate right turn pocket is provided to the right of the bike box.

Bike boxes can be combined with dashed lines through the intersection for green light situations to remind vehicles to be aware of bicyclists traveling straight, similar to the colored bike lane treatment in **A.5.6 Colored Bike Lanes**. Bike Boxes have been installed with striping only or with colored treatments to increase visibility.

Design Summary

Bike Box Dimensions

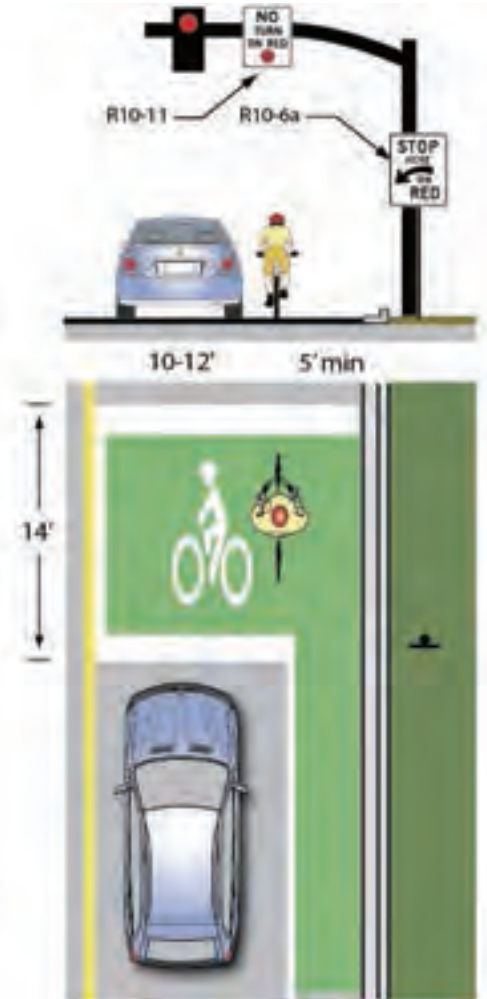
The Bike Box should be 14 feet deep to allow for bicycle positioning.

Signage

Appropriate signage as recommended by the MUTCD applies. Signage should be present to prevent 'right turn on red' and to indicate where the motorist must stop.



Recommended Design



Guidance

- This treatment is not currently present in any State or Federal design standards

A.6.5. Interchange Design

Discussion

Interchanges often provide the only bicycle access across a highway within one or more miles, but are not always designed to provide comfortable or safe bicycle access. The best interchange configurations for bicyclists are those where the ramp intersects the crossroad at a 90 degree angle and where the intersection is controlled by a stop or signal. These characteristics cause motorists to slow down before turning, increasing the likelihood that they will see and yield to nonmotorists. If an impact occurs, severity is lessened by slower speeds.

The Caltrans Highway Design Manual classifies interchanges into 13 different types. As illustrated to the right, six of these types have ramp intersection designs that meet the crossroad at 90 degrees and are STOP-controlled or signalized. These interchanges generally incorporate diamond-type ramps or J loop ramps.

On high traffic bicycle corridors non-standard treatments may be desirable over current practices outlined in Figure 9C-103 in the CA MUTCD. Dashed bicycle lane lines with or without colored bike lanes may be applied to provide increased visibility for bicycles in the merging area.

Design Summary

Alignment

- Ramps intersection the crossroad at a 90 degree angle.
- The intersection is stop- or signal-controlled.

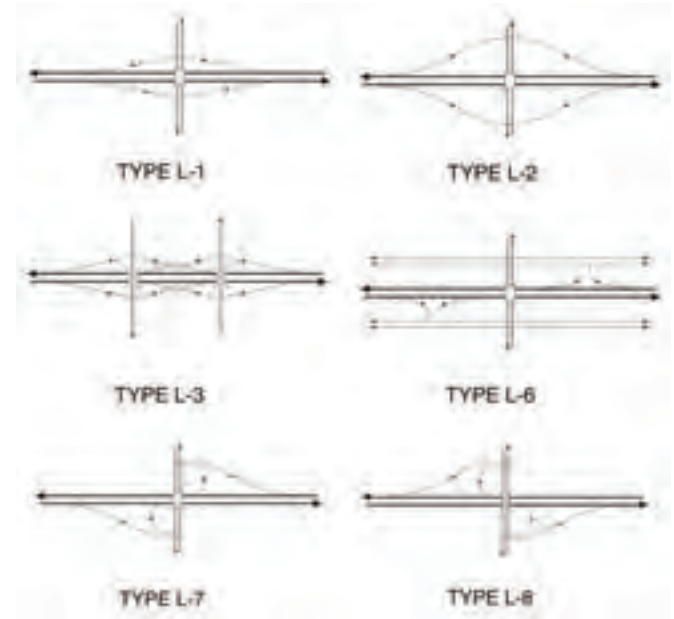
Bike lane/shared roadway width

- See Chapter 3. The minimum shoulder width through the interchange area is four feet, or five feet if a gutter exists.

Guidance

- Caltrans Highway Design Manual (Chapter 500)
- MUTCD – California Supplement Section 9C.04 and Figure 9C-103
- AASHTO Guide for the Development of Bicycle Facilities, p. 62

Recommended Design

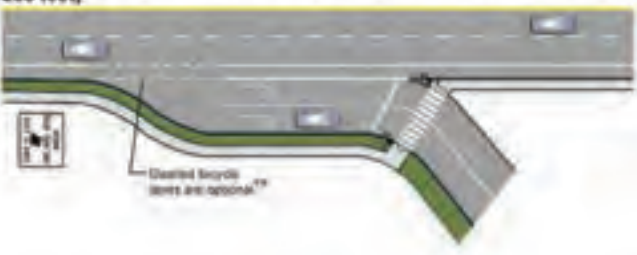
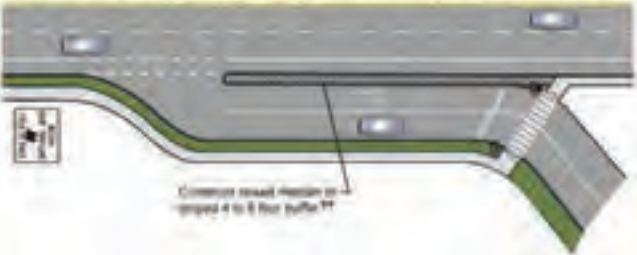
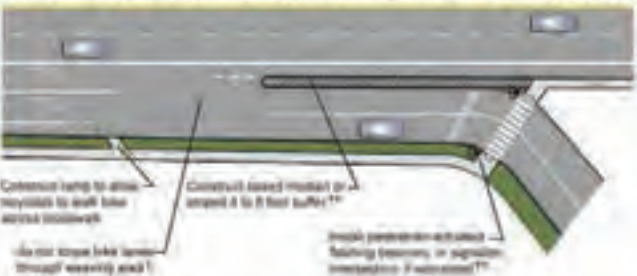


Interchange types that accommodate bicyclists


Source: Figure 502.2 Caltrans Highway Design Manual

A.6.6. Accommodating Bicyclists at On and Off-Ramps

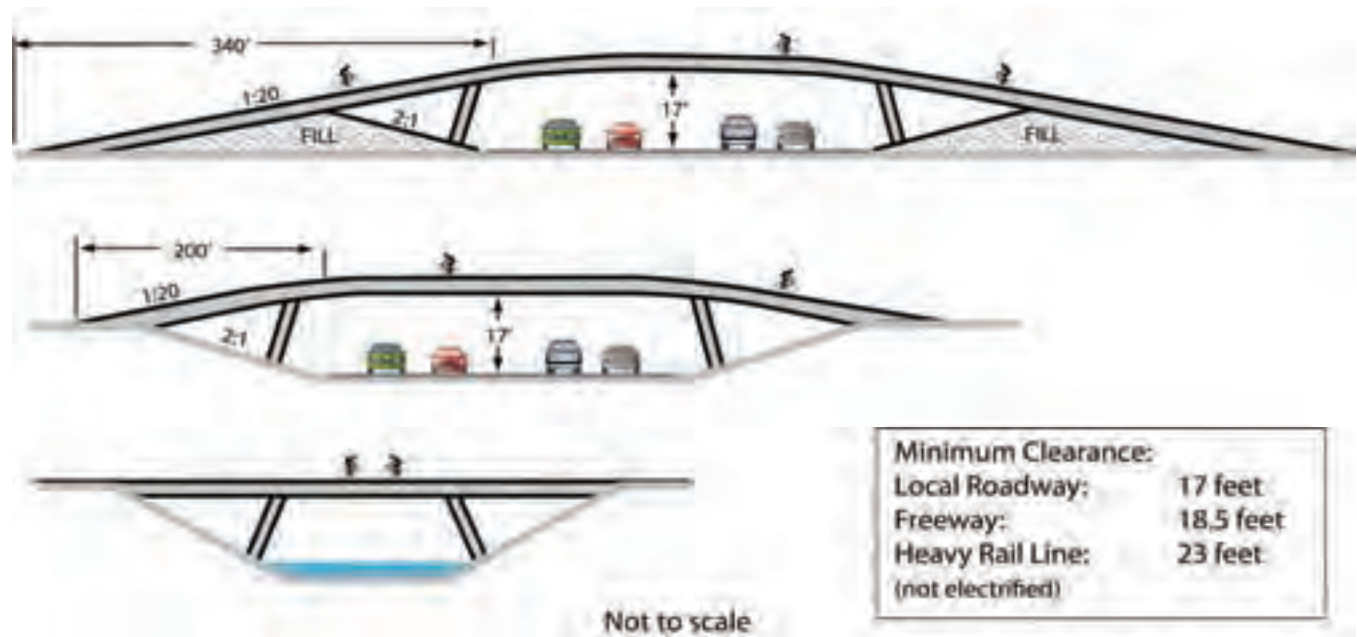
Discussion	Recommended Design
<p>When crossing free-flow ramps, pedestrians and bicyclists face challenges related to motorists not yielding, high motor vehicle speeds, limited visibility, and the absence of bicycle or pedestrian facilities. Bicyclists additionally face challenges related to unclear path of travel.</p> <p>Treatments for addressing pedestrian and bicyclist concerns at on- and off-ramps range from using striping and signage to make motorists more aware of and more likely to yield to pedestrians and bicyclists, to reconstructing the intersection to eliminate all free-flow turning movements and reconfiguring intersections so that on and off ramps meet the crossroad at or near 90 degrees.</p>	<p>Stripe bicycle lane to allow bicyclists to cross ramp traffic at 90 degree angle. (Only appropriate in off-ramp lanes become through lanes.) *</p> <p>OR</p> <p>Widen outside lane/shoulder enough to provide bicycle lanes through intersection (4 foot min. shoulder without gutter plan 5 foot min. shoulder with gutter pan) ††</p> <p>Consider STOP signs or signals to allow pedestrians to cross ††*</p> <p>Install yield line and yield here to pedestrians sign *</p> <p>Consider pedestrian-actuated flashing beacons ††*</p> <p>† CA MUTCD †† CA Highway Design Manual ††† AASHTO Ped Guide * ITE Pedestrian and Bike Council</p>
<p>Design Summary</p>	<p><i>Signage and Striping Treatments for Free-Flow Ramp</i></p>
<p>Bike Lane Width</p>	
<p>Bike Lane should follow guidance in Chapter 3.</p>	
<p>Signage</p>	
<p>Install warning signage at all uncontrolled crossings.</p>	
<p>Striping</p>	
<p>Stripe high-visibility crosswalks at all intersections. Stripe on- and off-ramps so that through-moving bicyclists do not need to weave across turning motorists, but instead can travel straight. Where bicyclists weave across a vehicle lane, drop the bicycle lane to encourage the bicyclist to use their judgment when deciding when to weave. Where bicyclists travel between moving vehicles for more than 200 feet, install a painted or raised buffer. Install yield lines at all uncontrolled crossings.</p>	
<p>Beacons</p>	
<p>Install pedestrian-actuated beacons at all uncontrolled crossings.</p>	

Guidance	Recommended Design (continued)
<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 500) • MUTCD – California Supplement Section 9C.04 and Figure 9C-103 • AASHTO Guide for the Development of Bicycle Facilities, p. 62 	<p>Short Dual Right Turn On-Ramp (right turn lanes less than or equal to 200 feet)**</p>  <p>Long Dual Right Turn On-Ramp (right turn lanes greater than 200 feet)**</p>  <p>Long Dual Trap Right Turn Lane (right turn lanes greater than 200 feet)**</p>  <p>Concrete raised median or striped 4 to 8 foot buffer**</p> <p>Concrete ramp to allow bicyclist to walk bike across sidewalk</p> <p>Do not slope bike lanes through weaving area</p> <p>Concrete raised median or striped 4 to 8 foot buffer**</p> <p>Prohibit pedestrian-activated flashing beacons or sign-on-activated beacons**</p> <p>Figures adapted from ITE Pedestrian and Bike Council</p> <p>** CA MUTCD ** ITE Pedestrian and Bike Council</p> <p><i>Treatments for Dual-Lane On-Ramps</i></p>

A.6.7. Bicycle and Pedestrian Overcrossing Design

Discussion	Design Example
<p>Overcrossings require a minimum of 17 feet of vertical clearance to the roadway below versus a minimum elevation differential of around 12 feet for an undercrossing. This results in potentially greater elevation differences and much longer ramps for bicycles and pedestrians to negotiate.</p> <p>See following page for additional discussion.</p>	
Design Summary	Guidance
<p>Width</p> <p>8 feet minimum, 14 feet preferred. If overcrossing has any scenic vistas additional width should be provided to allow for stopped path users. A separate 5 foot pedestrian area may be provided for facilities with high bicycle and pedestrian use.</p> <p>Height</p> <p>10 feet headroom on overcrossing; clearance below will vary depending on feature being crossed.</p> <p>Signage & Striping</p> <p>The overcrossing should have a centerline stripe even if the rest of the path does not have one.</p> <p>ADA Compliance</p> <p>Either ramp slopes to 5% (1:20) with landings at 400 foot intervals or ramp slopes of 8.33% (1:12) with landings every 30 feet.</p>	<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapters 200 & 1000) • Caltrans Bridge Design Specifications • MUTCD – California Supplement • AASHTO Guide for the Development of Bicycle Facilities • AASHTO Guide Specifications for Design of Pedestrian Bridges

Recommended Design



Additional Discussion – Grade Separated Overcrossing

Ramp Considerations:

Overcrossings for bicycles and pedestrians typically fall under the Americans with Disabilities Act (ADA), which strictly limits ramp slopes to 5% (1:20) with landings at 400 foot intervals, or 8.33% (1:12) with landings every 30 feet.

Overcrossing Use:

Overcrossings should be considered when high volumes of bicycles and pedestrians are expected along a corridor and:

- Vehicle volumes/speeds are high.
- The roadway is wide.
- An at-grade crossing is not feasible.
- Crossing is needed over a grade-separated facility such as a freeway or rail line.

Advantages of Grade Separated Overcrossing

- Improves bicycle and pedestrian safety while reducing delay for all users.
- Eliminates barriers to bicyclists and pedestrians.

Disadvantages / Potential Hazards

- If crossing is not convenient or does not serve a direct connection it may not be well utilized.
- Overcrossings require at least 17 feet of clearance to the roadway below involving up to 400 feet or greater of approach ramps at each end. Long ramps can sometimes be difficult for the disabled.
- Potential issues with vandalism, maintenance.
- High cost.

A.6.8. Bicycle and Pedestrian Undercrossing Design

Discussion

See following page for discussion.

Design Summary

Width

14 feet minimum to allow for access by maintenance vehicles if necessary

Greater widths may increase security

Height

10 feet

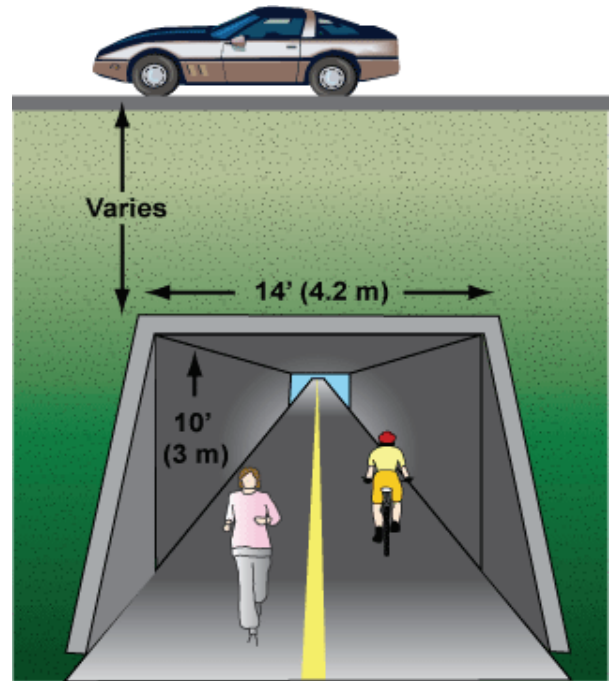
Signage & Striping

The undercrossing should have a centerline stripe even if the rest of the path does not have one.

Lighting

Lighting should be considered during design process for any undercrossing with high anticipated use or in culverts or tunnels.

Recommended Design



Design Example



Guidance

- AASHTO Guide for the Development of Bicycle Facilities
- Caltrans Highway Design Manual (Chapter 1000)

Additional Discussion – Grade Separated Undercrossing

General Notes On Grade-Separated Crossings

Bicycle/pedestrian overcrossings and undercrossings provide critical non-motorized system links by joining areas separated by any number of barriers. Overcrossings and undercrossings address real or perceived safety issues by providing users a formalized means for traversing “problem areas” such as deep canyons, waterways or major transportation corridors. In most cases, these structures are built in response to user demand for safe crossings where they previously did not exist. For instance, an overcrossing or undercrossing may be appropriate where moderate to high pedestrian/ bicycle demand exists to cross a freeway in a specific location, or where a flood control channel separates a neighborhood from a nearby bicyclist destination. These facilities also overcome barriers posed by railroads, and are appropriate in areas where frequent or high-speed trains would create at-grade crossing safety issues, and in areas where trains frequently stop and block a desired pedestrian or bicycle crossing point. They may also be an appropriate response to railroad and other agency policies prohibiting new at-grade railroad crossings, as well as efforts to close existing at-grade crossings for efficiency, safety, and liability reasons.

Overcrossings and undercrossings also respond to user needs where existing at-grade crossing opportunities exist but are undesirable for any number of reasons. In some cases, high vehicle speeds and heavy traffic volumes might warrant a grade-separated crossing. Hazardous pedestrian/bicycle crossing conditions (e.g., few or no gaps in the traffic stream, conflicts between motorists and bicyclists/pedestrians at intersections, etc.) could also create the need for an overcrossing or undercrossing.

Undercrossing Use

Undercrossings should be considered when high volumes of bicycles and pedestrians are expected along a corridor and:

- Vehicle volumes/speeds are high.
- The roadway is wide.
- An at-grade crossing is not feasible.
- Crossing is needed under another grade-separated facility such as a freeway or rail line.

Advantages of Grade Separated Undercrossing


- Improves bicycle and pedestrian safety while reducing delay for all users.
- Eliminates barriers to bicyclists and pedestrians.
- Undercrossings require 10' of overhead clearance from the path surface. Undercrossings often require less ramping and elevation change for the user versus an overcrossing, particularly for railroad crossings.


Disadvantages / Potential Hazards

- If crossing is not convenient or does not serve a direct connection it may not be well utilized.
- Potential issues with vandalism, maintenance.
- Security may be an issue if sight lines through undercrossing and approaches are inadequate. Undercrossing width greater than 14 feet, lighting and /or skylights may be desirable for longer crossings to enhance users’ sense of security.
- High cost.

A.7. Design of Interpretive and Wayfinding Signage

A.7.1. Wayfinding Signage - General

Discussion	Recommended Design
<p>The 2000 Comprehensive Bicycle Route Plan recommended wayfinding signage and bicycle signal detection along the 37.4-mile North-South Bike Route corridor paralleling El Camino Real.</p> <p>Wayfinding signage acts as a “map on the street” for cyclists, pedestrians, and trail users. Signage and wayfinding is an important component for trail users. Visitors who feel comfortable and empowered will keep coming back to an area, and an effective wayfinding system is key to creating that comfort level. Wayfinding also plays an important role in trail use safety, connecting users with emergency services.</p> <p>Wayfinding signs are typically placed at key locations leading to and along bicycle facilities, including where multiple routes intersect and at key bicyclist “decision points.” Wayfinding signs displaying destinations, distances and “riding time” can dispel common misperceptions about time and distance while increasing users’ comfort and accessibility to the priority street network. Wayfinding signs also visually cue motorists that they are driving along a bicycle route and should correspondingly use caution. Note that too many road signs tend to clutter the right-of-way, and it is recommended that these signs be posted at a level most visible to bicyclists and pedestrians, rather than per vehicle signage standards.</p>	
<p>Design Summary</p> <ul style="list-style-type: none"> • If used, Bicycle Route Guide (D11-1) signs should be provided at decision points along designated bicycle routes, including signs to inform bicyclists of bicycle route direction changes. Bicycle Route Guide signs should be repeated at regular intervals so that bicyclists entering from side streets will have an opportunity to know that they are on a bicycle route. <ul style="list-style-type: none"> ○ Similar guide signing should be used for shared roadways with intermediate signs placed for bicyclist guidance. ○ Signage should be focused along major routes near key destinations. ○ Signage should be oriented toward both commuter and recreational cyclists. • Destination signage should be easy to read. Signage should be installed on existing Bike Route or Bike Lane signs where possible to avoid sign clutter. 	

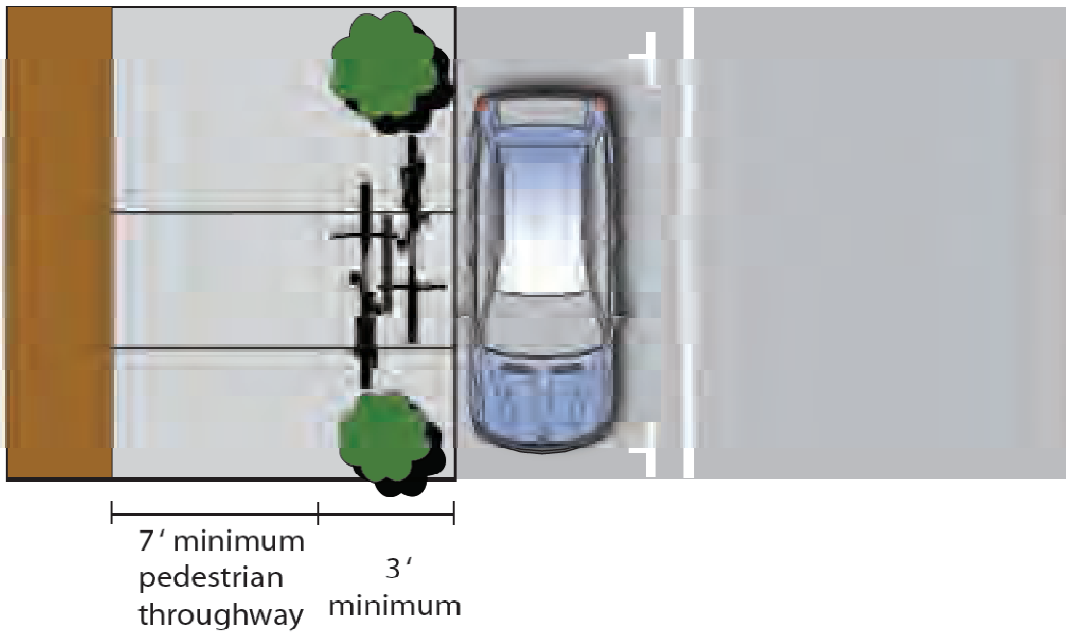
Design Example	Guidance
 <p><i>City of Berkeley, CA Wayfinding Sign</i></p>	<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000) • MUTCD, Section 9B.20 • MUTCD – California Supplement, Section 9B.19 through 21 • AASHTO Guide for the Development of Bicycle Facilities
	<p>Cost</p> <ul style="list-style-type: none"> • Sign, regulatory: \$150 - \$250 per sign

A.8. Bicycle Parking

A.8.1. Bicycle Rack Design

Design Summary	Recommended Design
<ul style="list-style-type: none"> • Bicycle racks should be a design that is intuitive and easy to use. • A standard inverted-U style rack is recommended for use in Monterey County. • Bicycle racks should be securely anchored to a surface or structure. • The rack element (part of the rack that supports the bicycle) should keep the bicycle upright by supporting the frame in two places without the bicycle frame touching the rack. The rack should allow one or both wheels to be secured. • Avoid use of multiple-capacity “wave” style racks. Users commonly misunderstand how to correctly park at wave racks, placing their bikes parallel to the rack and limiting capacity to 1 or 2 bikes. • Position racks so there is enough room between parked bicycles. Racks should be situated on 36” minimum centers. • A five-foot aisle for bicycle maneuvering should be provided and maintained beside or between each row of bicycle racks. • Empty racks should not pose a tripping hazard for visually impaired pedestrians. Position racks out of the walkway’s clear zone. • For sidewalks with heavy pedestrian traffic, at least seven feet of unobstructed right-of-way is required. • Racks should be located close to a main building entrance, in a lighted, high-visibility area protected from the elements. 	<p style="text-align: center;">Inverted-U Bicycle Rack</p> 
<p>Discussion</p>	
<p>Bicycle Parking Manufactures:</p> <ul style="list-style-type: none"> • Palmer: www.bikeparking.com • Park-a-Bike: www.parkabike.com • Dero: www.dero.com • Creative Pipe: www.creativepipe.com • Cycle Safe: www.cyclesafe.com 	

Recommended Design (continued)



Design Example



Short-term bicycle parking showing recommended clearances (non-local)

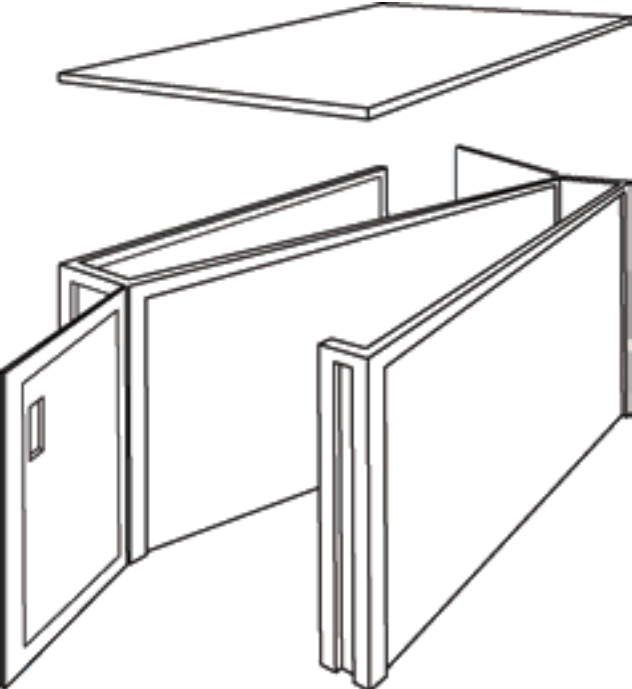
Guidance

- Association of Bicycle and Pedestrian Professionals Bicycle Parking Guidelines (2nd edition 2010)
- City of Oakland, CA Bicycle Parking Ordinance (2008)

Cost

- Bicycle racks: \$150-\$200 each

A.8.2. Bicycle Locker Design

Design Summary	Recommended Design
<ul style="list-style-type: none"> • Bicycle lockers should be a design that is intuitive and easy to use. • Bicycle lockers should be securely anchored to a surface or structure. • Bicycle lockers should be constructed to provide protection from theft, vandalism and weather. • A five-foot aisle for bicycle maneuvering should be provided and maintained beside or between each row of bicycle lockers. • Lockers should be located close to a main building entrance, in a lighted, high-visibility area protected from the elements. Long-term parking should always be protected from the weather. 	
<p>Discussion</p>	
<p>Bicycle Parking Manufactures:</p> <ul style="list-style-type: none"> • Palmer: www.bikeparking.com • Park-a-Bike: www.parkabike.com • Dero: www.dero.com • Creative Pipe: www.creativepipe.com • Cycle Safe: www.cyclesafe.com 	
<p>Guidance</p>	
<ul style="list-style-type: none"> • Association of Bicycle and Pedestrian Professionals Bicycle Parking Guidelines (2nd edition, 2010) • City of Oakland, CA Bicycle Parking Ordinance (2008) 	
<p>Cost</p>	
<ul style="list-style-type: none"> • Bicycle lockers: \$1,350-\$2,000 each 	

A.9.Maintenance Standards

Like all roadways, bicycle and pedestrian facilities require regular maintenance. This includes sweeping, re-striping, maintaining a smooth roadway, ensuring that the gutter-to-pavement transition remains relatively flat, and installing bicycle-friendly drainage grates. Shared use paths also require regular plant trimming. The following recommendations are provided as a maintenance guideline for communities in Monterey County consider as they augments and enhances its maintenance capabilities.

A.9.1. Shared Use Path Maintenance Standards

Recommended Standards Summary

Maintenance Activity	Frequency
Surface gap repair	As needed (see additional guidance below)
Inspections	Twice a year
Pavement sweeping/ blowing	As needed
Pavement markings replacement	3-5 years
Signage replacement	As needed when vandalized, 5-10 years as maintenance
Shoulder plant trimming (weeds, trees, brambles)	Yearly
Tree and shrub plantings, trimming	1 – 3 years
Major damage response (washouts, fallen trees, flooding)	As soon as possible

SURFACE GAP REPAIR

Path Surface

- The surface of the pedestrian access route shall be firm, stable and slip resistant (Draft Guidelines for Public Rights of Way, Section R301.5).

Vertical Changes in Level

- Changes in level up to ¼ inch may be vertical and without edge treatment. Changes in level between ¼ inch and ½ inch shall be beveled with a slope no greater than 1:2. Changes in level greater than ½ inch shall be accomplished by means of a ramp that complies with ADAAG Section 4.7 or 4.8 (ADAAG Section 4.5.2).
- Surface discontinuities shall not exceed ½ inch maximum. Vertical discontinuities between ¼ inch and ½ inch maximum shall be beveled at 1:2 minimum. The bevel shall be applied across the entire level change (Draft Guidelines for Public Rights of Way, Section R301.5.2).

Gaps and Elongated Openings

- If gratings are located in walking surfaces, then they shall have spaces no greater than ½ inch wide in one direction. If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel (ADAAG Section 4.5.4).
- Walkway Joints and Gratings. Openings shall not permit passage of a sphere more than ½ inch in diameter. Elongated openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel (Draft Guidelines for Public Rights of Way, Section R301.7.1).

Discussion	Maintenance Challenges
<p>Basic Maintenance</p> <ul style="list-style-type: none"> • Path pavement should be repaired as need to avoid safety issues and to ensure ADA compliance. • Paths should be swept regularly. • Shoulder vegetation should be cleared and trimmed regularly. <p>Long-Term Maintenance</p> <ul style="list-style-type: none"> • Paths should be slurry sealed, at minimum, 10 years after construction. • Paths should receive an overlay, at minimum, 15 years after construction. <p>Agencies or districts with dedicated funding for maintenance generally provide more maintenance activities.</p>	<ul style="list-style-type: none"> • Most agencies pay for sidewalk and path maintenance out of their maintenance and operations budget. This funding is generally enough to provide seasonal maintenance, but is not enough to fund long-term preventative maintenance, such as overlays. • Grant funding is not generally available for maintenance activities.
Guidance	
<ul style="list-style-type: none"> • ADAAG • Draft Guidelines for Public Rights of Way (2005) 	
Cost	
<ul style="list-style-type: none"> • \$1,000-14,000 per mile per year 	

A.9.2. On-Street Facility Maintenance Standards

Recommended Standards Summary

Maintenance Activity	Frequency
Inspections	Seasonal – at beginning and end of Summer
Pavement sweeping/blowing	As needed, weekly in Fall
Pavement sealing, potholes	5 - 15 years
Culvert and drainage grate inspection	Before Winter and after major storms
Pavement markings replacement (including crosswalks)	1 – 3 years
Signage replacement	1 – 3 years
Shoulder plant trimming (weeds, trees, brambles)	Twice a year; middle of growing season and early Fall
Tree and shrub plantings, trimming	1 – 3 years
Major damage response (washouts, fallen trees, flooding)	As soon as possible

NOTE: Caltrans recommends tolerance of surface discontinuities no more than ½ inch wide when parallel to the direction of travel on bike lanes (Class II) and bike routes (Class III).

Discussion

Basic Maintenance

Bicyclists often avoid shoulders and bike lanes filled with sanding materials, gravel, broken glass and other debris; they will ride in the roadway to avoid these hazards, causing conflicts with motorists. A regularly scheduled inspection and maintenance program helps ensure that roadway debris is regularly picked up or swept. Roadways should also be swept after automobile collisions.

Long-Term Maintenance

Roadway surface is a critical issue for bicyclists' quality. Bicycles are much more sensitive to subtle changes in roadway surface than are motor vehicles. Examine pavement quality and transitions during every roadway project for new construction, maintenance activities, and construction project activities that occur in streets.

Cost

- \$1,000-\$2,000 per mile per year

Appendix B. Pedestrian Design Guidelines

The following pedestrian design guidelines provide design requirements for compliance with Americans with Disabilities Act (ADA), as well as design recommendations intended to create inviting, walkable environments for pedestrians. In addition to recommendations for better pedestrian design, implementation of the ADA design requirements outlined in this appendix will provide a foundation for everyone who walks.

The pedestrian enhancements described throughout these guidelines provide street design best practice guidance, which can enhance the safety, convenience, and mobility for pedestrians. In particular, they provide guidance on appropriate treatments for the various “areas of focus” throughout Monterey County, including downtown districts, coastal/Highway 1, barrier crossings, school zones, regional trails, and AMBAG Draft Blueprint priority areas. Potential treatment types for each of these areas include different design options for streets/sidewalks, pedestrian crossings, multimodal connections and community vitality. Additional discussion of design considerations relevant to different areas of focus is provided in **Chapter 7. Pedestrian Improvements**.

Appendix B | Pedestrian Design Guidelines

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B.1. Sidewalk Widths

Discussion

Medium to high-density pedestrian zones located in areas with commercial or retail activity provide excellent opportunities to develop an inviting pedestrian environment. The frontage zone in retail and commercial areas may feature seating for cafés and restaurants, or extensions of other retail establishments, like florists shops. The furnishings zone may feature seating, as well as newspaper racks, water fountains, utility boxes, lampposts, street trees and other landscaping. The medium to high-density pedestrian zone should provide an interesting and inviting environment for walking as well as window shopping.

Design Summary

Walkway width recommendations in current transportation industry guidelines generally exceed the 36-inch minimum needed for accessible travel under the Americans with Disabilities Act. The Institute of Transportation Engineers (ITE), in its 1998 recommended practice publication, "Design and Safety of Pedestrian Facilities," recommends planning sidewalks that are a minimum of 5 feet wide with a planting strip of 2 feet on local streets and in residential and commercial areas.

The Agency recommends all new development provide sidewalks that are at least five feet wide with planter strips that are at least six feet wide with vertical curbs along arterials and major collectors.

Design Example



Typical Residential Sidewalk



Typical Commercial Area Sidewalk

B.2. Sidewalk Grade and Cross Slope

Discussion

Sidewalk grade and cross slope affect user control, stability and endurance. Gentle grades are preferred to steep grades,

Design Summary

Grade

The grade of a sidewalk affects the issues of control, stability and endurance. Gentle grades are preferred to steep grades, allowing more people to go uphill, providing more control on the downhill, and minimizing loss of footing. The maximum grade of a sidewalk should be no more than 14 percent in any 2-foot section, while the running grade for a sidewalk should not exceed 5 percent.

The following terms apply to standards for grades:

- Grade is the slope parallel to the direction of travel.
- Running grade is the average grade along an entire continuous path.
- Maximum grade covers a section of the sidewalk that is larger than the running grade. It is measured over a two-foot section.
- Rate of change is the change of the grade over a distance of two feet.
- Counter slope is the grade running opposite to the running grade.

Cross Slope

- Cross-slope describes the angle of the sidewalk from the building line to the street, perpendicular to the direction of travel. All sidewalks require some cross-slope for drainage, but a cross-slope that is too great will present problems for people who use wheelchairs, walking aids, or who have difficulty walking but do not use aids. The maximum cross-slope should be no more than 2 percent (1:50) for compliance with ADAGG.



- If a greater slope is anticipated because of unusual topographic or existing conditions, the designer should maintain the preferred slope of 1:50 within the entire Through Passage Zone, if possible. This can be accomplished either by raising the curb so that the cross-slope of the entire sidewalk can be 1:50, or by placing the more steeply angled slope within the Furnishings Zone and/or the Frontage Zone, as shown in Figure 21.
- If the above measures are not sufficient and additional slope is required to match grades, the cross slope within the Through Passage Zone may be as much as 1:25, provided that a 3-ft wide portion within the Through Passage Zone remains at 1:50 cross slope.

Design Graphic



Sidewalk cross slope should not exceed 2% to comply with ADA accessibility standards.

B.3. Sidewalk Material

Discussion	Design Example
<p>Sidewalks should be firm and stable, and resistant to slipping. Sidewalks are normally constructed out of Portland cement concrete. Although multi-use pathways may be constructed out of asphalt, asphalt is not suitable for sidewalk construction due to its shorter lifespan and higher maintenance costs.</p> <p>Concrete is the most common surfaces for sidewalks; however, some sidewalks are designed using decorative materials, such as brick or cobblestone. Although these surfaces may improve the aesthetic quality of the sidewalk, they may also present challenges to people with mobility impairments. For example, tiles that are not spaced tightly together can create grooves that catch wheelchair casters.</p>	 <p style="text-align: center;"><i>Concrete Sidewalk</i></p>
Design Summary	 <p style="text-align: center;"><i>Concrete Pavers</i></p>
<p>Concrete</p> <ul style="list-style-type: none"> • Preferred material for use on standard sidewalks. • Maintenance life: 75 years plus (with no tree root damage) • Cost: \$3.37/sq ft • 20 Year Cost: \$0.90/sq ft <p>Concrete Pavers</p> <ul style="list-style-type: none"> • Acceptable material for use where aesthetic treatment is desired. May be best suited for the Furnishings Zone as streetscape accent where pedestrian through travel is not expected. Not recommended for use on sidewalk through-zone. • Maintenance life: 20 years plus • Cost: \$5.77/sq ft • 20 Year Cost: \$5.77/sq ft 	

B.4. Sidewalk Furnishings

Discussion

The furnishings zone is the area between the curb zone and the through passage zone, where pedestrians pass. The furnishings zone creates an important buffer between pedestrians and vehicle travel lanes by providing horizontal separation.

Design Summary

Width

A minimum width of 24 in (48 in if planting trees) is recommended (FHWA). On sidewalks of ten feet or greater, the furnishings zone width should be a minimum of four feet. A wider zone should be provided in areas with large planters and/or seating areas.

Transit Stop/Shelter Placement

To discourage midblock crossings by pedestrians, bus stops at or near intersections are generally preferred to midblock crossings. An 8 foot by 5 foot landing pad must be provided. A continuous 8 foot pad or sidewalk the length of the bus stop, or at least from the front to rear bus doors, is recommended. At stops in areas without curbs, an 8 foot shoulder should be provided as a landing pad. Bus shelters should be provided where possible to provide visible, comfortable seating and waiting areas for pedestrians. Bus shelters must have a clear floor area of 2.5 feet by 4 feet, entirely within the perimeter of the shelter, connected by a pedestrian access route to the boarding area (AASHTO).

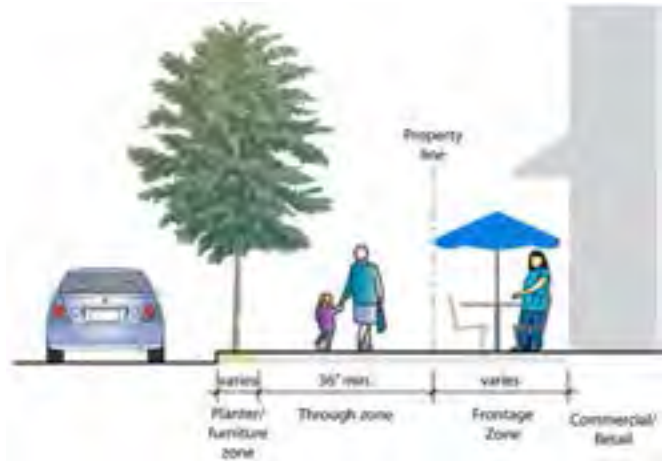
Street Trees and Plantings

Wherever the sidewalk is wide enough, the furnishings zone should include street trees. In order to maintain line of sight to stop signs or other traffic control devices at intersections, when planning for new trees, care should be taken not to plant street trees within 25 feet of corners of any intersection.

Street Furniture and Amenities

Street furniture should be placed in the furnishings zone to maintain through passage zones for pedestrians and to provide a buffer between the sidewalk and the street.

Design Example



Recommended Design



Design Example

B.5. Curb Ramps

Discussion

Curb ramps are necessary for people who use wheelchairs to access sidewalks and crosswalks. ADA requires the installation of curb ramps in new sidewalks, as well as retrofitting existing sidewalks. Curb ramps may be placed at each end of the crosswalk (perpendicular curb ramps), or between crosswalks (diagonal curb ramps). The ramp may be formed by drawing the sidewalk down to meet the street level, or alternately building up a ramp to meet the sidewalk.

Design Summary

Orientation and Alignment

Perpendicular curb ramps should be used at large intersections. Curb ramps should be aligned with crosswalks, unless they are installed in a retrofitting effort and are located in an area with low vehicular traffic.

Width

The minimum width of a curb ramp should be 36 inches, in accordance with ADAAG Guidelines. Curb ramps should be designed to accommodate the level of use anticipated at specific locations, with sufficient width for the expected level of peak hour pedestrian volumes and other potential users.

Drainage

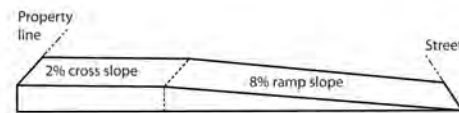
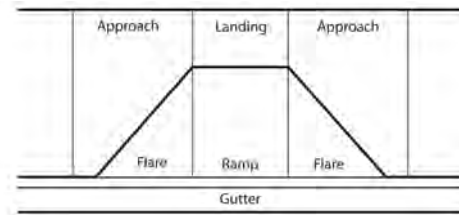
Adequate drainage should be provided to prevent flooding of curb ramps.

Detectable Warnings

Tactile strips must be used to assist sight-impaired pedestrians in locating the curb ramp. Certain exemptions apply (see ADAAG Section 4.29 and the ADA Access Board Guidelines on Accessible Public Rights of Way).

Detectable warnings shall consist of raised truncated domes with a diameter of nominal 0.9 inches, a height of nominal 0.2 inches and a center-to-center spacing of nominal 2.35 inches and shall contrast visually with adjoining surfaces, either light-on-dark, or dark-on-light (ADAAG)

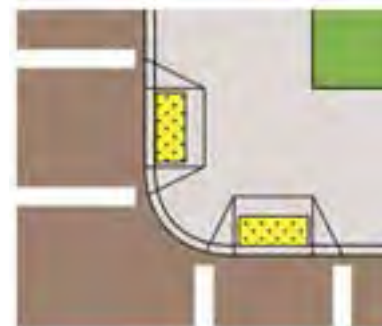
Design Example



Curb Ramp Elements



Diagonal Curb Ramp



Perpendicular Curb Ramp



Parallel Curb Ramp

B.6. Curb Extensions

Discussion

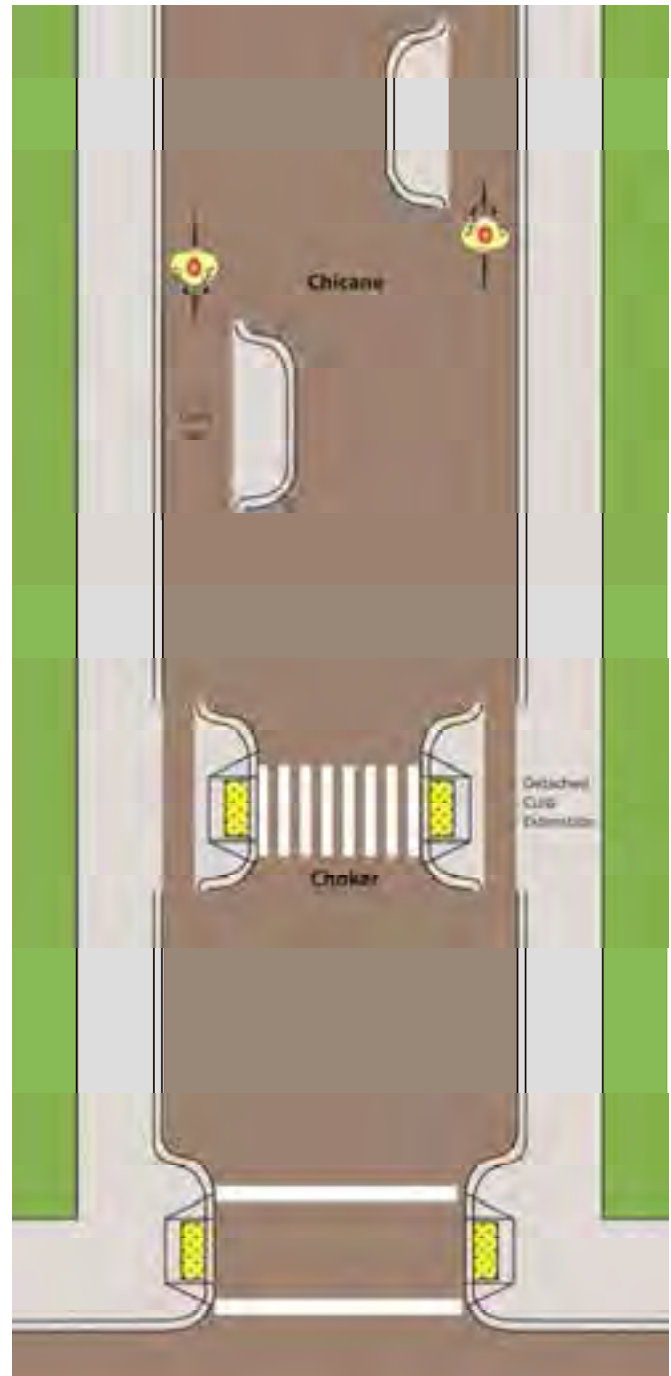
Curb extensions are a traffic calming device used to narrow roadway widths and shorten pedestrian crossing distances. Curb extensions may be installed on one side of a roadway or on both sides of the roadway to create additional traffic calming affects. Curb extensions installed at alternating frequencies on both sides of a roadway creates a “chicane” or S curve. Curb extensions installed on both sides of a roadway in the same location creates a “choker” or extra narrow roadway section.

Curb extension design should facilitate roadway drainage. Such designs may include detaching the curb extension from the curb. Detaching curb extensions provides the opportunity for “cycle” slips, which allow bicyclists to travel straight through the curb extension. Conversely, the channel of the detached curb extension may be covered with a grate to bridge the curb extension and sidewalk, allowing water to drain along the gutter.

Design Summary

- Emergency vehicle operators should be consulted to ensure curb extensions do not negatively affect emergency response times.
- Mid-block installation with where pedestrians cross should consider raised crosswalks.
- Detaching curb extensions facilitates drainage and provides the opportunity for cycle slips.
- Installed at alternating frequencies on both sides of a roadway prevents motorists from “straight line racing”, especially if curbs are extended into one full travel lane.
- Installed in a series of three effectively slows motorists.

Design Example



Curb extensions can be used in a variety of locations to calm traffic speeds.

B.7. Crosswalks

Discussion

Crosswalks should be used:

- At signalized intersections, all crosswalks should be marked.
- At unsignalized intersections, crosswalks should be marked when they
 - help orient pedestrians in finding their way across a complex intersection, or
 - help show pedestrians the shortest route across traffic with the least exposure to vehicular traffic and traffic conflicts, or
 - help position pedestrians where they can best be seen by oncoming traffic.
- At mid-block locations, crosswalks are marked where
 - there is a demand for crossing, and
 - there are no nearby marked crosswalks

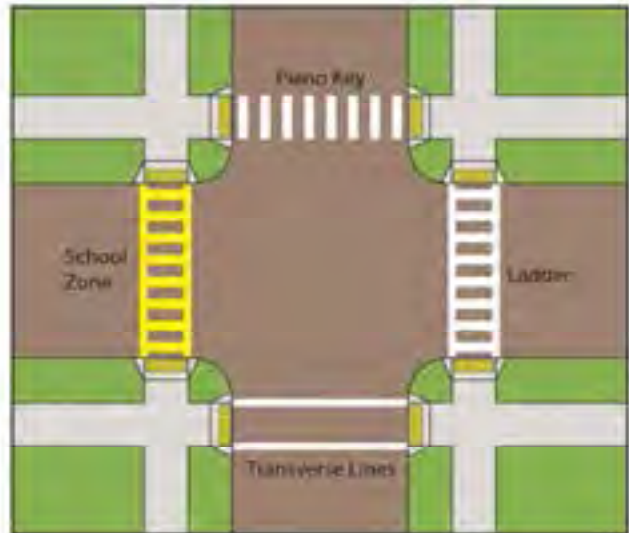
Advance yield lines should be considered at crosswalks where additional space between crosswalks and stopped motorists is desired. Advance yield lines should not place motorists in a position where sight lines are obstructed.

Design Summary

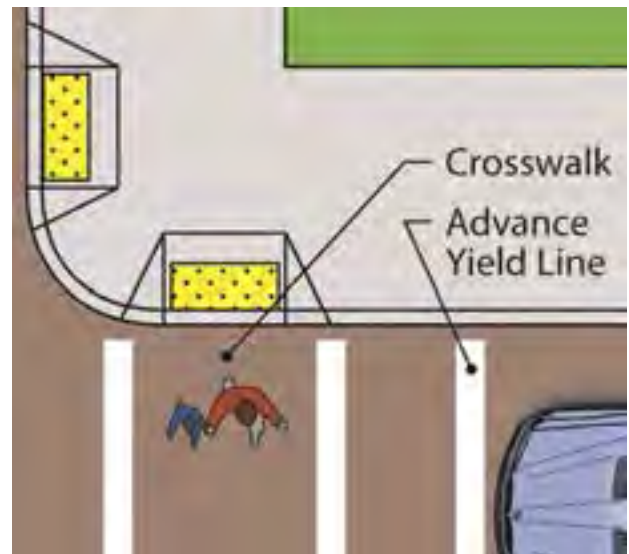
Ladder or piano key crosswalk markings are recommended for most crosswalks in Monterey County, including school crossings, across arterial streets for pedestrian-only signals, at mid-block crosswalks, and where the crosswalk crosses a street not controlled by signals or stop signs.

- A piano key pavement marking consists of two foot wide bars spaced 2 ft apart and should be located such that the wheels of vehicles pass between the white stripes.
- A ladder pavement marking consists of two foot wide bars spaced 2 feet apart and located between one foot wide parallel stripes that are 10 ft apart. In California, school zone crossings can be painted yellow in color.
- Transverse lines consist of one foot wide bars spaces not less than 6 ft apart.
- Advance yield lines, if used, should be installed at least four feet in advance of crosswalks.

Design Example



Latitudinal striping should be used in uncontrolled crosswalks.



Advance yield lines should be installed at least four feet in advance of a crosswalk.

B.8. Crosswalks at Mid Block and Uncontrolled Crossing Placement

Discussion

The National MUTCD requires yield lines and “Yield Here to Pedestrians” signs at all uncontrolled crossings of a multi-lane roadway. Yield lines are not required by the CA MUTCD. The National MUTCD includes a trail crossing sign, shown to the right (W11-15 and W11-15P), which may be used where both bicyclists and pedestrians might be crossing the roadway, such as at an intersection with a shared-use path.

The table on the following page is a summary for implementing at-grade roadway crossings. The number one (1) indicates a ladder style crosswalk with appropriate signage is warranted. (1/1+) indicates the crossing warrants enhanced treatments such as flashing beacons, or in-pavement flashers. (1+/3) indicates Pedestrian Light Control Activated (Pelican), Puffin, or Hawk signals should be considered.

Design Summary

Placement

Mid-block crosswalks should be installed where there is a significant demand for crossing and no nearby existing crosswalks.

Yield Lines

If yield lines are used for vehicles, they shall be placed 20 to 50 feet in advance of the nearest crosswalk line to indicate the point at which the yield is intended or required to be made and ‘Yield Here to Pedestrians’ signs shall be placed adjacent to the yield line. Where traffic is not heavy, stop or yield signs for pedestrians and bicyclists may suffice.

Warning Signs

The Bicycle Warning (W11-1) sign alerts the road user to unexpected entries into the roadway by bicyclists, and other crossing activities that might cause conflicts.

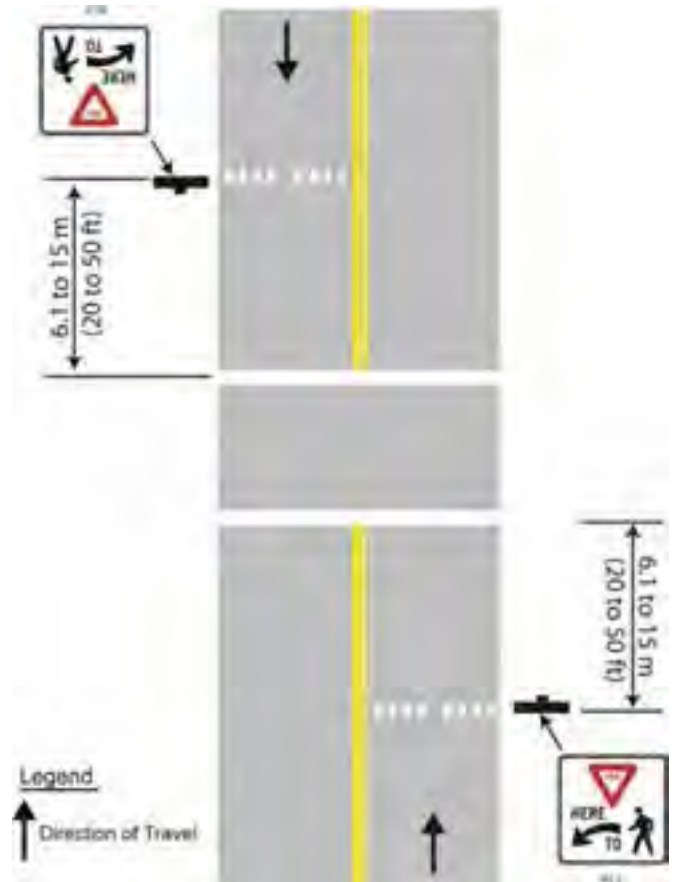
Pavement Markings

A ladder crosswalk should be used. Warning markings on the path and roadway should be installed.

Other Treatments

See table on the following page to determine if treatments such as raised median refuges, flashing beacons should be used.

Design Example



Source: California MUTCD, Figure 3B-15



Yield Here to Pedestrian Sign

Design Example	Recommended Design (continued)
	 <p style="text-align: center;">National MUTCD</p>
Guidance	Cost
<ul style="list-style-type: none"> • Caltrans Highway Design Manual (Chapter 1000) • MUTCD – California Supplement, Parts 2 and 9 • AASHTO Guide for the Development of Bicycle Facilities 	<p>\$3,500 (thermoplastic for crosswalk and yield lines, two advance warning signs, two warning signs at crosswalk, two curb ramps)</p>

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT ≤ 9,000			Vehicle ADT > 9,000 to 12,000			Vehicle ADT > 12,000 to 15,000			Vehicle ADT > 15,000		
	Speed Limit**											
	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h	≤ 30 mi/h	35 mi/h	40 mi/h
2 Lanes	1	1	1/1+	1	1	1/1+	1	1	1+/3	1	1/1+	1+/3
3 Lanes	1	1	1/1+	1	1/1+	1/1+	1/1+	1/1+	1+/3	1/1+	1+/3	1+/3
Multi-Lane (4 or more lanes) with raised median***	1	1	1/1+	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3
Multi-Lane (4 or more lanes) without raised median	1	1/1+	1+/3	1/1+	1/1+	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3	1+/3

*General Notes: Crosswalks should not be installed at locations that could present an increased risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, a substantial volume of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor will they necessarily result in more vehicles stopping for pedestrians. Whether or not marked crosswalks are installed, it is important to consider other pedestrian facility enhancements (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic-calming measures, curb extensions), as needed, to improve the safety of the crossing. These are general recommendations; good engineering judgment should be used in individual cases for deciding which treatment to use.

For each trail-roadway crossing, an engineering study is needed to determine the proper location. For each engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volume, vehicle speed, sight distance, vehicle mix, etc. may be needed at other sites.

**Where the speed limit exceeds 40 mi/h (64.4 km/h), marked crosswalks alone should not be used at unsignalized locations.

***The raised median or crossing island must be at least 4 ft (1.2 m) wide and 6 ft (1.8 m) long to adequately serve as a refuge area for pedestrians in accordance with MUTCD and AASHTO guidelines. A two-way center turn lane is not considered a median.

1= Type 1 Crossings. Ladder-style crosswalks with appropriate signage should be used.

1/1+ = With the higher volumes and speeds, enhanced treatments should be used, including marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

1+/3 = Carefully analyze signal warrants using a combination of Warrant 2 or 5 (depending on school presence) and EAU factoring. Make sure to project usage based on future potential demand. Consider Pelican, Puffin, or Hawk signals in lieu of full signals. For those intersections not meeting warrants or where engineering judgment or cost recommends against signalization, implement Type 1 enhanced crosswalk markings with marked ladder style crosswalks, median refuge, flashing beacons, and/or in-pavement flashers. Ensure there are sufficient gaps through signal timing, as well as sight distance.

B.9. Pedestrian Refuge Island

Discussion

Median “noses” and “porkchops” provide additional protection for pedestrians crossing at intersections. Median noses can also prevent vehicles from encroaching into the refuge area when making left turns. However, median noses may not be feasible to install due to potential turning movement restrictions. Neither the MUTCD nor the ADA Access Board Guidelines have any requirement for median noses to be installed at intersection refuge islands. Porkchops, or triangular islands that channel dedicated right turn lanes, provide refuges for pedestrians. Pedestrian warning signs should be installed in advance of the crosswalk.

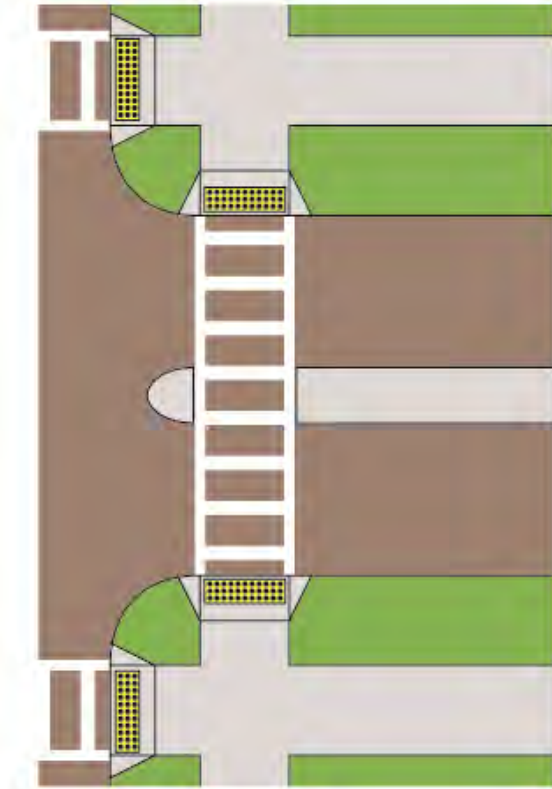
Design Summary

Pedestrian refuge islands should be placed at wide multi-lane roadways. Depending on the signal timing, median islands should be considered when the crossing distance exceeds 60 feet, but can be used at intersections with shorter crossing distances where a need has been recognized.

ADA Access Board Guidelines on Accessible Public Rights of Way has a section on median islands. The following guidelines are applicable:

- Medians and pedestrian refuge islands in crosswalks shall contain a pedestrian access route, including passing space connecting to each crosswalk.
- Medians and pedestrian refuge islands shall be 6.0 ft minimum in length in the direction of pedestrian travel.
- Ramped up and cut-through refuge islands should be permitted. Factors to consider include slope, drainage and width of the island. Median curb ramps can add difficulty to crossing for some users.
- Medians and refuge islands should have detectable warnings, with detectable warnings at cut-through islands separated by a 2-foot minimum length of walkway without detectable warnings.

Design Example




9

Pedestrian Refuge Islands



Median “nose”

B.10.Guidelines for Signage

Discussion	Design Example
<p>Caltrans categorizes signs into warning and regulatory. Pedestrian warning signs should be fluorescent yellow green to call the attention from motorists. Pedestrian regulatory signs govern pedestrian and motorist movements, such as "Yield Here to Pedestrians." The signs to the right provide examples of regulatory and warning signs.</p>	 <p>The design examples show various pedestrian signs:</p> <ul style="list-style-type: none"> R1-5: A square regulatory sign with a white background, a red inverted triangle at the top containing the word "YIELD", and the text "HERE TO" with a black arrow pointing left and a black silhouette of a pedestrian. R1-5a: A square regulatory sign with a white background, a red inverted triangle at the top containing the word "YIELD", and the text "HERE TO PEDESTRIANS" with a black arrow pointing left and a black silhouette of a pedestrian. W11-2: A diamond-shaped warning sign with a yellow background and a black silhouette of a pedestrian. W16-7p: A rectangular warning sign with a yellow background and a black arrow pointing left. R1-6: A rectangular regulatory sign with a fluorescent yellow-green background, the text "STATE LAW" at the top, a red inverted triangle containing "YIELD", the text "TO" and a black silhouette of a pedestrian, and the text "WITHIN CROSSWALK" at the bottom. S1-1: A pentagon-shaped warning sign with a yellow background and a black silhouette of two children walking. W16-7p: A rectangular warning sign with a yellow background and a black arrow pointing left. W66B (CA): A rectangular warning sign with a yellow background and two black arrows pointing left. <p>Additional text for the bottom row of signs:</p> <ul style="list-style-type: none"> Below the first S1-1 sign: School Crosswalk Warning Assembly B (CA) Below the second S1-1 sign: School Crosswalk Warning Assembly E (CA)
<p>Design Summary</p>	
<ul style="list-style-type: none"> • Pedestrian warning signs should accompany all non-controlled crosswalks. • Yield Here to Pedestrians signs should be installed at yield lines or "teeth." • In-street Yield to Pedestrian signs should be considered at non-controlled crosswalks where motorists frequently violate pedestrian right of way. 	

B.11. Guidelines for Signalized Pedestrian Crossing

Discussion

Pedestrian pushbuttons should be used at any signalized intersection without a dedicated pedestrian phase. Push buttons allow pedestrians to actuate a walk phase. All new and modified traffic signals should include accessible pushbuttons that are large and vibrate during a walk phase for visually impaired pedestrians.

Design Summary

Signal Timing

- CA MUTCD requires a walk signal phase to accommodate a 4.0 feet/second pace or slower
- CA MUTCD provides the option of a walk signal phase to accommodate a 2.8 feet/second pace.
- Push buttons should be located within five feet outside of the transverse crosswalk line extended.
- Push button location should be adjacent to an all weather surface to facilitate accessibility.
- Push buttons should be installed within 10 feet of the curb unless impractical.

Design Example



Pedestrian Push Button



Push button placement

B.12. Pedestrian Amenities

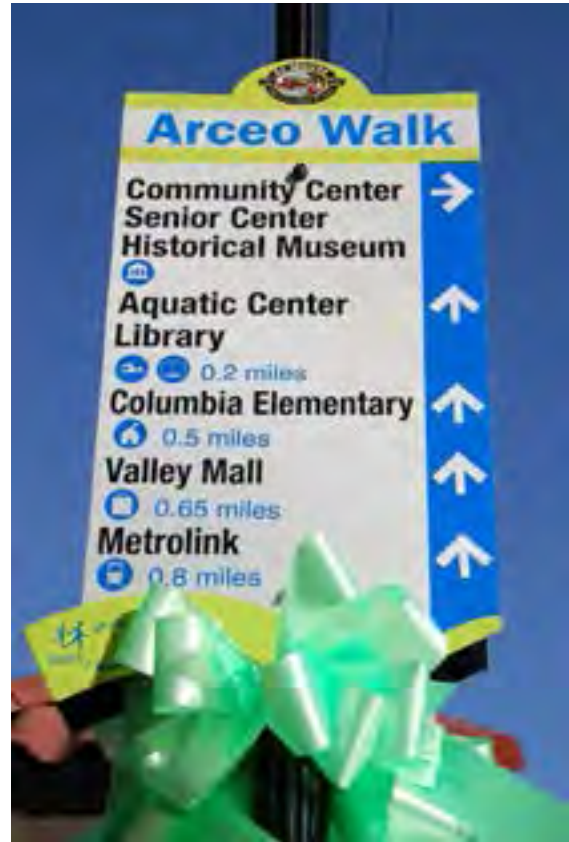
Discussion

Pedestrian amenities include wayfinding signage, street furniture, human scale lighting and textured walking surfaces. These amenities create a welcoming atmosphere where pedestrians feel comfortable.

Design Summary

- Wayfinding signage should be considered in locations with a concentration of community destinations and moderate pedestrian activity.
- Street furniture should be used to create a welcoming streetscape but should not block or constrict pedestrian movement.
- Tree species should be selected based on low maintenance characteristics including root structures that will not disrupt utilities and displace walking surfaces. Planting should be spaces to provide a continuous canopy.
- Human scale lighting should be 12- 20 feet tall. The level of lighting should reflect the location and level of pedestrian activity.

Design Example




Wayfinding and Signage

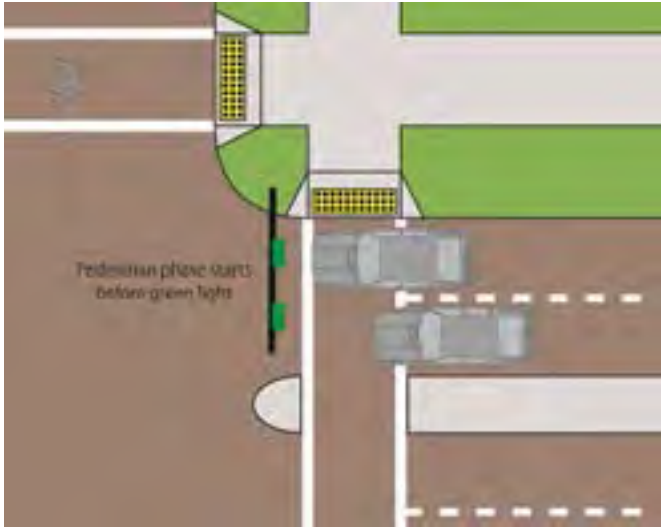


Pavers, trash receptacles, human scale lighting, and shade make the Gas Lamp District of San Diego attractive to pedestrians.

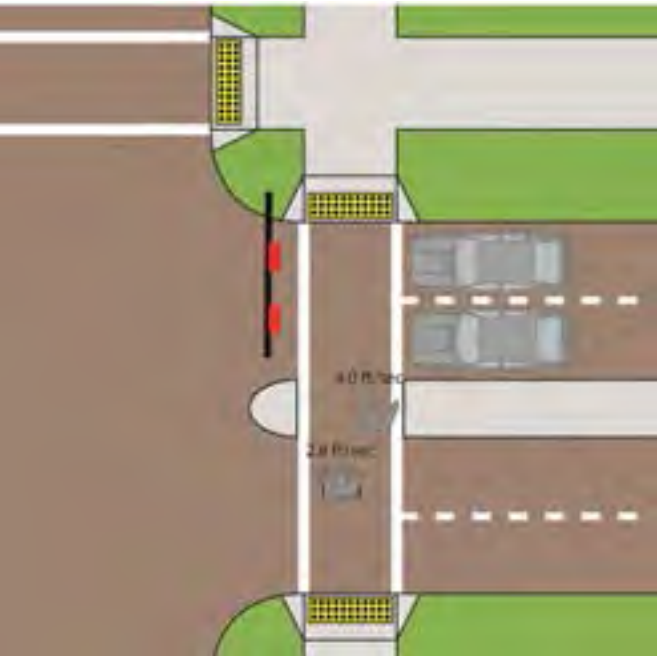

B.13. Crossing Beacons

Discussion	Recommended Design
<p>Beacons enhance uncontrolled crosswalks by using devices that call attention to pedestrians. Beacons may be actuated by pedestrians wishing to cross at a crosswalk or may flash on a continuous basis to warn motorists of potential pedestrian activity ahead.</p> <p>The standard beacon uses a yellow round light that flashes at regular intervals. Many times, motorists become complacent of the this type of beacon, resulting in a lower yield to pedestrian compliance rate.</p> <p>New beacon designs incorporate high-visibility elements to increase yield to pedestrian compliance. The National and California MUTCD consider these devices experimental.</p> <p>Experimental Beacons</p> <p>Rectangular-Shaped Rapid Flash beacons utilize a LED light that flashes in a stutter pattern similar to that of an emergency vehicle.</p> <p>High intensity actuated crosswalk (HAWK) beacons utilize yellow warning and red stop lights similar to a traffic signal. After pedestrian actuation, the yellow light will flash and then turn solid to warn motorists to slow for a cued pedestrian. A red light follows to stop motorists the yellow and flashes red after the pedestrian crossing phase expires.</p> <p>The application of experimental treatments within California should follow the California Traffic Control Devices Committee’s (CTCDC) approval process (http://www.dot.ca.gov/hq/traffops/signtech/newtech/).</p> <p>Jurisdictions within California can apply to the CTCDC for permission to use experimental treatments.</p>	 <p><i>HAWK Crossing (not approved for use in California)</i></p>
<p>Guidance</p>	<p>Design Summary</p> <ul style="list-style-type: none"> • Crosswalk warning beacons should be actuated to maximize yield to pedestrian compliance. • High intensity beacons should be considered over traditional circular yellow beacons.
<p>CA MUTCD Chapter 4.K. ITE – Alternative Treatments for At-Grade Pedestrian Crossings</p>	<p>Cost</p> <p>Signs, Overhead Beacon: \$15,000-\$55,120 each Detection, Automated Beacon: \$800 each Crossing, Hawk: \$50,000 each Actuated Pedestrian Crossing: \$40,000 each</p>

B.14.Signal Phasing

Discussion	Design Example
<p>Signalized intersection can be daunting to pedestrians if motor vehicle movement is prioritized. Traffic signal phasing can be modified to better accommodate pedestrians and prioritize pedestrian movement at signalized intersection.</p> <p>The following signal phasing strategies avoid motorist/pedestrian conflict.</p> <ul style="list-style-type: none"> Protected left turns provide motorists with an exclusive left turn phase, eliminating simultaneous movements of pedestrians and motorists. Split phasing provides a dedicated phase for each intersection approach, including a dedicated pedestrian phase. <p>Leading pedestrian intervals provide a pedestrian phase two to four seconds in advance of a green light in the same direction. LPIs increase pedestrian visibility by permitting pedestrians to enter the crosswalk and motorist sight lines before motorists enter the intersection. Without LPIs, pedestrians are at greater risk of motor vehicle collision because they may enter the intersection at the same time as motorists and assume turning motorists can see them.</p>	
<p>Design Summary</p>	<p><i>Leading Pedestrian Interval</i></p>
<ul style="list-style-type: none"> Urban settings are most appropriate for permitted phasing that permits simultaneous pedestrian and motorist movements and increase intersection capacity but increase risk of conflict. Rural settings are most appropriate for protected phasing that provides exclusive turning and pedestrian phases but decreases intersection capacity. LPIs should provide two to four seconds of pedestrian phasing before a green light for parallel traffic. LPIs should be considered where improved motorist visibility of pedestrians is needed. 	

B.15. Pedestrian Friendly Signal Timing

Discussion	Design Example
<p>Pedestrian speed determines the duration of a pedestrian phase. CAMUTCD standard pedestrian speed for calculating pedestrian phasing is 4.0 feet per second. This speed does not accommodate slow moving pedestrians such as children, seniors and people with disabilities. CAMUTCD provides the option of using 2.8 feet per second as a pedestrian speed to accommodate slow moving pedestrians.</p> <p>Countdown pedestrian heads display the remaining time of a pedestrian phase, informing crossing pedestrians. Countdown heads are most applicable at multi-lane arterial roadways where pedestrians have a long distance to cross. If a median is provided, pedestrians may rest and wait for the next pedestrian phase to cross the remaining roadway.</p>	 <p>The diagram illustrates a multi-lane arterial roadway intersection with a central median. It shows pedestrian crossing paths from both sides of the median. A vertical line with red arrows indicates the direction of traffic flow. Two zones are labeled: '40 ft/sec' for the standard pedestrian speed and '2.8 ft/sec' for a slower speed to accommodate children, seniors, and people with disabilities. The diagram shows how these zones would affect the timing of the pedestrian signal phase.</p>
<p>Design Summary</p>	<p><i>Pedestrian timing should be derived from 2.4 feet per second pedestrian speed in areas with children, seniors and people with disabilities.</i></p>
<ul style="list-style-type: none"> • A pedestrian speed of 2.8 feet per second should be considered at locations used by slow moving pedestrians, i.e. children, seniors and people with disabilities. • Countdown heads should be installed at multi-lane arterial roadway intersections. • Countdown head should incorporate audible instructions. 	 <p>A close-up photograph of a pedestrian signal head. On the left, there is a white walking person icon formed by small lights. On the right, there is a red digital display showing the number '14', indicating the remaining time for the pedestrian phase.</p>
	<p><i>Countdown Signal</i></p>

Appendix C. Bike Parking Inventory

This appendix presents an extensive inventory of bike parking on public and private land in Table C-1. Public bicycle parking locations are shown in Figures 6-1 through 6-15.

Table C-1: Bicycle Parking Inventory

Location	Address	Area	Racks	Lockers
Aromas Library	Carpenteria Street & Blohm Street	Aromas	1	
Bradley Library	Dixie Street & Monterey Street	Bradley	1	
Cachagua Community Center	Cachagua Road	Cachagua	1	
Forest Hill Park	Junipero St	Carmel	2	
Mission Trail Park	Rio Road	Carmel	5	
Sunset Center	San Carlos	Carmel	4	
Sunset Center	10th Avenue	Carmel	3	
Carmel Library	65 West Carmel Valley Road	Carmel Valley	1	
Castroville Library	11266 Merritt Street	Castroville	1	
Cato Phillips Community Park	California and Wood Streets	Castroville	2	
Crane Street Neighborhood Park	Ricco and Crane Streets	Castroville	2	
Moro Cojo Neighborhood Park	Comunidad Way	Castroville	2	
North Monterey County High School	13990 Castroville Blvd	Castroville	10	
MST Station	Between 4th and 5th streets along Alta Street	Gonzales	2	
Myer Park	Herald Parkway between Holstein Way and Mustang Way	Gonzales	2	
City Hall	45 El Camino Real	Greenfield	1	
La Plaza Bakery	150 El Camino Real	Greenfield	1	
Patriot Park	13th and Oak Ave	Greenfield	1	
Post Office	485 Oak Ave	Greenfield	1	
Shopping Center	Next to Hwy 101	Greenfield	1	
Jacks Peak County Park	Jacks Peak Park	Jacks Peak Park	2	
Arboleda Baseball Park	San Antonio Street	King City	5	
Chalone Peaks Middle School	667 Meyer Street	King City	6	
City Recreational Center	Division Street	King City	4	
Division Street Park	Division Street	King City	5	
King City Courthouse	250 Franciscan Way	King City	1	
King City Center	Canal St and Hwy 1	King City	1	
King City City Hall	213 S. Vanderhurst Ave	King City	5	
King City High School	720 Broadway Street	King City	5	
King City Library	402 Broadway Street	King City	4	
King City Shopping Center: Safeway	530 Canal Street	King City	1	
San Lorenzo Middle School	415 Pearl Street	King City	3	
Laguna Seca County Park	Laguna Seca Park	Laguna Seca	5	
City Hall	211 Hillcrest Ave.	Marina	1	2
Fort Ord Reuse Authority	100 12th St. Bldg 2880	Marina	5	
Tate Park	Abdy Way	Marina	1	
Teen Center and Skate Park	304 Hillcrest	Marina	5	
Vince Dimaggio Park	3200 Del Monte	Marina	1	
Alvarado Street	Bicycle racks along its entire length	Monterey	1	

Appendix C | Bike Parking Tables

Location	Address	Area	Racks	Lockers
Cannery Row Garage		Monterey		6
City of Monterey	Presidio	Monterey		4
City of Monterey	735 Pacific Street	Monterey		6
City of Monterey construction management office		Monterey	1	
City of Monterey Library		Monterey	1	
Del Monte Shopping Center at Macy's		Monterey	1	
Dennis the Menace Park		Monterey	1	
Harbormaster's Office		Monterey		4
Monterey Bay Coastal Trail	Racks along its entire length	Monterey	23	
Monterey County Offices	Aguajito Road	Monterey		1
Monterey Hostel	778 Hawthorne St.	Monterey	3	6
Monterey Peninsula College	980 Fremont St	Monterey	25	
Monterey Sports Center		Monterey	1	
Monterey Transit Center		Monterey	1	
MPC at Student Union		Monterey	1	
Whole Foods Market	800 Del Monte Center	Monterey	9	
American Tin Cannery	Ocean View & David	Pacific Grove	3	
Asilomar State Beach	Sunset Drive	Pacific Grove	2	
Berwick Park	Ocean View Blvd	Pacific Grove	1	
Community Center	515 Junipero	Pacific Grove	1	
Forest Hill Bike Shop	1173 Forest Avenue	Pacific Grove	1	
Hallmark store	572 Lighthouse Avenue	Pacific Grove	1	
Lighthouse Theater	525 Lighthouse Avenue	Pacific Grove	1	
Lover's Point	Ocean View Blvd	Pacific Grove	2	
Marita's Shoes	547 Lighthouse Avenue	Pacific Grove	1	
McDonald's	100 County Club Gate	Pacific Grove	1	
Monterey Bay Charter School	1004 B David Ave, Pacific Grove, CA 93950	Pacific Grove	6	
Museum	Forest & Central Avenues	Pacific Grove	1	
NOAA	Lighthouse extension	Pacific Grove	1	
PG City Hall	300 Forest Avenue	Pacific Grove	2	
PG Library	550 Central Avenue	Pacific Grove	1	
PG Plaza/Int'l Cafe	620 Lighthouse Avenue	Pacific Grove	1	
PG Travel	591 Lighthouse Avenue	Pacific Grove	1	
PG Youth Center	17th St. & Laurel Avenue	Pacific Grove	1	
The Tides/Works	655 Lighthouse Avenue	Pacific Grove	1	

Location	Address	Area	Racks	Lockers
Toasties Cafe	702 Lighthouse Avenue	Pacific Grove	1	
Winning Wheels Bike Shop	318 Grand Avenue	Pacific Grove	1	
Pajaro Community Center	29 bishop Street	Pajaro	1	
Parkfield Library	Parkfield	Parkfield	1	
Manzanita Regional Park	Castroville Blvd & Manzanita Circle	Prunedale	1	
Ace Hardware	1215 S. Main St.	Salinas	1	
Agricultural Extension	1432 Abott Street	Salinas	3	
ALANON	Central Avenue	Salinas	1	
Albertson's	N. Davis Road	Salinas	7 (spaces)	
Albertson's	S. Main Street	Salinas	11 (spaces)	
Alisal Elementary School	Del Monte Avenue	Salinas	19 (spaces)	
Alisal High School	Williams Road	Salinas	44 (spaces)	
AMTRAK Station	Railroad Avenue	Salinas	7 (spaces)	
AT&T Wireless	N. Davis Road	Salinas	7 (spaces)	
Auto Zone	N. Main Street	Salinas	9 (spaces)	
Bank Of America	S. Main Street	Salinas	2 (spaces)	
Baptist Church	San Vincente Avenue	Salinas	26 (spaces)	
Bardin Elementary School	Bardin Road	Salinas	28 (spaces)	
Bed Bath & Beyond	N. Main Street	Salinas	5 (spaces)	
Bicycle Fitness Center	W. Market Street	Salinas	10 (spaces)	
Blockbuster	S. Main Street	Salinas	12 (spaces)	
Bob Wills Dodge	Auto Center Circle	Salinas	11 (spaces)	
Bobcat Bicycles	Monterey Street	Salinas	8 (spaces)	
Boskovich Farms Inc.	Work Street	Salinas	11 (spaces)	
Bread Box Recreation Center	N. Sanborn Road	Salinas	7 (spaces)	
Cardinale Mazda	Auto Center Circle	Salinas	4 (spaces)	
Cardinale Volkswagon	Auto Center Circle	Salinas	4 (spaces)	
Carl's Jr.	N. Davis Road	Salinas	6 (spaces)	
Carolyn's	Main Street	Salinas	7 (spaces)	
Central Coast Credit Union	S. Main Street	Salinas	7 (spaces)	
Central Park	Central Avenue	Salinas	21 (spaces)	
Century Park 7 Theater	Simas Street	Salinas	4 (spaces)	
Cesar Chaves	Towt Street	Salinas	26 (spaces)	
Cesar Chavez Library	Williams Road	Salinas	7 (spaces)	
Chevron Gas Station	N. Davis Road	Salinas	5 (spaces)	
Chevron Gas Station	S. Main Street	Salinas	5 (spaces)	
Chevy's	N. Davis Road	Salinas	7 (spaces)	
Chuck E Cheese	N. Davis Road	Salinas	11 (spaces)	
City of Salinas, Maintenance Service Department	426 Work Street, Salinas, CA 93901	Salinas		1
Claremont Park	San Fernando Drive	Salinas	36 (spaces)	
Closter Park	Towt Street	Salinas	63 (spaces)	
Coca Cola	Vandenberg Street	Salinas	7 (spaces)	
Comerica Bank	S. Main Street	Salinas	8 (spaces)	
Commercial Building	Church Street	Salinas	6 (spaces)	
Community Bank	N. Davis Road	Salinas	3 (spaces)	
Community Bank	Main Street	Salinas	7 (spaces)	
Corner Market	E. Alisal Street	Salinas	5 (spaces)	
Costco	N. Davis Road	Salinas	10 (spaces)	
Creekside Elementary School	Kittery	Salinas	23 (spaces)	
Creekside Neighborhood Park	Declaration Street	Salinas	7 (spaces)	
Crystal Theater	Main Street	Salinas	7 (spaces)	
Diamond Dental	N. Davis Road	Salinas	5 (spaces)	

Appendix C | Bike Parking Tables

Location	Address	Area	Racks	Lockers
Economy Auto Body & Paint	W. Market Street	Salinas	7 (spaces)	
El Dorado Park	El Dorado Drive	Salinas	7 (spaces)	
El Gabilan Elementary	Linwood Drive	Salinas	68 (spaces)	
El Jaliscience Restaurant	E. Alisal Street	Salinas	6 (spaces)	
El Pollo Loco	N. Davis Road	Salinas	5 (spaces)	
El Sausal Middle School	E. Alisal Street	Salinas	100 (spaces)	
El Zacatecano Restaurant	E. Alisal Street	Salinas	5 (spaces)	
Electrical Distributor	Work Circle	Salinas	5 (spaces)	
Ethan Allen	N. Davis Road	Salinas	25 (spaces)	
Everett Alvarez High School	Independence Blvd	Salinas	29 (spaces)	
Firehouse Recreation Center	E. Alisal Street	Salinas	19 (spaces)	
Firestation # 5	Rider Avenue	Salinas	5 (spaces)	
First Awakenings	Main Street	Salinas	7 (spaces)	
Five Star Pallet Co.	Brunken Avenue	Salinas	7 (spaces)	
Former Gold's Gym	Main Street	Salinas	7 (spaces)	
Frank Paul School	Rider Avenue	Salinas	24 (spaces)	
Fremont Elementary School	E. Market Street	Salinas	85 (spaces)	
Gabilan Library	N. Main Street	Salinas	13 (spaces)	
Gabilan Manufacturing	Work Street	Salinas	13 (spaces)	
Golden Fish	Main Street	Salinas	7 (spaces)	
Halltree Antiques	Main Street	Salinas	7 (spaces)	
Harden Middle School	McKinnon Street	Salinas	176 (spaces)	
Hartnell College - Animal Health Tech Building	Homestead Avenue	Salinas	10 (spaces)	
Hartnell College - Gymnasium	Homestead Avenue	Salinas	40 (spaces)	
Hartnell College - Performing Arts Building	Homestead Avenue	Salinas	8 (spaces)	
Hartnell College - Student Center - Homestead	Homestead Avenue	Salinas	18 (spaces)	
Hartnell College - Student Center & Library	Homestead Avenue	Salinas	63 (spaces)	
Hartnell College - Tennis Courts	Homestead Avenue	Salinas	11 (spaces)	
Hartnell College - Track	Homestead Avenue	Salinas	10 (spaces)	
Hartnell College - Transfer Center	Homestead Avenue	Salinas	10 (spaces)	
Hartnell College - Weight Room	Homestead Avenue	Salinas	7 (spaces)	
Hartnell College- Amphitheater	Homestead Avenue	Salinas	22 (spaces)	
Hartnell College- Dining Area	Homestead Avenue	Salinas	8 (spaces)	
Hartnell Park	Hartnell Park	Salinas	30 (spaces)	
Hayashi & Wayland	Padre Drive.	Salinas	7 (spaces)	
Hebbron Heights	Fremont Street	Salinas	18 (spaces)	
Hollywood Video	S. Main Street	Salinas	10 (spaces)	
Hometown Buffet	Northridge Mall	Salinas	5 (spaces)	
Household Credit Services	Schilling Place	Salinas	11 (spaces)	
Household Credit Services - Child Care	Schilling Place	Salinas	10 (spaces)	
IDT	Moffett Street	Salinas	7 (spaces)	
Income Maintenance DSS	1322 Natividad Road	Salinas	3 (spaces)	
Jack In the Box	Main Street	Salinas	3 (spaces)	
Jack in the Box	S. Main Street	Salinas	3 (spaces)	
Jaycees Tot Lot	Bardin Way	Salinas	7 (spaces)	
Jesse G. Sanchez Elementary School	N. Sanborn Road	Salinas	24 (spaces)	
John E. Steinbeck Elementary School	Burlington Drive	Salinas	40 (spaces)	
Julian's Taylor Shop	Main Street	Salinas	7 (spaces)	

Location	Address	Area	Racks	Lockers
Kamman School	Rochex Avenue	Salinas	201 (spaces)	
KION Channel 46	Moffet Street	Salinas	12 (spaces)	
La Movida Nightclub	E. Alisal Street	Salinas	5 (spaces)	
La Paz Middle School	N. Sanborn Road	Salinas	40 (spaces)	
La Plaza Bakery	N. Davis Road	Salinas	5 (spaces)	
La Plazita	E. Alisal Street	Salinas	7 (spaces)	
La Princesa Market	Williams Road	Salinas	5 (spaces)	
La Princesa Market	E. Alisal Street	Salinas	5 (spaces)	
Lantis Cooperation	Hansen	Salinas	8 (spaces)	
Las Palmas Plaza	E. Alisal Street	Salinas	5 (spaces)	
Laurel Park	Laurel Drive	Salinas	14 (spaces)	
Laurelwood Park	Victor Street	Salinas	7 (spaces)	
Laurelwood School	Larkin Street	Salinas	135 (spaces)	
Lincoln School	California Street	Salinas	96 (spaces)	
Loma Vista Elementary	Sausal Drive	Salinas	34 (spaces)	
Longs Drug Store	E. Boronda Road	Salinas	10 (spaces)	
Longs Drug Store	S. Main Street	Salinas	7 (spaces)	
Longs Drug Store	E. Alisal Street	Salinas	8 (spaces)	
Los Padres Elementary	John Street	Salinas	36 (spaces)	
Lutheran Church of Good Shepherd	Larkin Street	Salinas	12 (spaces)	
Magana's Meat Market	N. Main Street	Salinas	10 (spaces)	
Marie Calendar's	N. Davis Road	Salinas	9 (spaces)	
MCCormick Schilling & Co	Schilling Place	Salinas	6 (spaces)	
McDonalds	S. Sanborn Road	Salinas	5 (spaces)	
McDonalds	E. Alisal Street	Salinas	5 (spaces)	
McDonalds	E. Boronda Road	Salinas	5 (spaces)	
McDonalds	Williams Road	Salinas	5 (spaces)	
Memorial Hospital	E. Romie Lane	Salinas	39 (spaces)	
Mission Park School	Acacia Street	Salinas	94 (spaces)	
Mission Park School. Salinas	403 W. Acacia, Salinas, CA 93901.	Salinas	6	
Mission Trails ROP Center	E. Laurel Drive	Salinas	16 (spaces)	
Monterey Co. Office of Education	Blanco Circle	Salinas	26 (spaces)	
Monterey Co. Public Works	E. Laurel Drive	Salinas	9 (spaces)	
Monterey County Dept of Child Support Services	La Guardia	Salinas	9 (spaces)	
Monterey County Free Libraries				
Castroville-Andy Ausonio Branch	26 Central Ave., Salinas, CA 93901	Salinas	4	
Monterey County Public Works	E. Alisal Street	Salinas	9 (spaces)	
Monterey Park Elementary School	San Miguel Street	Salinas	180 (spaces)	
Mount Toro High School	Sherwood Place	Salinas	16 (spaces)	
MY Nissan	Auto Center Circle	Salinas	7 (spaces)	
Natividad Elementary	Modoc Avenue	Salinas	54 (spaces)	
Natividad Hospital - Building 300	Constitution Blvd.	Salinas	9 (spaces)	
Natividad Hospital - Building 400	Constitution Blvd.	Salinas	9 (spaces)	
Natividad Hospital - Emergency Room	Constitution Blvd.	Salinas	18 (spaces)	
Natividad Medical Center	1330 Natividad Road	Salinas	5 (spaces)	
Natividad Park	Nogal Drive	Salinas	28 (spaces)	
Natividad Plaza	E. Alvin Drive	Salinas	8 (spaces)	
New Horizons Comp. Learning Center	S. Main Street	Salinas	5 (spaces)	
Nob Hill Foods	S. Main Street	Salinas	10 (spaces)	
Nob Hill Foods	E. Boronda Road	Salinas	5 (spaces)	
Noland - Hammerly Law Offices	Salinas Street	Salinas	8 (spaces)	

Appendix C | Bike Parking Tables

Location	Address	Area	Racks	Lockers
North Salinas High School	Kip Drive	Salinas	124 (spaces)	
Northridge Cinema	Northridge Mall	Salinas	14 (spaces)	
Northridge Mall - Carl's Jr. Entrance	Northridge Mall	Salinas	5 (spaces)	
Northridge Mall - JCPenney Entrance	Northridge Mall	Salinas	7 (spaces)	
Northridge Mall - Macy's - North Entrance	Northridge Mall	Salinas	21 (spaces)	
Northridge Mall - Macy's - West Entrance	Northridge Mall	Salinas	7 (spaces)	
Northridge Mall - Mervyn's Entrance	Northridge Mall	Salinas	7 (spaces)	
Northridge Mall - Music Land Entrance	Northridge Mall	Salinas	5 (spaces)	
Northridge Mall - N. Entrance Food Court	Northridge Mall	Salinas	5 (spaces)	
Northridge Mall - S. Entrance Food Court	Northridge Mall	Salinas	17 (spaces)	
Northridge Mall - Sears Auto Center	Northridge Mall	Salinas	11 (spaces)	
Northridge Mall - TimeOut Entrance	Northridge Mall	Salinas	10 (spaces)	
Notre Dame High School	Palma Drive	Salinas	12 (spaces)	
Old Town Dental Care	S. Main Street	Salinas	8 (spaces)	
Old Video City	E. Alisal Street	Salinas	5 (spaces)	
Olivias Café	W. Market Street	Salinas	5 (spaces)	
One Stop Career Center	La Guardia	Salinas	9 (spaces)	
Outback Steakhouse	N. Davis Road	Salinas	7 (spaces)	
Pacific Coast Farm Credit Union	E. Blanco	Salinas	5 (spaces)	
Palma High School	Iverson Street	Salinas	33 (spaces)	
Park	Falcon Drive	Salinas	5 (spaces)	
Pat's Monogram	Westridge Parkway	Salinas	7 (spaces)	
Payless Shoes Store	N. Main Street	Salinas	5 (spaces)	2
Permit Center	W. Alisal Street	Salinas	7 (spaces)	
Pilot Travel Center	S. Sanborn Road	Salinas	7 (spaces)	
POP's Market	N. Main Street	Salinas	4 (spaces)	
Pro Source Wholesale Floor Coverings	Rossi Circle	Salinas	5 (spaces)	
REA	Station Place	Salinas	7 (spaces)	
Recreation Center	Lincoln Avenue	Salinas	7 (spaces)	
Roosevelt Elementary School	Capitol Street	Salinas	48 (spaces)	
Ross	N. Davis Road	Salinas	13 (spaces)	
Safeway	N. Main Street	Salinas	5 (spaces)	
Salinas - Courthouse	240 Church Street	Salinas	3 (spaces)	
Salinas Adult School	Sherwood Place	Salinas	22 (spaces)	
Salinas Athletic Club	San Joaquin	Salinas	12 (spaces)	
Salinas Athletic Club	N. Main Street	Salinas	16 (spaces)	
Salinas City Elementary School District	S. Main Street	Salinas	7 (spaces)	
Salinas City Hall	Lincoln Avenue	Salinas	13 (spaces)	10
Salinas High School	S. Main Street	Salinas	16 (spaces)	
Salinas High School	S. Main Street	Salinas	3 (spaces)	
Salinas High School	S. Main Street	Salinas	21 (spaces)	
Salinas High School	S. Main Street	Salinas	6 (spaces)	
Salinas Hyundai Isuzu	Auto Center Circle	Salinas	9 (spaces)	
Salinas Municipal Air Terminal	Mortenson Avenue	Salinas	7 (spaces)	
Salinas Police Department	Lincoln Avenue	Salinas	10 (spaces)	
Salinas Toyota	Auto Center Circle	Salinas	10 (spaces)	
Salinas Transit Center	Salinas Street	Salinas	10 (spaces)	
Salinas Valley Ford	Auto Center Circle	Salinas	6 (spaces)	
Salinas Valley Shippers	Work Street	Salinas	5 (spaces)	
Salvation Army	N. Main Street	Salinas	18 (spaces)	

Location	Address	Area	Racks	Lockers
Sang's Café	Main Street	Salinas	7 (spaces)	
Serta Mattress	N. Davis Road	Salinas	5 (spaces)	
Service Station Computer Systems	Work Street	Salinas	7 (spaces)	
Seven Eleven	Main Street	Salinas	4 (spaces)	
Seven Eleven	Natividad Road	Salinas	5 (spaces)	
Sharpes Market	John Street	Salinas	5 (spaces)	
Sherwood Elementary School	S. Wood Street	Salinas	17 (spaces)	
Side Pocket Billiards	N. Main Street	Salinas	7 (spaces)	
Smuckers Jam Co.	Hansen	Salinas	20 (spaces)	
Social Security Office	E. Alvin Drive	Salinas	34 (spaces)	
Star Market	S. Main Street	Salinas	16 (spaces)	
Steinbeck Center	Main Street	Salinas	21 (spaces)	
Steinbeck Library	Lincoln Avenue	Salinas	7 (spaces)	
Stuft Pizza	Williams Road	Salinas	7 (spaces)	
Target	N. Main Street	Salinas	20 (spaces)	
TGI Fridays	N. Main Street	Salinas	12 (spaces)	
The Agency	55-B Plaza Cr.	Salinas	12 (spaces)	2
The Californian	W. Alisal Street	Salinas	7 (spaces)	
Tom's Alisal Liquor	E. Alisal Street	Salinas	5 (spaces)	
Toys R Us	Northridge Mall	Salinas	10 (spaces)	
Trigger Hill	S. Main Street	Salinas	5 (spaces)	
U.S. Post Office	Post Drive	Salinas	14 (spaces)	
USDA Service Center	La Guardia	Salinas	9 (spaces)	
Villalobos Market	E. Alisal Street	Salinas	5 (spaces)	
Virginia Rocca Barton School	Las Casitas Drive	Salinas	61 (spaces)	
Visiting Nurses Association	Plaza Circle	Salinas	2 (spaces)	
Walgreens	N. Sanborn Road	Salinas	7 (spaces)	
Walmart	N. Davis Road	Salinas	20 (spaces)	
Washington Middle School	Iverson Street	Salinas	50 (spaces)	
Washington Mutual Bank	E. Alisal Street	Salinas	2 (spaces)	
Wendy's	N. Davis Road	Salinas	9 (spaces)	
Western Dental	N. Davis Road	Salinas	5 (spaces)	
Weyerhaeuser Paper Co	Harkins Road	Salinas		4
YMCA	Clay Street	Salinas	21 (spaces)	
YMCA	S. Main Street	Salinas	7 (spaces)	
Zephs	S. Main Street	Salinas	7 (spaces)	
San Antonio - North Shore	San Antonio - North Shore	San Antonio	1	
San Antonio - South Shore	San Antonio - South Shore	San Antonio	3	
San Ardo Library	College Road & Cattlemen Road	San Ardo	1	
San Lucas Library	54692 Teresa Street	San Lucas	1	
City Hall	Sylvan and Park Avenue	Sand City	1	
Edgewater Shopping Center	Playa and California Aves	Sand City	3	
Sand Dollar Shopping Center	Playa, Metz and Tioga	Sand City	3	
City Hall	440 Harcourt Ave.	Seaside	4	2
Cutino Park	La Salle and Noche Buena	Seaside	1	
	400 gigling Road, Seaside, CA			
Defense Manpower Data Center	93955	Seaside		9
Defense Manpower Data Center	400 Gigling Rd.	Seaside	3	
Laguna Grande Park	Canyon Del Rey (Hwy 218)	Seaside	6	2
	668 Williams Street, Seaside, CA			
Monterey County Weekly	93955	Seaside		3
Oldemeyer Center	Hilby and Wheeler	Seaside	4	4
Oldemeyer Recreation Center	986 Hilby Ave.	Seaside	1	1
Pattullo Swim Center	1148 Wheeler St.	Seaside	3	2
Portola Leslie Park	Broadway and Yosemite	Seaside	1	

Appendix C | Bike Parking Tables

Location	Address	Area	Racks	Lockers
Seaside Library	Harcourt and Hillsdale	Seaside	6	2
Social Services - Seaside	1281 Broadway Avenue	Seaside	2	
Various public intersections	Broadway and Del Monte	Seaside	1	
Various public intersections	Hilby and Fremont	Seaside	1	
Various public intersections	Harcourt and Fremont	Seaside	2	
Various public intersections	Amador and Fremont	Seaside	1	
Various public intersections	Palm and Fremont	Seaside	1	
Various public intersections	Birch and Fremont	Seaside	1	
Various public intersections	Olympia and Fremont	Seaside	1	
Various public intersections	San Pablo and Fremont	Seaside	1	
Various public intersections	La Salle and Mariposa	Seaside	4	
Various public intersections	West Minster Circle and Yosemite	Seaside	1	
Various public intersections	Plumas and Noche Buena	Seaside	2	
Various public intersections	Broadway and Noche Buena	Seaside	1	
Various public intersections	Wanda Avenue and Yosemite	Seaside	1	
Youth and Education Center	1136 Wheeler St.	Seaside	3	2
Lassen Market	San Vicente Road and Front Street	Soledad	1	
McDonalds	Front and Fourth Streets	Soledad	2	
Toro County Park	Toro Park	Toro Park	3	

Appendix D. Bikeway Project Ranking

This appendix presents the entire list of bikeway projects identified in this plan. Table D-1 presents the projects organized by ranking and phasing tier.

Appendix D | Bikeway Project Ranking

Table D-1: Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
1	1	Imjin Rd/12th St	2	Imjin Rd	Reservation Rd	2.72	\$2,200,000	Marina	25.00	0.00	0.00	12.91	0.00	5.00	0.00	100.00
2	1	Canyon del Rey Blvd	2	General Jim Moore Blvd	Hwy 68	0.76	\$32,500	Del Rey Oaks	25.00	2.00	0.00	14.97	1.00	5.00	0.00	99.00
3	1	Castroville Bicycle Path and Railroad Crossing	1	Axtell St	Castroville Blvd	0.31	\$5,995,000	County	25.00	0.00	0.00	9.31	1.00	0.00	0.00	98.00
4	1	Blanco Rd	2	Research Rd	Luther Way	5.16	\$221,880	County	25.00	0.00	20.00	14.79	5.00	5.00	0.00	97.00
5	1	Davis Rd	2	Blanco Rd	Rossi St	1.75	\$3,411,000	County	0.00	0.00	20.00	11.76	1.00	0.00	0.00	96.00
6	1	Blanco Rd	2	Luther Way	Abbott St	2.50	\$107,300	County	25.00	0.00	20.00	14.90	1.00	5.00	0.00	95.00
7	1	Broadway Hwy 68	2	Del Monte Blvd	Mescal St	1.58	\$67,900	Seaside	0.00	1.00	0.00	14.94	1.00	5.00	0.00	94.00
8	1	Sanctuary Scenic Trail Segment 15	2	Joselyn Canyon Rd	San Benancio Rd	8.17	\$351,300	Caltrans	25.00	0.00	0.00	14.67	2.00	5.00	0.00	93.00
9	1	San Juan Grade Rd	1	Moss Landing Rd	Hwy 1 Elkhorn Slough Bridge	0.74	\$5,082,000	County	0.00	0.00	0.00	10.18	0.00	5.00	0.00	92.00
10	1	San Juan Grade Rd	2	Russell Rd	Boronda Rd	0.91	\$39,200	Salinas	25.00	0.00	0.00	14.96	1.00	5.00	0.00	91.00
10	1	San Juan Grade Rd	2	Herbert Rd	Rogge Rd	2.05	\$88,300	County	0.00	2.00	0.00	14.92	0.00	5.00	0.00	91.00
10	1	San Juan Grade Rd	3	Russell Rd	Rogge Rd	0.40	\$1,200	County	25.00	0.00	20.00	15.00	0.00	5.00	0.00	91.00
11	1	Gabilan Creek	1	Danbury St	Constitution Blvd	0.88	\$569,300	Salinas	25.00	1.00	0.00	14.50	0.00	5.00	0.00	90.00
12	1	Central Ave	2	Davis Rd	Hartnell College	0.45	\$19,200	Salinas	0.00	0.00	0.00	14.98	3.00	0.00	0.00	89.00
13	1	Hwy 68 Hatton	2	San Benancio Rd	Salinas Creek Bridge (S)	4.40	\$189,300	County	25.00	0.00	20.00	14.82	1.00	5.00	0.00	88.00
14	1	Canyon Path	1	Carmel Valley Rd	Hwy 1	2.60	\$1,689,600	County	0.00	0.00	0.00	13.52	1.00	0.00	0.00	87.00

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Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
15	1	Aguajito Rd (Highway ramp signage) Hwy 68 Bridge Widening at Salinas River	3	Hwy 1	Monhollan Rd	2.53	\$7,600	County	25.00	0.00	20.00	14.99	1.00	5.00	0.00	86.00
16	1	Segment	3	Hwy 68	Salinas River	0.25	\$15,800,000	Caltrans	25.00	0.00	20.00	0.00	0.00	5.00	0.00	85.00
17	1	Ocean View Ave	2	Asilomar Blvd	17 Mile Dr	2.31	\$99,100	Pacific Grove	25.00	1.00	0.00	14.91	1.00	5.00	0.00	83.00
18	1	General Jim Moore	2	Canyon del Rey Blvd	City Limits	0.43	\$18,300	Del Rey Oaks	25.00	0.00	20.00	14.98	1.00	5.00	0.00	82.00
19	1	Del Monte Blvd	2	Canyon del Rey Blvd	Broadway	0.20	\$8,700	Seaside	25.00	7.00	0.00	14.99	1.00	5.00	0.00	82.00
20	1	2nd Ave	2	3rd St	1st St	0.26	\$11,400	CSUMB	25.00	0.00	0.00	14.99	0.00	5.00	0.00	82.00
21	1	Sanctuary Scenic Trail Segment 4B	1	Tioga Ave	Monterey Peninsula Recreational Trail	0.42	\$292,600	Sand City	25.00	0.00	0.00	14.72	1.00	5.00	0.00	81.00
22	1	15th Ave	2	Bay View Ave	Rio Rd	0.80	\$34,300	County	0.00	0.00	0.00	14.97	1.00	5.00	0.00	80.00
23	1	Prunedale North Rd	2	San Miguel Canyon Rd	300' S of Hwy 156 overpass	1.06	\$45,700	County	25.00	0.00	20.00	14.96	0.00	5.00	5.00	79.00
24	2	Alisal St	2	Blanco Rd	College Dr	0.65	\$27,900	Salinas	25.00	0.00	20.00	14.97	3.00	5.00	0.00	67.97
25	2	Davis Rd Path Calle del	1	Larkin St	Rossi St	0.41	\$246,000	Salinas	25.00	1.00	20.00	14.77	2.00	5.00	0.00	67.77
26	2	Adobe	2	Davis Rd	Boronda Rd	0.57	\$24,600	Salinas	25.00	1.00	20.00	14.98	1.00	5.00	0.00	66.98
27	2	Front St	2	East St	4th St	0.59	\$25,200	Soledad	25.00	1.00	20.00	14.98	1.00	5.00	0.00	66.98
28	2	Alisal Rd	3	Bardin Rd	City Limits	0.86	\$2,600	Salinas	25.00	0.00	20.00	15.00	1.00	5.00	0.00	66.00
29	2	Canada de la Segunda Blue Larkspur	3	Hwy 68	Carmel Valley Rd end of Blue Larkspur	4.14	\$12,400	County	25.00	0.00	20.00	14.99	1.00	5.00	0.00	65.99
30	2	Ln	2	York Rd	Larkspur	0.64	\$27,300	County	25.00	0.00	20.00	14.97	1.00	5.00	0.00	65.97

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
31	2	Canyon del Rey Blvd	2	Fremont Blvd	Del Monte Blvd	0.67	\$28,800	Seaside	25.00	0.00	20.00	14.97	1.00	5.00	0.00	65.97
32	2	Russell Rd	2	Main St	San Juan Grade Rd	0.89	\$38,100	Salinas	25.00	0.00	20.00	14.96	1.00	5.00	0.00	65.96
33	2	Freedom Pkwy + Extension	2	Tuscanby Blvd	Alisal Rd	1.15	\$49,200	Salinas	25.00	0.00	20.00	14.95	1.00	5.00	0.00	65.95
34	2	Moore Path	2	Normandy Rd	Divarty St	1.16	\$49,902	Seaside	25.00	0.00	20.00	14.95	1.00	5.00	0.00	65.95
35	2	South Boundary Rd	2	Gen Jim Moore Blvd	York Rd	1.73	\$74,200	Del Rey Oaks	25.00	0.00	20.00	14.93	1.00	5.00	0.00	65.93
36	2	Harrison Rd	2	Damian Wy	Russell Rd (Salinas)	1.90	\$81,700	County	25.00	0.00	20.00	14.92	1.00	5.00	0.00	65.92
37	2	Front Rd Extension	2	Camphora Gloria Rd	Encinal St	2.20	\$94,700	County	25.00	0.00	20.00	14.91	1.00	5.00	0.00	65.91
38	2	Hwy 68 South	2	Viejo Rd	Presidio Blvd	2.32	\$99,600	County	25.00	0.00	20.00	14.91	1.00	5.00	0.00	65.91
39	2	Boundary Rd	2	City Limit	Barloy Canyon Rd	3.32	\$142,800	County	25.00	0.00	20.00	14.86	1.00	5.00	0.00	65.86
40	2	Hwy 156	2	Prunedale Rd	Castroville Blvd	4.27	\$183,800	County	25.00	0.00	20.00	14.83	1.00	5.00	0.00	65.83
41	2	Blackie Rd	2	Hwy 101	Hwy 183	4.81	\$207,000	County	25.00	0.00	20.00	14.80	1.00	5.00	0.00	65.80
42	2	Espinosa Rd	2	Hwy 101	Hwy 183	4.93	\$211,900	County	25.00	0.00	20.00	14.80	1.00	5.00	0.00	65.80
43	2	Sanctuary Scenic Trail Segment 5	1	Ford Ord State Park	Hwy 1 and Marina Dr	4.85	\$982,800	Ca State Parks	25.00	0.00	20.00	14.07	1.00	5.00	0.00	65.07
44	2	Wildhorse Canyon Rd	3	Cattlemen Rd	Mesa Verde Rd	0.15	\$500	County	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00
45	2	Hwy 101 Overpass Segment	3	Alta St	Tavernetti Rd	0.27	\$800	Caltrans	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00
46	2	Alta St	3	Existing BL on Alta St	Hwy 101 Overpass	0.42	\$1,200	Gonzales	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00

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Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
		Reese Cir - Country														
47	2	Meadows Rd	3	Blackie Rd	Damian Wy	1.09	\$3,300	County	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00
48	2	Williams Rd	3	Boronda Rd	Old Stage Rd	1.12	\$3,400	County	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00
49	2	Alta St/Old US Hwy 101	3	Foletta Rd	10th St	1.23	\$3,700	County	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00
		San Juan														
50	2	Grade Rd	2	Porter Dr	Florence Ave	0.11	\$4,900	County	25.00	0.00	20.00	15.00	0.00	5.00	0.00	65.00
				San Miguel												
51	2	Moro Rd	3	Canyon Rd	Hwy 101	1.93	\$5,800	County	25.00	0.00	20.00	14.99	0.00	5.00	0.00	64.99
		Chualar River														
52	2	Rd	3	River Rd	Grant St	2.56	\$7,700	County	25.00	0.00	20.00	14.99	0.00	5.00	0.00	64.99
				Wildhorse Canyon												
53	2	Mesa Verde	3	Rd/Hwy 101	1st St	2.56	\$7,700	County	25.00	0.00	20.00	14.99	0.00	5.00	0.00	64.99
54	2	Meridian Rd	3	Castroville Blvd	Hwy 156	2.74	\$8,200	County	25.00	0.00	20.00	14.99	0.00	5.00	0.00	64.99
				Chualar River	Alta St/Old US											
55	2	Foletta Rd	3	Rd	Hwy 101	4.14	\$12,400	County	25.00	0.00	20.00	14.99	0.00	5.00	0.00	64.99
56	2	Elm Ave	3	Arroyo Seco Rd	13th St	4.74	\$14,200	County	25.00	0.00	20.00	14.99	0.00	5.00	0.00	64.99
				Wildhorse Canyon Rd	Paris Valley Rd											
57	2	Cattleman Rd	3	Canyon Rd		16.83	\$50,500	County	25.00	0.00	20.00	14.95	0.00	5.00	0.00	64.95
		Old Stage - San Juan														
58	2	Grade	2	Herbert Rd	Crazy Horse Canyon Rd	1.18	\$50,700	County	25.00	0.00	20.00	14.95	0.00	5.00	0.00	64.95
		Gen Jim														
59	2	Moore Path	1	Eucalyptus Rd	City Limits	1.85	\$1,112,800	County	25.00	0.00	20.00	13.94	1.00	5.00	0.00	64.94
60	2	Monterey Rd	2	6th Division Cir	Buna Rd	1.59	\$68,400	Seaside	25.00	0.00	20.00	14.94	0.00	5.00	0.00	64.94
				Soledad	Camphora											
61	2	McCoy Road	2	Prison Rd	Gloria Rd	2.01	\$86,600	County	25.00	0.00	20.00	14.92	0.00	5.00	0.00	64.92
				Prison Rd	Soledad											
62	2	Tavernetti Rd	2	Lanini Rd	Prison Rd	2.20	\$94,400	County	25.00	0.00	20.00	14.91	0.00	5.00	0.00	64.91
		Reservation			Creekside											
63	2	Rd Path	1	Reservation Rd	Terrace	0.22	\$129,500	County	25.00	0.00	20.00	14.88	0.00	5.00	0.00	64.88

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
64	2	Carmel Valley Rd	2	Loma del Rey	Via Contenta	6.47	\$278,200	County	25.00	0.00	20.00	14.74	0.00	5.00	0.00	64.74
65	2	Castroville Blvd - Dolan Rd	2	San Miguel Canyon Rd	Hwy 1	6.64	\$285,300	County	25.00	0.00	20.00	14.73	0.00	5.00	0.00	64.73
66	2	San Juan Grade Rd	2	Porter Dr	Hwy 101	8.87	\$381,200	County	25.00	0.00	20.00	14.64	0.00	5.00	0.00	64.64
67	2	Peninsula DR	2	Viking Ln	Melanie Rd Nacimiento	0.03	\$1,300	Marina	25.00	24.00	0.00	15.00	0.00	0.00	0.00	64.00
68	2	Jolon Rd	2	Hwy 101	Lake Dr Reservation	39.29	\$1,689,300	County	25.00	0.00	20.00	13.40	0.00	5.00	0.00	63.40
69	2	Intergarrison Trail	1	Fort Ord Dunes	Rd	4.90	\$2,525,000	County	25.00	0.00	20.00	12.60	0.00	5.00	0.00	62.60
70	2	Harkins Roads	2	Nutting Street	5th Street	1.55	\$66,700	County	25.00	0.00	20.00	14.94	2.00	0.00	0.00	61.94
71	2	Salinas Valley - Seaside Trail	1	Jim Moore Blvd	Inter-Garrison	6.09	\$3,654,000	County	25.00	0.00	20.00	11.53	0.00	5.00	0.00	61.53
72	2	PathConnecti on	1	Laguna Grande Regional Park	Laguna del Rey	0.06	\$36,800	Seaside	25.00	15.00	0.00	14.97	1.00	5.00	0.00	60.97
73	2	Copper - Nashua Rd	3	Blanco Rd	Monte Rd Tavernetti Rd	4.89	\$14,700	County	25.00	0.00	20.00	14.99	0.00	0.00	0.00	59.99
74	2	Lanini Rd	2	Tavernetti Rd	Hwy 101 On Ramp	0.67	\$28,900	County	25.00	0.00	20.00	14.97	0.00	0.00	0.00	59.97
75	2	Gloria Rd	2	Hwy 101	Camphora Gloria	3.77	\$162,000	County	25.00	0.00	20.00	14.85	0.00	0.00	0.00	59.85
76	2	Crazy Horse Canyon Rd	2	Hwy 101	San Juan Grade Rd	3.78	\$162,600	County	25.00	0.00	20.00	14.85	0.00	0.00	0.00	59.85
77	2	Camphora Sanctuary	2	Gloria Rd	Hwy 101	5.27	\$226,800	County	25.00	0.00	20.00	14.78	0.00	0.00	0.00	59.78
78	2	Scenic Trail Segment 8	1	Nashua Rd	Lapis Rd	1.88	\$5,855,100	County	25.00	0.00	20.00	9.44	0.00	5.00	0.00	59.44

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Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
79	2	Abrego St	3	Webster St	Del Monte Ave	0.29	\$900	Monterey	25.00	4.00	0.00	15.00	2.00	5.00	5.00	56.00
80	2	Path	1	Rossi St	Station Pl cul-de-sac	0.21	\$124,000	Salinas	25.00	8.00	0.00	14.88	3.00	5.00	0.00	55.88
81	2	Union Pacific Railroad Rail with Trail	1	Tioga Ave	La Playa Ave	0.22	\$129,500	Sand City	25.00	5.00	0.00	14.88	1.00	5.00	5.00	55.88
82	2	Abrego St	3	El Dorado St	Webster St	0.29	\$900	Monterey	25.00	8.00	0.00	15.00	2.00	5.00	0.00	55.00
83	2	Fremont St	2	Abrego St	Camino Aguajito	0.55	\$23,700	Monterey	25.00	3.00	0.00	14.98	2.00	5.00	5.00	54.98
84	2	Tioga Ave	3	Metz Rd	Del Monte Blvd	0.15	\$400	Sand City	25.00	7.00	0.00	15.00	1.00	5.00	0.00	53.00
85	2	La Playa Ave	2	Metz Rd	Noche Buena St	0.49	\$20,900	Sand City	25.00	2.00	0.00	14.98	1.00	5.00	5.00	52.98
86	2	Crossing	3	Fremont Blvd	Monterey Rd	0.03	\$100	Seaside	25.00	6.00	0.00	15.00	1.00	5.00	0.00	52.00
87	2	Kip Dr	3	Block Ave	Alvin Dr	0.14	\$400	Salinas	25.00	5.00	0.00	15.00	1.00	5.00	0.00	51.00
88	2	Way	3	Hwy 1	Del Monte Ave	0.22	\$700	Monterey	25.00	5.00	0.00	15.00	1.00	5.00	0.00	51.00
89	2	John St	3	Abbott St	Wood St	0.63	\$1,900	Salinas	25.00	1.00	0.00	15.00	5.00	5.00	0.00	51.00
90	2	Jefferson-Johnson-Skyline Route	BB	Camino Aguajito	Alvarado St	0.69	\$5,600	Monterey	25.00	4.00	0.00	14.99	2.00	5.00	0.00	50.99
91	2	Fremont Blvd	2	Canyon del Rey Blvd	Casa Verde	0.70	\$30,100	Monterey	25.00	4.00	0.00	14.97	1.00	5.00	0.00	49.97
92	2	Adobe	3	Adams St	Davis Rd	0.31	\$900	Salinas	25.00	2.00	0.00	15.00	2.00	5.00	0.00	49.00
93	2	Tioga Ave	2	Sand Dunes Dr	Metz Rd	0.18	\$7,800	Sand City	25.00	3.00	0.00	14.99	1.00	5.00	0.00	48.99
94	2	Fairground Rd	2	Airport Rd	Casa Verde	0.21	\$9,030	Monterey	25.00	3.00	0.00	14.99	1.00	5.00	0.00	48.99

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connectors	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
95	2	Fairground Rd - Bike Boulevard	BB	Garden Rd Monterey Peninsula Recreational Trail	Casa Verde	0.24	\$10,320	Monterey	25.00	3.00	0.00	14.99	1.00	5.00	0.00	48.99
96	2	Camino Aguajito	2	Fremont St	Fremont St	0.47	\$20,400	Monterey	25.00	2.00	0.00	14.98	2.00	5.00	0.00	48.98
97	2	Market St	3	Cross Ave	Alisal St	0.11	\$300	Salinas	25.00	1.00	0.00	15.00	2.00	5.00	0.00	48.00
98	2	Fremont Blvd	3	Military Ave	Hwy 1 Ramp Hwy 156 Bike/Ped Overcrossing	0.16	\$500	Seaside	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
99	2	Geil St	3	Wood St	Overcrossing	0.19	\$600	County	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
100	2	Los Palos Dr	3	Manor Dr	Abbott St	0.20	\$600	Salinas	25.00	0.00	0.00	15.00	3.00	5.00	0.00	48.00
101	2	Casa Verde Way	3	Fremont Blvd	Hwy 1	0.20	\$600	Monterey	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
102	2	Casa Verde Way - Bike Boulevard	BB	Fremont Blvd	Fairground Rd	0.08	\$640	Monterey	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
103	2	Wood St	3	Merritt St	Castro St	0.25	\$700	County	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
104	2	Broadway	3	San Lorezno St	1st St	0.45	\$1,400	King City Pacific Grove	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
105	2	17 Mile Dr	3	Sunset Dr	Jewell Ave	0.81	\$2,400	Grove	25.00	2.00	0.00	15.00	1.00	5.00	0.00	48.00
106	2	Airport Blvd	2	Terven Ave	de la Torre existing bike lane on Airport Blvd	0.12	\$5,300	Salinas	25.00	0.00	0.00	14.99	3.00	5.00	0.00	47.99
107	2	Airport Blvd - Jefferson-	2	Moffett St	Airport Blvd	0.13	\$5,700	Salinas	25.00	0.00	0.00	14.99	3.00	5.00	0.00	47.99
108	2	Skyline Route	3	Alvarado St	Hwy 68	2.57	\$7,700	Monterey	25.00	1.00	0.00	14.99	2.00	5.00	0.00	47.99
109	2	Kidder St - Casentini-	2	Front St	Market St	0.18	\$7,800	Soledad	25.00	2.00	0.00	14.99	1.00	5.00	0.00	47.99
110	2	Bridge	2	Main St	Rossi St	0.24	\$10,100	Salinas	25.00	5.00	0.00	14.99	3.00	0.00	0.00	47.99
111	2	Davis Rd	2	Laurel Dr	Larkin St	0.60	\$25,700	Salinas	25.00	1.00	0.00	14.98	2.00	5.00	0.00	47.98

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
112	2	Forest Ave (restripe)	2	Sinex Ave	Ocean View Blvd	0.68	\$29,347	Pacific Grove	25.00	1.00	1.00	14.97	1.00	5.00	0.00	47.97
113	2	Munras Ave Cesar Chavez Park -	2	Soledad Dr	El Dorado St	0.80	\$34,400	Monterey	25.00	1.00	0.00	14.97	2.00	5.00	0.00	47.97
114	2	Natividad Creek Path	1	Cesar Chavez Park	Natividad Creek	1.08	\$648,800	Salinas	25.00	1.00	0.00	14.38	2.00	5.00	0.00	47.38
115	2	Fairground Rd Polk St Bicycle	3	Garden Rd	Montsalas Dr	0.07	\$200	Monterey	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
116	2	Boulevard	BB	Pacific St	Pearl St	0.05	\$400	Monterey	0.00	25.00	0.00	15.00	2.00	5.00	0.00	47.00
117	2	17 Mile Dr	3	Hwy 68	840' S of Hwy 68	0.16	\$500	Pacific Grove	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
118	2	Asilomar Blvd	3	Sunset Dr	Sinex Ave	0.23	\$700	Pacific Grove	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
119	2	Asilomar Blvd Pajaro - Axtell	3	Lighthouse Ave	Ocean View Blvd	0.37	\$1,100	Pacific Grove	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
120	2	- Benson Rte	3	Merritt St	Benson Rd	0.51	\$1,500	County	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
121	2	Asilomar Blvd El Camino	3	Sinex Ave	Lighthouse Ave Hwy 101	0.87	\$2,600	Pacific Grove	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
122	2	Real	3	Apple Ave	Ramp	0.89	\$2,700	Greenfield	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
123	2	Sinex Ave	3	Asilomar Blvd proposed Rossi	19th St	0.90	\$2,700	Pacific Grove	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
124	2	Boronda Rd	3	St Extension	Davis Rd	1.15	\$3,500	Salinas	25.00	0.00	0.00	15.00	2.00	5.00	0.00	47.00
125	2	David Ave	3	Cannery Row San Juan Grade	Hwy 68	1.32	\$4,000	Monterey	25.00	1.00	0.00	15.00	1.00	5.00	0.00	47.00
126	2	Boronda Rd	2	Rd	Main St	0.32	\$13,700	Salinas	25.00	1.00	0.00	14.99	1.00	5.00	0.00	46.99
127	2	Salinas St	2	Haight St	Merritt St	0.34	\$14,500	County	25.00	1.00	0.00	14.99	1.00	5.00	0.00	46.99
128	2	Alvin Dr	2	Main St	Hwy 101	0.61	\$26,300	Salinas	25.00	1.00	0.00	14.98	1.00	5.00	0.00	46.98

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
129	2	Alvin Dr	2	Kip Dr	Natividad Rd	0.75	\$32,400	Salinas	25.00	1.00	0.00	14.97	1.00	5.00	0.00	46.97
		Peninsula Path	1	Vista del Mar St	Trail near La Playa Ave	0.19	\$112,100	Sand City	25.00	1.00	0.00	14.89	1.00	5.00	0.00	46.89
131	2	Madeira Ave	3	Circle Dr	St Edwards Ave	0.25	\$700	Salinas	25.00	0.00	0.00	15.00	1.00	5.00	0.00	46.00
132	2	Castro St	3	Blackie Rd	Wood St	0.28	\$800	County	25.00	0.00	0.00	15.00	1.00	5.00	0.00	46.00
133	2	St Edwards Ave	3	Circle Dr	Laurel Dr	0.51	\$1,500	Salinas	25.00	0.00	0.00	15.00	1.00	5.00	0.00	46.00
					end of Park Rd											
134	2	Park Rd	2	Ryan Ranch Rd	Rd	0.07	\$3,000	County	25.00	0.00	0.00	15.00	1.00	5.00	0.00	46.00
135	2	Viking Ln	2	Reservation Rd	Peninsula Dr	0.11	\$4,900	Marina	25.00	6.00	0.00	15.00	0.00	0.00	0.00	46.00
					Reservation Rd											
136	2	California Ave	2	Carmel Ave	Rd	0.29	\$12,500	CSUMB	25.00	1.00	0.00	14.99	0.00	5.00	0.00	45.99
					South Boundary Rd											
137	2	York Rd	2	Hwy 68	Boundary Rd	0.37	\$15,700	Monterey	25.00	0.00	0.00	14.99	1.00	5.00	0.00	45.99
					end of Ryan Ranch											
138	2	Ryan Ranch Rd	2	Canyon del Rey Blvd	Ranch	0.42	\$18,000	Del Rey Oaks	25.00	0.00	0.00	14.98	1.00	5.00	0.00	45.98
					Beach Range Road											
139	2	1st St	2	Road	2nd Ave	0.43	\$18,500	Seaside	25.00	1.00	0.00	14.98	0.00	5.00	0.00	45.98
140	2	Orchard Lane	2	Metz Rd	Asilomar Rd	0.52	\$22,300	Soledad	25.00	0.00	0.00	14.98	1.00	5.00	0.00	45.98
					Yorkshire Way											
141	2	Sherwood Pl Extension	2	Sherwood Dr	Way	0.57	\$24,500	Salinas	25.00	0.00	0.00	14.98	1.00	5.00	0.00	45.98
					Existing Path											
142	2	Viejo Constitution Blvd	2	Munras Ave	Proposed	0.69	\$29,700	Monterey	25.00	0.00	0.00	14.97	1.00	5.00	0.00	45.97
					Sherwood Pl											
143	2	Extension	2	Laurel Dr	Extension	0.83	\$35,600	Salinas	25.00	0.00	0.00	14.97	1.00	5.00	0.00	45.97
					Hwy1/Watson ville Rd											
144	2	Artichoke Ave	2	St	ville Rd	0.98	\$42,100	County	25.00	0.00	0.00	14.96	1.00	5.00	0.00	45.96
					Hwy 101											
145	2	San Vincente Rd	2	Vista del Sol Rd	Hwy 101	1.00	\$42,800	Soledad	25.00	0.00	0.00	14.96	1.00	5.00	0.00	45.96
					El Camino Real											
146	2	Apple Ave	2	13th St	Real	1.00	\$43,000	Greenfield	25.00	0.00	0.00	14.96	1.00	5.00	0.00	45.96

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
147	2	Elm Ave	2	13th St	El Camino Real	1.00	\$43,200	Greenfield	25.00	0.00	0.00	14.96	1.00	5.00	0.00	45.96
148	2	Hwy 68	2	Salinas Creek Bridge (N)	Salinas City Limit	1.45	\$62,300	County	25.00	0.00	0.00	14.94	1.00	5.00	0.00	45.94
149	2	Josselyn Canyon Rd	2	Hwy 68	Mark Thomas Rd	1.47	\$63,400	Monterey	25.00	0.00	0.00	14.94	1.00	5.00	0.00	45.94
150	2	Madeira Ave	1	Madeira Ave	Yorkshire Way	0.18	\$108,600	Salinas	25.00	0.00	0.00	14.90	1.00	5.00	0.00	45.90
151	2	Ryan Ranch Park Path	1	Park Rd	Harris Ct	0.32	\$191,900	Monterey	25.00	0.00	0.00	14.82	1.00	5.00	0.00	45.82
152	2	Natividad Creek	1	Boronda Rd	Las Casitas Dr	0.59	\$355,400	Salinas	25.00	0.00	0.00	14.66	1.00	5.00	0.00	45.66
153	2	Soledad - Viejo	1	Munras Ave	Existing Path	0.70	\$421,700	Monterey	25.00	0.00	0.00	14.60	1.00	5.00	0.00	45.60
154	2	Blackie Rd	3	Castro St	Merritt St	0.07	\$200	County	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
155	2	Sanlias Creek Bridge	3	South of Salinas Creek	North of Salinas Creek	0.20	\$600	County	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
156	2	Mead St	3	Tembladera St	Gambetta Middle School	0.34	\$1,000	County	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
157	2	Fairview Dr	3	Elko St	5th St	0.50	\$1,500	Gonzales	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
158	2	Grant St	3	Hwy 101	Payson St	0.60	\$1,800	County	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
159	2	5th St	3	Alta St	Herold Pkwy Intergarrison Rd	0.81	\$2,400	Gonzales	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
160	2	Abrams Dr	3	Imjin Rd	Alta St	0.91	\$2,700	County	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
161	2	C St	2	Belden St	Alta St	0.10	\$4,500	Gonzales	25.00	0.00	0.00	15.00	0.00	5.00	0.00	45.00
162	2	3rd St	BB	7th Ave	General Jim Moore Blvd	0.69	\$5,600	CSUMB	25.00	0.00	0.00	14.99	0.00	5.00	0.00	44.99
163	2	Crescent Ave + Extension	2	Hillcrest Ave	Carmel Ave	0.14	\$6,200	Marina	25.00	0.00	0.00	14.99	0.00	5.00	0.00	44.99
164	2	Alta St	2	1st St	C St	0.21	\$9,000	Gonzales	25.00	0.00	0.00	14.99	0.00	5.00	0.00	44.99
165	2	13th St	2	Oak Ave	Apple Ave	0.25	\$10,800	Greenfield	25.00	0.00	0.00	14.99	0.00	5.00	0.00	44.99

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
166	2	Salinas Ave	2	Carmel Ave	Reservation Rd	0.27	\$11,800	Marina	25.00	0.00	0.00	14.99	0.00	5.00	0.00	44.99
167	2	3rd St	2	General Jim Moore Blvd	1st St end of	0.37	\$15,700	CSUMB	25.00	0.00	0.00	14.99	0.00	5.00	0.00	44.99
168	2	Cardoza Ave	2	Beach Rd	Cardoza Ave	0.49	\$21,200	Marina	25.00	0.00	0.00	14.98	0.00	5.00	0.00	44.98
169	2	Bayer St - Bostick Ave	2	Reindollar Ave	Reservation Rd	0.59	\$25,300	Marina	25.00	0.00	0.00	14.98	0.00	5.00	0.00	44.98
170	2	Intergarrison Rd	2	Reservation Rd	Old County Rd	0.61	\$26,200	County	25.00	0.00	0.00	14.98	0.00	5.00	0.00	44.98
171	2	Beach Rd	2	Monte Rd	Costa del Mar Rd	0.65	\$28,000	Marina	25.00	0.00	0.00	14.97	0.00	5.00	0.00	44.97
172	2	Coe Ave	2	Hibiscus Heights	General Jim Moore Blvd	0.72	\$31,000	Seaside	25.00	0.00	0.00	14.97	0.00	5.00	0.00	44.97
173	2	Carmel Ave	2	Sunset Ave	Salinas Ave	1.27	\$54,800	Marina	25.00	0.00	0.00	14.95	0.00	5.00	0.00	44.95
174	2	Ave	2	Bostick Ave	Monte Rd	1.27	\$54,800	Marina	25.00	0.00	0.00	14.95	0.00	5.00	0.00	44.95
175	2	2nd Ave N Extension	2	Imjin Rd	Cypress Knolls	1.31	\$56,500	CSUMB	25.00	0.00	0.00	14.95	0.00	5.00	0.00	44.95
176	2	Rd	2	Salinas Ave	Blanco Rd	1.39	\$59,900	Marina	25.00	0.00	0.00	14.94	0.00	5.00	0.00	44.94
177	2	Salinas Rd	2	Hwy 1	Salinas Rd/County Rd 12	1.62	\$69,500	County	25.00	0.00	0.00	14.93	0.00	5.00	0.00	44.93
178	2	Walnut Ave	2	10th St	ElCamino Real	0.13	\$5,400	Greenfield	25.00	3.00	0.00	14.99	1.00	0.00	0.00	43.99
179	2	Apple Ave	3	ElCamino Real	end of Apple	0.33	\$1,000	Greenfield	25.00	1.00	0.00	15.00	1.00	0.00	0.00	42.00
180	2	Melania Rd	2	Peninsula Dr	Beach Rd	0.33	\$14,400	Marina	25.00	2.00	0.00	14.99	0.00	0.00	0.00	41.99
181	2	Extension	2	Davis Rd	Boronda Rd	0.51	\$22,000	Salinas	25.00	0.00	0.00	14.98	2.00	0.00	0.00	41.98
182	2	Davis Rd	2	Reservation Rd	Blanco Rd	2.10	\$90,300	County	25.00	0.00	0.00	14.91	2.00	0.00	0.00	41.91
183	2	10th St	3	Hwy 101	Belden St	0.10	\$300	Gonzales	25.00	1.00	0.00	15.00	0.00	0.00	0.00	41.00

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
184	2	El Camino Real - 101 - Patricia Ln Segment	3	El Camino Real	Espinoza Rd	0.64	\$1,900	Caltrans	25.00	0.00	0.00	15.00	1.00	0.00	0.00	41.00
185	2	Olmsted Rd	2	Hwy 68	Garden Rd 3rd St (Greenfield)	0.10	\$4,200	Monterey	25.00	0.00	0.00	15.00	1.00	0.00	0.00	41.00
186	2	Elm Ave	3	Metz Rd		2.15	\$6,500	County	0.00	0.00	20.00	14.99	1.00	5.00	0.00	40.99
187	2	Carmel Ave Hemingway	2	Sunset Ave	Monte Rd	0.16	\$7,000	Marina	25.00	1.00	0.00	14.99	0.00	0.00	0.00	40.99
188	2	Dr	2	Nantucket Blvd	Boronda Rd Reservation	0.17	\$7,500	Salinas	25.00	1.00	0.00	14.99	0.00	0.00	0.00	40.99
189	2	de Forest Rd	2	Costa del Mar Rd		0.40	\$17,400	Marina	25.00	1.00	0.00	14.98	0.00	0.00	0.00	40.98
190	2	Apple Ave	2	Thorp Ave	4th St	0.51	\$21,700	Greenfield	25.00	0.00	0.00	14.98	1.00	0.00	0.00	40.98
191	2	Walnut Ave	2	Hwy 101	2nd St 550' N of	0.79	\$33,800	Greenfield	25.00	0.00	0.00	14.97	1.00	0.00	0.00	40.97
192	2	12th St	2	Elm Ave	Walnut Ave	0.86	\$36,800	Greenfield	25.00	0.00	0.00	14.97	1.00	0.00	0.00	40.97
193	2	York Rd	2	"Trail Rd"/York Rd	end of York	1.14	\$49,200	County	0.00	0.00	20.00	14.95	1.00	5.00	0.00	40.95
194	2	Grade Rd	3	San Juan Grade Rd	Old Stage Rd Hwy 101 On Ramp	23.00	\$69,000	County	0.00	0.00	20.00	14.93	1.00	5.00	0.00	40.93
195	2	River Rd	3	Hwy 68	Fort Romie Rd Carmel River Bridge	23.39	\$70,200	County	0.00	0.00	20.00	14.93	1.00	5.00	0.00	40.93
196	2	Canyon Path	1	Rio Rd	Blue Larkspur Ln	0.24	\$144,200	County	0.00	0.00	20.00	14.86	1.00	5.00	0.00	40.86
197	2	Larkspur Path	1	York Rd Associated		0.87	\$520,600	County	0.00	0.00	20.00	14.51	1.00	5.00	0.00	40.51
198	2	Old Stage Rd Crazy Horse Canyon Rd - Echo Valley	3	Ln/101	Alta St	0.36	\$1,100	County	0.00	0.00	20.00	15.00	0.00	5.00	0.00	40.00
199	2	Rd Segment	3	Hwy 101	Encho Valley Rd/Tustin Rd	0.87	\$2,600	Caltrans	25.00	0.00	0.00	15.00	0.00	0.00	0.00	40.00

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
200	2	Payson St - Chualar Rd	3	Grant St	Old Stage Rd	1.41	\$4,200	County	0.00	0.00	20.00	15.00	0.00	5.00	0.00	40.00
201	2	Arroyo Seco Rd	3	Fort Romie	Hwy 101	1.69	\$5,100	County	0.00	0.00	20.00	15.00	0.00	5.00	0.00	40.00
202	2	Tustin Rd	3	Hwy 101	Echo Valley Rd	1.94	\$5,800	County	25.00	0.00	0.00	14.99	0.00	0.00	0.00	39.99
203	2	General Jim Moore	2	Divarty St	Inter-Garrison	0.14	\$5,996	CSUMB	0.00	0.00	20.00	14.99	0.00	5.00	0.00	39.99
204	2	7th Ave	BB	3rd St	Gigling Rd	0.75	\$6,000	CSUMB	0.00	0.00	20.00	14.99	0.00	5.00	0.00	39.99
205	2	17 Mile Dr/Carmel Way	3	17 Mile Dr	San Antonio Ave	2.22	\$6,700	Pacific Grove	0.00	0.00	20.00	14.99	0.00	5.00	0.00	39.99
206	2	Espinosa Rd	3	Patricia Ln	Elm Ave	2.73	\$8,200	County	0.00	0.00	20.00	14.99	0.00	5.00	0.00	39.99
207	2	Strawberry Rd	3	San Miguel Canyon Rd	Elkhorn Rd	3.32	\$10,000	County	0.00	0.00	20.00	14.99	0.00	5.00	0.00	39.99
208	2	Bayer Dr - California Ave	2	Carmel Ave/Salinas Ave	California Ave	0.86	\$37,100	Marina	25.00	0.00	0.00	14.96	0.00	0.00	0.00	39.96
209	2	S Prunedale Rd	2	300' S of Hwy 156 overpass	Blackie Rd	0.95	\$40,700	County	0.00	0.00	20.00	14.96	0.00	5.00	0.00	39.96
210	2	Johnson Canyon Rd	2	650' NE of Herold Pkwy	Iverson Rd	1.09	\$47,000	County	0.00	0.00	20.00	14.96	0.00	5.00	0.00	39.96
211	2	Gigling Rd	2	7th Ave	6th Division Cir	1.11	\$47,800	Seaside	0.00	0.00	20.00	14.95	0.00	5.00	0.00	39.95
212	2	Parker Flats	2	Gigling Rd	Eucalyptus Rd	1.16	\$49,700	Seaside	0.00	0.00	20.00	14.95	0.00	5.00	0.00	39.95
213	2	Rogge Rd - Salinas Rd - Hall Rd -	2	San Juan Grade Rd	Natividad Rd	1.29	\$55,600	County	0.00	0.00	20.00	14.95	0.00	5.00	0.00	39.95
214	2	Tarpey Rd	2	Porter Dr	San Juan Rd	1.73	\$74,400	County	0.00	0.00	20.00	14.93	0.00	5.00	0.00	39.93
215	2	Monte Rd - MBSST Sanctuary	2	Nashua Rd	Lapis Rd	1.88	\$80,840	County	25.00	0.00	0.00	14.92	0.00	0.00	0.00	39.92
216	2	Scenic Trail Segment 6	1	Marina Dr and Hwy 1	Dunes Dr and Reservation Rd	1.67	\$90,200	Ca State Parks	0.00	0.00	20.00	14.91	0.00	5.00	0.00	39.91

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
217	2	Natividad Rd Gonzales	2	Boronda Rd	Old Stage Rd	2.14	\$92,000	County	0.00	0.00	20.00	14.91	0.00	5.00	0.00	39.91
218	2	River Rd Sanctuary	2	River Rd	Alta St	2.52	\$108,300	County	0.00	0.00	20.00	14.90	0.00	5.00	0.00	39.90
219	2	Scenic Trail Segment 5A	1	Ford Ord State Park Paradise Valley	Hwy 1 and Marina Dr	1.74	\$152,000	Ca State Parks	0.00	0.00	20.00	14.86	0.00	5.00	0.00	39.86
220	2	Elkhorn Rd Reservation	2	Rd	Hall Rd	4.52	\$194,200	County	0.00	0.00	20.00	14.82	0.00	5.00	0.00	39.82
221	2	Rd Laureles	2	Blanco Rd	Hwy 68 Carmel Valley Rd	5.51	\$236,800	County	0.00	0.00	20.00	14.78	0.00	5.00	0.00	39.78
222	2	Grade Rd Sanctuary	2	Hwy 68		5.86	\$251,800	County	0.00	0.00	20.00	14.76	0.00	5.00	0.00	39.76
223	2	Scenic Trail Segment 14	1	Nashua Rd	Potrero Rd	3.40	\$257,600	County	25.00	0.00	0.00	14.76	0.00	0.00	0.00	39.76
224	2	Patton Pkwy Path	1	Reindollar Ave	Patton Pkwy	0.50	\$297,600	Marina	25.00	0.00	0.00	14.72	0.00	0.00	0.00	39.72
225	2	San Benancio -Corral de Tierra Rd Loop	2	Hwy 68	Hwy 68 Reservation Rd	12.34	\$530,400	County	0.00	0.00	20.00	14.50	0.00	5.00	0.00	39.50
226	2	Hilltown Park Path Segment	1	Speckels Blvd		0.89	\$532,000	Caltrans	0.00	0.00	20.00	14.49	0.00	5.00	0.00	39.49
227	2	Polk St Bicycle Boulevard	BB	Alvarado St	Hartnell St	0.10	\$800	Monterey	0.00	17.00	0.00	15.00	2.00	5.00	0.00	39.00
228	2	Metz Rd	3	Soledad City Limits Hwy 101	King City City Limits	18.47	\$55,400	County	0.00	0.00	20.00	14.95	1.00	0.00	0.00	35.95
229	2	Tavernetti Rd Castroville	3	Overpass Del Monte	Gloria Rd	0.18	\$500	County	0.00	0.00	20.00	15.00	0.00	0.00	0.00	35.00
230	2	Blvd	3	Farms Rd	Dolan Rd	0.32	\$1,000	County	0.00	0.00	20.00	15.00	0.00	0.00	0.00	35.00
231	2	Teague Ave	3	Central Ave	Hwy 101	1.22	\$3,700	County	0.00	0.00	20.00	15.00	0.00	0.00	0.00	35.00

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
232	2	6th Division Circle	2	Gigling Rd	Monterey Rd	0.10	\$4,200	Seaside	0.00	0.00	20.00	15.00	0.00	0.00	0.00	35.00
233	2	Espinosa Rd	3	Central Ave	Susan Ln (to Hwy 101) El Camino	1.82	\$5,500	County	0.00	0.00	20.00	14.99	0.00	0.00	0.00	34.99
234	2	Thorne Rd	3	Arroyo Seco Rd	Real	3.50	\$10,500	County	0.00	0.00	20.00	14.99	0.00	0.00	0.00	34.99
235	2	Fort Romie Rd	3	River Rd	Arroyo Seco Rd	3.87	\$11,600	County	0.00	0.00	20.00	14.99	0.00	0.00	0.00	34.99
236	2	San Juan Grade	3	Crazy Horse Canyon Rd	County Limit	4.25	\$12,800	County	0.00	0.00	20.00	14.99	0.00	0.00	0.00	34.99
237	2	Central Ave	3	Elm Ave	Hwy 101	7.21	\$21,600	County	0.00	0.00	20.00	14.98	0.00	0.00	0.00	34.98
238	2	Arroyo Seco Rd	3	Fort Romie Rd	Elm Ave	8.04	\$24,100	County	0.00	0.00	20.00	14.98	0.00	0.00	0.00	34.98
239	2	Pine Canyon Rd	2	Jolon Rd	Pine Meadow Dr General Jim	1.35	\$58,200	County	0.00	0.00	20.00	14.94	0.00	0.00	0.00	34.94
240	2	Eucalyptus Rd	2	Parker Flats Johnson	Moore Blvd	1.55	\$66,600	Seaside	0.00	0.00	20.00	14.94	0.00	0.00	0.00	34.94
241	2	Iverson Rd	2	Canyon Rd	Gloria Rd	2.17	\$93,500	County	0.00	0.00	20.00	14.91	0.00	0.00	0.00	34.91
242	2	Iverson Rd	2	Gonzales City Limits	Old Stage Rd	4.66	\$200,400	County	0.00	0.00	20.00	14.81	0.00	0.00	0.00	34.81
243	2	Van Buren St	2	Scott St	Seeno St Reservation	0.05	\$2,200	Monterey	0.00	11.00	0.00	15.00	2.00	5.00	0.00	33.00
244	2	Robin Dr	2	Lake Dr	Rd	0.02	\$1,000	Marina	0.00	11.00	0.00	15.00	0.00	5.00	0.00	31.00
245	2	Alvarado St Bicycle Boulevard	BB	Pearl St	Monterey Peninsula Recreational Trail	0.37	\$3,000	Monterey	0.00	6.00	0.00	15.00	2.00	5.00	0.00	28.00
246	2	Oliver St	3	Van Buren St	Monterey Peninsula Recreational Path	0.18	\$500	Monterey	0.00	5.00	0.00	15.00	2.00	5.00	0.00	27.00

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Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
247	2	Pine Ave	3	Alder St	17 Mile Dr	0.16	\$500	Pacific Grove	0.00	11.00	0.00	15.00	1.00	0.00	0.00	27.00
248	2	Pacific St	3	Pacific St Bike Lane at Martin St	Madison St	0.23	\$700	Monterey	0.00	5.00	0.00	15.00	2.00	5.00	0.00	27.00
249	2	Hoffman Ave Van Buren St Bicycle	3	Laine St	Monterey Peninsula Recreational Trail	0.28	\$800	Monterey	0.00	6.00	0.00	15.00	1.00	5.00	0.00	27.00
250	2	Boulevard	BB	Madison St	Scott St	0.45	\$3,600	Monterey	0.00	4.00	0.00	15.00	2.00	5.00	0.00	26.00
251	2	Van Buren St Path Lighthouse	1	Seeno St	near Artillery St	0.05	\$27,400	Monterey Pacific	0.00	4.00	0.00	14.97	2.00	5.00	0.00	25.97
252	2	Ave	3	17 Mile Dr	Asilomar Blvd	0.47	\$1,400	Grove	0.00	3.00	0.00	15.00	2.00	5.00	0.00	25.00
253	2	Riker St Moss Landing	3	Woodside Dr	Alisal St end of Moss Landing Rd	0.90	\$2,700	Salinas	0.00	1.00	0.00	15.00	4.00	5.00	0.00	25.00
254	2	Rd	2	Potrero Rd	Lighthouse	0.74	\$31,800	County	0.00	0.00	0.00	14.97	0.00	5.00	5.00	24.97
255	2	Foam St Maplewood	2	David Ave	Lighthouse Ave	0.79	\$33,800	Monterey	0.00	3.00	0.00	14.97	2.00	5.00	0.00	24.97
256	2	Dr	3	Grove St	Sierra Dr	0.07	\$200	Salinas	0.00	0.00	0.00	15.00	4.00	5.00	0.00	24.00
257	2	Contra Costa 3rd St Bicycle	3	California Ave	Del Monte Blvd Camino	0.23	\$700	Sand City	0.00	3.00	0.00	15.00	1.00	5.00	0.00	24.00
258	2	Boulevard	BB	Sloat Ave	Agujaito	0.24	\$1,900	Monterey	0.00	2.00	0.00	15.00	2.00	5.00	0.00	24.00
259	2	Franklin St Herman - Madison	3	Van Buren St	Bowen St	0.65	\$2,000	Monterey	0.00	2.00	0.00	15.00	2.00	5.00	0.00	24.00
260	2	Route Bicycle Boulevard	BB	Via del Rey	Pacific St	0.35	\$2,800	Monterey	0.00	2.00	0.00	15.00	2.00	5.00	0.00	24.00

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connectors	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
261	2	Laine St Bicycle Boulevard	BB	David Ave	Lighthouse Ave	0.82	\$6,500	Monterey	0.00	2.00	0.00	14.99	2.00	5.00	0.00	23.99
262	2	Davis Rd	1	Larkin St	Adobe	0.30	\$180,400	Salinas	0.00	2.00	0.00	14.83	2.00	5.00	0.00	23.83
263	2	Bishop St	3	Salinas Rd	Florence Ave	0.12	\$400	County Pacific	0.00	3.00	0.00	15.00	0.00	5.00	0.00	23.00
264	2	Lighthouse Ave	3	Ocean View Blvd	Asilmoar Blvd	0.22	\$600	Grove	0.00	2.00	0.00	15.00	1.00	5.00	0.00	23.00
265	2	English Ave	3	Del Monte Ave	Montecito Ave	0.22	\$700	Monterey	0.00	2.00	0.00	15.00	1.00	5.00	0.00	23.00
266	2	Ave	3	Casa Verde Way	English Ave	0.43	\$1,300	Monterey	0.00	2.00	0.00	15.00	1.00	5.00	0.00	23.00
267	2	California Ave	3	Contra Costa St	Tioga Ave	0.47	\$1,400	Sand City	0.00	2.00	0.00	15.00	1.00	5.00	0.00	23.00
268	2	(Extension)	2	Tembladera St	Artichoke Ave (Extension)	0.04	\$1,800	County	0.00	3.00	0.00	15.00	0.00	5.00	0.00	23.00
269	2	Soledad Dr	2	Pacific St	Munras Ave	0.08	\$3,400	Monterey	0.00	2.00	0.00	15.00	1.00	5.00	0.00	23.00
270	2	Hilby Ave	3	Canyon del Rey Blvd	Watkins Gate Rd	1.55	\$4,600	Seaside	0.00	1.00	0.00	15.00	2.00	5.00	0.00	23.00
271	2	Broadway	2	Mildred Ave	San Lorenzo St	0.12	\$5,100	King City	0.00	2.00	0.00	15.00	1.00	5.00	0.00	23.00
272	2	Noche Buena St	3	Plumas Ave	Military Ave	1.69	\$5,100	Seaside	0.00	1.00	0.00	15.00	2.00	5.00	0.00	23.00
273	2	Seacrest Ave	2	Carmel Ave	Reservation Rd	0.29	\$12,300	Marina	0.00	3.00	0.00	14.99	0.00	0.00	5.00	22.99
274	2	Terven Ave	2	Sanborn Pl	Airport Blvd	0.42	\$18,200	Salinas	0.00	0.00	0.00	14.98	3.00	5.00	0.00	22.98
275	2	Airport Blvd Path	1	Airport Blvd	Hansen St	0.30	\$181,600	Salinas Pacific	0.00	0.00	0.00	14.83	3.00	5.00	0.00	22.83
276	2	Pine Ave	3	Eardley Ave	David Ave	0.05	\$100	Grove	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
277	2	Adams St	3	Tulane St	Laurel Dr	0.18	\$500	Salinas	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
278	2	Brooklyn St	3	San Juan Rd	Bishop St	0.19	\$600	County	0.00	2.00	0.00	15.00	0.00	5.00	0.00	22.00
279	2	Hwy 1	3	Ocean Ave	Carmel High School	0.23	\$700	County	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00

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Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
280	2	Canal St	3	Broadway	Division St	0.29	\$900	King City	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
281	2	Airport Rd - Euclid Ave	3	Casanova Ave	Fremont St	0.69	\$2,100	Monterey	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
282	2	Pacific St	3	Soledad Dr	Pacific St Bike Lane	0.70	\$2,100	Monterey	0.00	0.00	0.00	15.00	2.00	5.00	0.00	22.00
283	2	Casanova Ave	3	Montecito Ave	Euclid Ave	0.73	\$2,200	Monterey Pacific	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
284	2	Jewell Ave	3	Lighthouse Ave	17th St	0.78	\$2,300	Grove	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
285	2	19th St - Park St	3	Jewell Ave	Hwy 68	0.99	\$3,000	Pacific Grove	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
286	2	La Salle Ave	3	Del Monte Blvd	Nadina St	1.23	\$3,700	Seaside	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
287	2	Military Ave	3	Fremont Blvd	Paralta Ave	1.25	\$3,700	Seaside	0.00	1.00	0.00	15.00	1.00	5.00	0.00	22.00
288	2	Crestview Ct	2	Reservation Rd	Crestview Ct	0.12	\$5,100	Marina	0.00	2.00	0.00	15.00	0.00	5.00	0.00	22.00
289	2	Palm Ave	2	Lake Dr	Sunset Ave	0.35	\$15,200	Marina	0.00	2.00	0.00	14.99	0.00	5.00	0.00	21.99
290	2	Ellis St	2	1st St	Mildred Ave	0.57	\$24,400	King City	0.00	1.00	0.00	14.98	1.00	5.00	0.00	21.98
291	2	Lighthouse Ave	2	David Ave	Private Bolio Rd	0.74	\$31,900	Monterey	0.00	1.00	0.00	14.97	1.00	5.00	0.00	21.97
292	2	Vanderhurst Ave	2	King St	Villa Dr	0.86	\$36,900	King City	0.00	1.00	0.00	14.96	1.00	5.00	0.00	21.96
293	2	Belden St	3	5th St	3rd St	0.14	\$400	Gonzales	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
294	2	Fremont St	3	Salinas Rd	Fremont St	0.13	\$400	County	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
295	2	Scenic Rd	3	8th Ave	Ocean Ave	0.17	\$500	Carmel by the Sea	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
296	2	1st St	3	Alta St	Elko St	0.25	\$700	Gonzales	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
297	2	Belden St	3	10th St	5th St	0.35	\$1,100	Gonzales	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
298	2	Belden St	3	3rd St	C St	0.35	\$1,100	Gonzales	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
299	2	Broadway Cir	3	San Antonio Dr	River Dr	0.39	\$1,200	King City	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
300	2	Palm Ave	2	Lake Dr	Clarke Pl	0.03	\$1,200	Marina	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
301	2	San Pablo Ave	3	General Jim Moore Blvd	Yosemite St	0.40	\$1,200	Seaside	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
302	2	Serra Ave	3	Camino del Monte Ave	Hwy 1	0.39	\$1,200	Carmel by the Sea	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
303	2	7th St Ocean Ave	3	Alta St	Del Monte Cir	0.52	\$1,600	Gonzales	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
304	2	Segment	3	San Carlos St	Hwy 1	0.61	\$1,800	Carmel by the Sea	0.00	1.00	0.00	15.00	0.00	5.00	0.00	21.00
305	2	Division St	3	Canal St	1st St Washington St	0.70	\$2,100	King City	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
306	2	Seymour St	3	Salinas St		0.76	\$2,300	County	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
307	2	El Camino Real	3	Thorne Rd	Walnut Ave	0.93	\$2,800	Greenfield	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
308	2	San Carlos St - Rio Rd Rte	3	Lasuen Dr	Camino del Monte Ave	1.15	\$3,400	Carmel by the Sea	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
309	2	Yosemite St	3	Hilby Ave	Military Ave Gonzales	1.34	\$4,000	Seaside	0.00	0.00	0.00	15.00	1.00	5.00	0.00	21.00
310	2	4th St	2	Center St	High School	0.14	\$6,100	Gonzales	0.00	1.00	0.00	14.99	0.00	5.00	0.00	20.99
311	2	Rio Road	2	Lasuen Dr	Atherton Dr	0.24	\$10,300	Carmel by the Sea	0.00	0.00	0.00	14.99	1.00	5.00	0.00	20.99
312	2	Canal St	2	Division St	River Dr	0.29	\$12,300	King City	0.00	0.00	0.00	14.99	1.00	5.00	0.00	20.99
313	2	Florence Ave	2	Pajaro River Levee	End of Florence Ave	0.29	\$12,500	County	0.00	1.00	0.00	14.99	0.00	5.00	0.00	20.99
314	2	Redwood Dr	2	Reindollar Ave	Redwood Dr	0.35	\$15,200	Marina	0.00	1.00	0.00	14.99	0.00	5.00	0.00	20.99
315	2	Cherry Ave	2	10th St	end of 10th St	0.36	\$15,400	County	0.00	0.00	0.00	14.99	1.00	5.00	0.00	20.99
316	2	Portola Dr	2	Torero Dr	Muleta Dr	0.38	\$16,400	County	0.00	1.00	0.00	14.98	0.00	5.00	0.00	20.98
317	2	Rio Road	2	Atherton Dr	Hwy 1 end of	0.44	\$18,900	County	0.00	0.00	0.00	14.98	1.00	0.00	5.00	20.98
318	2	Crescent Ave	2	Reservation Rd	Reservation Rd	0.49	\$21,200	Marina	0.00	1.00	0.00	14.98	0.00	5.00	0.00	20.98
319	2	Lake Dr	2	Robin Dr	174' E of Hwy 1	0.51	\$22,000	Marina	0.00	1.00	0.00	14.98	0.00	5.00	0.00	20.98

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connectors	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
320	2	3rd St	2	Walnut Ave	Elm Ave	0.75	\$32,300	Greenfield	0.00	0.00	0.00	14.97	1.00	5.00	0.00	20.97
321	2	Broadway San Antonio	2	San Lorenzo Park	Mildred Ave	0.85	\$36,500	King City	0.00	0.00	0.00	14.97	1.00	5.00	0.00	20.97
322	2	Dr	2	Metz Rd	Broadway	1.55	\$66,500	King City	0.00	0.00	0.00	14.94	1.00	5.00	0.00	20.94
323	2	Jonathan St York School	1	Salinas Rd Blue Larkspur	Florence St	0.14	\$83,600	County	0.00	1.00	0.00	14.92	0.00	5.00	0.00	20.92
324	2	Path	1	Ln	York School 650 ft south of Ranch View	0.24	\$141,000	County	0.00	0.00	0.00	14.87	1.00	5.00	0.00	20.87
325	2	E Laurel	1	Sanborn Rd	Ln	0.29	\$174,000	Salinas Pacific	0.00	0.00	0.00	14.83	1.00	5.00	0.00	20.83
326	2	Pine Ave	2	Alder St	Eardley Ave	1.12	\$500,000	Grove	0.00	0.00	0.00	14.53	1.00	5.00	0.00	20.53
327	2	Segment	3	San Antonio Ave	Carmelo St	0.05	\$100	Carmel by the Sea	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
328	2	Segment	3	San Antonio Ave	Scenic Rd	0.05	\$100	Carmel by the Sea	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
329	2	5th St	3	Herold Pkwy	650' N of Herold Pkwy	0.13	\$400	County	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
330	2	Rincon Rd Valley/Willow	3	Del Monte Rd	5th St	0.21	\$600	Gonzales	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
331	2	Rd	3	Meridian Rd	Elkhorn School	0.19	\$600	County	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
332	2	Ave	3	San Antonio Carmel Way	Ocean Ave	0.30	\$900	Carmel by the Sea	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
333	2	Segment	3	Scenic Rd	San Carlos St	0.38	\$1,100	Carmel by the Sea	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
334	2	Segment	3	Camino del Monte Ave	Serra Ave	0.49	\$1,500	Carmel by the Sea	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
335	2	Alta St	3	10th St	1st St	0.64	\$1,900	Gonzales	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
336	2	Pesante Rd Carmelo St	3	Hwy 101	Cross Rd	0.68	\$2,000	County	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
337	2	Segment	3	4th Ave	15th Ave	0.90	\$2,700	Carmel by the Sea	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connectors	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
338	2	19th St - Park St	3	Jewell Ave	Hwy 68 end of	0.99	\$3,000	Pacific Grove	0.00	0.00	0.00	15.00	0.00	5.00	0.00	20.00
339	3	Crescent St	2	Reindollar Ave	Crescent St General Jim Moore Blvd	0.13	\$5,700	Marina	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
340	3	Divarty St	BB	7th Ave		0.72	\$5,800	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
341	3	Main St	2	Grant St	Lincoln St	0.14	\$6,200	County	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
342	3	8th St	2	Proposed St - The Dunes	2nd Ave	0.15	\$6,400	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
343	3	9th St	2	1st Ave	Proposed St - The Dunes	0.16	\$7,000	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
344	3	Trafton Rd	3	Salinas Rd	McGowan Rd	2.58	\$7,700	County	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
345	3	Werner Rd	2	Salinas Rd	Elkhorn Rd	0.22	\$9,300	County	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
346	3	Vaughn Ave	2	Reindollar Ave	Carmel Ave	0.28	\$12,200	Marina	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
347	3	4th Ave	2	9th St	12th St end of Lake Dr	0.29	\$12,300	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
348	3	Lake Dr	2	174' E of Hwy 1	Dr	0.29	\$12,600	Marina	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
349	3	Lynscott Dr	2	Carmel Ave	Reservation Rd	0.31	\$13,200	Marina	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
350	3	Melmedy Rd	2	Gigling Ave	Moore Blvd	0.34	\$14,600	Seaside	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
351	3	5th Ave	2	8th St	12th St	0.35	\$15,050	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
352	3	Extension	2	3rd Ave	5th Ave	0.35	\$15,300	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
353	3	3rd Ave	2	8th St	Imjin Rd/12th St	0.37	\$15,800	CSUMB	0.00	0.00	0.00	14.99	0.00	5.00	0.00	19.99
354	3	Pond/Miller Property	2	Florence Extension	Levee	0.37	\$16,100	County	0.00	0.00	0.00	14.98	0.00	5.00	0.00	19.98
355	3	9th St	2	1st Ave	3rd Ave end of Neeson Rd	0.47	\$20,100	CSUMB	0.00	0.00	0.00	14.98	0.00	5.00	0.00	19.98
356	3	Neeson Rd	2	Imjin Rd		0.53	\$22,700	Marina	0.00	0.00	0.00	14.98	0.00	5.00	0.00	19.98

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
357	3	8th St	2	2nd Ave	5th Ave	0.62	\$26,600	CSUMB	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
		Light Fighter		Gen Jim Moore												
358	3	Dr	2	Blvd	Hwy 1	0.66	\$28,200	Seaside	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
359	3	Cross Rd	2	Reese Rd	Pesante Rd	0.71	\$30,700	County	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
360	3	Las Lomas Dr	2	Hall Rd	Clausen Rd	0.75	\$32,300	County	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
		Proposed St -			300' N of 10th											
361	3	The Dunes	2	3rd St	St	0.76	\$32,900	Marina	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
					end of											
362	3	Hillcrest Ave	2	Redwood Dr	Hillcrest Ave	0.84	\$36,100	Marina	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
		Sanctuary														
		Scenic Trail														
363	3	Segment 9	1	Lapis Rd	Monte Rd	0.89	\$36,800	County	0.00	0.00	0.00	14.97	0.00	5.00	0.00	19.97
364	3	Fanoe Rd	2	Rhone Rd	5th St	0.96	\$41,100	Gonzales	0.00	0.00	0.00	14.96	0.00	5.00	0.00	19.96
365	3	1st St	2	Metz Rd	Hwy 101	1.30	\$55,800	King City	0.00	0.00	0.00	14.95	0.00	5.00	0.00	19.95
		Pajaro Rail			Pajaro River											
366	3	Line	1	Salinas Rd	Levee	0.69	\$413,200	County	0.00	0.00	0.00	14.61	0.00	5.00	0.00	19.61
					Drainage											
		Pajaro River			Pond/Miller											
367	3	Levee	1	Pajaro Rail Line	Property	0.69	\$413,700	County	0.00	0.00	0.00	14.61	0.00	5.00	0.00	19.61
		Sanctuary														
		Scenic Trail														
368	3	Segment 11	1	Neponset Rd	Monte Rd	0.79	\$634,400	County	0.00	0.00	0.00	14.40	0.00	5.00	0.00	19.40
		Sanctuary														
		Scenic Trail														
369	3	Segment 14A	1	Salinas River	Potrero Rd	1.29	\$835,400	County	0.00	0.00	0.00	14.21	0.00	5.00	0.00	19.21
		Sanctuary			State Beach											
		Scenic Trail														
370	3	Segment 10	1	Neponset Rd	Lapis Rd	2.42	\$2,057,100	County	0.00	0.00	0.00	13.05	0.00	5.00	0.00	18.05
					Firestone											
371	3	Abbott St	2	Harkins Rd	Business Park	2.93	\$126,200	County	0.00	0.00	0.00	14.88	3.00	0.00	0.00	17.88
		Sanctuary														
		Scenic Trail														
372	3	Segment 14	1	Molera Rd	Monterey Dunes Way	0.40	\$2,799,000	County	0.00	0.00	0.00	12.34	0.00	5.00	0.00	17.34

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connectors	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
373	3	Sanctuary Scenic Trail Segment 7	1	Lapis Rd	Dunes Dr	0.69	\$3,411,000	County	0.00	0.00	0.00	11.76	0.00	5.00	0.00	16.76
374	3	Del Monte Cir	3	7th St	Rincon Rd	0.08	\$200	Gonzales	0.00	1.00	0.00	15.00	0.00	0.00	0.00	16.00
375	3	El Camino Real	3	City Limits	Susan Ln	0.19	\$600	County	0.00	0.00	0.00	15.00	1.00	0.00	0.00	16.00
376	3	4th St	3	Elm Ave	Apple Ave	0.50	\$1,500	Greenfield	0.00	0.00	0.00	15.00	1.00	0.00	0.00	16.00
377	3	Airport Rd	3	Metz Rd	Bitterwater Rd	0.91	\$2,700	King City	0.00	0.00	0.00	15.00	1.00	0.00	0.00	16.00
378	3	Berney Dr	2	Reindollar Ave	Hillcrest Ave	0.10	\$4,200	Marina	0.00	1.00	0.00	15.00	0.00	0.00	0.00	16.00
379	3	Elm Ave	2	4th St	3rd St	0.25	\$10,700	Greenfield	0.00	0.00	0.00	14.99	1.00	0.00	0.00	15.99
380	3	Sunset Ave	2	Reindollar Ave	Carmel Ave	0.28	\$12,200	Marina	0.00	1.00	0.00	14.99	0.00	0.00	0.00	15.99
381	3	Nestles Rd	2	Los Coches Rd	Front St	0.48	\$20,700	Soledad	0.00	0.00	0.00	14.98	1.00	0.00	0.00	15.98
382	3	Bitterwater Rd	2	Airport Dr	1st St	0.51	\$21,700	King City	0.00	0.00	0.00	14.98	1.00	0.00	0.00	15.98
383	3	San Antonio Dr	2	Metz Rd	Bitterwater Rd	0.52	\$22,500	King City	0.00	0.00	0.00	14.98	1.00	0.00	0.00	15.98
384	3	Metz Rd	2	Airport Rd	1st St	0.72	\$30,800	King City	0.00	0.00	0.00	14.97	1.00	0.00	0.00	15.97
385	3	Carmel River Bridge	1	Carmel River (N)	Carmel River (S)	0.08	\$540,000	County	0.00	0.00	0.00	14.49	1.00	0.00	0.00	15.49
386	3	Sanctuary Scenic Trail Segment 13	1	Sanlias River State Beach	Sandholdt Rd	3.85	\$4,792,600	Ca State Parks	0.00	0.00	0.00	10.45	0.00	5.00	0.00	15.45
387	3	Canyon/Flanders/Carmel Hills	1	Hatton Canyon Del Monte	Ocean Ave	1.17	\$666,900	Carmel by the Sea	0.00	0.00	0.00	14.37	1.00	0.00	0.00	15.37
388	3	Omart Rd	3	Farms Rd	Meridian Rd	0.15	\$500	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
389	3	Susan Ln	3	El Camino Real	Espinosa Rd	0.32	\$1,000	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
390	3	Salinas Rd	2	Salinas Rd	Werner Rd	0.02	\$1,100	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
391	3	Trafton Rd	3	Bluff Rd	2nd Bend in Trafton Rd	0.58	\$1,800	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00

TAMC | Bicycle and Pedestrian Master Plan

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connects	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
392	3	McGowan Rd - MBSST	3	Trafton Rd	Santa Cruz Co Line	0.70	\$2,100	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
393	3	Trafton Rd - MBSST	3	Salinas Rd	Pajaro River Trails	1.00	\$3,000	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
394	3	8th St	2	Hwy 1	1st Ave	0.10	\$4,400	CSUMB	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
395	3	Bluff Rd	3	Hwy 1	Pajaro River end of Ellen Ct	1.70	\$5,100	County	0.00	0.00	0.00	15.00	0.00	0.00	0.00	15.00
396	3	Ellen Ct	2	Reindollar Ave	Ct	0.15	\$6,500	Marina	0.00	0.00	0.00	14.99	0.00	0.00	0.00	14.99
397	3	7th St	2	1st Ave	2nd Ave	0.28	\$12,200	CSUMB	0.00	0.00	0.00	14.99	0.00	0.00	0.00	14.99
398	3	3rd St	2	1st Ave	2nd Ave	0.29	\$12,300	CSUMB	0.00	0.00	0.00	14.99	0.00	0.00	0.00	14.99
399	3	Imjin Rd	2	8th St	12th St	0.33	\$14,000	Marina	0.00	0.00	0.00	14.99	0.00	0.00	0.00	14.99
400	3	Pine Ave	2	Camino Real	690' W of El Ave	0.34	\$14,500	Greenfield	0.00	0.00	0.00	14.99	0.00	0.00	0.00	14.99
401	3	Bayer Dr Hwy 68	2	Bostick Ave	end of Bayer Dr	0.42	\$18,000	Marina	0.00	0.00	0.00	14.98	0.00	0.00	0.00	14.98
402	3	Segment Meridian Rd	2	Prescott Ln	Presidio Blvd	0.48	\$20,800	Caltrans	0.00	0.00	0.00	14.98	0.00	0.00	0.00	14.98
403	3	Path Sanctuary	1	Meridian Rd	390' N of Meridian Rd	0.15	\$87,900	County	0.00	0.00	0.00	14.92	0.00	0.00	0.00	14.92
404	3	Scenic Trail Segment 12	1	Salinas River and Hwy 1	Salinas River State Beach	1.82	\$5,552,000	County	0.00	0.00	0.00	9.73	0.00	5.00	0.00	14.73
405	3	Scenic Trail Segment 17A	1	Pajaro River	Trafton Rd	0.11	\$699,200	County	0.00	0.00	0.00	14.34	0.00	0.00	0.00	14.34
406	3	Scenic Trail Segment 17B	1	Trafton Rd	McGown Rd	1.44	\$1,659,200	County	0.00	0.00	0.00	13.42	0.00	0.00	0.00	13.42
407	3	Scenic Trail Segment 16A	1	Jetty Rd	Trafton Rd	3.61	\$9,940,000	Ca State Parks	0.00	0.00	0.00	5.56	0.00	5.00	0.00	10.56

Appendix D | Bikeway Project Ranking

Rank	Tier	Name	Class	Start	End	Miles	Cost	Jurisdiction	Gap Closure	Safety	Local Connections	Project Feasibility	Employment Centers	Community Centers	Multi-Modal	Score
408	3	Sanctuary Scenic Trail Segment 16B	1	Jetty Rd	Trafton Rd	3.83	\$15,796,500	Ca State Parks	0.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00

Appendix E. Bicycle Transportation Account Compliance

Caltrans Bicycle Transportation Account is a significant source of funding for bicycle facilities. To be eligible for BTA funding, applicants must have an adopted Bicycle Master Plan that is approved by Caltrans. Table E-1 demonstrates how this Bicycle Master Plan complies with BTA requirements and is provided for the convenience of Caltrans reviewers.

Table E-1: BTA Compliance Table

BTA 891.2	Required Plan Elements	Section
(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.	4.4
		5.7
(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.	2.2
(c)	A map and description of existing and proposed bikeways.	2.5.1
		6.3-6.18
(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.	2.5.2
		6.1
(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.	2.5.2
		Appendix C 6.1
(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.	2.5.2.3
		6.1
(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 compile existing data on the resulting effect on accidents involving bicyclists.	2.5.3
		4.5
(h)	A description of the extent of citizen and community involvement in development of the plan.	1.3
(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.	3

Appendix E | Bicycle Transportation Alliance Compliance

BTA 891.2	Required Plan Elements	Section
(j)	A description of the projects proposed in the plan and a listing of their priorities for implementation.	6, 7, 8
(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.	Not applicable-countywide Plan 8

Appendix F. Project Sheets

This appendix presents the project description sheets for the following projects listed below in Table F-1.

Table F-1: Top Five Priority Projects

Project	Class	Start	End	Miles	Jurisdiction
Imjin Rd/12th St	Bike Lanes	Imjin Rd	Reservation Rd	2.72	Marina
Canyon del Rey Blvd	Bike Lanes	General Jim Moore Blvd	Hwy 68	0.76	Del Rey Oaks
Castroville Multi-Use Path and Railroad Crossing	Multi-Use Path	Axtell St	Castroville Blvd	0.31	County
Blanco Rd	Bike Lanes	Research Rd	Davis Rd	5.36	County
Davis Rd	Bike Lanes	Blanco Rd	Rossi St	1.75	County

F.1. Imjin Road/12th Street Bike Lanes: Imjin Rd to Reservation Rd

Project Description

Street	Start	End	Class	Miles
Imjin Rd/12 th St	Imjin Rd	Reservation Rd	2	2.72

Existing Conditions

This area includes multi-unit student housing and other facilities associated with California State University Monterey Bay. The corridor has two travel lanes, turn pockets at intersections, and narrow shoulders.

Anticipated Users

- Marina residents for commute and utilitarian trips
- CSUMB students
- Fort Ord visitors
- Recreational bicyclists

Needs Addressed

This corridor is a critical link connecting Marina and Seaside to the Marina Municipal Airport., which is located just a ¼ mile east.

The adjoining roadways are cul-de-sacs and do not provide connectivity to the surrounding roadway network.

This project will close a bikeway network gap between the existing bikeway listed below.

Connecting Bikeways

- Class 1 multi-use path on south side of Imjin Rd/12th St
- Class 3 on Imjin Rd east of Reservation Rd

Jurisdiction

City of Marina



Project location



Class 2 bicycle lanes will improve access to CSUMB

Project Cost Estimate

\$2,200,000

F.2. Canyon del Rey Boulevard Bike Lanes: General Jim Moore Boulevard to Highway 68

Project Description

Street	Start	End	Class	Miles
Canyon del Rey Boulevard	General Jim Moore Boulevard	Highway 68	2	0.76

Existing Conditions

This corridor is bound by large storage and commercial properties. To the north are residential land uses and to the east are parks and preserves. This segment of Canyon del Rey Boulevard is identified as an existing bike lane, however it does not meet Class 2 bike lane standards. Bike lane signs and pavement markings are not installed at regular intervals and much of this segment does not have the Caltrans standard minimum four foot bike lane width.

Anticipated Users

- Residents from The Oaks complex
- Visitors to Ryan Ranch Park
- Visitors to Frog Pond Wetlands Preserve
- Recreational bicyclists

Needs Addressed

Canyon del Rey Boulevard is the only connection between Highway 68 and General Jim Moore Boulevard and represents a critical gap in the bikeway network. Narrow shoulders along stretches of Canyon del Rey Boulevard do not provide adequate space for bicyclists to feel comfortable.

Class 2 bike lanes would improve access to many shopping outlets located at Highway 68 and Canyon del Rey Boulevard.

Connecting Bikeways

- Class 3 bicycle route on Canyon de Rey Boulevard north of General Jim Moore Boulevard

Jurisdiction

City of Del Rey Oaks



Project location



The shoulders in many places along Canyon del Rey are narrow.

Project Cost Estimate

\$32,500 (striping and signing) Additional pavement for shoulder widening needed.

F.3. Castroville Multi-Use Path and Railroad Crossing: Axtell St to Castroville Boulevard

Project Description

Project	Start	End	Class	Miles
Castroville Multi-Use Path	Axtell Street	Castroville Boulevard	1	0.31

Existing Conditions

This corridor is adjacent to agricultural land uses however it is adjacent to Castroville housing. Collins Road is a restricted access road, as pictured to the right and connects to the existing Castroville path. Collins Road crosses railroad tracks and this project includes crossing enhancements to control path user crossings of the tracks.

Anticipated User Types

This path will likely be used by many residents and students to commute to school and for recreation.

- Castroville residents for commute and utilitarian trips
- School children
- Recreational bicyclists

Needs Addressed

This proposed project will close a critical gap between the residents of Castroville and North Monterey County High School (located one mile northeast of the residential neighborhood).

Connecting Bikeways

- Castroville multi-use path

Jurisdiction

County of Monterey



Project location



Residents currently use Collins Road to access Castroville path.

Project Cost Estimate

\$5,995,000

F.4. Blanco Road Bike Lanes: Research Drive to Davis Road

Project Description

Street	Start	End	Class	Miles
Blanco Road	Research Dr	Davis Road	2	5.16

Project Description

This segment of Blanco Road traverses through farm land and directly connects Salinas and Marina. This corridor has two opposing travel lanes and varying shoulder pavement widths and quality.

Anticipated Users

Recreational riders and experienced commuters.

- Marina residents for commute and utilitarian trips
- Salinas residents for commute and utilitarian trips
- Recreational bicyclists

Needs Addressed

This section of Blanco Road is frequently used by farm equipment. As such, the existing shoulders are covered by dirt and debris in many areas. Maintenance to keep the proposed Class 2 bike lanes relatively free of dirt and debris should be considered.

Connecting Bikeways

- No existing bikeways

Jurisdiction

County of Monterey



Project location



The shoulders of Blanco Road are commonly covered in dirt.

Project Cost Estimate

\$221,880

F.5. Davis Road Bike Lanes: Blanco Road to Rossi Street

Project Description

Street	Start	End	Class	Miles
Davis Road	Blanco Road	Rossi Street	2	1.75

Project Description

This section of Davis Road is the western boundary of Salinas, with single family housing on the east side and agriculture on the west side. This corridor has two travel lanes and shoulders at varying widths and pavement quality. Left turn pockets exist at intersections.

Anticipated Users

- Salinas residents for commute and utilitarian trips
- Recreational bicyclists

Needs Addressed

The west shoulder of Blanco Road is commonly covered in dirt and debris, which increases bicyclist risk of crashing. Regular maintenance should be considered after the installation of proposed Class 2 bike lanes.

Connecting Bikeways

- Caltrans bicycle route on Market Street
- Existing Class 2 bike lanes on Davis Road north of Rossi Street
- Class 3 bicycle route on Archer Street
- Class 3 bicycle route on Acacia Street

Jurisdiction

City of Salinas



Project location



Davis Road directly connects north and south Salinas on the west side of the city.

Project Cost Estimate

\$3,411,000

Appendix G. Pedestrian Projects

This section presents the comprehensive list of pedestrian projects, including the top five scoring Class 1 multi-use path projects as ranked in the bikeway project list. These paths are the priority pedestrian projects and identified as such with italics in Table G-1.

Improvement descriptions were provided by jurisdictions that submitted pedestrian projects. Some projects lacked sufficient detail to develop a planning level cost estimate.

Appendix G | Pedestrian Projects

Table G-1: Pedestrian Projects

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
Carmel by the Sea	15th Ave	Carmelo St	Monte Verde St	Path	Separated Soft-Scape Walkway / Class 2 Bike Lane	0.15	\$69,000
Carmel by the Sea	Canyon/Flanders/Carmel Hills Dr (bikeway project)	Hatton Canyon	Ocean Av	Path	Separated Walkway / Class 1 Bike Path Joining Hatton Canyon Path & Carmel High School	1.17	\$666,900
Carmel by the Sea	Carmel River	Rio Park	Ribera Rd bluffs	Bridge	Renovate existing pedestrian bridge & add second bridge for access across River & Lagoon via sewer treatment & other properties		\$540,000
Carmel by the Sea	Carmelo St	River Beach	Santa Lucia Av	Path	Separated Soft-Scape Walkway / Class 2 Bike Lane	0.42	\$193,200
Carmel by the Sea	Carpenter St	Ocean Ave	Hwy 1	Path	Separated Soft-Scape Walkway / Class 2-3 Bike Lane	0.85	\$741,000
Carmel by the Sea	Hwy 1	Monastery Beach	Point Lobos	Sidewalk	Separated Walkway / Class 3 Bike Path	1.57	\$894,900
Carmel by the Sea	Hwy 1 & Carpenter St			Crossing	Raised & Bricked Crosswalk At Northern Entrance To Carmel		\$188,100
Carmel by the Sea	Hwy 1 & Ocean Av			Crossing	Raised & Bricked Crosswalk At High School & Main Entrance To Carmel		\$199,500
Carmel by the Sea	Hwy 1 & Rio Rd			Intersection	Raised & Bricked Crosswalk At Southern Entrance To Carmel		\$114,000
Carmel by the Sea	Junipero Ave	Ocean Ave	Santa Lucia Ave	Path	No Description	1.40	\$644,000
Carmel by the Sea	Junipero St & Ocean Av			Crossing	Raised & Bricked Crosswalks Plus Landscaped Island(S) At 5-Way Intersection		NA
Carmel by the Sea	Lasuen Dr	14th Ave	Rio Rd	Sidewalk	Separated Walkway / Class 3 Bike Path	0.29	\$165,300
Carmel by the Sea	Rio Rd	Hwy 1	Junipero St	Sidewalk	Gap Closure: Walkway On Both Sides Of Road With Landscaped Separation / Class 1 Bike Path	0.73	\$416,100
Carmel by the Sea	Santa Lucia Ave	Rio Rd	Scenic Rd	Path	Separated Soft-Scape Walkway	0.55	\$253,000
Carmel by the Sea	Scenic Rd	Ocean Ave	8th Ave	Path	No Description	0.17	\$78,200
Carmel by the Sea	Scenic Rd	Martin Way	River Beach	Path	Separated Soft-Scape Walkway / Class 2 Bike Lane	0.49	\$279,300
Carmel by the Sea	Serra Ave / San Carlos St	Santa Lucia Av	Hwy 1	Path	Separated Soft-Scape Walkway / Class 2-3 Bike Lane	1.96	\$901,600

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
County	Berry Rd	End	End/Elkhorn Slough	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.44	\$2,110,000
County	Boling Rd	Las Lomas Dr	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.29	\$1,650,000
County	Boronda Rd & Rancho Rd @ Carmel Valley Rd			Intersection	Widen And Reconfigure Intersection		\$1,017,000
County	Castroville Path and Railroad Crossing	Axtell St	Castroville Blvd	Path	Priority pedestrian project	0.31	\$5,995,000
County	Clausen Rd	Las Lomas Dr	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.29	\$1,650,000
County	Country Club Dr & Carmel Valley Rd			Intersection	Widen And Reconfigure Intersection		\$1,017,000
County	Gregory Rd	Overpass Road	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.16	\$1,775,000
County	Hall Rd	1668 Feet West of Las Lomas Drive	655 Feet East of Las Lomas	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.45	\$2,440,000
County	Hatton Canyon Path	Carmel Rd	Valley Hwy 1	Path	Priority pedestrian project	2.60	\$1,689,600
County	Hwy 1 / Oliver Rd	Oliver Rd	Crossroads Mall	Sidewalk	Separated Crossing Over Hwy 1 At Terminus Of New Hatton Bike Path	0.41	NA
County	Las Lomas Dr	Thomas Road	Sill Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.57	\$1,660,000
County	Miller Rd	Sill Rd	Overpass Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.34	\$1,945,000
County	Moss Landing Road	South end of Hwy 1	North end of Hwy 1	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.71	\$2,856,000
County	Oak Rd	Berry Road	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.12	\$610,000
County	Overpass Rd	Las Lomas Dr	Miller Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.32	\$1,775,000
County	Sanctuary Scenic Trail 15A	Elkhorn (S)	Bridge Elkhorn Bridge (N)	Path	Priority pedestrian project	0.17	\$5,082,000

Appendix G | Pedestrian Projects

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
County	Sandholt Rd	North of MBARI	End	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.33	\$8,961,000
County	Sill Rd	Beginning	Kinghall Rd	Sidewalk	New Sidewalks, Curb, Gutter, Drainage And Roadway Improvements	0.37	\$2,500,000
County	Thomas Rd	Las Lomas Dr	Overpass Rd	Sidewalk	New sidewalks, curb, gutter, drainage and roadway improvements	0.31	\$1,720,000
County	Willow Rd	Hall Rd	Berry Rd	Sidewalk	New sidewalks, curb, gutter, drainage and roadway improvements	0.17	\$950,000
CSUMB	2nd Ave to Otter Sports Center	2nd Ave	Otter Sports Center	Sidewalk	Sidewalks	1.00	\$570,000
CSUMB	2nd Ave to Sports Fields	2nd Ave	Sports Fields	Sidewalk	New sidewalk walkway path	1.30	\$741,000
CSUMB	4th St	General Jim Moore Blvd	Black Box Cabaret	Sidewalk	New Sidewalk	0.33	\$188,100
CSUMB	5th Ave	8th Street	Inter-Garrison	Path	Two-Way Pedestrian And Bicycling Path On West Side Of Street.	0.35	\$199,500
CSUMB	B St	6th Ave	Watershed Institute	Sidewalk	New Sidewalk	0.20	\$114,000
CSUMB	Divarty St	General Jim Moore Blvd	5th Ave	Sidewalk	Sidewalks	0.37	\$210,900
CSUMB	Divarty St (north and south side)	2nd Ave	General Jim Moore Blvd	Sidewalk	Sidewalks	0.37	\$210,900
CSUMB	General Jim Moore Blvd to Stadium	General Jim Moore Blvd	Stadium	Sidewalk	New Sidewalk Walkway Path	0.29	\$165,300
CSUMB	Inter-Garrison Rd (south side)	4th Ave	5th Ave	Sidewalk	New Sidewalk	0.22	\$125,400
CSUMB	Inter-Garrison Rd (south side)	2nd Ave	Ocean Hall (closest building)	Sidewalk	New Sidewalk	0.10	\$57,000
CSUMB	Inter-Garrison Rd south to Science Bldg	Inter-Garrison Rd	Science Bldg	Sidewalk	New Sidewalk Walkway Path	0.08	\$45,600
CSUMB	Inter-Garrison Rd south to Science Bldg	Inter-Garrison Rd	Science Bldg	Sidewalk	New Sidewalk Walkway Path	0.20	\$114,000
Gonzales	5th St	Ricon Rd	Elko St	Path	Multi-Use Path	0.23	\$300,000
Gonzales	5th St & Elko St			Intersection	Traffic signal installation		\$450,000
Gonzales	5th St & Fermin Rd Crossing			Intersection	Traffic signal installation		\$1,600,000
Gonzales	5th St & Herold Pkwy			Intersection	Lighted crosswalk installation, traffic signal installation		\$900,000
Gonzales	5th St & Hwy 101 Overpass			Intersection	Pedestrian overcrossing and traffic signal installation		\$650,000
Gonzales	5th St & Rincon Rd			Intersection	Traffic signal installation		\$480,000
Gonzales	Citywide			Sidewalk	Gap closure		\$1,500,000

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
Gonzales	Citywide			Sidewalk	Sidewalk repair and maintenance		\$2,000,000
Gonzales	Citywide			Intersection	Curb ramp installation		\$1,500,000
Gonzales	Elko St	4th St	5th St	Amenities	Lighting and benches	0.07	\$90,000
Gonzales	Herold Pkwy & Gloria Rd			Intersection	Traffic signal installation		\$450,000
King City	3rd St	Pearl St	Vivian St	Sidewalk	Sidewalk And Curb Ramp Installation	0.07	\$39,900
King City	Airport Blvd	Bitterwater Rd	Metz Rd	Sidewalk	Sidewalk And Curb Ramp Installation	0.91	\$518,700
King City	Broadway & Mildred Ave			Crossing	Intersection redesign and traffic signal installation		\$250,000
King City	Canal St	Reich St	Talbot St	Sidewalk	Sidewalk And Curb Ramp Installation	0.08	\$45,600
King City	Canal St & Hwy 101			Intersection	Curb ramp installation on Cal Trans R.O.W		NA
King City	Carlson St	3rd St	2nd St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
King City	Copley St	Ellis St	Orchard St	Sidewalk	Sidewalk And Curb Ramp Installation	0.13	\$74,100
King City	Division St	Vanderhurst Ave	1st St	Sidewalk	Sidewalk And Curb Ramp Installation	0.29	\$165,300
King City	Ellis St	2nd St	3rd St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
King City	Mildred Ave	Reich St	Talbot St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
King City	Mildred Ave	Division St	Reich St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
King City	Monte Vist Pl	Reich St	Talbot St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
King City	Pearl St	2nd St	1st St	Sidewalk	Sidewalk And Curb Ramp Installation	0.09	\$51,300
King City	Reich St	Monte Vista Pl	7th St	Sidewalk	Sidewalk And Curb Ramp Installation	0.12	\$68,400
King City	Talbot St	Canal St	Mildred Ave	Sidewalk	Sidewalk And Curb Ramp Installation	0.11	\$62,700
Marina	Abdy Way	Healy Ave	Drew St	Sidewalk	Sidewalks	0.31	\$176,700
Marina	Beach Rd	Cardoza Ave	Fitzgerald Cir	Sidewalk	Sidewalks	0.52	\$296,400
Marina	Begonia Cir/Michael Dr	Beach Rd	Turn in Michael Dr	Sidewalk	Sidewalks	0.13	\$74,100
Marina	California Ave	Reservation Road	Carmel Ave	Sidewalk	Sidewalks	0.28	\$159,600
Marina	California Ave	Tamara Court	End	Sidewalk	Sidewalks	0.78	\$444,600
Marina	Cardoza Ave	Abdy Way	Belle Dr	Sidewalk	Sidewalks	0.10	\$57,000
Marina	Carmel Ave	Bayer Street	Salinas Ave	Sidewalk	Sidewalks	0.06	\$34,200
Marina	Carmel Ave	Crescent Ave	Vaughan Ave	Sidewalk	Sidewalks	0.08	\$45,600
Marina	Carmel Ave	Del Monte Blvd	Sunset Ave	Sidewalk	Sidewalks	0.16	\$91,200
Marina	Carmel Ave (both sides)	Seacrest Ave	Crescent Ave	Sidewalk	Sidewalks	0.28	\$159,600
Marina	Crescent Ave	Carmel Ave	Reservation Rd	Sidewalk	Sidewalks	0.27	\$153,900
Marina	Del Monte Blvd	Palm Ave	Mortimer Lane	Sidewalk	Sidewalks	0.17	\$96,900
Marina	Del Monte Blvd	Reservation Road	Beach Road	Sidewalk	Sidewalks	0.44	\$250,800
Marina	Del Monte Blvd & Palm Ave			Intersection	Restripe Crosswalks		\$4,000
Marina	Del Monte Blvd & Reserption Rd			Crossing	Restriping: Remove one of two right turn lanes; Restripe Crosswalks		\$96,900
Marina	Drew St	Abdy Way	Lakewood Dr	Sidewalk	Sidewalks	0.34	\$193,800

Appendix G | Pedestrian Projects

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
Marina	Healy Ave	Abdy Way	Marina Drive	Sidewalk	Sidewalks	0.15	\$85,500
Marina	Lake Dr	Messinger Dr	Hilo Ave	Sidewalk	Sidewalks	0.24	\$136,800
Marina	Marina Drive	Legion Way	Healy Ave	Sidewalk	Sidewalks	0.08	\$45,600
Marina	Paddon Pl	Lake Dr	Marina Dr	Sidewalk	Sidewalks	0.16	\$91,200
Marina	Palm Ave	Elm Ave	Sunset Ave	Sidewalk	Sidewalks	0.11	\$62,700
Marina	Palm Ave	Lake Dr	Del Mote Blvd	Sidewalk	Sidewalks	0.18	\$102,600
Marina	Redwood Drive	Hillcrest Ave	Carmel Ave	Sidewalk	Sidewalks	0.12	\$68,400
Marina	Reindollar Ave	California Ave	Eddy Circle	Sidewalk	Sidewalks	0.08	\$45,600
Marina	Reindollar Ave	Vera Lane	Vaughan Ave	Sidewalk	Sidewalks	0.16	\$91,200
Marina	Reindollar Ave	Del Monte Blvd	Sunset Ave	Sidewalk	Sidewalks	0.18	\$102,600
Marina	Reservation Rd	Crestview Ct	Lynscott Dr	Sidewalk	Sidewalks	0.36	\$205,200
Marina	Salinas Ave	Carmel Ave	Reservation Rd	Sidewalk	Sidewalks	0.27	\$153,900
Marina	Seacrest Ave	Carmel Ave	Reservation Rd	Sidewalk	No Description	0.29	\$165,300
Marina	Zanetta Dr	Reindollar Ave	Hillcrest Ave	Sidewalk	Sidewalk	0.13	\$74,100
Monterey	English Ave	Monterey Bay Coastal Trail	Grant Ave	Sidewalk		0.16	\$91,200
Monterey	English Ave & Monterey Bay Coastal Trail			Intersection			\$700,000
Monterey	Hawthorne St & Pvt Bolio Rd			Intersection			\$350,000
Monterey	Mark Thomas Dr	Sloat Ave	Garden Rd	Sidewalk	Construct Sidewalk On North Side Of Mark Thomas Drive. Fills Critical Gap In Safe Route To School For Santa Catalina School.	0.60	\$850,000
Monterey	Monterey Bay Coastal Trail Crossings	David Ave	Casa Verde	Crossing	Construct pedestrian and bike safety improvements at 11 uncontrolled trail crossings.		\$660,000
Monterey	Pacific St	Colton St	Martin St	Sidewalk	Construct Sidewalk On West Side Of Pacific. Carries Pedestrians From Monterey Vista Neighborhood To The Signalized Intersection Of Pacific / Martin For Safe Crossing.	0.10	\$250,000
Monterey	Pearl Ave	Calle Principal	Camino Aguajito	Sidewalk	Constructs Ada Curb Ramps At 10 Intersections. Constructs Ada Curb Ramps And Curb Extensions Along The Length Of The Pearl Street Bike Boulevard.	0.91	\$750,000
Monterey	Sloat Ave & 5th St			Crossing			\$400,000
Monterey	Soledad Dr	Munras Ave	Via Gayuba	Sidewalk	Install Sidewalk, Curb & Gutter On North Side Of Soledad Drive. Fills Critical Gap In Safe Route To School For Monte Vista And Colton Schools.	0.83	\$980,000

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
Monterey	Soledad Dr & Munras Ave			Intersection	Intersection Realignment and Sidewalk. Replaces uncontrolled intersection with 3-way stop, adds school crosswalks, installs ADA ramps, and improves pedestrian crossing safety.		\$500,000
Monterey	Van Buren & Corp Ewing Rd			Intersection	Constructs ped & bike path. Fills critical gap that connects the New Monterey Neighborhood through the Lower Presidio to Downtown without crossing Lighthouse Avenue.		\$1,700,000
Pacific Grove	Central Ave & Grand Ave			Crossing	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$50,000
Pacific Grove	Citywide			Sidewalk	Gap closure		\$100,000
Pacific Grove	Congress Ave (Forest Grove School)	Hwy 68	Forest Grove School	Sidewalk	New Sidewalk On East Side Of Congress Avenue, Along High School Stadium	0.23	\$100,000
Pacific Grove	David Ave	SaveMart Driveway	West end of David Avenue	Sidewalk	New Sidewalk On South Side Of David Avenue	0.40	\$700,000
Pacific Grove	Forest Ave & Forest Hill Blvd			Crossing	Lighted crosswalk, pavement markings, signs		\$170,000
Pacific Grove	Forest Ave & Grove Market			Crossing	Mid-block crosswalk, bulb out, pavement markings, loading zone switch		\$20,000
Pacific Grove	Forest Ave & Sinex Ave			Intersection	Traffic signal upgrade, modify existing signals, include countdown ped signals and vehicle detection		\$300,000
Pacific Grove	Fountain Ave & Central Ave			Intersection	Re-align and narrow intersection, consider round-about		\$300,000
Pacific Grove	Jewell Ave & Pacific Ave			Crossing	Pedestrian crossing, new stop sign, curb extension		\$100,000
Pacific Grove	Lighthouse Ave & 17th St			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$100,000
Pacific Grove	Lighthouse Ave & Congress Ave			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$300,000
Pacific Grove	Lighthouse Ave & Forest Ave			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$300,000

Appendix G | Pedestrian Projects

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
Pacific Grove	Lighthouse Ave & Grant St			Intersection	Re-design and re-build intersection -- curb bulb outs, pavement treatment, crosswalk updates		\$75,000
Pacific Grove	Monterey Recreational Trail			Maintenance	General maintenance of the trail.		\$100,000
Pacific Grove	Ocean View Avenue Access to Trail			Crossing	Bulb outs, crosswalks		\$400,000
Pacific Grove	Spruce Ave (Robert Down Elementary School)	12th St	13th Street	School	Add Passenger Loading Zones	0.03	\$50,000
Salinas	2003-2004 North Salinas ADA Pedestrian Ramps			Crossing	Deficient Pedestrian Access Ramps West Alvin Drive, East Alvin Drive, Linwood Drive, Lassen Avenue, Modoc Avenue, Rainier Avenue, Parkside Street, Baldwin Street, Sherwood Drive and a portion of Natividad Road		\$480,000
Salinas	2004-2005 East Salinas Area St Lights - Phase VIII			Amenities	Street Light Upgrade Rider Avenue, Alamo Way, Gee Street, South Elm Street, Holly Street		\$220,000
Salinas	2004-2005 North Main St ADA Pedestrian Ramp Project			Crossing	Deficient Pedestrian Access Ramps- North Main Street (Bernal Drive – Lamar Street), West Curtis Street, Tyler Street (West Curtis – Laurel Drive), East Curtis Street, Chaparral Street (North Main Street - Linwood Drive), Maryal Drive (Chaparral Street – East Laurel Drive), Lamar Street (North Main Street– Santa Rita Street), Santa Rita Street, West Bolivar, East Bolivar, Swaner Avenue, Van Buren Avenue, Mass Street, Brutus Street		\$332,000
Salinas	Bernal Dr	Main St	Sherwood Dr	Sidewalk	Widen Bernal Drive, Construct Sidewalk & Retaining Wall On North Side Between Main St & Rosarita Drive	0.53	\$1,647,000
Salinas	Central Ave & Cayuga St			Crossing	Install Lighted Crosswalk with Curb Return Improvements		\$150,000
Salinas	Chaparral St & Linwood Dr			Intersection	Deficient Pedestrian Access Ramps		\$25,000
Salinas	City-wide Sidewalk St Inventory			Program	Survey of City Pedestrian Facilities		\$20,000
Salinas	E Alisal St & Towt St			Intersection	Traffic Signal Installation		\$275,000

Jurisdiction	Location	Start	End	Type	Description	Mileage	Cost
Salinas	E Market St & Pajaro St			Crossing	Install Lighted Crosswalk and improve signing		\$100,000
Salinas	Gabilan Creek Path	Danbury St	Constitution Blvd	Path	Priority pedestrian project	0.88	\$569,300
Salinas	John St & Los Padres Elementary School			Crossing	Install Lighted Crosswalk		\$100,000
Salinas	John Steinbeck U.S Post Office Accessibility			Crossing	New curb, gutter, sidewalk, pedestrian ramps, and minor drainage improvements.		\$41,000
Salinas	N Main St & Chaparral St			Intersection	Deficient Pedestrian Access Ramps		\$25,000
Salinas	N Main St & Navajo St			Crossing	Lack of Sidewalk; deficient pedestrian access ramp, Install Lighted Crosswalk		\$136,400
Salinas	N Sanborn Rd & Kimmel St			Intersection	Traffic Signal Installation		\$275,000
Salinas	Natividad St & Sorentini Dr			Crossing	Install Lighted Crosswalk		\$100,000
Salinas	Northridge Mall's North Main Str Frontage			Intersection	Deficient Pedestrian Access Ramps		NA
Salinas	Pedestrian Safety Education Program			Program	Implement Pedestrian Safety Education for motorists and pedestrians; Streets Smarts Program		\$250,000
Salinas	S Main St Corridor Project			Intersection	Deficient Pedestrian Access Ramps		NA
Salinas	Traffic Calming Policy			Planning	Develop Policy – Being Prepared		\$20,000
Salinas	Williams Rd & John St @ E Alisal St			Intersection	Install Pedestrian Access Ramps		NA
Sand City	Sanctuary Scenic Trail	North City Limit	South City Limit	Amenities	Replace Lighting Along The Sanctuary Scenic Trail	1.27	\$50,000
Sand City	Sanctuary Scenic Trail Segment 4B	Tioga Ave	Monterey Peninsula Recreational Trail	Path	Priority pedestrian project	0.42	\$292,600
Seaside	Broadway Ave & San Lucas St			Intersection	Signal installation, crosswalk, sidewalk curb and gutter		\$54,200
Seaside	Broadway Ave & Terrace St			Crossing	Sidewalk curb, gutter, crossing improvements		\$63,200
Seaside	W Broadway Ave	Del Monte Blvd	Fremont Blvd	Sidewalk	Widen Sidewalks, Ped And Bicycle Facilities	0.41	\$108,300

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Appendix H. Agricultural Resources

H.1.Challenges

A concern raised in relation to the Bicycle and Pedestrian Mater Plan is its potential impact on agriculture. The Agency is committed to ensuring the Plan reflects the needs of all stakeholders and it is imperative that bicycle and pedestrian facilities are planned and designed to minimize negative impacts to agriculture. Typical concerns include:

- Impact on farm operations
- Theft or vandalism
- Loss of farm land
- Liability: spraying and trespassing
- Spread of invasive species

Trails and agriculture can coexist, but this requires an understanding of farming operations and methods to reduce or mitigate impacts.

Trails, bicycle, pedestrian facilities and agriculture can coexist, as demonstrated throughout Europe and in many parts of the United States, but this requires an understanding of farming operations and methods to reduce or mitigate impacts, and actions to address and ally the specific concerns of farmers.

H.2.Potential Solutions

The potential exists for bicyclists and pedestrians to become supporters of local agriculture. Bicycle and pedestrian facilities may provide the opportunity to market the Monterey County agricultural products to users as they ride or walk past fertile fields.

The alignment of a trail or path at the edge of productive agricultural land can result in several desirable outcomes. First, the bicycle, pedestrian or open space facilities provide a buffer between the agricultural operation and more densely populated residential areas. This buffer can help to reduce edge conflicts by ensuring residential subdivisions and productive agricultural lands do not share a common fence line. Secondly, the presence of these facilities along agricultural acreage provides educational opportunities for non-farming residents who may otherwise have limited exposure to agricultural operations. This exposure to agricultural production may facilitate community and political support for agricultural land preservation initiatives, as residents realize the important role agriculture plays in their lives and in the life of their community. Finally, the construction of a trail or path abutting agricultural land presents opportunities for the landowner to gain an economic benefit if they decide to donate or sell and or an easement to a public agency or non-profit organization.

H.2.1. Impact on Farm Operations



Farm Stand

Trail or path or other bicycle or pedestrian facility location, design, operation and management can encourage safe and considerate use practices and provide a diminished risk of injury, reducing the risk of liability claims. For example, some of the most significant features of a trail are inherent in the alignment itself. The distance a trail is set back from crops is for typical farm practices. For example, providing room for farm equipment to maneuver without nearing the trail reduces potential conflicts between trail users and farming practices.

Dogs on trails near cattle and other livestock may impact operations. Trail design and regulations can be used to mitigate potential problems. For example dogs should be required to be on leash at all times so they do not chase cattle. Special fencing separating the trail from the livestock can also improve the situation. Though access for dogs is extremely popular, there may be locations where dogs must be prohibited on the trail.

H.2.2. Theft and Vandalism

The theft of produce is a significant concern of the agricultural community. Like other security issues, this problem is not directly related to bicycle and pedestrian activity, and “daylighting” the area with significant public use could actually reduce theft. To reinforce efforts to prevent theft, trail managing agencies have provided fencing, signage reflecting laws and penalties, public information and trail patrol.

A study done by the Rails to Trails Conservancy found rural trails have incidents of crime at much lower rates per population than suburban and urban trails.¹¹ In fact, bicyclists and pedestrians can provide additional “eyes” for the agricultural community and can be regarded as an improvement because they bring local community members and families to the area. In many areas of the United State and around the world, trails peacefully coexist with agriculture without significant issues.

H.2.3. Loss of Farm Land

Agricultural land is an important part of Monterey County. Agriculture drives the local economy and supplies crops for California and the United States. Bicycle and pedestrian facilities do not require a significant amount of land, and often can be incorporated into boundary and border areas where there is minimal impact on usable agricultural land. Also, the purchase of a portion of land or an easement can provide vital cash to an agricultural owner that would otherwise not be available without ceasing agricultural operations.

¹¹ Rails to Trails Conservancy, “Rail-Trails and Safe Communities,” 1998.

H.2.4. Liability: Spraying and Trespassing

For the past 30 years, agricultural landowners in California who own land through which a path or trail passes are protected by the State’s Recreational Use Statute. This statute, California Civil Code § 846 was enacted to encourage private landowners to allow recreational public use of their land without the risk of liability. The Statute makes landowners immune from liability for injuries sustained by individuals using their land for recreational purposes without fee payment. Over the thirty-year period the Statute has been in place, the judgments made by the California Courts have predominantly upheld the purpose of this Statute. Additionally, farming is protected under the California Right to Farm Act which prevents nuisance or incompatibility lawsuits against existing operations.

H.2.4.1 Spraying

Typical farming practices such as spraying may pose a concern for bicyclists and pedestrians, as well as farmers. This concern can be addressed in several ways. First, by providing users with adequate warning about the risks they are assuming. For example, in order to prevent nuisance claims triggered by the spraying of pesticides, warning signs and a spraying schedule may be posted to notify users of the associated risks. Case law pertaining to the Recreational Use Statute includes a finding that warning signs are sufficient to show the absence of willful or malicious conduct on part of the land owner.¹² Sonoma County Regional Parks Department manages the thirteen mile West County Trail adjacent to vineyards and did not receive complaints about conflicts between trail users and vineyard owners who sprayed grapes.¹³

Additionally, trails can be closed during periods of spraying and during other agricultural operations. This can be part of an easement or other access arrangement or solely due to operations. In some cases, this is accomplished by gates and signs controlled by the farmer.

H.2.4.2 Trespassing

Appropriate design can mitigate liability presented by trespassing. As the saying goes, good fences make good neighbors. The installation of fences is an internal part of the defense against liability as it prevents trail users from making attractive nuisance claims. An attractive nuisance claim hinges on the tacit “invitation” of children onto a property by a nuisance, such as livestock, that is attractive to children.¹⁴ The construction of a fence, which bars children from entry and warns against nuisance, is a defensible precaution against attractive nuisance claims. The installation of a fence clearly demarcates the boundary between private, productive agricultural land and the trail facility.

Good communication and public information can also prevent trespassing. Signs posted along the trail by the management agency asking trail users to respect their agricultural neighbors and ‘no trespassing’ signs posted by the trail managers and property owners can help deter trespassing. Additionally, regular patrols, whether by security or volunteer groups can deter crime and trespassing. Finally, staff or docent walks and talks can educate trail users about agriculture and related challenges and encourage cooperation from trail users.

¹² California Recreational Trail Use Statute and Liability Handbook (Bay Area Ridge Trail Council, 1998).

¹³ Sonoma County Draft Outdoor Recreation Plan 2003 Appendix 6.

¹⁴ McEowen, Roger A. “Recreational Use of Private Lands: Associated Legal Issues and Concerns” (The National Agricultural Law Center, 2003).

H.2.5. Spread of Invasive Species

Many habitats in California have become dominated by non-native species. Many of these non-native species are known as “invasive” species, so-named because they rapidly colonize new areas and cause harm to the native species, agricultural crops or livestock that are present. Some species are deliberately introduced because they are thought to have value for wildlife, horticulture, or agriculture; others are accidentally transferred by vehicles and landscaping equipments. Trails can become avenues of introduction and spread when invasive species, whether seeds or insects, are carried in or on animals, vehicles, bicycle tires, shoes, boats, commercial goods, produce or clothing of trail users.

Each county’s Department of Agriculture works with local agencies to manage invasive species. In addition to weed seeds and insects, agricultural representatives are concerned about pathogens that can be carried into the fields from the outside. In addition to the potential direct impacts, farmers need to be able to assure their buyers that the growing conditions of their fields are safe from outside contaminants.

Spread of invasive species along trails can be mitigated in the following ways:

- Further research and coordination with the Farm Bureaus, County Agriculture Committees, and agricultural advisory agencies should be undertaken as an early part of detailed trail planning to identify specific issues and potential solutions, including conditions where trails may not be compatible with agriculture, or are feasible only under specific controlled conditions.
- Trails should be kept clear of invasive species and known infected areas should be monitored and maintained.
- Equipment, such as mowers, should be cleaned before leaving the immediate area to prevent spread of any invasive species. This includes water equipment as well as there is the potential for transfer of aquatic organisms on boats, jet skis and other watercraft.
- Train maintenance staff and volunteers to recognize invasive species.
- Vehicles, such as trail maintenance, Caltrans, and PG&E trucks, should be cleaned before leaving the immediate area.
- Encourage collaboration with the public to help identify invasive species. Organizations such as native plant societies or the Sierra Club may help with identification.
- Educational signage should be used to inform trail users of both native and invasive species. An aware public can help identify potential problem areas. Additionally, the signage can add agricultural value to the trail.