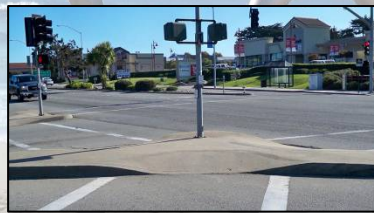


CITY of MARINA PEDESTRIAN and BICYCLE MASTER PLAN



Adopted February 2, 2010 by
City Council Resolution No. 2010-17



CITY of MARINA PEDESTRIAN and BICYCLE MASTER PLAN

Prepared by:

City of Marina
Community Development Department
209 Cypress Avenue
Marina, California 93933

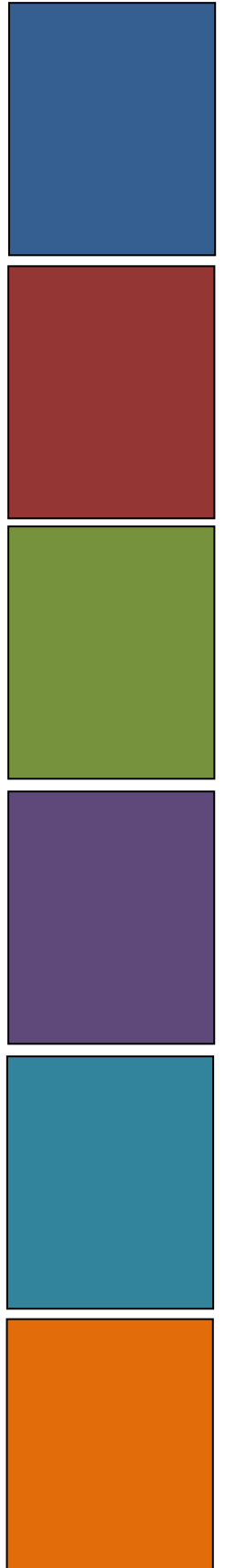


With assistance from:

Rincon Consultants, Inc



**Adopted February 2, 2010 by
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ACKNOWLEDGEMENTS

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Bruce Carlos Delgado

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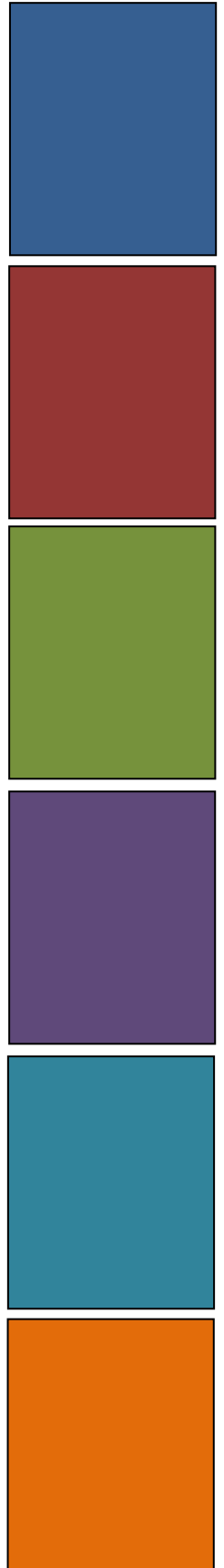
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The Marina Pedestrian and Bicycle Master Plan was prepared for the City of Marina Community Development Department by Rincon Consultants, Inc. under a Caltrans Community Based Transportation Planning Grant.





February 8, 2010



Message From Mayor Bruce Delgado

Walking and bicycling is both a pleasurable and healthy way to travel, whether for recreation or to get where you need to be: your job, school, the store or any other destination.

With the passage of AB 32 (California Global Warming Solutions Act of 2006) and SB 375 (Sustainable Communities and Climate Protection Act) walking and cycling have taken on a new importance in California. These state bills require that city's and county's plan to shrink the numbers of miles that residents travel by car and light truck, in favor of walking, cycling and public transportation.

Marina's adopted Pedestrian and Bicycle Master Plan describes how the networks of pedestrian and bicycle facilities will continue to be developed over time, making it easier for you to choose to walk or cycle to the places that you need to go. The Master Plan will allow the City to apply for state and federal grants that were previously off limits, so we can keep building bicycle lanes and pathways like California Avenue and Patton Parkway, and make better connections to points within and outside of Marina's city limits. Design guidelines included in the plan illustrate Marina's preferred approach as to how the City will look with a more balanced transportation network that equally considers pedestrians, cyclists and automobiles.

If you normally walk or bike about town or want to soon, have fun, be safe and say "hey" when I pass by on my bicycle.

Sincerely,

Bruce Delgado

Mayor

City of Marina

TABLE OF CONTENTS

EXECUTIVE SUMMARY

Purpose and Intent	ES-1
Background	ES-1
Pedestrian and Bicycle Master Plan Components.....	ES-2

1.0 INTRODUCTION

1.1 Purpose of the Pedestrian and Bicycle Master Plan	1-1
1.2 Background and Plan Development Process.....	1-3
1.3 Public Participation in Preparation of the Plan.....	1-4
1.4 City of Marina General Plan Vision Statement and Goals.....	1-5

2.0 PEDESTRIAN AND BICYCLE SUPPORTIVE PROGRAMS

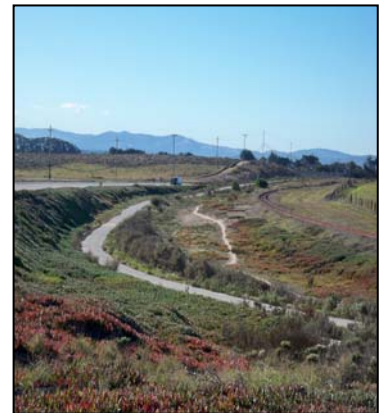
2.1 Transportation Agency for Monterey County (TAMC).....	2-1
2.2 California Department of Transportation (Caltrans).....	2-3
2.3 California Department of Parks and Recreation.....	2-4
2.4 Monterey Peninsula Regional Parks District.....	2-5
2.5 California State University Monterey Bay (CSUMB)	2-6
2.6 Association of Monterey Bay Area Governments (AMBAG)	2-6
2.7 Fort Ord Reuse Authority (FORA).....	2-7
2.8 Bureau of Land Management (BLM).....	2-8
2.9 City of Seaside	2-9
2.10 County of Monterey	2-9
2.11 Local Bicycle Safety and Education Programs	2-10

3.0 IMPLEMENTATION DOCUMENTS AND PROGRAMS

3.1 Marina General Plan	3-2
3.2 Marina Parks and Recreation Facilities Master Plan	3-3
3.3 Development Entitlements and Strategic Projects	3-4
3.4 Marina Municipal Code.....	3-6
3.5 Marina Standard Plans and Specifications (2006).....	3-7
3.6 Marina Capital Improvement Program	3-7
3.7 Marina Sidewalk Management System	3-7
3.8 Marina Pavement Management Program	3-8
3.9 Monterey County General Plan	3-8
3.10 Fort Ord Reuse Plan.....	3-9
3.11 Fort Ord Reuse Authority (FORA) Fees	3-10
3.12 Regional Development Impact Fee Program	3-10

City of Marina Pedestrian and Bicycle Master Plan

Table of Contents



City of Marina Pedestrian and Bicycle Master Plan

Table of Contents



3.13	2005 Transportation Agency for Monterey County General Bikeways Plan.....	3-10
3.14	2008 Monterey County General Bikeways Plan	3-11
3.15	Reference Materials Used by the City of Marina When Designing Facilities.....	3-11

4.0 EXISTING FACILITIES

4.1	Existing Land Uses	4-1
4.2	Existing Pedestrian Network	4-2
4.3	Existing Pedestrian Amenities	4-4
4.4	Existing Monterey-Salinas Transit (MST) Facilities	4-4
4.5	Existing Bicycle Network and Facilities	4-5
4.6	Estimated Number of Bicycle Commuters	4-15
4.7	End-of-Trip Bicycle Facilities	4-16

5.0 DESIGN GUIDELINES

5.1	Overview	5-1
5.2	Guidelines for Walking.....	5-1
5.2.1	Sidewalk Guidelines	5-1
5.2.2	Crosswalk Guidelines	5-2
5.2.3	Mid-Block Crossing Guidelines.....	5-5
5.2.4	Pedestrian Orientation Guidelines.....	5-6
5.3	Guidelines for Bicycling.....	5-9
5.3.1	Bikeway Guidelines	5-9
5.3.2	End-of Trip Bicycle Facilities Guidelines.....	5-10
5.3.3	Bicycling Promotion and Funding.....	5-11
5.4	Pedestrian and Bicycle Oriented Street Guidelines.....	5-11
5.4.1	Pedestrian-Oriented Parking Guidelines.....	5-12
5.5	Guidelines for Roundabouts	5-13
5.5.1	Roundabouts Design and Implementation Guidelines	5-15
5.5.2	Pedestrian Crossing Guidelines at Roundabouts	5-16
5.6	Crime Prevention through Environmental Design (CPTED)	5-17
5.7	Design Strategies to Minimize Maintenance Costs	5-19

6.0 IMPLEMENTATION PROGRAM

6.1	Project Listing and Priorities for Implementation	6-1
6.2	Past Expenditures and Future Financial Needs	6-8

7.0 REFERENCES

7.1	List of References	7-1
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LIST OF FIGURES

Figure 4-1 Existing and Proposed Pedestrian Facilities.....	4-3
Figure 4-2 Existing and Proposed Bicycle Facilities	4-7
Figure 4-2(a) Marina Station Bicycle and Pedestrian Circulation.....	4-8
Figure 4-2(b) Cypress Knolls Streetscape Design.....	4-9
Figure 4-2(c) Cypress Knolls Trails and Circulation.....	4-10
Figure 4-2(d) Marina Heights Conceptual Bicycle Plan.....	4-11
Figure 4-2(e) The Dunes on Monterey Bay Parks, Multi-Purpose Trail and Bicycle Circulation Plan.....	4-12
Figure 4-2(f) CSUMB Pedestrian and Non-Motorized Circulation Plan.....	4-13
Figure 4-3 Local and Regional Connections	4-14
Figure 4-4 End-of-Trip Bicycle Facilities	4-21
Figure 6-1 Pedestrian Network and Facility Deficiencies	6-2
Figure 6-2 Bicycle Network and Facility Deficiencies.....	6-3
Figure 6-3 Proposed Transportation Enhancements Projects	6-10

LIST OF TABLES

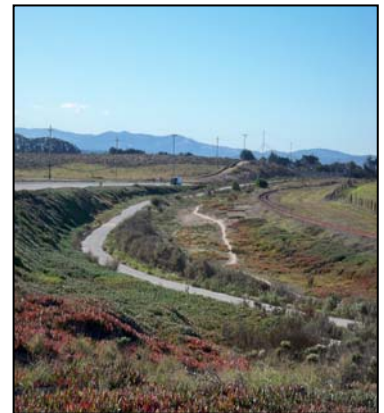
Table 1-1 Location of Requirements of Section 891.2	1-2
Table 4-1 Estimated Number of Daily Bicycle Commuters in Marina	4-15
Table 4-2 City of Marina Bicycle Rack Inventory	4-17
Table 4-3 End-of-Trip Facilities at Large Employers	4-20
Table 6-1 Central Marina Network Pedestrian Infrastructure Projects.....	6-4
Table 6-2 Central Marina Network Bicycling Infrastructure Projects	6-6
Table 6-3 Past Expenditures: Pedestrian and Bicycle Transportation Improvements.....	6-8

APPENDICES

Appendix A Glossary	A-1
Appendix B City of Marina General Plan Land Use Map.....	B-1
Appendix C Pedestrian and Bicycle Facility Deficiencies.....	C-1
Appendix D Monterey-Salinas Bus Routes Serving the City of Marina.....	D-1

City of Marina Pedestrian and Bicycle Master Plan

Table of Contents

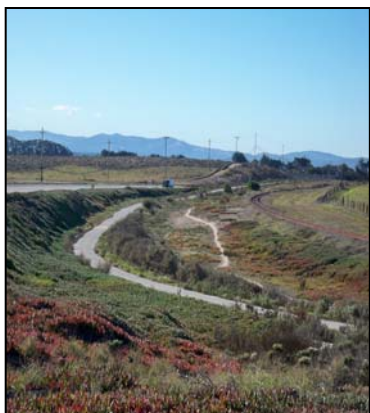


**City of Marina
Pedestrian and
Bicycle Master Plan**

**Table of
Contents**



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EXECUTIVE SUMMARY

PURPOSE AND INTENT

A Pedestrian and Bicycle Master Plan is a comprehensive and long-range planning document focused on documenting and improving pedestrian and bicycle facilities within a given community. It guides the planning and design of facilities improvements, encourages safe and convenient walking and bicycling, and educates the public about these modes of travel and their supporting facilities. By creating a Pedestrian and Bicycle Master Plan, the City of Marina is providing itself with the tools necessary to create a walkable, bike able, and healthy community.

The Marina Pedestrian and Bicycle Master Plan (Plan) has three primary purposes: providing guidelines for facilities improvements, positioning the City for grants to finance improvements, and playing a role in the City's work to reduce greenhouse gas emissions. These are described in greater detail in Chapter 1, *Introduction*.

BACKGROUND

In February 2003, the City of Marina received a grant from the Monterey Bay Unified Air Pollution Control District (MBUAPCD) to prepare a Draft Pedestrian and Bicycle Master Plan. Between February and April 2003, activity to produce such a plan included:

- *Two planning charettes involving the public, City elected and appointed officials and City staff;*
- *A series of focus group meetings;*
- *Two public workshops;*
- *Two design workshops;*
- *A walk audit; and*
- *Individual meetings with key stakeholders.*

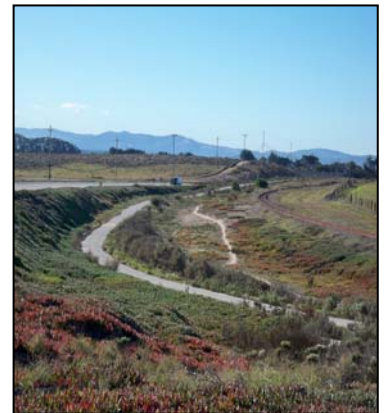
The workshops and meetings provided a forum for participants to exchange ideas and build support for a common vision for the City of Marina.

On August 30, 2003, a Draft Marina Pedestrian and Bicycle Master Plan, prepared by Walkable Communities, Inc., Local Government Commission, and Livable Streets, Inc. was released. A Transportation Agency for Monterey County (TAMC) Award of Excellence was received for the August 2003 Draft Plan. However, this draft document was never adopted by the City.

In December 2007, by Resolution No. 2007-283, the Marina City Council authorized submittal of a Community-Based Transportation Planning Grant and approved an agreement between the City of Marina and the California

City of Marina Pedestrian and Bicycle Master Plan

Executive Summary



**City of Marina
Pedestrian and
Bicycle Master Plan**

**Executive
Summary**



Department of Transportation to finalize and adopt the Pedestrian and Bicycle Master Plan as a vehicle for expanding walking and cycling opportunities throughout the City.

Public participation in preparing both the 2003 Draft Plan and this Pedestrian and Bicycle Master Plan is described in Chapter 1, *Introduction*.

PEDESTRIAN AND BICYCLE MASTER PLAN COMPONENTS

The Plan is organized into the following chapters:

Chapter 1: Introduction

Chapter 1 describes the benefits of walking and bicycling versus other modes of transportation, discusses the purpose of the Plan, and provides background and public participation in preparation of the Plan.

Chapter 2: Pedestrian and Bicycle Supportive Programs

Chapter 2 provides a regional context for pedestrian and bicycle planning by examining the relationships between the City of Marina and other agencies and jurisdictions, including coordination between agencies, specific policies affecting Marina, and recent planning activities that may have implications on pedestrian and bicycle facility coordination.

Chapter 3: Implementation Documents and Programs

Pedestrian and bicycle facilities planning and implementation in the City of Marina occur under the guidance of documents and programs developed by local, state, and federal agencies. Chapter 3 discusses implementation documents that affect development of transportation infrastructure generally, and pedestrian and bicycle facilities, specifically within the City of Marina.

Chapter 4: Existing Facilities

Chapter 4 describes existing pedestrian and bicycle facilities within the City of Marina, including the pedestrian network, pedestrian amenities, transit facilities and routes, the bicycle network, the estimated number of bicycle commuters, and end-of-trip bicycle facilities such as bicycle racks and lockers.

Chapter 5: Design Guidelines

Chapter 5 provides a published set of pedestrian and bicycle facility design guidelines that are applicable to typical situations. The design guidelines presented in Chapter 5 supplement and illustrate the City of Marina's preferred approaches to regulations in numerous other transportation

planning documents. Guidelines for sidewalks, crosswalks, pedestrian orientation, pedestrian amenities, bikeways, end-of-trip bicycle facilities, bicycling promotion and funding, street design, parking, roundabouts, and safety are presented.

Chapter 6: Implementation Plan

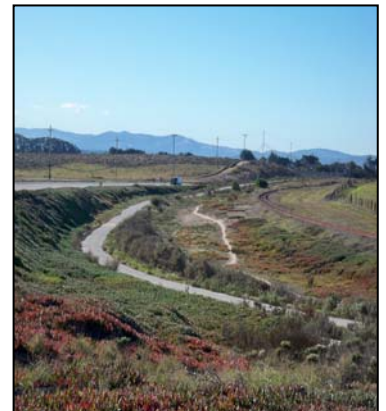
Implementation of the Pedestrian and Bicycle Master Plan will be a collaborative effort between Marina and several other agencies and jurisdictions. Chapter 6 provides a list of prioritized projects and a summary of future funding sources for pedestrian and bicycle facilities, including those facilities that improve safety and convenience for bicycle commuters.

Chapter 7: References

Chapter 7 lists external documents, materials, and other sources used in preparation of the Pedestrian and Bicycle Master Plan.

City of Marina Pedestrian and Bicycle Master Plan

Executive Summary

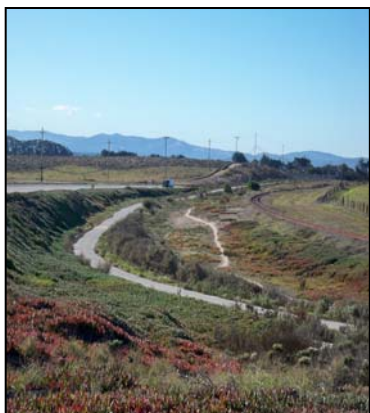


**City of Marina
Pedestrian and
Bicycle Master Plan**

**Executive
Summary**



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CHAPTER 1.0 INTRODUCTION

Walking and bicycling are recognized as healthy, low-impact modes of transportation, particularly when compared to automobiles. Moving on foot and via bicycles also provides additional benefits to people: they are enjoyable forms of exercise and recreation. Together, they are categorized in transportation planning as alternatives to motorized travel. To be effective components of viable transportation in a community, however, they need to be supported by facilities and programs that encourage and safely accommodate these forms of movement by a diverse population.

A Pedestrian and Bicycle Master Plan is a comprehensive and long-range planning document focused on documenting and improving pedestrian and bicycle facilities within a given community. It guides the planning and design of facilities improvements, encourages safe and convenient walking and bicycling, and educates the public about these modes of travel and their supporting facilities. By creating a Pedestrian and Bicycle Master Plan, the City of Marina is providing itself with the tools necessary to create a walkable, bike able, and healthy community.

1.1 PURPOSE OF THE PEDESTRIAN AND BICYCLE MASTER PLAN

The Marina Pedestrian and Bicycle Master Plan (Plan) has three primary purposes: providing guidelines for facilities improvements, positioning the City for grants to finance improvements, and playing a role in the City's work to reduce greenhouse gas emissions. These are described in more detail below.

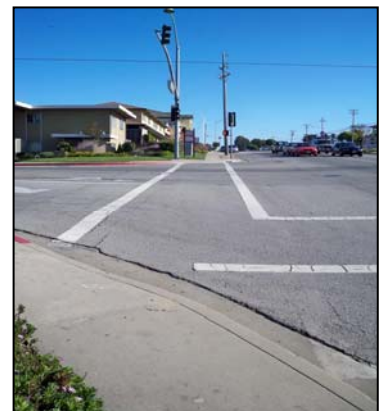
1. Provide Guidelines to Improve Pedestrian and Bicycle Facilities

The purpose of the Plan is to promote ways for residents and visitors to move through and around Marina on foot and on bicycles. The Plan is intended to guide decision-makers to plan for a more balanced transportation system, one that provides facilities for modes of transportation other than motor vehicles. At its core, the Plan lays the groundwork to improve pedestrian and bicycle facilities and opportunities in the City of Marina. To accomplish this, the Plan sets forth guidelines for walking, bicycling, and pedestrian orientation. The Plan formalizes a recognition for the need to encourage pedestrian and bicycle



City of Marina Pedestrian and Bicycle Master Plan

Chapter 1.0 – Introduction



City of Marina Pedestrian and Bicycle Master Plan

Chapter 1.0 – Introduction



travel for both transportation and recreation. This Plan aims to promote walking and bicycling as viable, attractive, non-polluting forms of transportation for all Marina residents.

2. Meet Requirements of Granting Agencies to Facilitate Applications

The State Department of Transportation (Caltrans) has set forth guidelines for bicycle plans that seek final approval and funding from the State (California Streets and Highways Code, Section 891.2). Accordingly, a second purpose of this Plan is to meet these requirements, thereby enabling the City to apply for various state grants.

The following table lists the provisions required by Section 891.2 of the California Streets and Highways Code, and references where these provisions are addressed in this Plan.

Table 1-1 Location of Requirements of Section 891.2	
California Streets and Highways Code Section 891.2 Provision	Location in Marina Pedestrian and Bicycle Master Plan
A. Estimated number of existing and future bicycle commuters	Section 4.6: <i>Estimated Number of Bicycle Commuters</i>
B. Map and description of existing and proposed land use and settlement patterns	Section 4.1: <i>Existing Land Uses</i> ; Appendix B: <i>Marina General Plan Land Use Map</i>
C. Map and description of existing and proposed bikeways	Figure 4-2: <i>Existing and Proposed Bicycle Facilities</i> ; Section 4.5: <i>Existing Bicycle Network and Facilities</i> ; Section 5.3.1: <i>Bikeway Guidelines</i>
D. Map and description of existing and proposed bicycle parking	Figure 4-4: <i>End-of-Trip Bicycle Facilities</i> ; Section 4.7: <i>End-of-Trip Bicycle Facilities</i> ; Section 5.3.2: <i>End-of-Trip Bicycle Facilities Guidelines</i>
E. Existing and proposed bicycle transport/ parking facilities	Figure 4-4: <i>End-of-Trip Bicycle Facilities</i> ; Section 4.7: <i>End-of-Trip Bicycle Facilities</i> ; Section 5.3.2: <i>End-of-Trip Bicycle Facilities Guidelines</i>
F. Map and description of existing and proposed clothes changing/ storing facilities	Figure 4-4: <i>End-of-Trip Bicycle Facilities</i> ; Section 4.7: <i>End-of-Trip Bicycle Facilities</i> ; Section 5.3.2: <i>End-of-Trip Bicycle Facilities Guidelines</i>
G. Bicycle safety and education programs	Section 2.11: <i>Local Bicycle Safety and Education Programs</i>
H. Description of citizen and community involvement in plan development	Section 1.3: <i>Public Participation in Preparation of the Plan</i>
I. Coordination and consistency with other local and regional plans	Chapter 2: <i>Pedestrian and Bicycle Supportive Programs</i> Chapter 3: <i>Implementation Documents</i>
J. Project listing including priority of projects	Section 6.1: <i>Project Listing and Priorities for Implementation</i>
K. Identification of prior expenditures and future needs for bicycle safety	Section 6.2: <i>Past Expenditures and Future Financial Needs</i>

Caltrans requires that bicycle transportation plans be adopted every five years in order to remain eligible for State funding.

3. Help the City of Marina Achieve Reductions in Greenhouse Gas Emissions

As decisionmakers gain awareness of the effect transportation choices have on greenhouse gas (GHG) and other air pollutant emissions, and consequently on global climate change, walking and bicycling are emerging as desirable and environmentally friendly travel modes. Attention in the media, schools, and popular culture has highlighted the effect of the automobile on overall air pollutant emissions and global climate change. There is a growing awareness that alternative transportation modes, including walking and cycling, can reduce GHG emissions and other air pollutants. For urban planners, this awareness has refocused transportation facilities planning on improving conditions for pedestrians, bicyclists, and other alternative modes. Balancing investments in improving vehicular traffic movement with improvements for alternative transportation modes is believed to be the most effective and affordable way to address congestion and therefore curb climate-change producing emissions.

Therefore, a third purpose of the Pedestrian and Bicycle Master Plan is to help the City of Marina achieve reductions in GHGs and other air pollutants through promotion of walking and bicycling as feasible and desirable travel modes, while reversing decades of automobile-oriented development.

1.2 BACKGROUND AND PLAN DEVELOPMENT PROCESS

In February 2003, the City of Marina received a grant from the Monterey Bay Unified Air Pollution Control District (MBUAPCD) to prepare a Draft Pedestrian and Bicycle Master Plan. Between February and April 2003, activity to produce such a plan included:

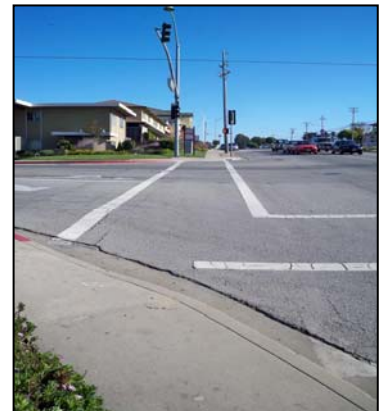
- *Two planning charrettes involving the public, City elected and appointed officials and City staff;*
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On August 30, 2003, a Draft Marina Pedestrian and Bicycle Master Plan, prepared by Walkable Communities, Inc., Local Government Commission, and Livable Streets, Inc. was released. A Transportation Agency for Monterey County (TAMC) Award of Excellence was received for the August

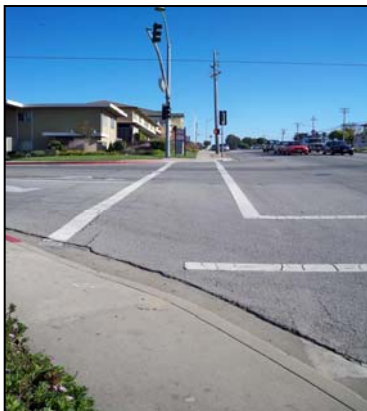
City of Marina Pedestrian and Bicycle Master Plan

Chapter 1.0 – Introduction



City of Marina Pedestrian and Bicycle Master Plan

Chapter 1.0 – Introduction



2003 Draft Plan. However, this draft document was never adopted by the City.



In December 2007, by Resolution No. 2007-283, the Marina City Council authorized submittal of a Community-Based Transportation Planning Grant and approved an agreement between the City of Marina and the California Department of Transportation to finalize and adopt the Pedestrian

and Bicycle Master Plan as a vehicle for expanding walking and cycling opportunities throughout the City.

1.3 PUBLIC PARTICIPATION IN PREPARATION OF THE PLAN

During the initial information gathering for the Draft Pedestrian and Bicycle Master Plan in 2003, the City of Marina promoted the public workshops. Several hundred announcements were mailed to local community leaders, and workshop posters were posted at local businesses. Public workshops held during this time were also advertised in the Monterey County Herald and the Marina Gazette. The local NBC television station, KSBW Channel 8, announced the first public workshop in February 2003.

Additional public outreach was initiated as part of the development of the current draft Plan. On February 19, 2009, the Caltrans Grant Coordinator re-introduced the project to the Public Works Commission, which serves as the primary advisory body to the project. On October 29, 2009, the Public Works Commission considered the 2003 pedestrian and bicycling network maps and lists of infrastructure projects for Central Marina and identified missing links needed to complete the networks. Both commission meetings were open to the public.



On November 12, 2009, a Public Workshop sponsored by the Public Works Commission and Planning Commission was held to reintroduce the revised draft Pedestrian Bicycle Master Plan process. This workshop was held to provide a report on the Plan update process and to facilitate data-gathering related to walking and cycling facilities in the City of

Marina. Feedback received at the workshop has been incorporated into the Draft Pedestrian and Bicycle Master Plan. The Public Draft was released in December 2009.

On December 17, 2009 the Public Works Commission considered the Draft Pedestrian and Bicycle Master Plan, provided comments, and recommended City Council adoption of the Plan. On January 2, 2010 the TAMC Bicycle and Pedestrian Facilities Advisory Committee received a presentation and provided recommendations regarding the Plan. The Marina Planning Commission considered the Plan on January 14, 2010 and recommended that the City Council consider adopting the Plan. On February 2, 2010, the City Council adopted Resolution No. 2010-17 adopting the Marina Pedestrian and Bicycle Master Plan. All of these hearings and meetings were open to the public and duly noticed in accordance with applicable requirements.

Starting in 2009, public meetings and hearings were webcast live and available on demand on the Marina Channel at Amp Media – community media for Monterey County. In addition, 40 copies of the Draft Plan were distributed for comments at the Marina Library, through local bicycle shops, and through the Planning Services Division, and the Plan was posted on the City of Marina Website.

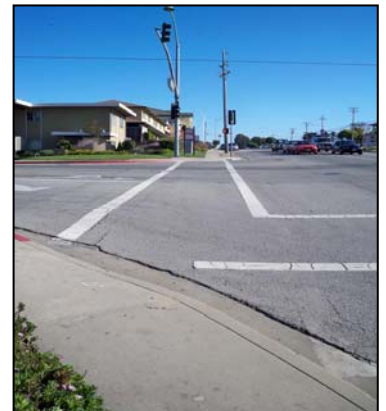
1.4 CITY OF MARINA GENERAL PLAN VISION STATEMENT AND GOALS

The Pedestrian and Bicycle Master Plan is intended to compliment the City of Marina General Plan. The vision statement of the Marina General Plan is:

“Marina desires to grow and mature, along with its image, from a small town, primarily bedroom community, to become a small city which is diversified, vibrant and mostly self-sufficient. The City can and will accomplish this by achieving both the necessary level and diversity of jobs, economic activity, public services, housing, and civic life (including culture and recreation), and parks and open space.”

The following General Plan Goals relate to pedestrian and bicycle activity, and were therefore considered during preparation of the Pedestrian and Bicycle Master Plan.

- **Goal C.** A city within which the majority of the residences, businesses and community facilities are served by frequent cost-effective transit.
- **Goal E.** 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.
- **Goal F.** A balanced land use/transportation system minimizing induced traffic congestion, noise, excessive energy consumption, and air pollution.

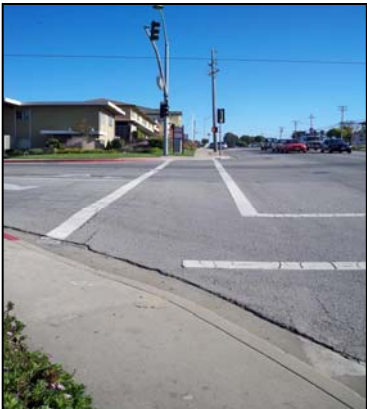


City of Marina Pedestrian and Bicycle Master Plan

Chapter 1.0 – Introduction

- **Goal L.** *Physically and socially cohesive communities in which existing and future land uses, transportation facilities, and open spaces are well integrated.*
- **Goal M.** *Ample opportunities for outdoor recreation for all residents, both within their immediate neighborhoods, elsewhere in the city, and in the immediate environs.*

General Plan amendments associated with the Plan will strengthen City policies to achieve this vision and goals and give the City a head start in meeting the requirements of the Complete Streets Act whereby, starting in January 2011, General Plan Circulation Elements will be required to plan for a balanced, multi-modal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the jurisdiction.



CHAPTER 2.0 PEDESTRIAN AND BICYCLE SUPPORTIVE PROGRAMS

The City of Marina's future pedestrian and bicycle facilities will need to be well-coordinated with other agencies and adjacent municipalities in order to optimize and encourage walking and bicycling opportunities.

This chapter discusses the relationships and coordination between the City of Marina and other agencies and jurisdictions with the goal of providing a regional context for pedestrian and bicycle facility planning and implementation. The agencies/jurisdictions discussed are:

- Transportation Agency for Monterey County (TAMC)
- California Department of Transportation (Caltrans)
- California Department of Parks and Recreation
- Monterey Peninsula Regional Parks District
- California State University Monterey Bay (CSUMB)
- Association of Monterey Bay Area Governments (AMBAG)
- Fort Ord Reuse Authority (FORA)
- Bureau of Land Management (BLM)
- City of Seaside
- County of Monterey
- Local Bicycle Safety and Education Programs
 - Marina Police Department
 - Marina Recreation and Cultural Services Department
 - REI Marina
 - Marina Cycle and Skate

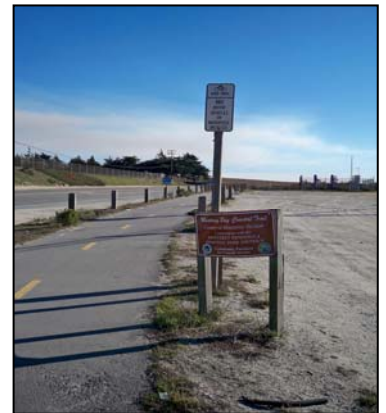
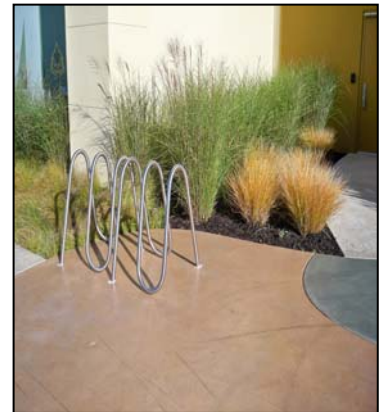
Mandates, specific policies affecting Marina, and recent planning activities that may have implications on pedestrian and bicycle facility coordination are discussed.

2.1 TRANSPORTATION AGENCY FOR MONTEREY COUNTY (TAMC)

TAMC is Monterey County's state-designated Regional Transportation Planning Agency representing unincorporated Monterey County and the cities of Carmel-by-the-Sea, Del Rey Oaks, Gonzalez, Greenfield, King City, Marina, Monterey, Pacific Grove, Pebble Beach, Salinas, Sand City, Seaside, and Soledad. The mission of TAMC is to proactively fund and plan a transportation system that enhances mobility, safety, access, environmental quality, and economic activities by investing in regional transportation projects for Monterey County residents, businesses and visitors. It is through TAMC coordination that the municipalities within Monterey County

City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



coordinate connections between their local bikeways and the regional system.

The TAMC Bicycle and Pedestrian Facilities Program regularly provides state and federal funding to its member agencies, including the City of Marina, to develop and construct locally-sponsored bicycle and pedestrian projects that enhance the regional transportation network. TAMC projects directly affecting Marina include:

- **The 2005 General Bikeways Plan**, which includes a general policy framework for bicycle facility development in Monterey County, lists proposed bikeways and bicycle facility projects, and coordinates local and regional bicycle plans (this plan is discussed further in Section 3.13);
- **The 2008 Monterey County Bike Map**, which depicts the regional bicycle facilities network, and the locations of bike shops, bike rentals, campgrounds, and government buildings throughout Monterey County, including Marina; and
- **The 2008 Monterey Bay Sanctuary Scenic Trail Master Plan**, which includes a Class I multi-purpose trail along the Monterey County coastline, including the City of Marina, and promotes public use and enjoyment of the Monterey Bay shoreline by providing a safe, accessible, and scenic trail for pedestrians and bicyclists.

The TAMC Bicycle and Pedestrian Facilities Advisory Committee includes representatives from Marina and other supervisorial districts and cities in Monterey County. The Committee meets on a regular basis to review proposed bike projects, plans, and provide input on existing road/pathways which affect cycling.

According to TAMC bylaws, when serving as the Local Transportation Commission or Regional Transportation Planning Agency, TAMC shall administer the provisions of the Transportation Development Act in allocating Local Transportation Funds and State Transit Assistance Funds to the cities, County, and transit operators (TAMC Bylaws, 3.1 and 3.2). In either role, TAMC would have discretion over monetary allocations to Marina pedestrian and bicycle trail projects. In addition, TAMC has approval authority over any Bicycle Transportation Plan receiving Caltrans Bicycle Transportation Account funds. The Bicycle Transportation Account

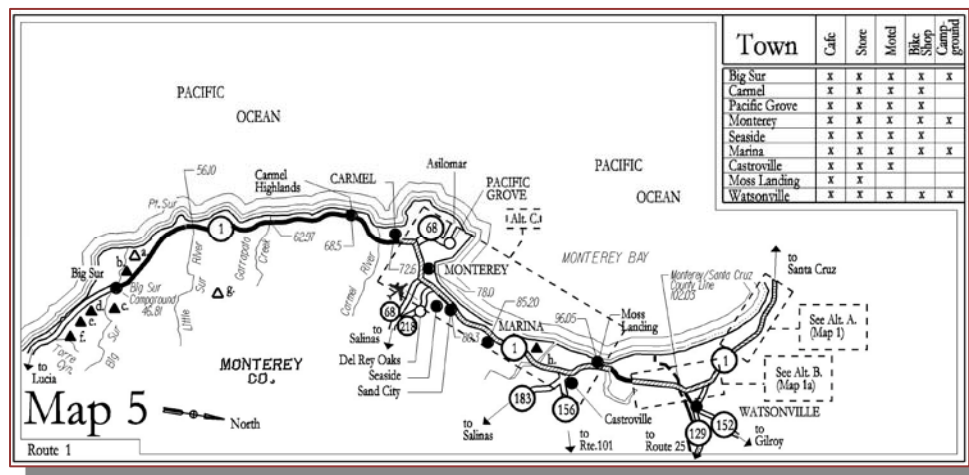


provides state funds for city and county projects that improve safety and convenience for bicycle commuters.

2.2 CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS)

Caltrans manages the state's highway system and is actively involved with public transportation systems within California. Monterey County is within Caltrans District 5, which includes portions of State Highways 1, 25, 68, 101, 146, 156, 183, 198, and 218. Of these roadways, only State Highway 1 passes through the Marina city limits. Alterations to any the roadways within Caltrans' jurisdiction require Caltrans approval, and are coordinated between Caltrans and TAMC.

Caltrans' Bicycle Facilities Unit is responsible for implementing the Caltrans Bicycle Program. The unit's primary objective is to improve safety and convenience for bicyclists. It also provides policy, funding, planning, and technical expertise in bicycle transportation in consultation with federal, state, and local transportation agencies, Caltrans headquarters, and District staff, legislative staff, and the public.

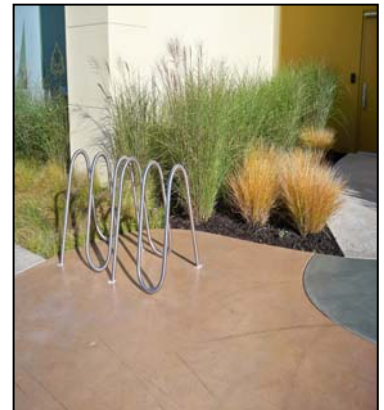


The California Bicycle Advisory Committee, which operates under the authority of the Bicycle Facilities Unit, consists of thirteen members who represent various California agencies and organizations. The California Bicycle Advisory Committee provides guidance to the Bicycle Facilities Unit on bicycle issues, including signal timing, bicycle lane striping, bicycles on freeways, signs, and design standards for shared roadways. The Bicycle Facilities Unit provides staff support to the California Bicycle Advisory Committee.

The Caltrans Division of Local Assistance Bicycle Transportation Account provides State funds for City and County projects that improve safety and convenience for bicycle commuters. To be eligible for Bicycle

City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 2.0 –
Pedestrian and
Bicycle Supportive
Programs**



Transportation Account funds, a city or county must prepare and adopt a bicycle plan that complies with Streets and Highways Code Section 891.2.

Bicycle-related programs, including the Marina Pedestrian and Bicycle Master Plan, must be consistent with Caltrans' policy documents, including:

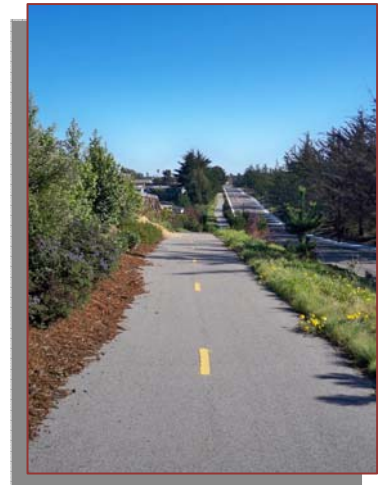
- *The California Manual on Uniform Traffic Control Devices;*
- *The Highway Design Manual (Chapter 1000, Bikeway Planning and Design); and*
- *The Project Development Procedures Manual (Chapter 31, Non-Motorized Transportation Facilities).*

Other Caltrans documents encourage municipalities to incorporate non-motorized modes of transportation into their transportation planning, and provide resources for municipalities in the pedestrian and bicycle transportation planning process. These include:

- *Deputy Directive 64 – Revision 1 – Complete Streets: Integrating the Transportation System (October 2008);*
- *Assembly Concurrent Resolution No. 211 – Relative to Integrating Walking and Biking into Transportation Infrastructure (May 2002); and*
- *U.S. Department of Transportation Design Guidance – Accommodating Bicycle and Pedestrian Travel: A Recommended Approach (last updated March 2008).*

2.3 CALIFORNIA DEPARTMENT OF PARKS AND RECREATION

The California Department of Parks and Recreation manages the California State Parks system, which includes over 270 parks statewide. The City of Marina is located in the Central Coast Region of the State Parks system. Marina State Beach, located at the foot of Reservation Road, is the only state park located within Marina. The mission of Marina State Beach is to protect, perpetuate, and make available to the public the scenic, natural, cultural, and recreational resources of the ocean beach and the adjacent coastal dunes. The state park is adjacent to the Marina Dunes Preserve, which is managed by the Monterey Peninsula Regional Parks District, described below.



The long range objectives of the California Department of Parks and Recreation are to manage the prime resource values of Marina State Beach in such a manner that the ecological processes function as closely as possible

to what they would have been without human disturbances. There are limited pedestrian facilities within the park, including a short interpretive trail, and the open recreation areas. Development of pedestrian and bicycle facilities would be subject to the approval of the California Department of Parks and Recreation, and would need to be consistent with the Marina State Beach General Plan (California State Parks, August 1987) and the State Park System Plan (California State Parks, August 2002). The Marina State Beach General Plan does not contain policies pertaining to pedestrian or bicycle facilities, and the framework of recreation policies is focused primarily on maintaining the ecological integrity of the park as the prime recreational amenity. The State Park System Plan promotes the development of additional trails within the State Parks system, but does not include specific design guidelines for the development of additional walking and bicycling trails.

2.4 MONTEREY PENINSULA REGIONAL PARKS DISTRICT

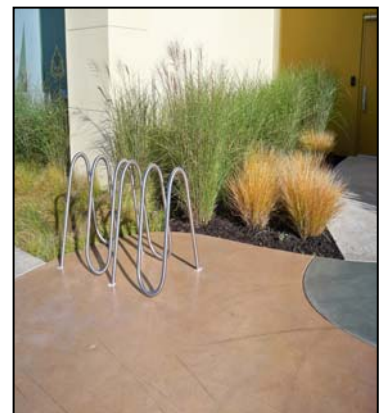
The mission of the Monterey Peninsula Regional Parks District is to preserve open space in perpetuity, to protect the natural ecosystems of the Monterey Peninsula, to provide outdoor recreational and educational opportunities to the public, and to encourage community involvement in open space development through joint projects with local agencies and organizations. The District is responsible for regulating the Marina Dunes Preserve, an abandoned sand mining site which now protects 62 acres of sand dunes, extending from adjacent Marina State Beach south to Sand City, and Locke-Paddon Community Park within the City of Marina.

The only public access on the Marina Dunes Preserve, outside of Marina State Beach, is a short, signed trail to the beach that follows an old sand mining roadway. There are no other pedestrian or bicycle facilities within the preserve. The preserve is located at the end of Dunes Drive, off Reservation Road, within walking or bicycling distance of the Monterey Bay Coastal Recreation Trail, which stretches 18 miles, from Castroville in the north to Pacific Grove in the south. As the owner of the preserve, the District would be responsible for any future development on the site; however, there are no published plans for future additional public trails.

The 17-acre Locke-Paddon Community Park holds a series of fresh water vernal ponds, which provide homes to a range of avian wildlife. Many bird species frequent the area, and the District has a field guide with photos showing 138 bird species that have been spotted at Locke-Paddon Community Park. The park also provides a picnic area and walking paths with interpretive signs describing the natural features of the area. A floating walkway goes across the water. Workout stations around the park provide opportunities for exercise.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



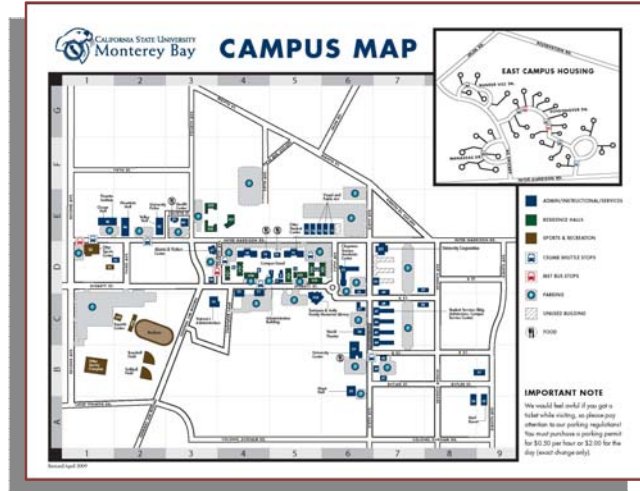
City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



2.5 CALIFORNIA STATE UNIVERSITY MONTEREY BAY (CSUMB)

The CSUMB campus straddles and lies within the cities of Marina and Seaside, on 1,387 acres on the former Fort Ord Military Base. Roadways leading to the campus from the City of Marina include Reservation Road, Imjin Parkway, General Jim Moore Boulevard, and Inter-Garrison Road. Of these primary campus access routes, only Reservation Road and Inter-Garrison Road currently have striped bicycle lanes. Student family housing for CSUMB is located in Marina, and many students bike to campus via Inter-Garrison Road.



Chapter 3 of the 2007 CSUMB Master Plan discusses campus and area-wide transportation and circulation. The Master Plan specifies that roadways leading to the campus from all directions should be designed or improved to safely accommodate bicycles, and includes policies related to bicycle lane width on campus access routes, and connections between campus bicycle lanes and campus access routes, including Marina roadways. However, any off-campus improvements to bicycle or pedestrian facilities would be subject to the requirements of the appropriate jurisdiction, including the City of Marina, Monterey County (through TAMC), and Caltrans.

Pedestrian and non-motorized circulation on the CSUMB campus is shown in Figure 4-2(e) in Chapter 4.0, *Existing Conditions*.

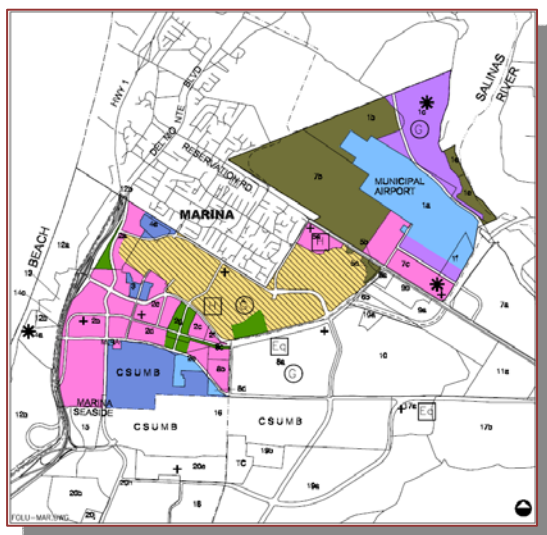
2.6 ASSOCIATION OF MONTEREY BAY AREA GOVERNMENTS (AMBAG)

AMBAG is the designated Metropolitan Planning Organization for Monterey, San Benito and Santa Cruz counties. Each city within the Metropolitan Planning Organization – including the City of Marina - has one representative on AMBAG's Board of Directors; each County has two representatives. AMBAG's funding comes from the state and federal government for mandated planning activities, state and federal grant projects, and annual membership dues from the member agencies.

AMBAG is responsible for preparing the long-range Metropolitan Transportation Plan (MTP) and the Metropolitan Transportation Improvement Program (MTIP) for the region. The MTP establishes general goals, policies, and strategies governing the conduct of the planning process in the region, and provides the basis for a coordinated delivery of transportation facilities and public transportation services. The MTIP is the region's short range transportation programming document that contains transportation improvement projects including public mass transit, highway, local roads, as well as bicycle and pedestrian projects proposed for funding based on anticipated available federal, state and local funding. In order to secure federal funding for bicycle or pedestrian transportation projects in Marina, these projects must be included in the AMBAG MTP and MTIP. AMBAG is responsible for incorporating transit operations, projects, and studies into the MTP and MTIP. These regional transportation planning documents are updated by AMBAG staff and approved by the Board of Directors.

AMBAG has developed a rideshare program for Monterey County and the incorporated cities called Commute Alternatives. The program partners with employers to help them develop and implement alternative commute programs for their employees; operates the Emergency Guaranteed Ride Home Program; and provides information on carpooling, vanpooling, public transit, bicycling, walking, telecommuting, alternative work schedules, park and ride lots, and commuter tax incentives. All programs run by Commute Alternatives are available in the City of Marina, and would supplement city efforts to increase public use of pedestrian and bicycle commuting.

2.7 FORT ORD REUSE AUTHORITY (FORA)



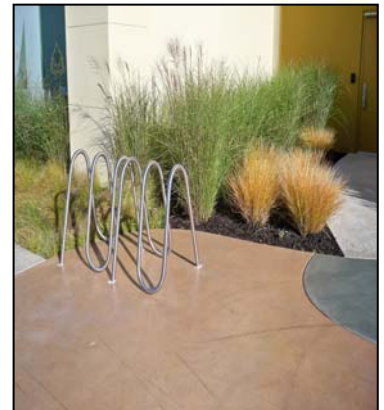
City of Marina Land Use Concept Map, from the Fort Ord Base Resuse Plan. 1997.

two-thirds of the former base will be preserved and maintained as habitat for endangered species and recreational open space. The northern portion

Prior to its closure in 1991, Fort Ord Military Base included over 28,000 acres located south of the City of Marina, and northeast of the City of Seaside. FORA is responsible for planning, financing, and implementing the conversion of the former Fort Ord Military Base to civilian activities. The Fort Ord Base Reuse Plan (1997) calls for significant commercial economic development, supportive housing, visitor serving facilities, and related institutional activities. Nearly

City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



of Fort Ord is now within Marina city limits and is being developed with uses that include a master planned residential community (Marina Heights) and a fully integrated mixed use village (The Dunes) offering a full range of visitor and residential services and amenities.

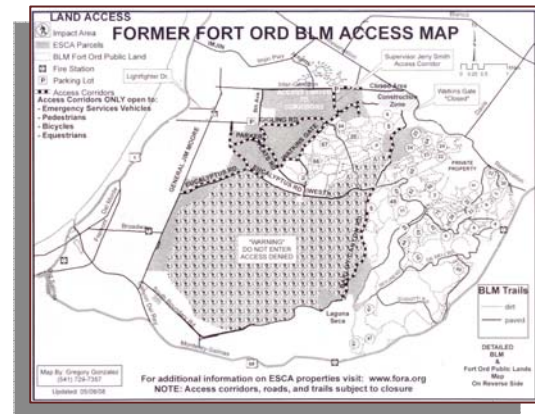
Pedestrian and bicycle travel are a focus of the Fort Ord Base Reuse Plan's Circulation Element. In general, the Reuse Plan defers to the Caltrans Highway Design Manual with respect to standards for width, signs, and pavement markings. The Reuse Plan requires Pedestrian and Bicycle System Plans in order to ensure the redevelopment of the former Fort Ord in a manner that promotes walking and bicycle use to the greatest extent possible, including sidewalks along both sides of urban roadways, sidewalks and pedestrian walkways in new developments, crosswalks at signalized intersections, and school safety features. The Reuse Plan also includes a proposed bicycle network for Fort Ord, including facilities identified as Recreational Bike Trails. Land use decisions within Fort Ord – including areas also within Marina city limits – require review by FORA, but can only be refused if they are inconsistent with the Reuse Plan.

2.8 BUREAU OF LAND MANAGEMENT (BLM)

BLM has jurisdiction over onshore leasing, exploration, development, and production of oil and gas on federal lands as well as the management of other natural resources such as mineral development and timber.

Approximately 15,000 acres of undeveloped, natural public lands in the interior of the former Fort Ord are dedicated as a Natural Resource Management Area. This land is held and managed by BLM pursuant to guidelines within a Habitat Management Plan (1996), approved by the United States Army and the United States Fish and Wildlife Service. This Natural Resource Area contains over 80 miles of hiking, bicycling, and equestrian trails open for public use (David Moore, Recreational Trail Planner, BLM Hollister Field Office, Personal Communication, December 3, 2009), including about six miles of the Juan Batista de Anza National Historic Trail, which BLM manages in cooperation with the National Park Service.

The Fort Ord Base Reuse Plan charges BLM to coordinate with surrounding communities to manage these public lands and to provide high quality, environmentally sensitive recreational opportunities. The Habitat Management Plan obligates BLM to specific management activities for recreational and other uses. Any development of additional pedestrian or bicycle facilities, including recreational trails, within the Natural Resource



Area would be subject to BLM approval pursuant to a determination of consistency with these plans.

2.9 CITY OF SEASIDE

The City of Seaside is an ocean-side community with a population of 34,240 people bordering the City of Marina to the south (Department of Finance population estimate as of January 1, 2009). The California State University Monterey Bay straddles both cities.

The City of Seaside General Plan (2003) identifies walking and bicycling as beneficial modes of transportation and exercise that should be supported by City development. In cooperation with FORA, the County of Monterey, the City of Marina, and other adjacent jurisdictions, the City supports developing a comprehensive bicycle network that ties into the regional system. The General Plan also requires that new development and redevelopment projects in Seaside provide bicycle and pedestrian facilities within the project and pedestrian connections with major destinations.

In addition to the General Plan, bicycle facilities throughout Seaside are also guided by the 2007 Seaside Bicycle Transportation Plan, which was approved by TAMC partially on the basis that it establishes a system of bikeways within Seaside that connect with and complete the regional bikeway system.

2.10 COUNTY OF MONTEREY

According to the California Department of Finance, Monterey County has a population of 431,829 people as of January 1, 2009, and is bordered by San Luis Obispo County to the south; Kings, Fresno, and San Benito Counties to the east; Santa Cruz County to the north; and the Pacific Ocean to the west.

The Monterey County General Plan (1982) contains policies intended to promote a safe, convenient bicycle transportation system integrated with other transportation modes. The Plan notes that the greatest potential for bicycle use is for intra-city movements, but that efforts are underway to improve bicycling conditions along County scenic routes, particularly State Highway 1 along the Big Sur Coast. An update to the County General Plan is currently in progress, but has not yet been adopted.

In addition to the General Plan, bicycle facilities throughout the County are also guided by the 2008 Monterey County



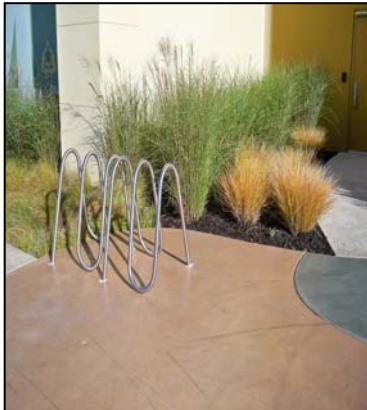
City of Marina Pedestrian and Bicycle Master Plan

Chapter 2.0 – Pedestrian and Bicycle Supportive Programs



**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 2.0 –
Pedestrian and
Bicycle Supportive
Programs**



General Bikeways Plan (discussed in greater detail in Section 3.14), which includes goals to provide for a safe, convenient bicycle transportation system, as well as policies to encourage bicycle use and provide for bicycles in the public right-of-way.

2.11 LOCAL BICYCLE SAFETY AND EDUCATION PROGRAMS

Several organizations, both public and private, in the City of Marina provide bicycle safety training and education programs. These programs promote safe use of existing and future bicycle facilities, and are compatible with the goals of the Pedestrian and Bicycle Master Plan.

- [Marina Police Department](#) – In 2007 the Marina Police Department created a bicycle patrol program to provide directed enforcement and enhance community policing efforts by deploying bicycle patrol officers at, but not limited to, community events, business districts during peak times and providing bicycle safety training to children at recreation and school events. The program is partially funded through voluntary community and business support in the form of donations and grants.
- [Marina Recreation and Cultural Services Department](#) – The Marina Recreation and Cultural Service Department operates and maintains the City's park and recreation system. The Department has sponsored Bicycle Rodeos, which have included films on bicycle safety, bicycle inspections, bicycle helmet giveaways, and bicycle skills courses.
- [Recreational Equipment, Inc. \(REI\) Marina](#) – REI operates more than 80 retail stores in 27 states offering outdoor gear, clothing, and footwear. REI Marina, located at the Dunes on Monterey Bay Shopping Center (145 General Stillwell Drive), offers workshops and classes to local residents on a variety of topics and products, including hands-on bicycle maintenance classes and bicycle safety days where cyclists can have their tires and other bike items routinely inspected. REI is also a sponsor of the Turning Wheels for Kids program, which buys, builds, and distributes bicycles for health-challenged and low-income children.
- [Marina Cycle and Skate](#) – Marina Cycle and Skate is a locally owned and operated shop located at 214 Reservation Road in Marina. Owner Steve Aday is a regular sponsor of the Marina Bicycle Rodeo. In 2009, Mr. Aday donated a bicycle for raffle at the rodeo, and performed free safety checks on approximately 65 bicycles.

CHAPTER 3.0 IMPLEMENTATION DOCUMENTS AND PROGRAMS

City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs

Pedestrian and bicycle facilities planning and implementation in the City of Marina occur under the guidance of documents and programs developed by local, state, and federal agencies. These include land use planning documents, such as General and Specific Plans; improvement and funding prioritization plans, including the Sidewalk Management System and the Capital Improvement Program; and technical documents containing codified standards related to pedestrian and bicycle facilities, such as the Standard Plans and Specifications manual. Coordination between the Pedestrian and Bicycle Master Plan and these documents will ensure that future development of pedestrian and bicycle facilities optimally serve area residents and encourage walking and bicycling. In some cases these documents and programs may require revision in order to ensure that they are consistent with the goals and policies of the Pedestrian and Bicycle Master Plan.

The following chapter discusses implementation documents that affect development of transportation infrastructure generally, and pedestrian and bicycle facilities, specifically within the City of Marina. The documents discussed are:

- Marina General Plan
- Marina Parks and Recreation Facilities Master Plan
- Development Entitlements and Strategic Projects
 - *Marina Station Specific Plan*
 - *Cypress Knolls*
 - *Marina Heights Specific Plan*
 - *The Dunes on Monterey Bay (previously known as University Villages) Specific Plan*
- Marina Municipal Code
- Marina Standard Plans and Specifications (2006)
- Marina Capital Improvement Program
- Marina Sidewalk Management System
- Marina Pavement Management Program
- Monterey County General Plan
- Fort Ord Reuse Plan
- Fort Ord Reuse Authority (FORA) Fees
- Regional Development Impact Fee Program
- 2005 Transportation Agency for Monterey County General Bikeways Plan
- 2008 Monterey County General Bikeways Plan



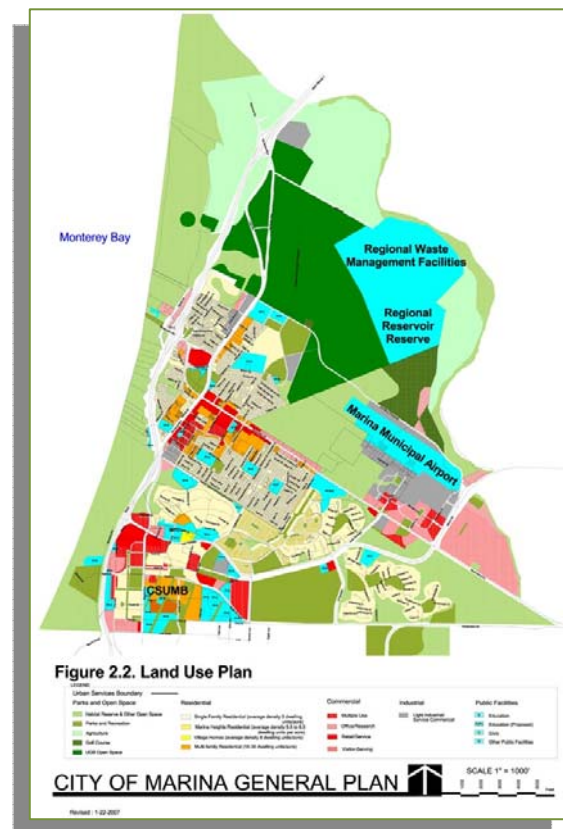
City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs

- Reference Materials Used by the City of Marina When Designing Facilities
 - *American Association of State Highway and Transportation Officials Guide for the Development of Bicycle Facilities*
 - *California Manual on Uniform Traffic Control Devices*
 - *California Department of Transportation Highway Design Manual*
 - *California Department of Transportation Standard Plans*
 - *California Department of Transportation Standard Specifications*

3.1 MARINA GENERAL PLAN

The Marina General Plan (2000) guides daily and long-term land use planning and development decisions in the City, and provides clear documentation of the City's goals and commitments for private developers, homeowners, businesses, investors, and other public entities involved in planning and development activities within the City. The purpose of the General Plan is to enable private developers, homeowners, businesses, investors, public entities, and other organizations to coordinate their actions with each other and with the City, and to undertake their programs in a manner that complements and promotes overall City aims. The General Plan was adopted in October 2000, and was most recently amended in September 2009.



The General Plan contains guidelines and policies that govern pedestrian and bicycle routes throughout Marina. These policies include requirements about the provision and specifications of sidewalks and bicycle routes throughout the City; intersection and street-crossing dynamics; and pedestrian, bicycle, and transit connections. The General Plan also contains guidelines and policies that do not directly impact pedestrian and bicycle facilities, but are related to the use of these facilities, such as policies related to City and neighborhood layout, mixed-use development, and City form and appearance. The General Plan will need to be consistent with the policies of

the Pedestrian and Bicycle Master Plan in order to ensure that future pedestrian and bicycle development is consistent with the overall plan for the City. General Plan amendments to achieve consistency between the two planning documents will be presented for adoption simultaneous with this Plan. This will include, but is not limited to, the following:

- Incorporation of walking and bicycling routes into street design and future development
- Coordination with surrounding agencies and jurisdictions
- Adoption of route maps depicting existing and proposed pedestrian and bicycling systems

3.2 MARINA PARKS AND RECREATION FACILITIES MASTER PLAN

The City of Marina Parks and Recreation Facilities Master Plan serves as a guide to the future development and improvement of parks and recreational facilities in the City of Marina. The Plan also serves as an inventory of existing park facilities and open space, identifies the City's future parks and recreation facility needs, and identifies potential sites for the development of future parks and open space.

The City of Marina Parks and Recreation Facilities Master Plan contains goals, objectives, and policies that govern pedestrian and bicycle facilities, including:

- **Goal 4** – Integration of Central Marina neighborhoods with new neighborhoods through a network of roads, greenbelts and trails that strategically link schools and major recreational facilities.
- **Objective 4-3** – Wherever possible, integrate bike routes, pedestrian paths, equestrian trails and/or multi-use recreational trails into the design of parks, greenbelts and open space acreage.
- **Policy 4-1** – Provide pedestrian street improvements on strategic streets that continue the new street treatments into the existing community.
- **Policy 4-2** – Require major new development or redevelopment to provide a continuous non-roadway pedestrian and bicycle network that serves as alternative direct travel routes for pedestrians and bicyclists from new housing to schools, parks, recreational facilities and other high pedestrian activity areas. Greenbelts may be used for this purpose.
- **Policy 4-4** – Fund bike routes, pedestrian paths, and multi-use trails within greenbelts and open space areas through the City's CIP.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



3.3 DEVELOPMENT ENTITLEMENTS AND STRATEGIC PROJECTS

Planned development projects, including Specific Plans and other strategic projects, are a tool for the systematic implementation of the General Plan. They establish a link between implementing the policies of the General Plan and the individual development proposed in a defined area of the City. Planned development projects may be as general as setting forth broad policy concepts, or as detailed as providing direction to every detail of development design and layout. They may also diverge from the issues contained in the General Plan into other subjects viewed by the community as being of relevance. Specific Plan areas, strategic projects, and other development entitlements within the City of Marina are discussed below.

Marina Station Specific Plan

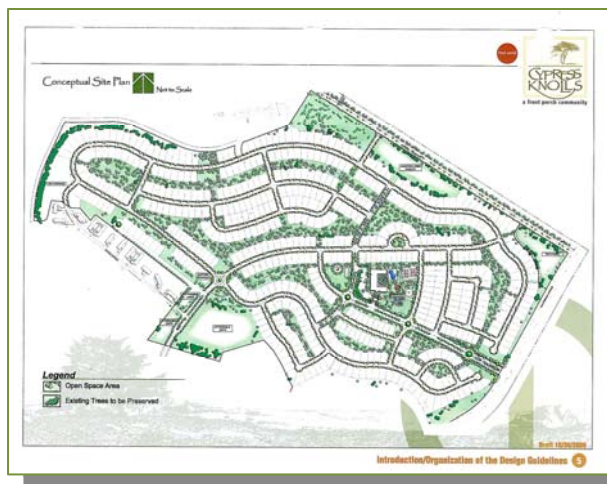
Marina Station Specific Plan (part of the Armstrong Ranch) is a 320-acre development situated on either side of Del Monte Avenue along the northern limits of the City of Marina (shown in orange in the image to the right). The goal for

the project is to create a community in which housing, shops, businesses, and learning and playing areas are within easy walking distance of each other, serving as a focus for community life. The project provides for entitlements of up to 1,360 residential units, as well as 850,000 square feet of retail, office, and industrial uses, parks, playgrounds and open space. Marina Station includes a series of streets with bicycle lanes and pedestrian walkways that connect to existing and proposed bicycle routes within and outside of the project site [refer to Figure 4-2(a) in Chapter 4.0, *Existing Conditions*]. There are approximately 2.2 miles of new bicycle lanes proposed on-site as well as bicycle parking facilities. All proposed street sections within the site include sidewalks, promenades, or trails for pedestrian travel. Upon approval of the project, the General Plan was amended to state that 32-foot, rather than 34-foot, street widths are sufficient for vehicles and bicycles to share roadways without designated bicycle lanes. Roadway standards are generally contained in the City General Plan, the Municipal Code, and the Public Works Manual.



Cypress Knolls

The Cypress Knolls project is a 712-unit active adult residential community located on approximately 186 acres once known as the Lower Patton Park area, on the northwest section of the former Fort Ord in southern Marina. New homes will be made available for adults 55 years and over and will take the place of 460 old, flat-roofed military duplexes. The project will utilize existing roads and infrastructure to the degree feasible; however, new interior streets within the residential area will be constructed. A new intersection of Crescent Avenue with the new Patton Parkway along the northern project boundary were constructed in 2007. The City General Plan was amended in order to realign portions of the roadway network within the project area.



All areas of the Cypress Knolls property will be connected by a recreational trail system [refer to Figure 4-2(b) in Chapter 4.0, *Existing Conditions*]. Sidewalks and bicycle lanes, as well as landscaping, lighting, and street furnishings will be integrated into the street design, and would connect to the existing City transportation network.

The Monterey Bay coastal bike path is located west of the Specific Plan area, across State Highway 1. Scheduled transportation would be provided to nearby areas, including the California State University Monterey Bay and Monterey Peninsula College.

Marina Heights Specific Plan

The Marina Heights Specific Plan (2003) covers a 248-acre site in the northern portion of the former Fort Ord, and allows development of up to 1,050 townhouse, cottage, and single-family residential units, which would replace the abandoned residential units on the site. The project will include 35 acres of parks, greenbelts, and open space. The project encourages walking and biking as safe means of travel, creates walking and bicycling links between neighborhoods and commercial areas, and requires bikeways where roadway widths permit [refer to Figures 4-2(c) and 4-2(d) in Chapter 4.0, *Existing Conditions*]. The project includes transportation infrastructure (sidewalks, paths, bicycle lanes) that allow access to and from the site and adjacent land uses via walking and bicycling. The Specific Plan amended the General Plan to allow for sidewalk widths less than five feet on local streets (Section 4.1.1.1). Sidewalk standards are described in Chapter 5.0, *Design Guidelines*.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



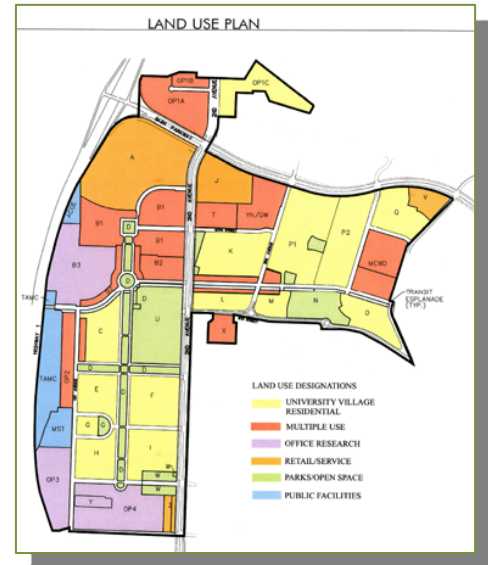
City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



The Dunes on Monterey Bay (previously known as University Villages) Specific Plan

The Dunes on Monterey Bay (“The Dunes”) Specific Plan (2005) is a mixed-use, diverse, planned community that encompasses 420 acres of former Fort Ord, located just east of State Highway 1 and south of Imjin Parkway. The development is long-term, and is expected to be complete around 2020. When complete, the development will include 1,237 homes; a regional retail center (already constructed); 145,000 square feet of mixed-use retail; two hotels; offices and several small neighborhood parks and larger City-owned parks. The project requires removal of the former Army buildings on the Plan area. The regional retail center opened to the public in the fall of 2007. Bicycle parking facilities at the shopping center are described in Chapter 4.0, *Existing Conditions*.



Bicycle, sidewalk, and trail connections within the Specific Plan area link the neighborhoods together and connect to the existing City transportation infrastructure. In addition to the street connections, a transit corridor forms an east-west link through the site. This corridor can play a role as an important bicycle and pedestrian connection.

3.4 MARINA MUNICIPAL CODE

The Marina Municipal Code contains specific provisions that govern existing and future pedestrian and bicycle routes throughout Marina, including matters such as crosswalk spacing, bicycle lane provision, vehicle parking requirements, alternative transportation programs, park and ride infrastructure, Level of Service standards, and mixed-use development. The Municipal Code will require updating via ordinance where policies in the Pedestrian and Bicycle Master Plan differ from the provisions of the Municipal Code. This will include, but is not limited to, the following:

- Specifications for the provision of pedestrian and bicycle facilities
- Standards for the provision of bicycle parking at multi-family residential and non-residential developments
- Standards for the provision of showers and locker facilities at new and remodeled commercial and industrial developments

3.5 MARINA STANDARD PLANS AND SPECIFICATIONS (2006)

The City of Marina Engineering Services Division, Public Works Division, administers street and road maintenance, and public buildings and grounds. The Standard Plans and Specifications manual includes standard specifications, design standards, and standard plans for the construction, maintenance, and improvement of streets, roadways, sidewalks, and bicycle lanes. These include street and sidewalk width, bicycle lane dimensions, roadway markings, signs, and specific construction protocols. The City of Marina Engineering Services Division, Public Works Division, uses these specifications and standards in the design and construction of any development under their jurisdiction. As such, it must be consistent with the Pedestrian and Bicycle Master Plan in order for the improvement of existing facilities and construction of new facilities to meet the goals set forth in the Plan.

This manual is updated on an as-needed basis by the City of Marina Engineering Services Division, Public Works Division. The update process involves review of the document to ensure consistency with other City plans and ordinances, and requires approval by the City Engineer and Marina Public Works Commission.

3.6 MARINA CAPITAL IMPROVEMENT PROGRAM

The City's Capital Improvement Program is a five-year plan that identifies specific public improvement projects and dedicates funding for their implementation. Capital improvement planning is one of the main ways the City implements its various plans and programs, such as the General Plan. All infrastructure projects needed to implement the 2003 Draft Plan pedestrian and bicycle networks, which focused on Central Marina, were approved by the Public Works Commission on October 29, 2009 for consideration in the 2010 Capital Improvement Program Update. Additional projects identified in this Pedestrian and Bicycle Master Plan needed to complete the citywide networks will also be added to the project list for future programming.



3.7 MARINA SIDEWALK MANAGEMENT SYSTEM

Consistent with the Pedestrian and Bicycle Master Plan, the goal of the Sidewalk Management System is to provide a continuous system of high quality connective sidewalks in order to provide safe and convenient pedestrian transportation throughout the City. The Sidewalk Management System includes an

City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



inspection and inventory of existing sidewalks and their condition and a prioritization of necessary sidewalk construction and repair projects based on projected growth and urban expansion. Coordination between the Pedestrian and Bicycle Master Plan and this program will ensure that future development of sidewalks optimally serve area residents and encourage walking.

3.8 MARINA PAVEMENT MANAGEMENT PROGRAM

The Marina Pavement Management Program is a system which prioritizes construction, re-construction, and maintenance to ensure that pavements remain at an adequate level of serviceability. The tests used to determine how and when to repair a road's surface generally employ special software and databases to provide rankings for roads or road sections. Marina Pavement Management Program updates include an inventory of physical pavement features including the number of lanes, length, width, surface type, functional classification, and shoulder information; a pavement condition analysis; and annual evaluations and upgrades as necessary in conformance with agency policies, practices, engineering criteria, and experience. Coordination between the Pedestrian and Bicycle Master Plan and this program will ensure that the future construction, re-construction, and maintenance of roads optimally serve area residents and encourage bicycling.



3.9 MONTEREY COUNTY GENERAL PLAN

The Monterey County General Plan includes policies that address the existing and future land uses for unincorporated portions of the county. The Monterey County General Plan includes ten Area/Master Plans, which localize planning efforts in greater regional detail than the General Plan. The City of Marina is within the Greater Monterey Peninsula Area Plan. The current General Plan was adopted on September 30, 1982. An update to the County General Plan is currently in progress, but has not yet been adopted.



The Monterey County General Plan contains guidelines and policies that govern the unincorporated areas of the County, and therefore affect the planning of pedestrian and bicycle connections to communities outside of the City of Marina. The Transportation Chapter of the Plan includes a section on bicycle transportation, which contains policies intended to promote a safe, convenient bicycle transportation system integrated with other transportation modes. The Plan notes that the greatest potential for bicycle use is for intra-city movements, but that efforts are underway to improve bicycling conditions along County scenic routes, particularly State Highway 1 along the Big Sur Coast. The Plan also requires the completion of a comprehensive bicycle plan for the County; however, this requirement is dated, as the County completed the Monterey County General Bikeways Plan in October 2008. The General Plan also regulates land use decisions in the County, which indirectly impacts pedestrian and bicycle facility use and future planning of pedestrian and bicycle facilities.

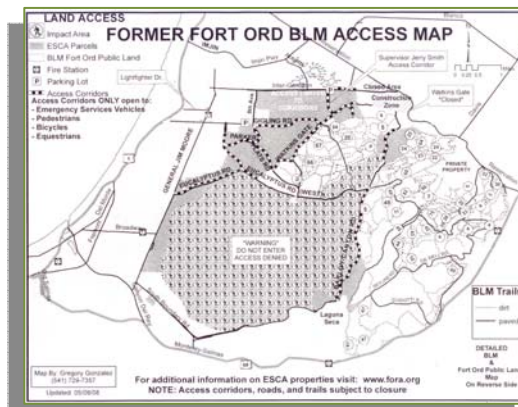
3.10 FORT ORD REUSE PLAN

The 1997 Fort Ord Base Reuse Plan calls for substantial commercial economic development, supportive housing, visitor serving facilities, and related institutional activities. Nearly two-thirds of the former base will be preserved and maintained as habitat for endangered species and recreational open space. The northern portion of Fort Ord is now within Marina city limits and is being developed with uses that include a master planned residential community (Marina Heights) and a fully integrated mixed use village (The Dunes on Monterey Bay) offering a full range of visitor and residential services and amenities.

Pedestrian and bicycle travel are a focus of the Fort Ord Base Reuse Plan's Circulation Element. In general, the Reuse Plan defers to the Caltrans Highway Design Manual with respect to standards for width, signs, and pavement markings. The Reuse Plan requires that jurisdictions overseeing development on former Fort Ord land have a Pedestrian System Plan and Bicycle System Plan in order to coordinate with adjacent land use jurisdictions, FORA, and appropriate school entities. The purpose of these plans is to ensure the redevelopment of the former Fort Ord in a manner that promotes walking and bicycle use to the greatest extent possible, including an overall bicycle network consistent with the Reuse Plan, sidewalks along both sides of urban roadways, sidewalks and pedestrian walkways in new developments, crosswalks at signalized intersections, and school safety features. The Reuse Plan also includes a proposed bicycle

City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs





network for Fort Ord, including facilities identified as recreational bike trails. Land use decisions within Fort Ord – including areas also within Marina city limits – require review by FORA, but can only be refused if they are inconsistent with the Reuse Plan.

3.11 FORT ORD REUSE AUTHORITY (FORA) FEES

In Resolution No. 2007-65 the Marina City Council approved a reimbursement agreement between the FORA and the City of Marina for street improvements to the Crescent Street extension, Abrams Drive (Patton Parkway), Eighth Street, and Salinas Avenue. Based upon this agreement, funding for costs incurred by the City to construct these four approved projects will be provided by reimbursement from FORA. FORA collects these funds in the form of development fees from former Fort Ord development projects.

3.12 REGIONAL DEVELOPMENT IMPACT FEE PROGRAM

Transportation Agency for Monterey County (TAMC) oversees the Regional Development Impact Fee program. This program requires new development projects within the region to pay a fair-share fee as mitigation for cumulative impacts to the regional transportation system. These fees are intended to fund regional transportation system improvements that are needed to mitigate congestion and related adverse impacts caused by new development. Fee levels are based on cost estimates set forth in the TAMC 2007 Regional Development Impact Nexus Fee Study Update, and are adjusted annually. The City of Marina, in addition to other TAMC members, can use the fees collected in a coordinated manner to provide for financing and construction of the Regional Transportation Improvement Projects (TAMC 2008). This includes a number of the bicycle facilities identified in the Pedestrian and Bicycle Master Plan.

3.13 2005 TRANSPORTATION AGENCY FOR MONTEREY COUNTY GENERAL BIKEWAYS PLAN

The 2005 TAMC General Bikeways Plan lists existing and proposed bicycle projects and facilities of jurisdictions within the Monterey County region, including both

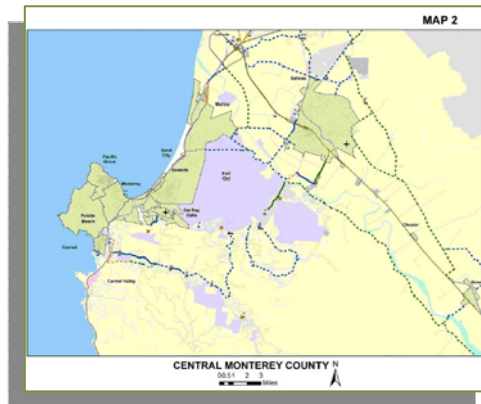
unincorporated areas and incorporated cities, and satisfies the General Bikeways Plan requirements set by the California Department of



Transportation (California Streets and Highways Code Section 891.2). By meeting these state-mandated requirements and having Caltrans approve the Plan; these projects are eligible for funding from the State Bicycle Transportation Account and other state funding sources. The majority of the bicycle facilities proposed in the Pedestrian and Bicycle Master Plan are consistent with the facilities in the General Bikeways Plan and are therefore eligible to receive state funding. In addition, as outlined in Chapter 1.0, *Introduction*, one of the purposes of the Pedestrian and Bicycle Master Plan is to meet requirements of California Streets and Highways Code Section 891.2, thereby enabling the City to apply for various grants for all projects included in the Pedestrian and Bicycle Master Plan.

3.14 2008 MONTEREY COUNTY GENERAL BIKEWAYS PLAN

The 2008 Monterey County General Bikeways Plan is patterned after the 2005 TAMC General Bikeways Plan (refer to Section 3.13), and provides similar guidance specific to unincorporated portions of Monterey County. The County General Bikeways Plan was developed to present goals for future bicycle-oriented projects and programs in the unincorporated areas, but does not cover incorporated cities. The Plan includes goals to provide for a safe, convenient bicycle transportation system integrated with other modes, and has policies to encourage bicycle use and, where appropriate, to provide for bicycles in the public right-of-way.

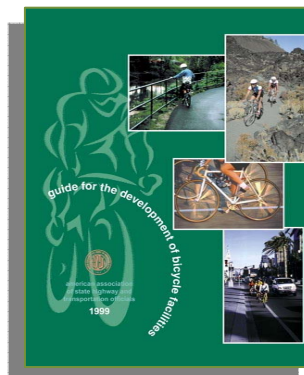


3.15 REFERENCE MATERIALS USED BY THE CITY OF MARINA WHEN DESIGNING FACILITIES

The City of Marina references three industry documents in designing its pedestrian and bicycle facilities, summarized here:

American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities

The AASHTO Guide for the Development of Bicycle Facilities provides information to help accommodate bicycle traffic in most riding



City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



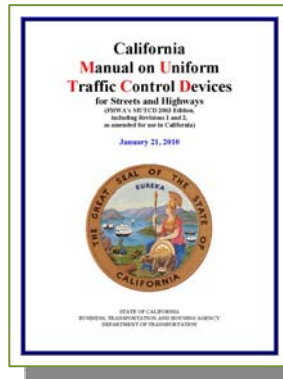
City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



environments. The Guide is not intended to set forth strict standards, but rather to present sound guidelines that may be valuable in attaining good design sensitive to the needs of both bicyclists and other highway users. However, in some sections of the Guide, design criteria include suggested minimum guidelines. These are recommended only where further deviation from desirable values could result in unacceptable safety compromises.

California Manual on Uniform Traffic Control Devices



The California Manual on Uniform Traffic Control Devices (MUTCD) defines statewide standards for traffic control devices on all streets and highways. The document was revised in January 2010 to include the Federal Highway Administration's (FHWA's) 2003 MUTCD with Revision 1 dated November 20, 2004 and Revision 2 dated December 21, 2007. Also, the California MUTCD 2010 includes all policies on traffic control devices issued by the Department since September 26, 2006 and other editorial, errata and format

changes that were necessary to update the previous documents. The California MUTCD 2010 supersedes and replaces the previously California MUTCD 2006 (adopted on September 26, 2006) as well as the May 20, 2004 adopted MUTCD 2003 Edition and the MUTCD 2003 California Supplement and Chapters 4, 5, 6, 8, 10, 11, 12 and the traffic signals portion of chapter 9 of the 1996 Caltrans Traffic Manual, as amended, and all previous editions thereof. It does not supersede the Department's Standard Plans, Standard Specifications or the Special Provisions publications.

Part 9 of the California MUTCD 2010 specifically addresses bicycle facilities separately (pedestrian facilities are addressed throughout). Future pedestrian and bicycle facilities implemented as part of the Marina Pedestrian and Bicycle Master Plan will be required to comply with California MUTCD 2010 Guidelines.

California Department of Transportation Highway Design Manual

The Highway Design Manual is the primary source of guidance for detailed highway design consistent with the collective experience of the California Department of Transportation, the American Association of State Highway and Transportation Officials, and the Federal Highway Administration. Chapter 1000 of the Highway Design Manual establishes minimum safety design criteria for the planning and construction of bikeways and roadways where bicycle travel is permitted as set forth in Sections 890 and 891 of the California Streets and Highways Code. According to Section 891 of the Code, all local agencies responsible for the development or operation of bikeways or roads where bicycle travel is permitted must meet or exceed the minimum bicycle planning and design criteria contained in the Highway Design Manual. Therefore, future bicycle facilities implemented as part of

the Marina Pedestrian and Bicycle Master Plan will be required to comply with the Highway Design Manual.

California Department of Transportation Standard Plans

The California Department of Transportation Standard Plans includes standard plans for the design and construction of local streets and roads. These include general plans for pavement delineation, excavation and backfill, barriers, guard railings, fences, curbs, driveways, and curb ramps; as well as standard plans for pavements, crib walls, drainage, planting and irrigation, temporary facilities, bridges, roadside signs, overhead signs, signals, lighting, and electrical systems. Future pedestrian and bicycle facilities implemented as part of the Marina Pedestrian and Bicycle Master Plan will be required to comply with Caltrans Standard Plans.

The Standard Plans are to be used in conjunction with the Standard Specifications (discussed below).

California Department of Transportation Standard Specifications

The California Department of Transportation Standard Specifications includes specifications for the construction of local streets and roads. These include specifications for grading, surfacing and pavement, structures (piling, concrete structures, reinforcement, signs, etc.), drainage facilities, right-of-way and traffic control facilities, materials, and miscellaneous specifications including standards for dust control, mobilization, and construction area traffic control devices. Future pedestrian and bicycle facilities implemented as part of the Marina Pedestrian and Bicycle Master Plan will be required to comply with Caltrans Standard Specifications.

The Standard Specifications are to be used in conjunction with the Standard Plans (discussed above).

City of Marina Pedestrian and Bicycle Master Plan

Chapter 3.0 – Implementation Documents and Programs



**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 3.0 –
Implementation
Documents and
Programs**



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CHAPTER 4.0 EXISTING FACILITIES

4. 1 EXISTING LAND USES

The City of Marina was incorporated in 1975. It has developed with a traditional suburban street and sidewalk pattern, as well as a traditional land use pattern. Traditional suburban street patterns are designed for automobile use, while traditional sidewalk networks that accompany suburban streets generally exhibit limited connections to commercial and employment centers. These traditional sidewalk and street patterns are



facilitated by traditional land use patterns whereby residential and commercial uses, as well as parks and open space, are intentionally separated by distinct land use designations established by the City's General Plan. As shown in Figure 2.2 (Land Use Plan) of the Marina

General Plan (reproduced in Appendix B [General Plan Land Use Map]), the City of Marina has five different land use designations established by the General Plan. These land uses include commercial, industrial, public facilities, residential, and parks and open space.

Commercial uses are primarily concentrated along the City's two main roadways, the north-to-south Del Monte Boulevard (above) and the east-to-west Reservation Road (below).

Industrial uses are concentrated near the Municipal Airport, along south Del Monte Boulevard and along north Del Monte Boulevard north of Reservation Road. Public facilities are dispersed throughout the City and include such uses as:



- *California State University Monterey Bay,*
- *Municipal Airport,*
- *Public schools,*
- *City parks and open space, and*
- *City Hall.*

City of Marina Pedestrian and Bicycle Master Plan

Chapter 4.0 – Existing Facilities



City of Marina Pedestrian and Bicycle Master Plan

Chapter 4.0 – Existing Facilities



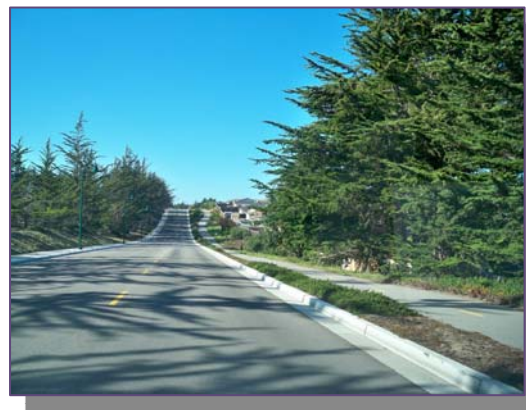
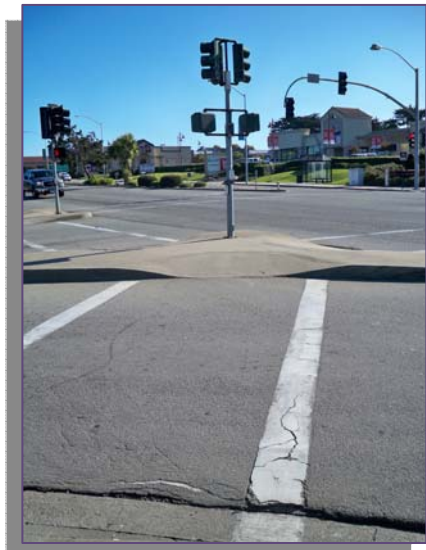
Residential uses are primarily located to the east and west of Del Monte Boulevard and south of Reservation Road. Parks and Open Space uses are primarily found on the periphery of the City and scattered within the City as well.

4.2 EXISTING PEDESTRIAN NETWORK

The pedestrian sidewalk network within Marina is fairly well developed; Figure 4-1 shows existing sidewalks on collector and arterial roadways. In addition, most residential streets within the City have sidewalks. Continuous sidewalks can be found on some major roadways throughout the City, including but not limited to Reservation Road (east of Highway 101), California Avenue, Imjin Road and Imjin Parkway.

The City exhibits numerous areas with unconnected and dead-end streets and sidewalks. There are a limited number of pedestrian pathways, known as “connectors,” that link otherwise

unconnected streets and sidewalks to the pedestrian network. In addition, there are missing or unconnected sidewalk segments found throughout the City. Figure 6-1 in Chapter 6.0, *Implementation Program*, depicts existing pedestrian network and facilities deficiencies. Missing sidewalk segments shown therein generally exist where substantial obstacles make sidewalk construction difficult. Segmented sidewalks can be found on Del Monte



Boulevard, Carmel Avenue, Reindollar Avenue and Reservation Road (west of Highway 101). In addition, many sidewalks within the City are not wide enough for simultaneous pedestrian use or have obstructions that partially block pedestrian flow and require right-of-way acquisition.

City of Marina Pedestrian and Bicycle Master Plan

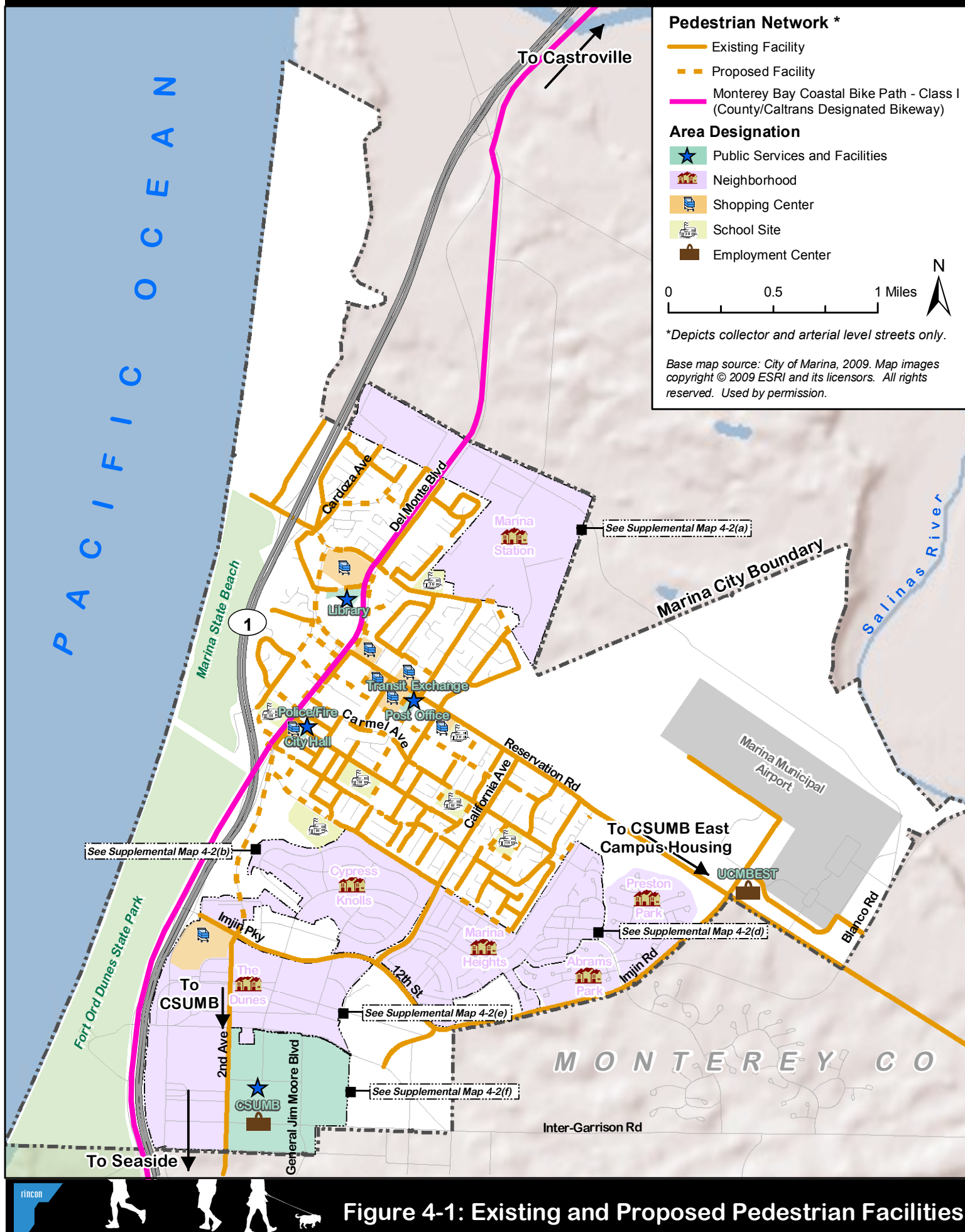


Figure 4-1: Existing and Proposed Pedestrian Facilities

Chapter 4.0 – Existing Facilities

4.3 EXISTING PEDESTRIAN AMENITIES

There are many pedestrian amenities located throughout the City, including painted crosswalks at street intersections, tactile warnings on intersection corners, large push buttons for signaled crosswalks, and timed pedestrian signals for intersection crosswalks. However, several intersections lack such amenities. Several pedestrian signals at various intersections have inadequate clearance times to allow pedestrians to cross the street safely. The operational and functional status of pedestrian amenities within the City is shown in Appendix C (Pedestrian and Bicycle Facility Deficiencies).

4.4 EXISTING MONTEREY-SALINAS TRANSIT (MST) FACILITIES

The MST facility within Marina is known as the Marina Transit Exchange. It is located on the south side of Reservation Road at the intersection of Reservation Road and De Forest Road (refer to Figure 4-1). The Transit Exchange was constructed in accordance with the Marina Transit Center Specific Plan (October 2006). In addition to the Transit Exchange itself, the Specific Plan facilitates the development of a small-scale transit and community-oriented mixed-use center in downtown Marina. This Transit-Oriented Development (TOD) will be a compact mixture of uses located within an easy walk of the Transit Exchange.



MST routes serving the City of Marina include (refer also to Appendix D [Monterey-Salinas Transit Bus Routes Serving the City of Marina]):

- The Pebble Beach Express (Line 2X),
- The Monterey-Marina route (Line 16),
- The Monterey-Salinas route (Line 20),
- The Watsonville-Marina route (Line 27),
- The Presidio-Marina Express (Line 71).

The Pebble Beach Express travels from Salinas to Pebble Beach, with stops in Marina, Sand City, Monterey, and Pacific Grove. The Monterey-Marina route provides transit from the Monterey Transit Center to Sand City, Seaside, CSUMB, and Marina. The Monterey-Salinas route



provides transit from Monterey to Salinas with major stopping points in Sand City and Marina. The Watsonville-Marina route provides transit from Watsonville to Marina with major stopping points in Moss Landing and Castroville. The Presidio-Marina Express route provides transit between the Presidio of Monterey and Marina. All of these transit routes run daily and at various times throughout the day, as shown in Appendix D (Monterey-Salinas Transit Bus Routes Serving the City of Marina).

All buses on these MST routes provide bicycle carriers, a service that began in 1991. Two bicycles fit on the front rack and two in the wheelchair area, as space is available. According to the 1996 Monterey Peninsula Airport Passenger Survey, MST currently carries more than 2,200 bicycles on buses every month (Monterey County General Bikeways Plan 2008).

4.5 EXISTING BICYCLE NETWORK AND FACILITIES

Bikeway Classification

“Bikeway” is a general term used to refer to facilities that provide primarily for bicycle travel. The Caltrans Bikeway Planning and Design section (Chapter 1000 of the State of California Highway Design Manual) categorizes bikeways into three types:

- Class I Bikeways are generally referred to as **Bicycle Paths** and provide a completely separated right-of-way for the exclusive use of bicycle and pedestrian traffic with cross flow minimized.



Class I (left) and Class II (right) Bikeways currently in place in the City of Marina.

- Class II Bikeways are referred to as **Bicycle Lanes** and provide a striped lane for one-way bike travel on a street or highway, and typically includes signs placed along the street segment.
- Class III Bikeways are referred to as **Bicycle Routes** and provide a shared use with pedestrian or motor vehicle traffic. Typically these

City of Marina Pedestrian and Bicycle Master Plan

Chapter 4.0 – Existing Facilities



City of Marina
Pedestrian and
Bicycle Master Plan

Chapter 4.0 –
Existing
Facilities



facilities are City streets with signs designating the segment for Bike Route without additional striping or facilities.

Existing Bicycle Network

The existing bicycle network in Marina is shown in Figure 4-2. As shown therein, there are six Class I bikeways within the City. The largest Class I bikeway spans the entire length of the City and parallels Del Monte Boulevard and Highway 1. This bikeway is known as the **Monterey Bay Coastal Bike Path**. The trail currently extends 18 miles from Pacific Grove to Castroville. Other Class I bikeways include a path that borders Patton Parkway from California Avenue to Marina High School; a 0.75 mile long path that parallels the southern edge of Reservation Road from Salinas Avenue to Imjin Parkway; a path that parallels the southern edge of Imjin Parkway from Highway 1 to Imjin Road; a path that parallels the eastern side of Second Avenue near CSUMB; and a short path that borders the eastern edge of Dunes Road in the northwest portion of the City.



Class I Bikeway adjacent to Patton Parkway

There are a limited number of Class II bicycle lanes within Marina. Class II bike lanes primarily exist along Reservation Road, California Avenue, and Beach Road west of Del Monte Boulevard (refer to Figure 4-2). Class II bicycle routes are also available in portions of the City.

In general, the existing bicycle network provides limited connections for cyclists within City limits. The Class I bikeway along Reservation Road serves only a limited functional purpose for commuters, as it only extends 0.75 miles on the periphery of town. The Monterey Bay Coastal Bike Path provides connections for those who commute to areas outside of City limits and for those who use the trail for recreational purposes. Accordingly, the existing network is considered to have a limited ability to encourage those commuters who drive vehicles to instead utilize bicycles when commuting within the City.

City of Marina Pedestrian and Bicycle Master Plan

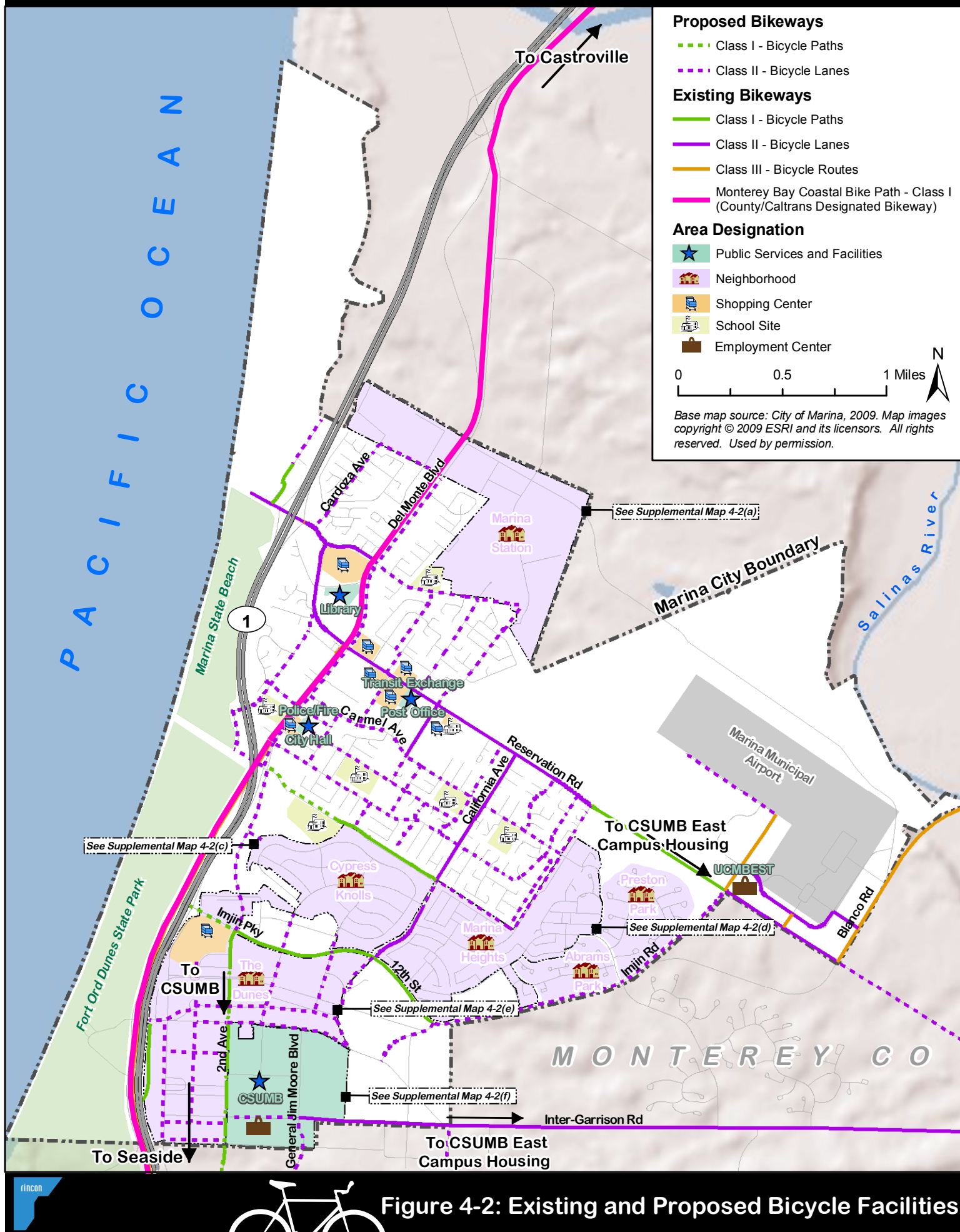


Figure 4-2: Existing and Proposed Bicycle Facilities

City of Marina Pedestrian and Bicycle Master Plan



Base map source - EMC Planning Group Inc. 2006, RJA and Associates, 2006.



**Figure 4-2(a): Marina Station
Bicycle and Pedestrian Circulation**

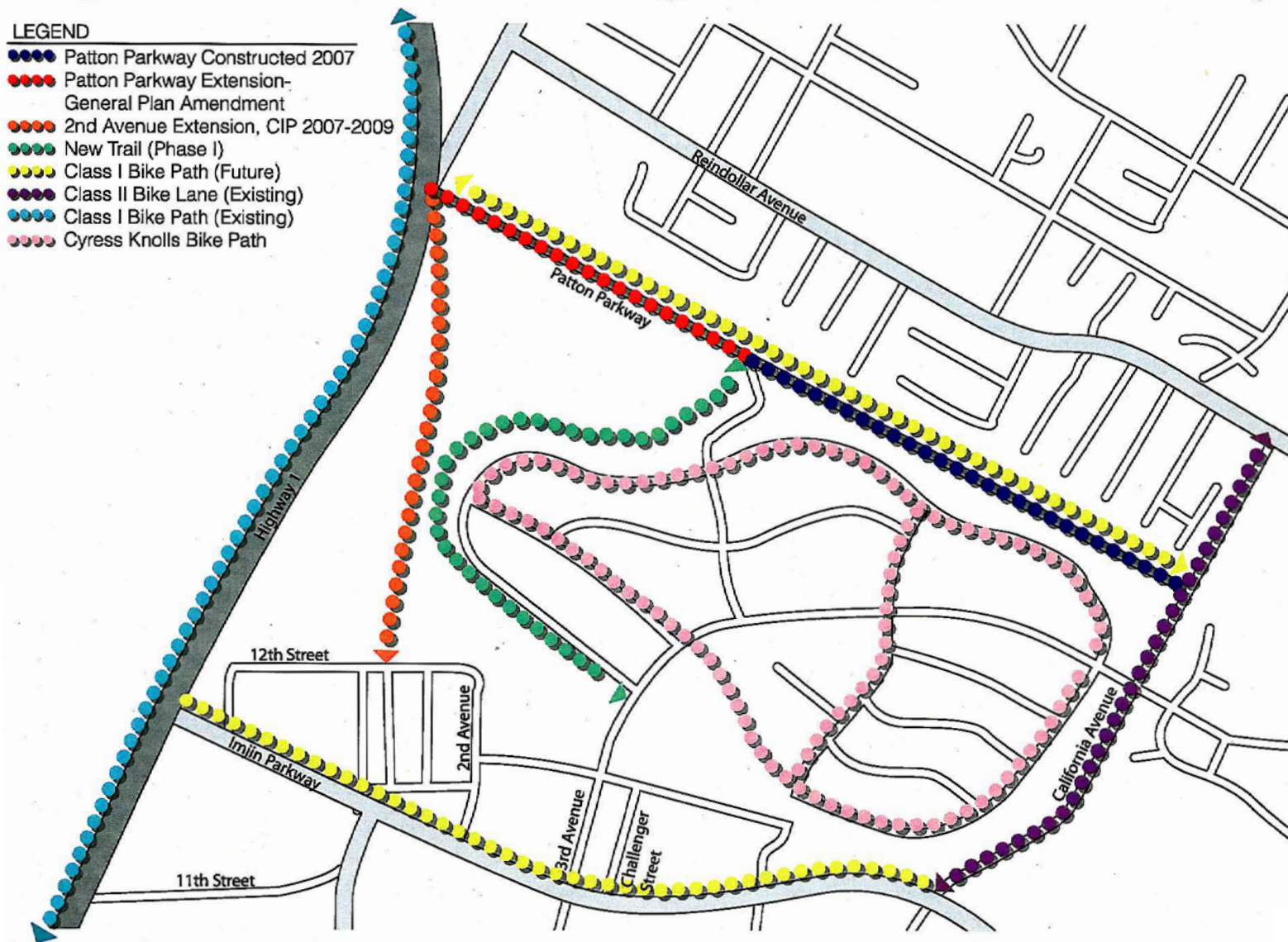
City of Marina Pedestrian and Bicycle Master Plan



Base map source: Cypress Knolls Design Guidelines, 2006.



City of Marina Pedestrian and Bicycle Master Plan



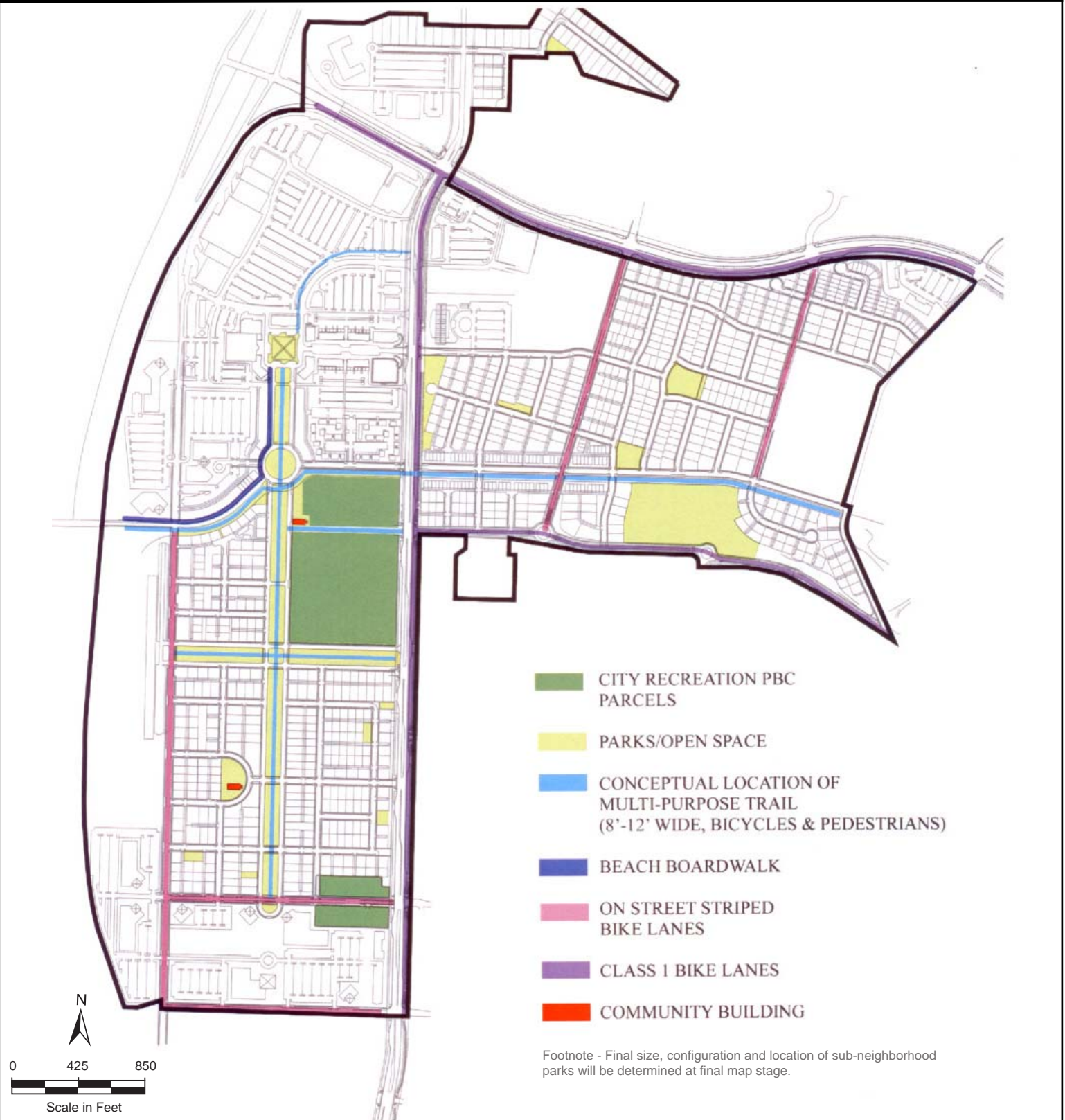
Base map source: Hogle-Ireland, Inc., 2006.



City of Marina Pedestrian and Bicycle Master Plan



City of Marina Pedestrian and Bicycle Master Plan

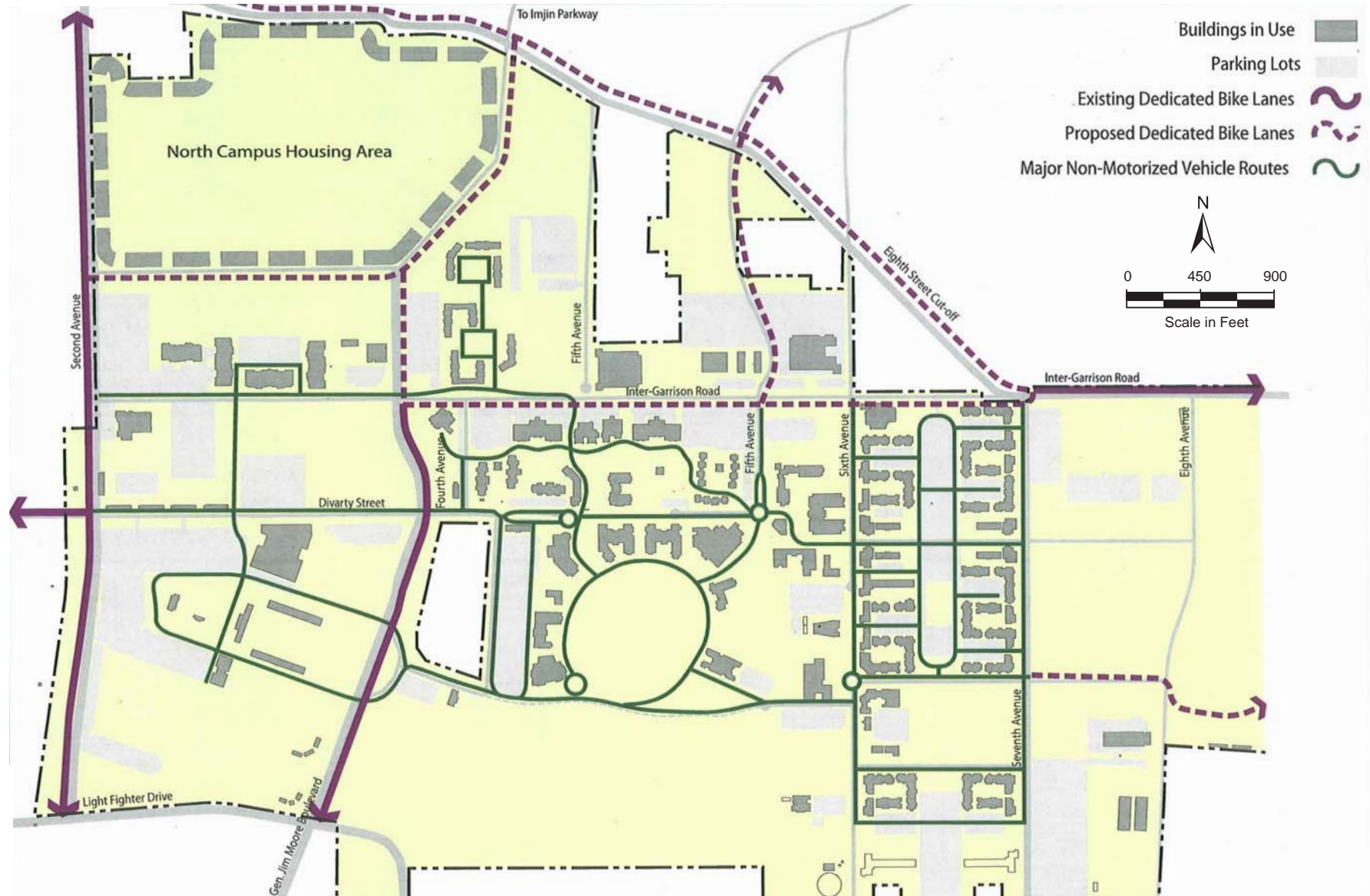


Base map source - University Villages Specific Plan,
Dahlin Group Architecture Planning, April 2005.

**Figure 4-2(e): The Dunes on Monterey Bay Parks,
Multi-Purpose Trail and Bicycle Circulation Plan**



City of Marina Pedestrian and Bicycle Master Plan

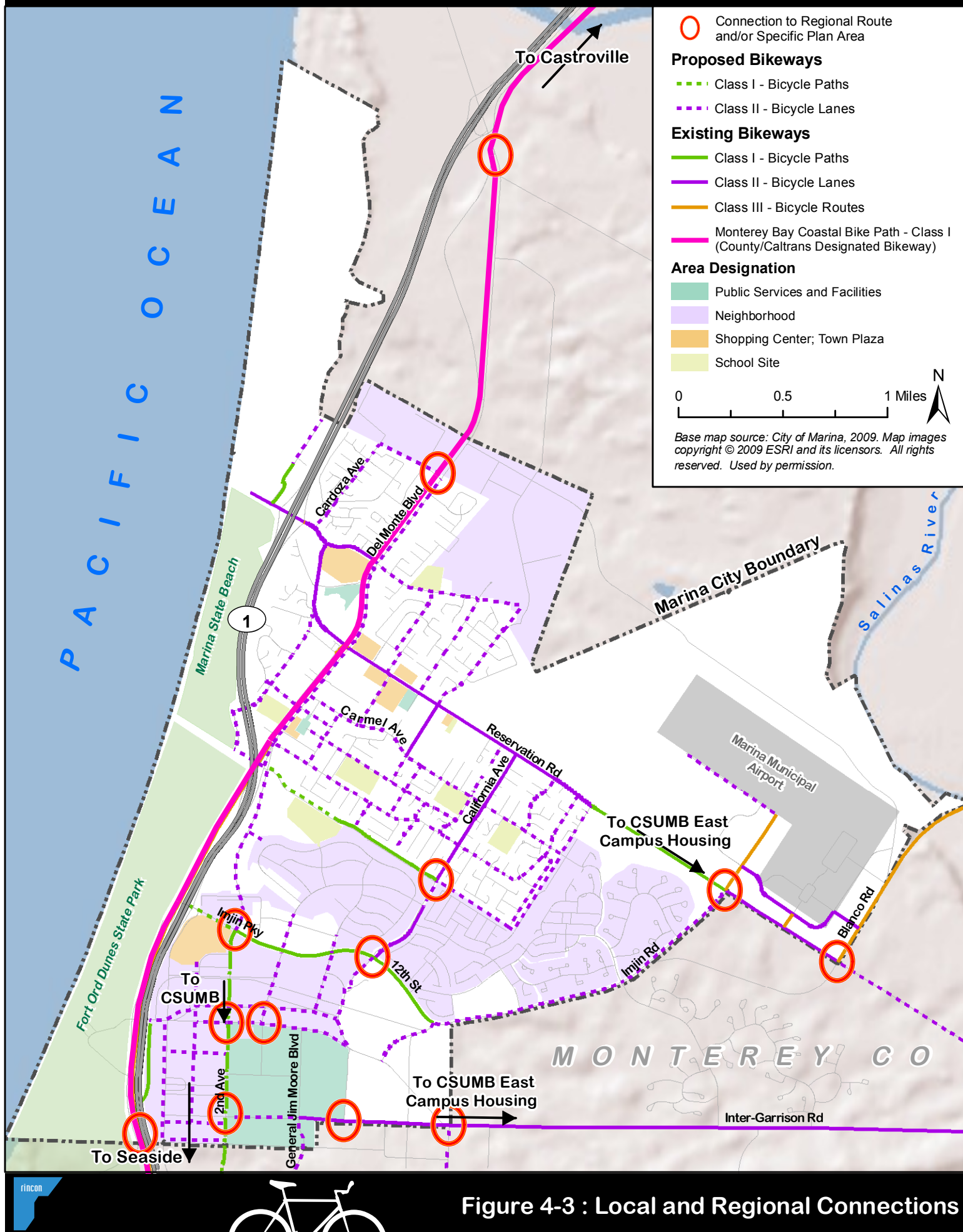


Base map source: MIG Inc., 2007.



Figure 4-2(f): California State University Monterey Bay Pedestrian and Non-Motorized Circulation Plan

City of Marina Pedestrian and Bicycle Master Plan



4.6 ESTIMATED NUMBER OF BICYCLE COMMUTERS

According to the Association of Monterey Bay Area Governments, 9% of all commuter trips in Monterey County are less than five miles, an ideal distance for bicycling. The Transportation Agency for Monterey County (TAMC) staff estimates that approximately 1,436 Monterey County residents rode bicycles to work every day in 2005, representing 0.8% of total commuters (Monterey County General Bikeways Plan, 2008). This number does not account for those cyclists riding to other destinations, such as school, medical appointments, shopping trips, and social events (Monterey County General Bikeways Plan, 2008). Table 4-1 shows the estimated number of daily bicycle commuters in the City of Marina, based on these figures and 2009 population estimates from the California Department of Finance. As of January 1, 2009, approximately 65 Marina residents (or 0.3% of the city population) commuted to work on a bicycle on a daily basis.

Table 4-1 Estimated Number of Daily Bicycle Commuters in Marina

City	2009 Population	2009 Commuters (42.4% of population)	Bike Commuters (0.8% of commuters)
Marina	19,265	8,168	65

Source: Monterey County General Bikeways Plan, 2008 and California Department of Finance.

The 2008 Monterey County General Bikeways Plan estimates that the number of bicycle commuters in the County would increase to 3% of total commuters if all the facilities projects proposed in the Bikeways Plan were completed. Using this assumption for the City of Marina, it is estimated that 245 Marina residents will bike to work on a daily basis in the future.

Research studies show that it is possible to influence up to a 20% pedestrian/bicycle mode split by employing best management practices addressing accessibility, perception of safety, aesthetics, and mixed land uses. Bus or light rail rapid transit through Marina offers even greater possibility for increasing the numbers of people who commute to work via transit by walking or bicycling as transit access modes.

School Bicycle Commuters

An important demographic of bicycle commuters that are not captured in Table 4-1 are students, who likely represent a substantial portion of total individual bicycle commuters. It is estimated that approximately 20 Marina High School students ride a bicycle to school every day (Judy Luckert, Marina High School Liaison – Safe School Ambassador Program, Personal Communication, November 17, 2009).



City of Marina Pedestrian and Bicycle Master Plan

Chapter 4.0 – Existing Facilities



Chapter 4.0 – Existing Facilities



Standard Bike Rack. The image above shows a standard bike rack in Marina, with six posts on which to park a bicycle.



This represents 6.5% of the 2008/2009 school year enrollment of 308 students. If this percentage is applied to all schools in Marina (with a total enrollment of 2,586 students), approximately 170 students are estimated to bicycle to school every day.

4.7 END-OF-TRIP BICYCLE FACILITIES

The number of people bicycling to work in a given community, especially for work trips, often relates to the number of cyclist facilities available at the so-called “end-of-trip.” End-of-trip facilities include bicycle parking racks or lockers, showers, equipment lockers and changing rooms. A growing number of workplaces are providing these facilities in an effort to encourage employees to ride to work.

Transport hubs and destination locations, such as large shopping centers and public buildings also offer an opportunity to provide

end-of-trip facilities to encourage bicycling.

A field inventory of existing bicycle parking facilities in the City of Marina was performed in November 2009. The inventory focused on destination (end-of-trip) locations, including: large shopping centers, public buildings and transit centers, parks, CSUMB, and K-12 public schools. The inventory did not target private residential areas, including large apartment complexes, which may provide bicycle parking for its residents.

Based on this inventory, the City of Marina has 228 bicycle racks at destination locations. The locations of these bike racks are shown in Figure 4-4 and the number of racks at each of these locations is described in Table 4-2. Locations that did not provide bike racks are not shown on the map. Approximately 67% of bike racks within the City are located on the CSUMB campus, including ten bicycle lockers.

Table 4-2 City of Marina Bicycle Rack Inventory				
Map Reference	Location	Address	Number of Racks*	Notes
Shopping Centers				
-	Cuesta del Mar Shopping Center	250 Reservation Road	-	
1	Cypress Plaza	226-236 Reservation Road	2	Metal racks on concrete
-	Cypress Pointe Center	3056 Del Monte Boulevard	-	
2	Dunes Shopping Center	101-145 General Stillwell Drive	8	Metal racks on concrete
3	Marina Landing Shopping Center	150 Beach Road	4	One long rack, equivalent to four racks
4	Marina Square Shopping Center	257-277 Reservation Road	1	Metal rack on concrete
5	Marina Village Shopping Center	Reservation Rd & Del Monte Blvd	1	Metal rack at Jack-in-the-Box
6	Seacrest Plaza	268-270 Reservation Road	2	Metal racks on concrete
-	Town Plaza Shopping Center	330 Reservation Road	-	Refer to Learning for Life School
Public Buildings and Transit				
7	Marina City Hall and Rocky Han Community Center	211 Hillcrest Avenue	2	Metal racks on asphalt
-	Marina Municipal Airport	781 Neeson Road	-	
8	Marina Post Office	3100 De Forest Road	1	Metal rack on concrete
9	Marina Public Library	190 Seaside Circle	2	Metal racks on concrete
10	Marina Superior Court	3180 Del Monte Blvd	1	Metal rack on concrete
-	"Tak" Takali Teen Center	304 Hillcrest Avenue	-	Refer to Marina Skateboard Park
11	Marina Transit Exchange	280 Reservation Road	2	Metal racks on concrete
12	MST Bus Stop – Reservation Road	East side, south of Beach Ave	1	Uncovered bench with built in bike rack

City of Marina Pedestrian and Bicycle Master Plan

Chapter 4.0 – Existing Facilities



City of Marina
Pedestrian and
Bicycle Master Plan

Chapter 4.0 –
Existing
Facilities



Table 4-2 City of Marina Bicycle Rack Inventory

Map Reference	Location	Address	Number of Racks*	Notes
13	MST Bus Stop – Del Monte Blvd	East side, b/w Cypress and Palm	1	Covered bench with built in bike rack
Parks				
14	Gloria Jean Tate Park	3200 Abdy Way	1	Metal rack on concrete
15	Locke-Paddon Park	100 Seaside Avenue	1	Metal rack on concrete
16	Marina Skateboard Park	304 Hillcrest Avenue	1	Metal rack on concrete
-	Marina City Park	Zanetta Drive & Hillcrest Ave	-	Racks available at nearby Teen Center and Skateboard Park
17	Marina State Beach	Western end of Reservation Rd	2	Located in beach parking lot
18	Preston Park	682 Wahl Court	1	
-	Vince DiMaggio Park	Del Monte Boulevard	-	
-	Windyhill Park	3240 De Forest Road	-	
Employment Centers and Universities				
19	CSU Monterey Bay	100 Campus Center	152**	76 racks (most long and equivalent to two or four racks) and eight lockers
20	UC MBEST	3180 Imjin Parkway	1	Metal rack on concrete
21	Monterey Peninsula College Education Center at Marina	289 12 th Street	2	Two standard racks
Grade Schools				
22	JC Crumpton Elementary School	460 Carmel Avenue	4	One long rack, equivalent to four racks
23	Ione Olson Elementary School	261 Beach Road	2	One long rack, equivalent to two racks
24	Los Arboles Middle School	294 Hillcrest Avenue	12	Six long racks, equivalent to 12 racks
25	Marina del Mar Elementary School	3066 Lake Drive	2	One long rack, equivalent to two racks
26	Marina High School***	298 Patton Parkway	2	One rack, holds approximately 12 bikes

Chapter 4.0 – Existing Facilities

Table 4-2 City of Marina Bicycle Rack Inventory				
Map Reference	Location	Address	Number of Racks*	Notes
27	Marina Vista Elementary School	390 Carmel Avenue	8	Four long racks, equivalent to eight racks
28	Learning for Life School	330 Reservation Road, Suite F	4	One long rack, equivalent to four racks
Miscellaneous				
29	7-Eleven Gas Station	Reservation & Beach Roads	1	Metal rack on concrete
30	Calvary Baptist Church	160 Seaside Court	1	Metal rack on concrete
31	Comfort Inn	140 Reservation Road	2	One long rack, equivalent to two racks
32	Marina Cycle and Skate	214 Reservation Road	1	Metal rack on asphalt
Total			228	

Source: In-field inventory performed by Rincon Consultants on November 6, 2009 and November 17, 2009.

* Standard bike racks are metal racks with two to four loops (as shown on page 4-16). Long bike racks were assigned numbers based on the approximate number of standard racks they represent (refer to image on page 4-18).

** According to the 2007 CSUMB Master Plan EIR (Appendix F: Traffic Impact Study), CSUMB provides parking for 580 bicycles on racks, and 10 bicycles in lockers. The number included here is based on the in-field inventory, and represents the number of racks rather than the number of parking spaces for bicycles.

*** Judy Luckert, Marina High School Liaison – Safe School Ambassador Program, Personal Communication, November 17, 2009.

To determine the availability of shower and locker facilities for Marina employees, a telephone survey of large employers (50 or more employees) within the City was performed between November 2, 2009 and December 3, 2009. The results of this survey are shown in Table 4-3. Of the 15 employers contacted, 10 provide bicycle racks, four provide showers, and six provide lockers for employee use. REI Marina also offers an eco-



Long Bike Rack. The image to the left shows a longer bike rack in Marina, which is equivalent to two standard bike racks.



City of Marina Pedestrian and Bicycle Master Plan

Chapter 4.0 – Existing Facilities



commute incentive program for their employees. When an employee bicycles to work they receive credit toward an additional discount at the store.

Table 4-3 End-of-Trip Facilities at Large Employers

Map Reference	Employer	Address	Bike Rack	Showers	Lockers
A	Wal-Mart	150 Beach Road	Yes*	-	-
-	Sunset Pacific	PO Box 400	No	-	-
-	Coastal Care Home	3121 Messinger Dr	No	-	-
B	Kula Ranch	3295 Dunes Rd	No	1	-
-	Longs Drugs	268 Reservation Rd	No	-	-
C	Save Mart	270 Reservation Rd	Yes*	-	20
D	Collins Electrical Co Inc	385 Reservation Rd	Yes	-	-
E	Michael's Catering	445 Reservation Rd # U	Yes	2	-
F	City of Marina	211 Hillcrest Ave	Yes*	Yes**	Yes**
-	Scudder Roofing	PO Box 2596	No	-	-
G	Sierra Meat & Seafood Co	3345 Paul Davis Dr	Yes	-	20
H	Target	133 General Stillwell Dr	Yes*	-	200
I	Kohl's Department Store	111 General Stillwell Dr	Yes*	-	100
J	Best Buy Marina	101 General Stillwell Dr	Yes*	-	-
K	REI Marina	145 General Stilwell Drive	Yes*	1	20-30

Data based on a telephone survey. The Monterey Peninsula Unified School District was not included in this survey.

** Bike rack(s) included in inventory in Table 4-2.*

*** City of Marina shower and locker facilities available at the Fire/Police Departments and City Corporation Yard.*

While existing end-of-trip bicycle facilities are shown in Figure 4-4, locations of future bicycle support facilities such as bicycle racks, showers, lockers, and changing facilities will be determined by the locations of new development and redevelopment. Municipal Code standards for the placement of these facilities will be proposed for adoption in early 2010.

City of Marina Pedestrian and Bicycle Master Plan

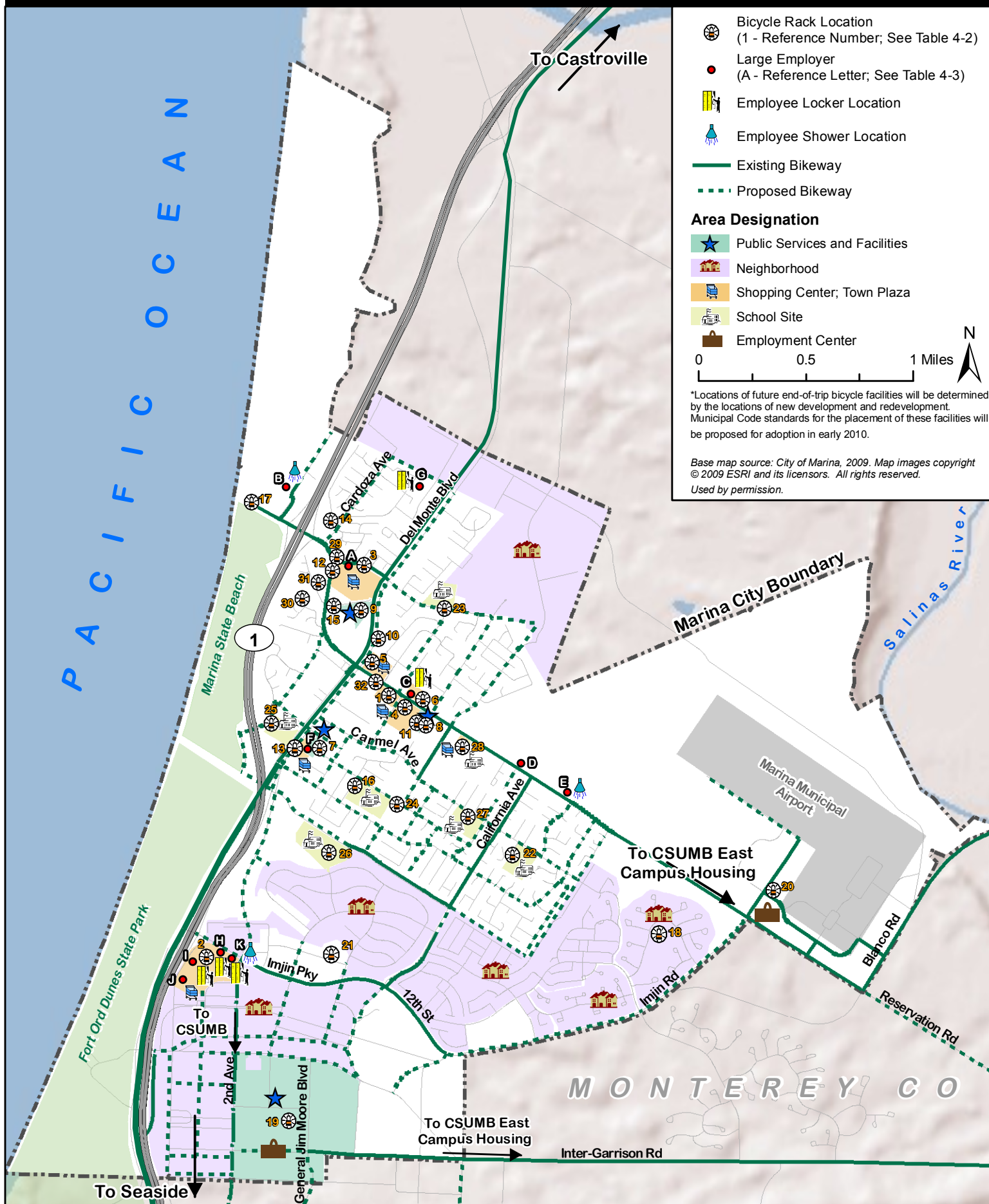


Figure 4-4: End-of-Trip Bicycle Facilities

**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 4.0 –
Existing
Facilities**



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CHAPTER 5.0 DESIGN GUIDELINES

5.1 OVERVIEW

The purpose of this chapter is to provide a published set of pedestrian and bicycle facility design guidelines that are applicable to typical situations. The design guidelines presented in this chapter supplement and illustrate the City of Marina's preferred approaches to regulations in numerous other transportation planning documents. These include:

- California Building Code (CBC) *Title 24 Regulations for Accessibility*;
- Caltrans *Highway Design Manual, Chapter 1000*;
- The American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Development of Bicycle Facilities*; and
- The California *Manual of Uniform Traffic Control Devices (MUTCD)*.

This document does not supersede information provided within these documents, but rather, clarifies preferred local treatments for pedestrian and bicycle facility design. The guidelines incorporate flexibility to enable customization for unique situations.

5.2 GUIDELINES FOR WALKING

5.2.1 SIDEWALK GUIDELINES

- **Provision of Sidewalks.** All streets should have sidewalks on both sides of the street.
- **Sidewalk Design.** Future sidewalks should be designed, built and maintained following accessibility standards as set forth in CBC Title 24 Regulations for Accessibility and FHWA Designing Sidewalks and Trails for Access. Sidewalks should be well maintained, attractive, and easy to navigate.
- **Sidewalk Maintenance.** Incorporate sidewalk facilities for which the City has maintenance responsibilities into the City of Marina Sidewalk Management System and facilities maintenance schedule to maintain a smooth walking surface.



City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



Chapter 5.0 – Design Guidelines



- ***Sidewalk Connections.*** The pedestrian network should provide continuous and direct connections between destinations, including homes, schools, shopping areas, public services, work places, recreational opportunities and transit. Sidewalks and street crossings should be designed so people can easily find a direct route to a destination, and delays are minimized.



- ***Vehicular Curb Cuts (Driveways).*** Curb cuts should be designed to emphasize to motorists that they are intruding into pedestrian space, as opposed to having pedestrians feel they are intruding into motor vehicle space.



- ***Pedestrian Improvements Should be Economical.*** Pedestrian facilities should be designed to achieve the maximum benefit for their cost. Where possible, improvements in the public right-of-way should stimulate, reinforce and connect in an aesthetic sense to adjacent private developments.

5.2.2 CROSSWALK GUIDELINES

Intersections

- ***Intersection Design.*** Intersections should be designed to be as compact as possible per state and local guidelines. The need to accommodate pedestrians must be balanced with the need to accommodate turning vehicles.
- ***Pedestrian Crossing Distances.*** Pedestrian roadway crossing distances should be as short as possible to reduce pedestrian exposure time, and to decrease motor vehicle delay. Pedestrian refuge islands should be used for wider streets to allow a refuge for pedestrians who may not be able to complete the crossing in one phase.



- **Intersection Corner Radii.** Corner radii should be designed to be as small as possible, while considering the existing and future volumes and safety of all intersection users.

Reducing Intersection Conflicts

- **Conflict Points.** Raised islands (such as channels or medians) or roundabouts should be used where feasible to reduce the number of conflicts between pedestrians and motorists (refer to Section 5.5, *Guidelines for Roundabouts*).
- **Conflict Speed.** Curb extensions and median noses should be used where feasible to reduce the speed of turning motorists. Short signal cycles are encouraged to promote red signal compliance.
- **Geometric Speed Controls at Intersections.** Intersection speed should be controlled through a combination of (1) geometric design options (e.g. medians, curb extensions, corner radii) and (2) operational controls (e.g. signals, lane widths, number of lanes).
- **Slowing Motorists Before Entry.** Use curb extensions, medians, a change in the roadway alignment and other geometric controls to slow motorists before entry into an intersection.



Crosswalks

- **Provision of Crosswalks.** Marked crosswalks should be provided across all street approaches to signalized intersections. Marked crosswalks are also recommended at stop controlled intersections where pedestrian traffic commonly occurs – particularly near parks, schools, transit stops, and other similar areas. Under more challenging conditions such as steep downhill grades, when traffic calming is needed, or when special needs populations are significant, these additional safety enhancements may apply:



1. Raised median islands or refuge islands
2. Neckdowns
3. Oversized stop signs
4. Stop pavement marking
5. Choker lanes
6. Speed tables
7. Bulbouts
8. Parking




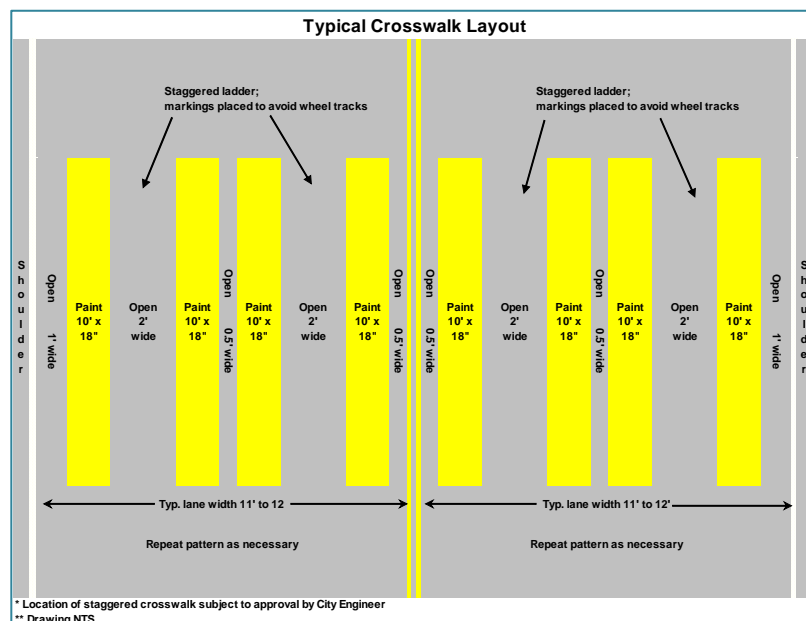
City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



9. Topography and landscaping
10. Combinations of the above treatments

- **Crosswalk Width.** Crosswalk width should comply with MUTCD requirements. In certain situations, wider sidewalks may be desired. These situations include, but are not limited to:
 - Along arterial streets in the downtown area;
 - In locations where large concentrations of pedestrians are expected; and
 - Within ½ mile of a transit center.
- **Crosswalk Accessibility.** Crosswalk design should conform to current accessibility guidelines.
- **Crosswalk Visibility.** Crosswalks should be clearly visible to motorists at all times. Use of materials, spacing of lines and physical location of crosswalks can add to durability of lines. Use materials and treatments that last. Regardless of the material used for crosswalks, the accessible pedestrian route must be firm, stable and slip-resistant, and reflectorized (per the MUTCD) for visibility at night. Paver systems that may shift and/or settle should not be used. Crosswalks should be maintained on a regular basis to ensure visibility.
 
- **Crosswalk Line Width.** Crosswalk line widths should be between 6 and 24 inches wide, in accordance with the MUTCD. Line width is based on motorist speed; higher speeds demand greater line widths or enhanced crosswalk markings. Staggered crosswalks should be used subject to approval by the City Engineer, and should conform to the pattern depicted below.



- **Over and Under Crossings.** In general, over and under crossings are discouraged due to prohibitive costs and inherent accessibility concerns. In addition, these facilities often go unused because they result in longer travel distances than crossing at the street level. However, in situations where an over or under crossing is proposed, cost, accessibility, and safety must be considered.

The picture to the right shows the Palm Avenue and Del Monte Avenue pedestrian overcrossing, that was demolished in March 2009.



City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines

5.2.3 MID-BLOCK CROSSING GUIDELINES

While every attempt should be made to cross pedestrians at intersections, pedestrians tend to walk in a path that represents the shortest distance between two points. Therefore, midblock crossings are a necessary pedestrian movement in many locations. Since no two midblock crossings are alike, there is no single standard design. Engineering judgment must be used, based on the design principles described throughout this Plan.

- **Provision of Mid-Block Crossings.** Mid-block crossing treatments should be considered at locations where pedestrians already are making a substantial number of midblock crossings. They should also be considered at locations that are anticipated to generate midblock crossings (new development), or where the land use is such that a pedestrian is highly unlikely to travel out of direction to cross the street at a nearby intersection.



Example of a mid-block crossing with adequate site distance and high visibility.



Many pedestrians currently cross Del Monte Boulevard mid-block due to the long distance between intersection crosswalks.

- **Mid-Block Crossing Design Considerations.** Design issues that should be considered at midblock crossings include:
 - Adequate sight distance both from the pedestrian and motorist's perspective
 - Need for a pedestrian-activated signal, based on a gap analysis
 - Potential for shortening crossing distance, using curb extensions and/or crossing islands



Chapter 5.0 – Design Guidelines



- High-visibility crosswalk marking treatment
- Use of triggered flashing lights in the pavement
- Adequate signs, possible use of yellow-green warning signs
- Appropriate use of traffic calming as needed to reduce excessive motor vehicle speeds in advance of the midblock crossing
- Providing the most direct connection between destinations
- Use of other innovative crossing treatments



Example of triggered flashing lights used at a mid-block crossing in the City of San Luis Obispo.

- **Mid-Block Signals.** When warranted, midblock signals should be installed proactively on new roadways or when new developments are constructed, and retroactively on existing roadways. The signals that are installed should have visual, audible indications of the WALK interval, which is activated through the use of a pedestrian pushbutton.
- **Mid-Block Signs and Pavement Markings.** Signs and pavement markings at all mid-block crossings should be in compliance with the latest version of the MUTCD.



5.2.4 PEDESTRIAN ORIENTATION GUIDELINES

Pedestrian-Oriented Development

- **The Pedestrian Environment.** Good design should enhance the comfort and appeal of the pedestrian environment. Consideration should be given to separating pedestrians from vehicular traffic by the use of street trees and other measures. An ideal pedestrian environment might also offer resting places and visual elements (such as special paving, street furnishings) that provide a sense of place. The streetscape environment should be active and interesting.
- **Pedestrian Orientation.** Future development in the Marina should be designed to create street level interest and pedestrian comfort, particularly in the Downtown Specific Plan area. Doorways, covered walkways, windows, and other street level ornamentation should be incorporated



to create pedestrian scale and inviting spaces.

- **Pedestrian Amenities.** The provision of pedestrian amenities such as benches, fountains, landscaping, and public art is encouraged (see specific guidelines for Pedestrian Amenities below). Placement of amenities should be targeted to specific locations that have or are expected to have high pedestrian activities. Examples of locations for prioritizing pedestrian amenities include:

- Transit stops
- Major building entries
- Retail areas
- Restaurants



City of Marina Pedestrian and Bicycle Master Plan

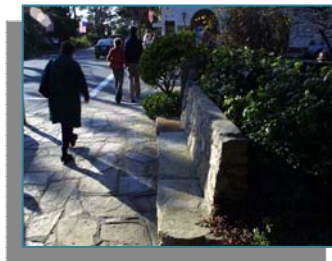
Chapter 5.0 – Design Guidelines

Pedestrian Amenities

- **Seating Areas.** Seating areas should be considered wherever extra sidewalk width offers the opportunity. Seating space can be included on walls, in alcoves and along other edges or decorative treatment, or where there are other appropriate opportunities.
- **Bench Design.** The use of local stone, masonry, and other building materials, and construction materials complementing area buildings, monuments, or other prominent features for bench design is encouraged.
- **Provision of Street Trees.** Street trees can be used to visually narrow the street and separate pedestrians from vehicular traffic, and should be considered in these situations and whenever extra sidewalk width or the existence of planting strips offers the opportunity.
- **Street Tree Selection.** The selection of trees and tree planting should be coordinated with the City of Marina Landscape Guidelines and Standards.



Seating areas can be provided where extra sidewalk width permits, or where space is available, as in the image above.



Example of a bench design utilizing construction materials that complement the pedestrian environment design.



City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines

Trees with root systems that won't become trip hazards must be selected. Continued reviews will be conducted on types of trees and planting techniques to maintain properly accessible sidewalks.



Patton Parkway street trees serve to visually narrow the street. Trees selected in this location also ensure that branches do not block pedestrian or bicycle movement.

- **Street Tree Pruning and Clear Space.** Ensure that street tree branches do not interfere with pedestrian and bicyclist visibility and movement, or block lights that illuminate pedestrian areas and bicycle trails.
- **Trail Lighting.** Lighting of Class I bike paths and shared use trails should be encouraged wherever possible to enhance pedestrian safety and encourage walkability. Trail lighting should utilize a combination of decorative pedestrian-scale pole-mounted and bollard lights.
- **Pedestrian Lighting.** Pedestrian-scaled lighting is encouraged in all pedestrian areas, including transit stops, major building entries, retail areas, and restaurants. These areas should utilize a combination of decorative pedestrian scale pole and bollard lights selected to compliment the architectural style of adjacent buildings. Wall mounted fixtures should be used where appropriate on the building elevations to supplement pole lights and compliment building architecture.



parking meters, or emergency access.

- **Newspaper Racks.** Newspaper racks can be useful sidewalk amenities, but should not block sidewalks or crosswalks, obstruct access to buses, taxi stands, bicycle racks, and other facilities.

- **Kiosks, Transit Stops, and Sidewalk Cafes.** Kiosks, transit stops, and sidewalk cafes should only be installed on streets that have adequate sidewalk widths and must not interfere with curb ramps, fire hydrants,



- **Planters.** Materials used to construct planters should be coordinated with the surrounding sidewalk and building materials.
- **Utility Pole, Traffic Signal, and Fire Hydrants.** When designing pedestrian and bicycle trails, consideration should be given to avoid conflict between required utility poles, traffic signals, electrical boxes, back flow preventers, and fire hydrants, in facility design.
- **Electrical Boxes.** Utility vaults and access boxes should be located outside the pedestrian area and be constructed from non-slip materials flush with the sidewalk, preferably outside the City right-of-way. The preferred placement is on private property.
- **Dumpster Screening.** Dumpsters should be screened to hide unsightly trash from public view.
- **Public Art.** Installation of public art should be encouraged.



5.3 GUIDELINES FOR BICYCLING

5.3.1 BIKEWAY GUIDELINES



- **Provision of Bikeways.** Bikeways should be implemented as depicted on Figure 4-3 and as determined necessary by the City of Marina Community Development Department. Future multi-lane roadways with intersections should be planned with on-street bike lanes and, ideally, future trails should be built on independent alignments where feasible. Bikeways should be planned in consideration of preservation lands, wetlands, coastal and other environmental issues.

- **Bikeway Design.** Future bikeways, including Class I bike paths, Class II bike lanes, and Class III bike routes, should be designed, built and maintained following current versions of the AASHTO Guide for the Development of Bicycle Facilities, the Manual on Uniform Traffic

Chapter 5.0 – Design Guidelines

Control Devices, and Caltrans Highway Design Manual, Chapter 1000.

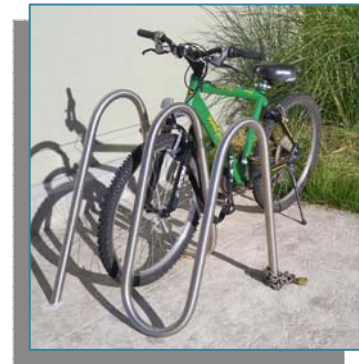
- *Bikeway Striping and Pavement Marking.* Striping of bicycle facilities should conform to established City standards and design guidelines provided in the Highway Design Manual, Chapter 1000. All striping and pavement markings should be of thermoplastic to ensure adequate life of the marking and allow maintenance crews to care for facilities in a more reasonable manner.



- *Bikeway Maintenance.* Incorporate bicycle facilities into the City of Marina Pavement Management Program and facilities maintenance schedule to maintain a smooth riding surface.
- *Trail Art and Trail Interpretive Programs.* Trail art, trail interpretive programs, and nature interpretive signs highlighting Marina's natural features should be developed to take advantage of the arts community, the need to develop an interpretive program, and other community needs.
- *Maximize Connections.* Bikeways should be designed to maximize bicycle travel connecting activities, resources and lifestyles.

5.3.2 END-OF-TRIP BICYCLE FACILITIES GUIDELINES

- *Provision of Bicycle Parking.* Bicycle parking facilities should be installed wherever possible.
- *Bicycle Parking on Private Property.* Private property owners should be encouraged to provide bicycle parking for use by the public on their properties adjacent to the right-of-way.
- *Bicycle Parking Placement.* Bicycle parking facilities should be placed in locations which will not interfere with pedestrian access, will not impede CBC Title 24 accessibility standards, are convenient for the cyclist, and are in secure locations (visible and lighted, as applicable) to minimize the chance of theft.
- *Showers and Lockers.* The inclusion of showers and lockers in new and remodeled commercial and industrial developments is continually encouraged to promote employee bicycle commuting.



5.3.3 BICYCLING PROMOTION AND FUNDING

- *Bicycling Promotion.* Actively encourage City staff, employees, residents, and visitors to use bicycles as often as possible. Encourage City officials and employees as well as other employers to participate in the national, state and regional “Bike to Work Week” every spring.
- *Traffic Mitigation Funds.* Provide traffic mitigation funds for bicycle projects and/or bicycle-friendly improvements.
- *Funding from Other Sources.* Seek additional funding which can be generated from other sources, programs, or organizations as they become available.

5.4 PEDESTRIAN AND BICYCLE ORIENTED STREET GUIDELINES

- *Traffic Calming.* Traffic calming refers to various design features and strategies intended to reduce vehicle traffic speeds on a particular roadway. Where traffic calming is desired, the following design features and strategies may be considered (see also strategy-specific guidelines and roundabout guidelines, below):

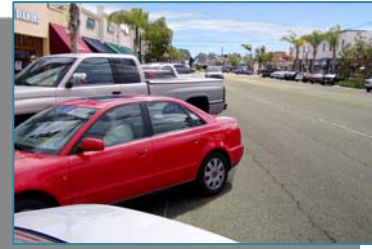
Traffic Calming Device	Description
Road Diet	Reducing the number and width of traffic lanes
Raised Median Island or Refuge Island	Raised island in the road center (median) narrows lanes and provides pedestrian with a safe place to stop
Curb Extensions, also called Neckdown or Choker	Curb extensions at intersections that reduce the roadway width from curb to curb. Slows traffic and reduces pedestrian crossing distances.
Speed Table or Raised Crosswalks	Ramped surface above roadway.
Tight Corner Radii	The radius of street corners affects traffic turning speeds. A tighter radius (90 degrees) forces drivers to reduce speed.
Rumble Strip	Low bumps across road make noise when driven over.
Roundabout	Medium to large circles at intersections.
Pavement Treatment	Special pavement textures (cobblestones, bricks, etc.) and markings to designate special areas.
Bike Lane	Marking bike lanes narrows traffic lanes, causing vehicles to slow.
Perceptual Design Features	Patterns painted into road surfaces and other perceptual design features that encourage drivers to reduce their speeds.
Street Trees and Landscaping	Planting trees or landscaping along a street visually narrows the street, thereby reducing vehicle speed.
Woonerf Design	Streets with mixed vehicle and pedestrian traffic, where motorists are required to drive at very low speeds.
Speed Reductions	Traffic speed reduction programs. Increased enforcement of speeding violations.
On-Street Parking	On-street parking can serve as a highly effective way to slow traffic in main street and neighborhood environments.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



Chapter 5.0 – Design Guidelines



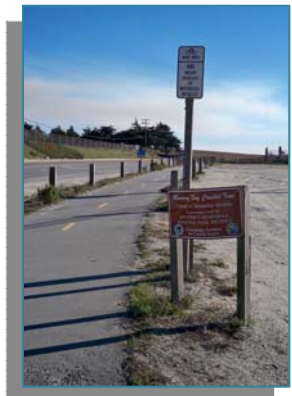
Examples of traffic calming devices.

- **Road Diets.** Reducing the number of lanes on a multi-lane roadway should be considered in some situations, as determined appropriate through engineering studies and working groups. Where appropriate, road diets can generate a number of positive benefits for both pedestrians and motorists, including:
 - Reduced motor vehicle collisions;
 - Reduced crossing distances for pedestrians at intersections;
 - Slower vehicle speeds;
 - Additional space for streetscape or bike lane improvements; and
 - Additional space to provide a landscaped median.
- **Visual Narrowing.** Street trees should be used to visually narrow the street, thereby lowering running speeds. The street can also be visually narrowed by introducing either continuous or intermittent landscape medians. These medians can serve a dual purpose of providing pedestrian refuge areas at intersections and midblock crossings.

5.4.1 PEDESTRIAN-ORIENTED PARKING GUIDELINES

- **Off-Street Parking and Pedestrian Circulation.** Parking lots should clearly define crosswalks and pathway systems using colors, markings, or other materials as appropriate.
- **Shared Parking Lots.** The use of shared parking lots should be encouraged.
- **Bike Path Parking.** Provision of a public parking lot with direct access to the Monterey Bay Coastal Trail is encouraged to help promote bicycle commuting and recreation for Marina and regional residents alike.

Provision of public parking in a location similar to the one shown to the right (with direct access to the Monterey Bay Coastal Trail) would help encourage bicycle commuting and recreation.

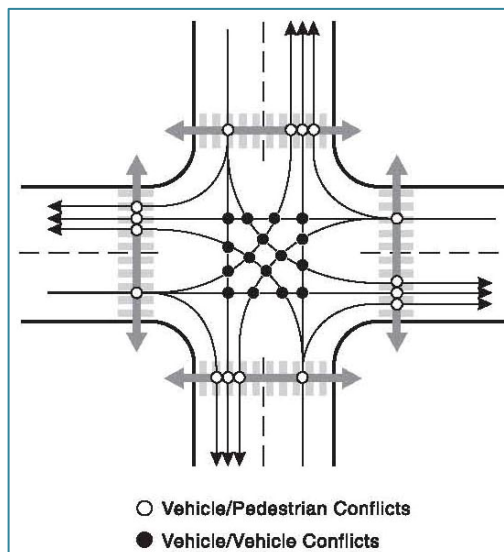


5.5 GUIDELINES FOR ROUNDABOUTS

Roundabouts improve the safety of intersections by eliminating or altering conflict, by reducing speed differentials at intersections, and by forcing drivers to decrease speeds as they proceed into and through the intersection (FHWA, Roundabouts: An Informational Guide, June 2000). The reasons for the increased safety level at roundabouts are:

1. Roundabouts have fewer conflict points in comparison to conventional intersections (refer to images on pages 5-13 and 5-14). The potential for hazardous conflicts, such as right angle and left turn head-on crashes is eliminated with roundabout use. Single-lane approach roundabouts produce greater safety benefits than multilane approaches because of fewer potential conflicts between road users, and because pedestrian crossing distances are short.
2. Low absolute speeds associated with roundabouts allow drivers more time to react to potential conflicts, also helping to improve the safety performance of roundabouts.
3. Since most road users travel at similar speeds through roundabouts, i.e., have low relative speeds, crash severity can be reduced compared to some traditionally controlled intersections.
4. Pedestrians need only cross one direction of traffic at a time at each approach as they traverse roundabouts, as compared with unsignalized intersections. The conflict locations between vehicles and pedestrians are generally not affected by the presence of a roundabout, although conflicting vehicles come from a more defined path at roundabouts (and thus pedestrians have fewer places to check for conflicting vehicles). In addition, the speeds of motorists entering and exiting a roundabout are reduced with good design. As with other crossings requiring acceptance of gaps, roundabouts still present visually impaired pedestrians with unique challenges (from FHWA, Roundabouts: An Informational Guide, June 2000).

Vehicle-pedestrian conflicts at signalized intersections. - "Federal Highway Administration, Roundabouts: An Informational Guide, June 2000"



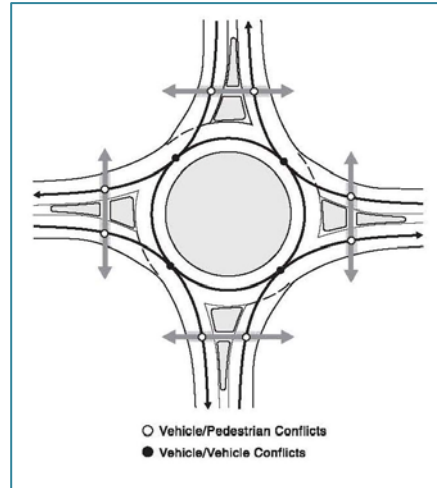
City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



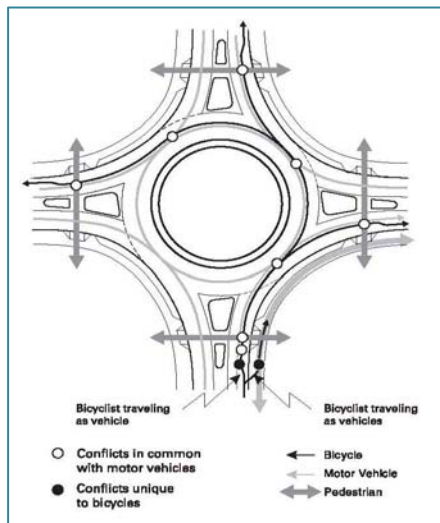
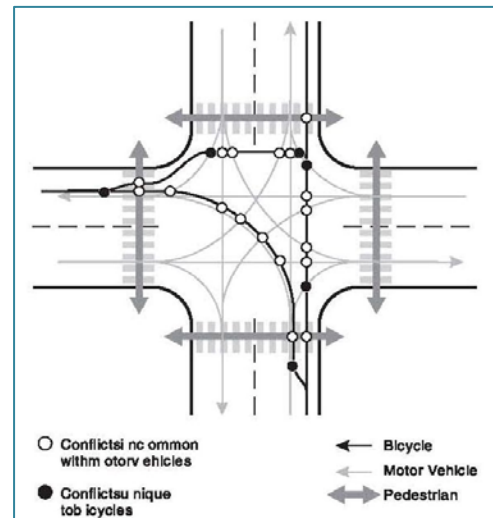
City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



Vehicle-pedestrian conflicts at single-lane roundabouts. - *"Federal Highway Administration, Roundabouts: An Informational*

Bicycle conflicts at conventional intersections (showing two left-turn options). - *"Federal Highway Administration, Roundabouts: An Informational Guide, June 2000"*



Bicycle conflicts at roundabouts (showing two left-turn options). - *"Federal Highway Administration, Roundabouts: An Informational Guide, June 2000"*

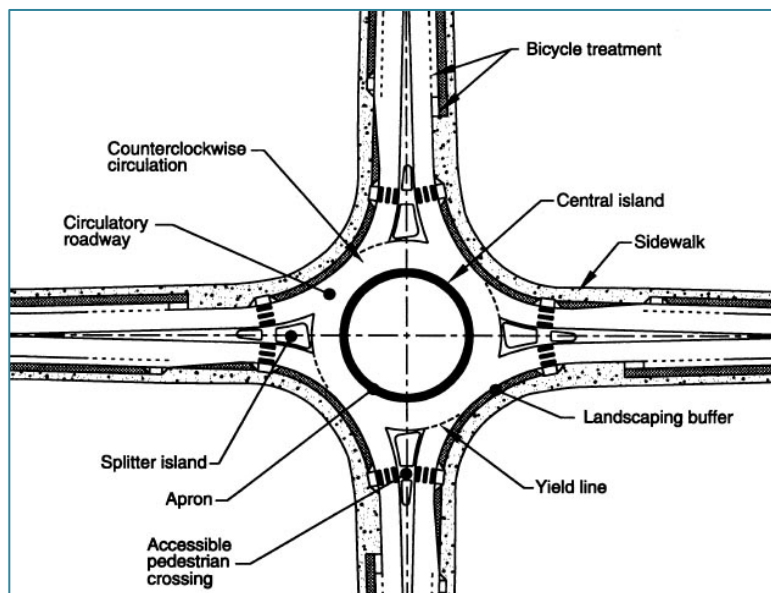
Other benefits of roundabouts include:

1. Roundabouts eliminate maintenance costs associated with traffic signals, as well as electricity costs associated with powering a signal.
2. Reduced delay associated with roundabouts also results in a decrease in fuel consumption and air pollution.
3. The central island and splitter islands associated with roundabouts provide an opportunity to beautify intersections with landscaping.

For the reasons outlined above, roundabouts are encouraged for major roadway intersections in the City of Marina, as detailed in the following guidelines.

5.5.1 ROUNDABOUTS DESIGN AND IMPLEMENTATION GUIDELINES

- **Provision of Roundabouts.** Roundabouts improve the safety of intersections for pedestrians, bicyclists and vehicles by eliminating conflict, reducing speed differentials, and forcing drivers to decrease speeds as they proceed through intersections. Roundabouts should be considered when designing new roadway intersections.
- **Roundabout Design.** Roundabout design and implementation should be in accordance with applicable guidelines in the MUTCD and based on engineering studies approved by the City of Marina Engineering Services Division, Public Works Division. Pavement textures and color, styles and materials used in curbing, floral beds, trees, shrubs, pilasters, bollards, lamps, posts, banners, monuments and fountains should be utilized in roundabout design.



Key roundabout design features. - "Federal Highway Administration, Roundabouts: An Informational Guide, June 2000"

City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



Chapter 5.0 – Design Guidelines



- *Motorist Speed at Roundabouts.* A combination of geometric, operational, and landscaping features should be used to alert motorists of the need to slow down before entering a roundabout. Lane width reductions, curb extensions, splitter island flares, yield markings, signs and high emphasis pedestrian crossings should all be considered to encourage motorists to yield to pedestrians.



Example of geometric and landscaping features intended to reduce motorist speed at a roundabout.

- *Pavement Markings and Signs at Roundabouts.* Pavement markings and signs at roundabouts should be in accordance with MUTCD requirements.
- *Roundabout Landscaping.* The landscaping of the roundabout and approaches should:
 - Make the central island more conspicuous;
 - Improve the aesthetics of the area while complementing surrounding streetscapes as much as possible;
 - Minimize introducing hazards to the intersection, such as trees, poles, walls, guide rail, statues, or large rocks;
 - Avoid obscuring the form of the roundabout or the signing to the driver;
 - Maintain adequate sight distances;
 - Clearly indicate to the driver that they cannot pass straight through the intersection;
 - Discourage pedestrian traffic through the central island; and
 - Help blind and visually impaired pedestrians locate sidewalks and crosswalks.
- *Roundabout Lighting.* Lighting at roundabouts should be in accordance with the AASHTO Roadway Lighting Design Guide. Lighting on the median and center islands should be pedestrian in scale.

5.5.2 PEDESTRIAN CROSSING GUIDELINES AT ROUNDBOUTS

- *Pedestrian Crossings at Roundabouts.* Pedestrian crossings at roundabouts should be kept reasonably compact, and should be marked in accordance with MUTCD requirements. Crosswalks

should be located to take advantage of the splitter island; crosswalks located too far from the yield line require longer splitter islands. Crossings should also be located at distances away from the yield line measured in increments of approximate vehicle length to reduce the chance that vehicles will be queued across the crosswalk.



Pedestrian access is allowed only across the legs of the roundabout, behind the yield line. - *"Federal Highway Administration, Roundabouts: An Informational Guide, June 2000"*

- **Roundabout Crosswalk Openings.** Crosswalk openings at roundabouts should be as wide as the crosswalk in order to facilitate easy entry to and exit from the street.
- **Bike Lanes and Roundabouts.** Two options for bicyclist travel should be incorporated into roundabouts, including riding through the roundabout or using on-ramps to sidewalks.
- **Two-Step Curbs and Truck Aprons.** At especially tight intersections, the use of two-step curbs and truck aprons may be considered.

5.6 CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

Crime Prevention through Environmental Design (CPTED, pronounced "sep-ted") is a method of using the built environment to reduce the incidence of crime. At the same time it aims to enhance the needs of bona fide users of the space and reduce their fear of crime. It is based on the idea that human environments can be designed to encourage desired behaviors. CPTED is one of several tools that can reduce crime risks in public spaces, including pedestrian and bicycle facilities.

CPTED is based on five major principals that can be applied to off-road bicycle facility design. These principals are:

1. Natural surveillance – keeping the environment maintained so that people can easily be seen by other users.
2. Territoriality – distinguishing public from private spaces; showing that someone owns and cares about the space.
3. Activity – encouraging activity by multiple users to enhance natural surveillance and sense of safety.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines



City of Marina Pedestrian and Bicycle Master Plan

Chapter 5.0 – Design Guidelines

4. Access Control – ingress and egress is controlled by some means; a hedge or path directing people on legitimate paths of travel, or signs directing people where to walk and not.
5. Maintenance – proper maintenance to keep the facility looking clean, inviting, and safe.

Strategies to achieve each of these principles for off-road facilities (i.e. Class I or shared use trails) are outlined below. Where these principles cannot be successfully applied in an off-road environment, on-road facilities for bicycling may be preferred.

- **Natural Surveillance.** Off-road facilities should be constructed near occupied buildings, roads, houses, and other places of human activity where feasible, to enhance natural surveillance. Clear lines of sight should be established and maintained for movement at consistent speed along the path. When new foliage is planted, the effect of maturation of the plants on lines of sight should be considered. Where possible, predictable paths such as stairways, passages, or tunnels should be eliminated. Where predictable paths cannot be avoided, use lighting or other means to enable users to see the end of predictable paths.
- **Territoriality.** Signs encouraging ownership and appropriate use of the facility should be installed and maintained. For example, signs that indicate the valid users of paths or provide information for tourists.

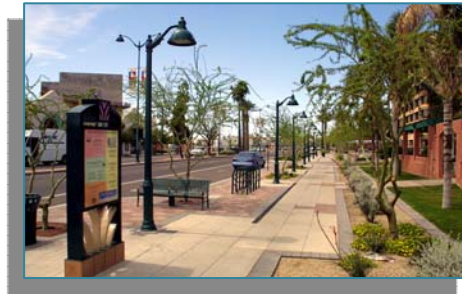


- **Activity.** An environment that invites a variety of activity including play equipment and bicycling and walking paths can increase neighborhood surveillance and decrease crime. Measures to address, remove, or minimize any land use that raises safety concerns for users should be considered.

- **Access Control.** Suitable signs, landscaping, lighting, and pavement styles should be utilized to naturally control flow of pedestrian and bicycle traffic. Signs should be readable from a distance, have a clear message, and be appropriately placed. Provision of facilities (e.g. emergency blue light phones) to enable users to alert emergency services should be considered, and emergency vehicle access should be ensured.



- **Maintenance.** Good maintenance practice indicates that an area is owned and cared for. Provide “vandal proof” street furniture and lighting, remove graffiti within an acceptable time frame, and ensure ownership of lighting is clear and who is to be contacted for maintenance is widely known.
- **Lighting and Security.** Pedestrian and bicycle facilities should include adequate lighting and security measures to ensure the safety of users. High visibility striping and/or alternative paving treatments for pedestrian crossings should be used in order to increase the visibility of crosswalks on uncontrolled approaches to un-signalized intersections, at midblock crossings and in pedestrian intensive areas.



5.7 DESIGN STRATEGIES TO MINIMIZE MAINTENANCE COSTS

- **Minimize Maintenance Costs.** Walking and bicycling facilities should be designed and constructed to minimize maintenance costs. Strategies to achieve this include, but are not limited to:
 - Planting trees that are appropriately sized for the area;
 - Planting low-maintenance trees and vegetation, including drought-tolerant species;
 - Integrating hardscape in design to limit water use;
 - Use striping and pavement markings that ensure adequate life.



**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 5.0 –
Design
Guidelines**



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CHAPTER 6.0 IMPLEMENTATION PLAN

Implementation of the Pedestrian and Bicycle Master Plan will be a collaborative effort between the City of Marina Development Services Department and several other agencies and jurisdictions. The City of Marina will lead the efforts, and various City departments will be familiar with the plan recommendations to enable them to assist in implementation of them. Key divisions within the City for planning, implementing, and maintaining pedestrian and bicycle facility improvements include Planning Services, Engineering Services, and Public Works.

The projects recommended in this plan will take many years to implement. Factors involved in implementing improvements include funding availability, phased construction of major strategic projects that incorporate bicycle and pedestrian facilities, and the required scheduling to work through the planning process. However, the Pedestrian and Bicycle Master Plan will be a useful tool to focus the City's efforts and lay the groundwork to improve pedestrian and bicycle facilities and opportunities in the City of Marina.

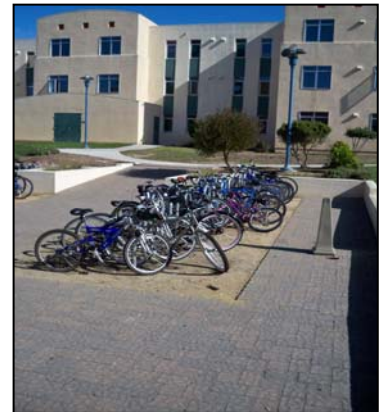


6.1 PROJECT LISTING AND PRIORITIES FOR IMPLEMENTATION

Projects proposed in the Pedestrian and Bicycle Master Plan are intended to address deficiencies identified in Marina's pedestrian and bicycle system networks. Deficiencies are illustrated in Figures 6-1 and 6-2, respectively. Appendix C (Pedestrian and Bicycle Facility Deficiencies) lists identified deficiencies in a tabular format, and includes intersection deficiencies. The priority of pedestrian and bicycle infrastructure projects are presented in Tables 6-1 and 6-2. The projects are listed in order of the Capital Improvement Project (CIP) number that corresponds to the improvement described, and do not necessarily represent a prioritization order. In fact, priority is typically given to projects for which funding opportunities become available.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 6.0 – Implementation Plan



City of Marina Pedestrian and Bicycle Master Plan

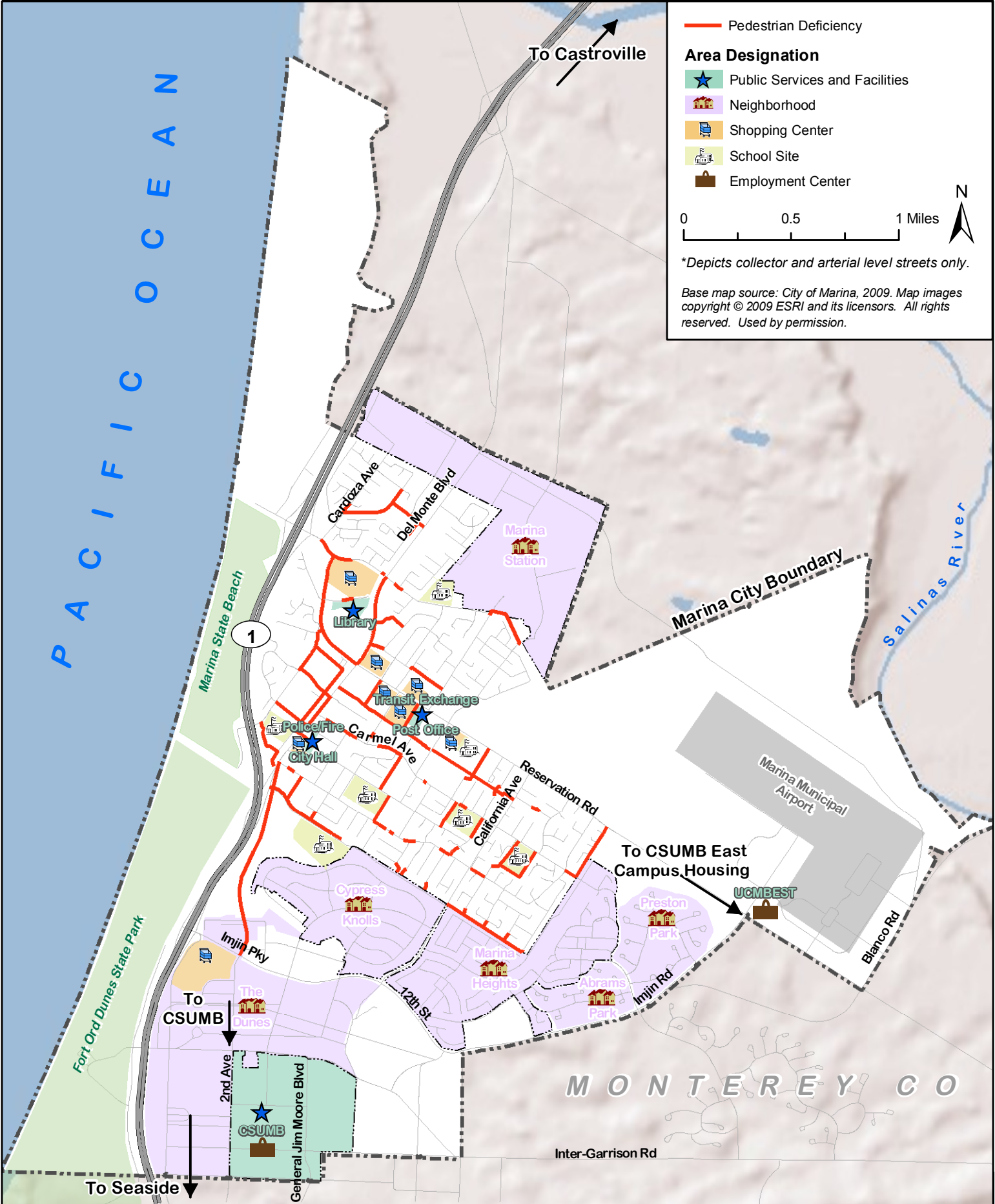


Figure 6-1: Pedestrian Network and Facility Deficiencies

City of Marina Pedestrian and Bicycle Master Plan

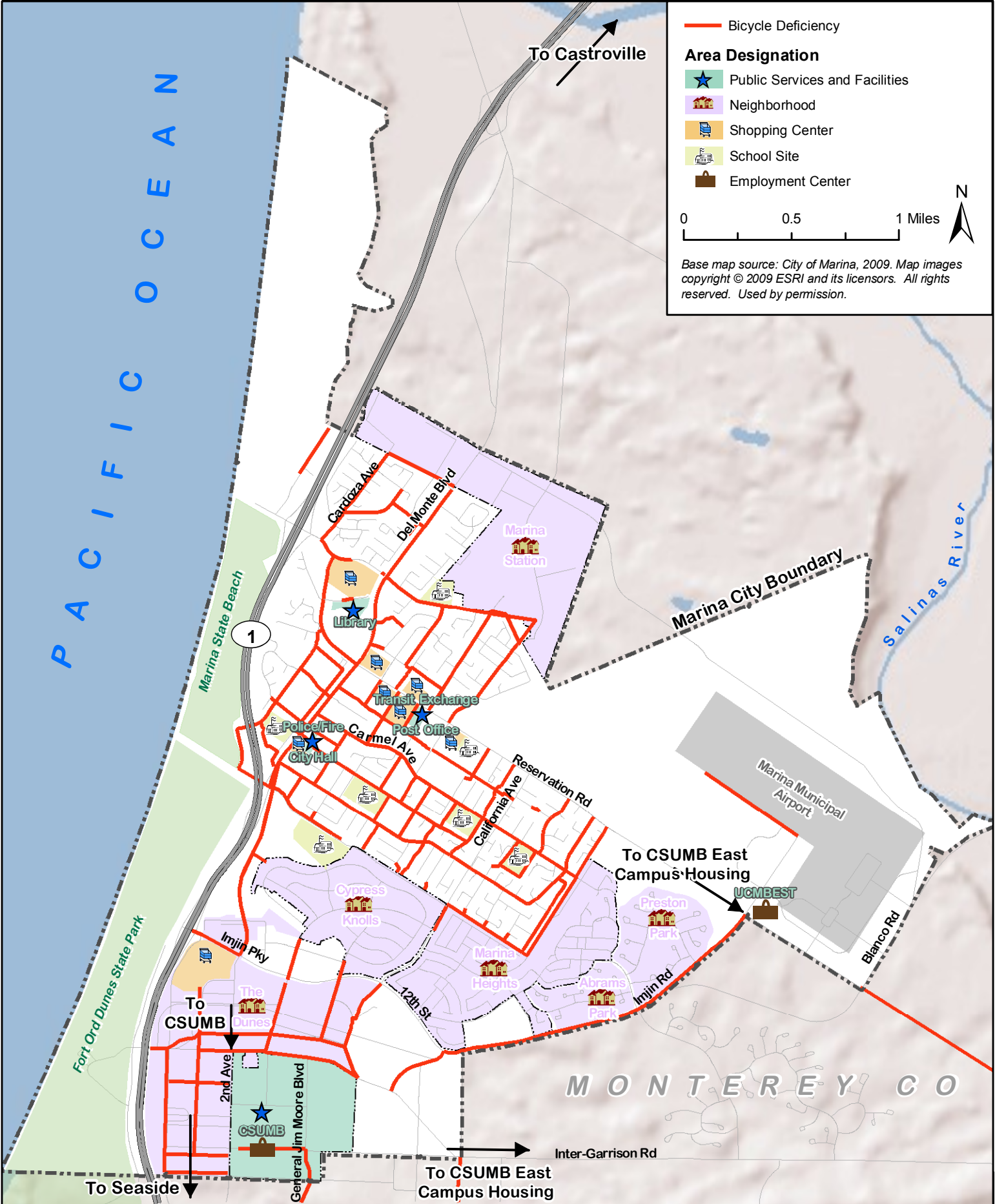


Figure 6-2: Bicycle Network and Facility Deficiencies

**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 6.0 –
Implementation
Plan**



Table 6-1 Central Marina Network Pedestrian Infrastructure Projects

CIP Project Number	Project Type	Project Location and Description	Length of Construction (feet)	Length of striping (feet)
High Priority Projects				
R 10	Sidewalks	Abdy Way - fill gap on southeast side just south of Healy Ave	300	
R 10	Sidewalks	Abdy Way - fill gap on northwest side just east of Cardoza	650	
R 12	Sidewalks	Healy Ave - north side from Abdy Way to Paul Davis Dr	530	
R 12	Sidewalks	Healy Ave - south side from Abdy Way to Marina Dr	770	
R 13	Sidewalks	Lake Dr - fill gaps on east side from Messinger Dr to Hilo Ave	540	
R 13	Sidewalks	Lake Dr - north side from Hilo Dr to Reservation Rd	110	
R 15	Sidewalks	Marina Dr - west side from Legion Way to Healy Ave	320	
R 18	Sidewalks	Paddon Place - fill gaps on south side between Lake Dr and Marina Dr	400	
R 20	Sidewalks	Palm Ave - fill gaps (both sides) from Lake Dr to Del Monte Blvd	540	
R 21	Sidewalks	Palm Ave - north side from Elm to Sunset	600	
R 22	Sidewalks	Redwood Dr - west side from Hillcrest to Carmel	550	
R 23	Sidewalks	Reindollar Ave - fill gaps on both sides from Vera Lane to Vaughan Ave	700	
R 23	Sidewalks	Reindollar Ave - gap on north side west of Redwood; Redwood Dr - gap on west side north of Reindollar	650	
R 23	Sidewalks	Reindollar Ave - gap on south side between Del Monte Blvd and Sunset Ave	200	
R 25	Sidewalks	Cardoza Ave - east side from Abdy Way to Ora Court	200	
R 29	Sidewalks	Del Monte Blvd - fill gap on east side between Reservation Rd and Beach Rd	1750	
R 32	Sidewalks	Beach Rd - fill gap on south side at Michael Dr	300	
R 38	Sidewalks	Del Monte Blvd - fill gap on east side between Palm Ave and Mortimer Lane	450	
R 42	Sidewalks	Seacrest Ave - fill gap on east side just north of Carmel Ave	180	
R 55, 31	Sidewalks	Reservation Rd - fill gap on south side from Cardoza to Beach Rd	220	
R 56	Sidewalks	Salinas Ave - fill gaps on west side from Carmel Ave to Reservation Rd	680	
R 60	Sidewalks	Crescent Ave - fill gaps on west side from Carmel Ave to Reservation Rd	450	
Medium Priority Projects				
-	Sidewalks	Marina Dr - fill gaps on west side between Palm Ave and Paddon Place	700	
-	Sidewalks	Abdy Way from Cardoza Ave to Drew Street, fill gap on west side approaching Drew	100	
-	Sidewalks	California Ave from Third Ave to Reindollar Ave – meandering sidewalks	n/a	

CIP Project Number	Project Type	Project Location and Description	Length of Construction (feet)	Length of striping (feet)
-	Sidewalks	Drew St from Abdy Way to Lakewood Dr – need sidewalks both sides	n/a	
-	Sidewalk	Zanetta Dr from Reindollar to Hillcrest Ave – need sidewalk on east side	n/a	
-	Crosswalks	Restripe 4 bent crosswalks: N side of Del Monte @ Palm; N and E sides of Del Monte @ Reservation; S side of Reservation and Crescent		800
-	Sidewalks	Carmel Ave - fill small gap on north side between Crescent and Vaughan	100	
-	Sidewalks	Carmel Ave - south side from Del Monte Blvd to Sunset Ave	860	
-	Sidewalks	California Ave - west side from Reservation Rd to Carmel Ave	1530	
-	Sidewalks	Reservation Rd - fill gaps on north side from Ocean Terrace to Lynscott	2200	
-	Sidewalks	Crescent Ave - east side from Carmel to Reservation	1520	
-	Restriping	Remove one of two right turn lanes from Del Monte Blvd to Reservation Rd		800
-	Sidewalks	Beach Rd - build sidewalks on both sides across Railroad tracks at Del Monte Blvd	200	
-	Sidewalks	Carmel Ave - fill gaps on north side from Seacrest to Crescent	450	
-	Sidewalks	Carmel Ave - fill gaps on south side from Seacrest to Crescent	600	
-	Sidewalks	California Ave - east side from Tamara Court to the dead end	120	
-	Sidewalks	Carmel Ave - gaps on north side from Del Monte Blvd to just east of Sunset	480	
-	Sidewalks	Beach Rd and Reservation Rd - fill gap on north side between Cardoza and Marina Dr	800	
-	Sidewalks	Carmel Ave - north side from Bayer St to Salinas Ave	310	
-	Sidewalks	Reindollar Ave - fill gap on north side between California Ave and Eddy Circle	450	
-	Sidewalks	Abdy Way - fill gap on west side north of Healy Ave	200	
-	Sidewalks	2 nd Avenue south of Imjin Parkway to CSUMB	-	
-	Sidewalks	From Imjin Pkwy north to Reindollar Ave	-	

City of Marina Pedestrian and Bicycle Master Plan

Chapter 6.0 – Implementation Plan



**City of Marina
Pedestrian and
Bicycle Master Plan**

**Chapter 6.0 –
Implementation
Plan**



Table 6-2 Central Marina Network Bicycling Infrastructure Projects

CIP Project Number	Project Type	Project Location and Description	Length of Construction (feet)	Length of striping (feet)
High Priority Projects				
R 01	Bike Lanes	Crescent Ave from Reservation Rd to Costa Del Mar		2120
R 01	Bike Lanes	Crescent Ave from Costa Del Mar to the north end		480
R 09	Bike Lanes	De Forest Rd from Reservation Rd to Beach Rd		2800
R 13	Bike Lanes	Lake Dr from Palm Ave to Lake Court		1220
R 13	Bike Lanes	Lake Dr from Palm Ave to Reservation Rd		2150
R 14	Bike Lanes	Lake Court from Lake Dr to the dead end		1000
R 20-21	Bike Lanes	Palm Ave from Lake Dr to Sunset Ave	100	1870
R 23A	Bike Lanes	Carmel Ave from Sunset Ave to Salinas Ave		6740
R 26	Bike Lanes	Cardoza Ave Reservation Rd to Lakewood Dr		2200
R 27, 26	Bike Lanes	Cardoza Ave from Lakewood Dr to the dead end		410
R 28	Bike Lanes	Del Monte Blvd from Beach Rd to Marina Greens Dr		2670
R 29	Bike Lanes Road Diet	Del Monte Blvd from Reservation Rd to Beach Rd		2330
R 30	Bike Lanes	Bostick Ave from Carmel Ave to Reindollar Ave		1240
R 32	Bike Lanes	Beach Rd from Reservation Rd to Del Monte Blvd	100	1430
R 32	Bike Lanes	Beach Rd from Del Monte Blvd to De Forest Rd		2770
R 38	Bike Lanes	Del Monte Blvd from Reindollar Ave to Reservation Rd		3050
R 42	Bike Lanes	Seacrest Ave from Carmel Ave to Reservation Rd		1510
R 45	Bike Lanes	Sunset Ave from Carmel Ave to Reindollar Ave		1500
Medium Priority Projects				
-	Bike Lanes	De Forest Road to Crescent Avenue south of Armstrong Ranch		1880
-	Bike Lanes	Cardoza Avenue and Cosky Drive south of Armstrong Ranch		1800
-	Bike Lanes	Lake Court to Del Monte Boulevard		890
-	Bike Lanes	Dunes Drive from Beach Road north to the dead end		1330
-	Signs	Ensure there are no conflicting signs or signals	-	-
-	Bike Path	Along south edge of Central Marina from Del Monte Blvd to Marina High School (Patton Pkwy extension) including Talcott Gate	-	
-	Bike Lanes	Bayer Street from Reservation Rd to Carmel Ave		1500
-	Bike Lanes	Reservation Rd from Beach Rd to Dunes Dr		1800
-	Bike Path	Del Monte Blvd - East side from Reindollar to southern edge of Central Marina	800	
-	Bike Lanes	Hillcrest Ave from City Hall to Redwood Dr		4440

Table 6-2 Central Marina Network Bicycling Infrastructure Projects				
CIP Project Number	Project Type	Project Location and Description	Length of Construction (feet)	Length of striping (feet)
-	Bike Path	Through park near Reservation Rd from Del Monte Blvd to Seaside Circle	2000	
-	Bike Path	Formalize the use trail from the corner of Paddon Place and Marina Dr to trail along Del Monte Blvd	100	
-	Bike Lanes	Fill in gaps along California Avenue		-
-	Bike Path	Imjin Pkwy from 2 nd Ave to Hwy 1 Interchange	-	
-	Bike Lanes	From Imjin Pkwy north to Reindollar Ave		-
-	Bike Lanes	Connecting the 2nd Ave northern extension and the westernmost portion of the Cypress Knolls Specific Plan area		-
-	Bike Lanes	3rd Ave from Imjin Pkwy to the Cypress Knolls Specific Plan area		-
-	Bike Lanes	4th Ave from Imjin Pkwy to the Cypress Knolls Specific Plan area		-
-	Bike Lanes	5th Ave south of California Ave/Imjin Pkwy/12th St Intersection to 8th Street Cutoff		-
-	Bike Lanes	8th St Cutoff from 2nd Ave to the 5th Ave		

City of Marina Pedestrian and Bicycle Master Plan

Chapter 6.0 – Implementation Plan



6.2 PAST EXPENDITURES AND FUTURE FINANCIAL NEEDS

Expenditures on pedestrian and bicycle transportation improvements from Fiscal Year 2005/2006 through Fiscal Year 2009/2010 are shown in Table 6-3.

Table 6-3 Past Expenditures Pedestrian and Bicycle Transportation Improvements						
	Total Expenditures (Fiscal Year)					
Project Type	2005/2006 Actual	2006/ 2007 Actual	2007/ 2008 Actual	2008/ 2009 Adopted	2008/ 2009 Estimate	2009/ 2010 Adopted
Pedestrian Facilities	\$174,943	\$34,162	\$554,738	\$1,496,303	\$258,746	\$830,007
Bicycle Facilities	\$285,165	\$63,781	\$93,368	-	\$152,902	-
Combination Pedestrian & Bicycle Facilities	\$287,984	\$1,326,518	\$1,390,551	\$1,599,270	\$213,548	\$433,200
Total	\$748,092	\$1,424,461	\$2,038,657	\$3,095,573	\$625,196	\$1,263,207

Funding sources for the projects included in Table 6-3 are a combination of the following:

- Roadway and Intersection Impact Fees
- FORA Fees
- Grants
- Regional Surface Transportation Program
- Congestion Mitigation and Air Quality Improvement Program
- Transportation Enhancement Activities
- Transportation Development Act
- Developer Contributions
- Abrams B Bond
- 2009 American Recovery and Reinvestment Plan
- Bicycle Transportation Fund
- Safe Routes to Schools

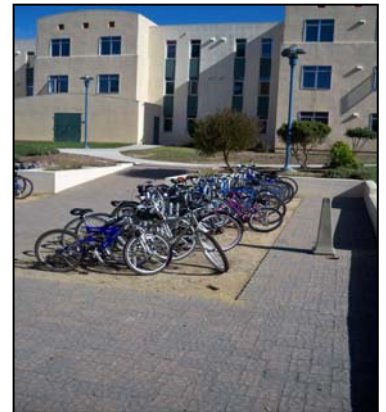
Future funding for pedestrian and bicycle facilities, including those facilities that improve safety and convenience for bicycle commuters, will continue to be from a combination of the sources listed above, with additional state grants potentially available because of compliance with California Streets and Highways Code, Section 891.2 (refer to Table 1-1 in Chapter 1.0, *Introduction*). One future project for which funding is already secured is the Proposed Transportation Enhancements shown in Figure 6-3. This project



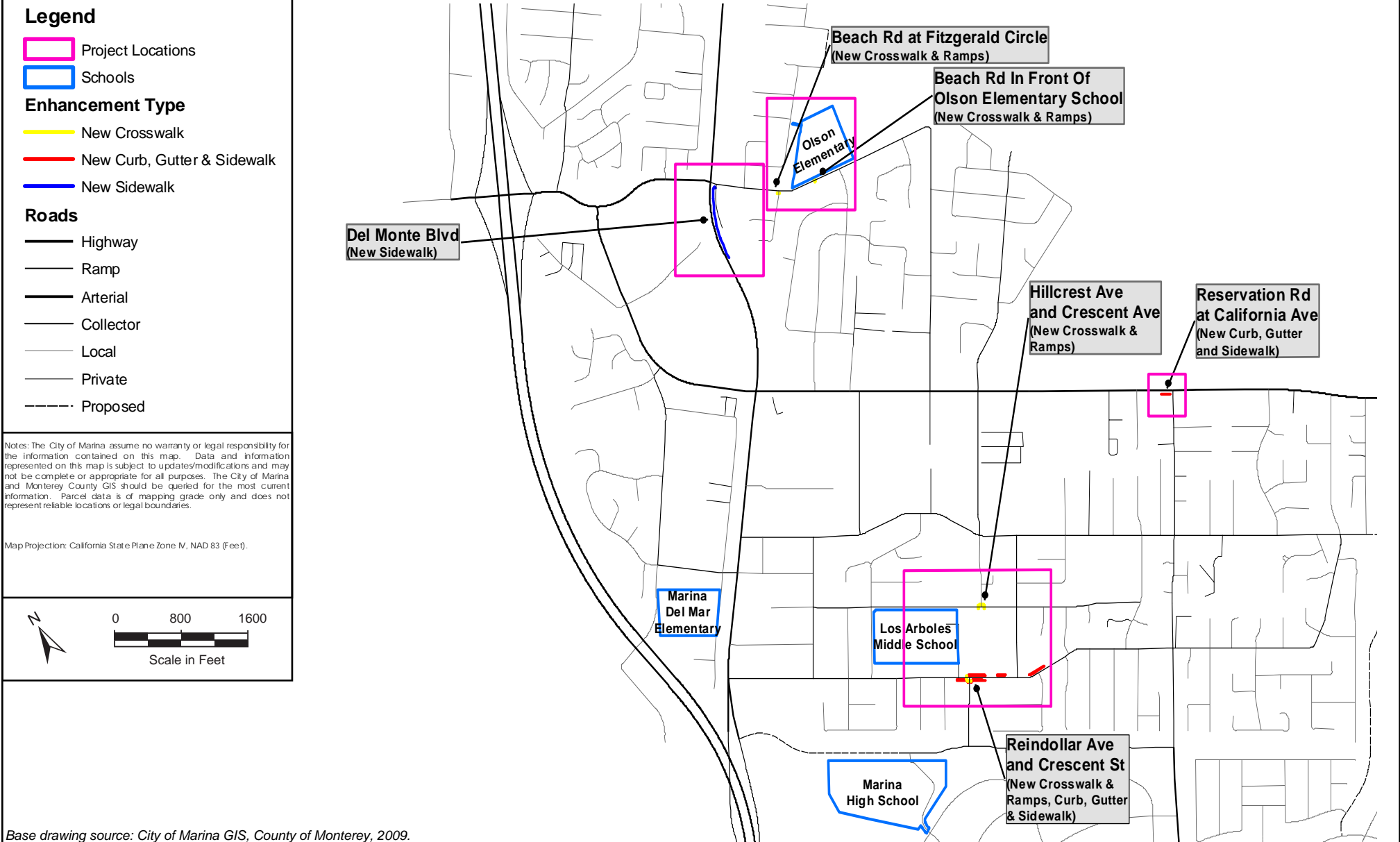
entails pedestrian safety enhancements around Los Arboles Middle School, Marina Del Mar Elementary School, Marina High School, and Olson Elementary School; and expanding sidewalk, curb and gutter connections throughout central Marina. The project is estimated to cost \$402,000, with \$382,000 coming from a Transportation Enhancement Grant.

City of Marina Pedestrian and Bicycle Master Plan

Chapter 6.0 – Implementation Plan



City of Marina Pedestrian and Bicycle Master Plan



Base drawing source: City of Marina GIS, County of Monterey, 2009.



Figure 6-3: Transportation Enhancement Projects

CHAPTER 7.0 REFERENCES

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City of Marina Pedestrian and Bicycle Master Plan

Chapter 7.0 - References



**City of Marina
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Bicycle Master Plan**

**Chapter 7.0 -
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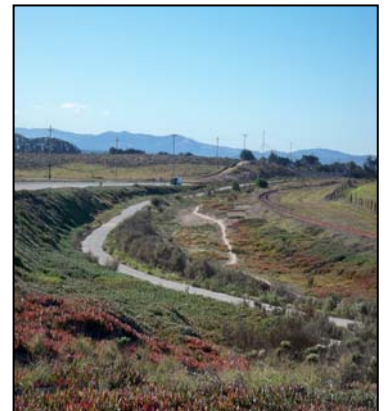
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City of Marina Pedestrian and Bicycle Master Plan

Chapter 7.0 - References



**City of Marina
Pedestrian and
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**Chapter 7.0 -
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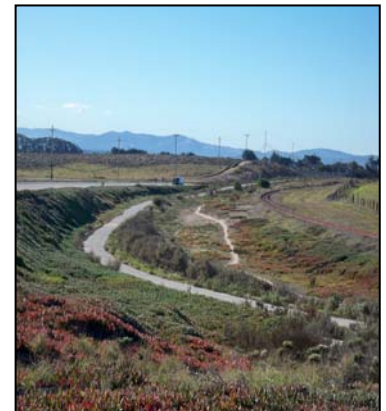
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APPENDIX A

GLOSSARY OF ACRONYMS AND TERMS

GLOSSARY OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
AMBAG	Association of Monterey Bay Area Governments
BLM	Bureau of Land Management
Caltrans	California Department of Transportation
CBC	California Building Code
CPTED	Crime Prevention through Environmental Design
CSUMB	California State University Monterey Bay
FHWA	Federal Highway Administration
FORA	Fort Ord Reuse Authority
HDM	Highway Design Manual
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MST	Monterey-Salinas Transit
MTE	Marina Transit Exchange
MTIP	Metropolitan Transportation Improvement Program
MTP	Metropolitan Transportation Plan
MUTCD	Manual on Uniform Traffic Control Devices
TAMC	Transportation Agency for Monterey County

GLOSSARY OF TERMS

Accessible Pedestrian Signal (APS) – A device that communicates information about pedestrian signal timing in non-visual format, through the use of audible tones (or verbal messages) and vibrating surfaces.

Americans with Disabilities Act (ADA) – 1990 Federal law establishing the civil rights of people with disabilities. Prohibits discrimination against people with disabilities and requires common places used by the public to provide an equal opportunity for access.

Bicycle Facilities - A general term denoting improvements and provisions made by public agencies to accommodate or encourage bicycling, including parking facilities, mapping all bikeways, and shared roadways not specifically designated for bicycle use.

Bicycle Lane (Bike Lane) – A portion of a roadway which has been designated by striping, signs and pavement markings for the preferential or exclusive use of bicyclists. In California, a bike lane is referred to as a Class II bikeway.

Bicycle Path (Bike Path) – A two-way facility separated from a street or highway for bicycle travel, typically along rail, water, or utility corridors. In California, a bike path is referred to as a Class I bikeway.

Bicycle Route (Bike Route) - A segment of a system of bikeways designated with appropriate directional and informational markers, with or without specific bicycle route number. Or, designating existing roadways as preferential for bicycle use by adding “bike route” signs, without providing other specific bicycle facilities.

Bikeway – Any of a number of facilities designed, constructed and operated for support of bicycling. Bikeways can be either on-road or off-road facilities. In California bikeways are referred to as Class I (Bike Paths), Class II (Bike Lanes) and Class III (Bike Routes) bicycle facilities.

Bulbout – An extension of the roadside (e.g., curbs, sidewalks, landscaping) to narrow the street and decrease traffic speed

Choker – curb extensions at midblock or intersection corners that narrow a street by extending the sidewalk or widening the planting strip. They can leave the cross section with two narrow lanes or with a single lane.

Class I Bikeway - See Bike Path.

Class II Bikeway - See Bike Lane.

Class III Bikeway - See Bike Route.

Crosswalk – The portion of roadway at an intersection which represents extensions of the sidewalk lines, or any portion of the roadway distinctly indicated for pedestrian crossing (California Vehicle Code, Section 275).

Curb Extension - A section of sidewalk at an intersection or midblock crossing that reduces the crossing width for pedestrians and that can help reduce traffic speeds.

Curb Ramp – A combined ramp and landing to accomplish a change in level at a curb, with a running grade greater than 1:20. This element provides street and sidewalk access to pedestrians.

Detectable Warning – A standardized surface feature built in or applied to walking surfaces or other elements to warn people who are blind or visually impaired of specified hazards.

Federal Highway Administration - The agency under U.S. Department of Transportation responsible for the approval of transportation projects that affect the defined federal highway system.

Grade-Separated Crossings - Facilities such as overpasses, underpasses, skywalks, or tunnels that allow pedestrians and motor vehicles to cross a street at different levels.

Leading Pedestrian Interval – The pedestrian WALK phase of a traffic signal that begins before the green interval serving parallel traffic, rather than at the same time.

Manual on Uniform Traffic Control Devices (MUTCD) - The rule book on signage and other facilities related to the road system.

Median Refuge or Crossing Island – An area within an island or median that is intended for pedestrians to wait safely for an opportunity to continue crossing the roadway.

Metropolitan Planning Organization (MPO) - A regional transportation planning and policy agency for urban areas with populations larger than 50,000.

Midblock Crosswalk – A legally established crosswalk that is not at an intersection.

Neck Down – an intersection that utilizes channeling at approaches to intersections to slow drivers entering the crossing.

Paved Shoulder – On highways in many suburban and rural areas paved shoulders of 4 or more feet are added to each side. These are either left unmarked, or may be marked as bike lanes or bike routes.

Pavement Treatment – special pavement textures (cobble, bricks, etc.) and markings to designate special areas

Pedestrian – A person walking or traveling by means of a wheelchair, electric scooter, crutches or other walking devices or mobility aids. Includes those pulling or pushing strollers, carriages, carts and wagons, and those walking bicycles.

Pedestrian Access Route – A corridor of accessible travel through the public right-of-way that has, among other properties, a specified minimum width and cross slope.

Pedestrian Crossing Interval – The combined phases of a traffic signal cycle provided for a pedestrian crossing in a crosswalk, after leaving the top of a curb ramp or flush landing, to travel to the far side of the vehicular way or to a median, usually consisting of the WALK interval plus the pedestrian clearance interval.

Pedestrian Signal Indication – The illuminated WALK/DON'T WALK message (or walking person/hand symbols) that communicates the pedestrian phase of a traffic signal, and their audible and tactile equivalents.

Right-of-Way - A general term denoting land, property, or interest therein, usually in a strip, acquired for or devoted to transportation purposes. Or, the right of one vehicle or pedestrian to proceed in a lawful manner in preference to another vehicle or pedestrian.

Road Diet – Reducing the number and width of traffic lanes.

Shared Use Trail – A pathway fully separated from a highway right-of-way traveled by pedestrians, bicyclists, inline skaters and other non motorized vehicles and devices. In California this type of facility is often referred to as a Class I bikeway.

Sidewalk – That portion of a highway, other than the roadway, set apart by curbs, barriers, markings or other delineation for pedestrian travel (California Vehicle Code, Section 100- 680-555).

Traffic Calming – Changes in street alignment, installation of barriers, and other physical measures to reduce traffic speeds and/or cut-through volumes in the interest of street safety, livability, and other public purposes.

Walkway – A facility built for use by pedestrians, including persons in wheelchairs. Walkways include sidewalks, paths, and links, and in rural locations, paved shoulders.

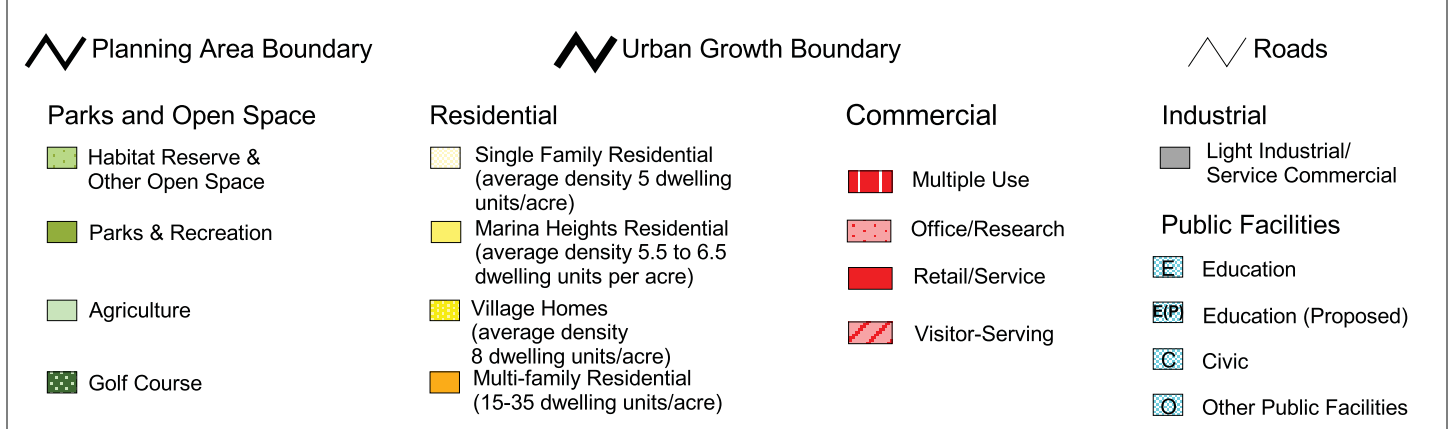
Wide Curb Lane – Many of California's roadway lanes are wider than the standard 12 foot lane width. Many are as wide as 20 feet. When wide lanes are used to support bicycling they are often signed as bike routes. A minimum width for a wide curb lane is 14 feet.

Woonerf Design – Streets with mixed vehicle and pedestrian traffic, where motorists are required to drive at very low speeds.

APPENDIX B GENERAL PLAN LAND USE MAP



Figure 2.2. Land Use Plan



CITY OF MARINA GENERAL PLAN



0.5 1 1.5 2 Miles

APPENDIX C

PEDESTRIAN AND BICYCLE FACILITY DEFICIENCIES

The following tables are from the August 2003 Draft Marina Pedestrian and Bicycle Master Plan prepared by Walkable Communities, Inc., Local Government Commission, and Livable Streets, Inc., as updated with field work conducted by Rincon Consultants, Inc. in May 2009.

Table 1 Major Intersections with Deficient Pedestrian Clearance Time				
Leg of Intersection – Street Crossed	Existing Pedestrian Clearance Time (sec)	Crosswalk Length	Existing Walking Speed (ft/s)	Required Pedestrian Clearance Time for 4 ft/s Walking Speed (sec.)
Intersection of Del Monte Boulevard and Palm Avenue				
North Leg – Del Monte Boulevard	19	111	5.8	28
East Leg – Palm Avenue	19	75	3.9	19
West Leg – Palm Avenue	6	42	7	10
Intersection of Del Monte Boulevard and Reservation Road				
North Leg – Del Monte Boulevard	12	107	8.9	27
East Leg – Reservation Road	28	112	18.6	28
West Leg – Reservation Road	6	76	12.7	19
Intersection of Reservation Road and Seacrest Avenue				
South Leg – Seacrest Avenue	9	55	6.1	14
East Leg – Reservation Road	13	100	7.7	25
West Leg – Reservation Road	13	97	7.5	24
Intersection of Reservation Road and De Forest Road				
North Leg – De Forest Road	6	58	9.6	14
South Leg – De Forest Road	6	52	8.6	13
East Leg – Reservation Road	12	101	8.4	25
West Leg – Reservation Road	12	98	8.2	24
Intersection of Reservation Road and Crescent Avenue				
North Leg – Crescent Avenue	28	92	3.28	23
South Leg – Crescent Avenue	28	88	3.14	22
East Leg – Reservation Road	28	90	3.2	22
West Leg – Reservation Road	28	120	4.28	30

Table 2 Major Intersection Pedestrian Deficiencies
<i>Del Monte Boulevard and Reservation Road</i>
Tactile Warning on NW Corner Missing.
Tactile Warning on NE Corner Not Standard.
Tactile Warning on SW Corner Not Standard.
Crosswalk across Del Monte Boulevard on the north side of Reservation Road has kinks or bends
Crosswalk across Del Monte Boulevard on the north side of Palm Avenue has kinks or bends
Crosswalk Reservation Road on the East side of Del Monte Boulevard has kinks or bends
Crosswalk across Crescent Avenue on the south side of Reservation Road Crosswalk across Crescent Avenue on the south side of Reservation Road has kinks or bends
Button on NE Corner for crossing Palm Avenue at Del Monte Boulevard has finger buttons
<i>Deficiencies at Reservation Road and Seacrest</i>
Tactile Warning on NW Corner Missing.
Tactile Warning on NE Corner Missing.
Both buttons on the SE corner of Reservation Road and Seacrest Avenue are finger buttons
<i>Reservation Road and Crescent</i>
Tactile Warning on NW Corner Missing
Tactile Warning on NE Corner Missing
Tactile Warning on SW Corner Not Standard

Table 3 Collector and Arterial Streets in Marina – Walking and Bicycling Deficiencies					
Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Abdy Way	Lakewood Dr/Pacific Ct	Healy Ave	-	40	200' sidewalk gap on west side at Healy Avenue
Abdy Way	Healy Ave	Cardoza Ave	-	40	300 foot sidewalk gap on east side at Healy Avenue, 650' sidewalk gap on west side at Cardoza
Abdy Way	Cardoza Ave	Drew St	-	40	100' sidewalk gap on west side approaching Drew
Bayer Dr	Bostick Ave	Ridgeview Ave	-	40	
Bayer Dr	Ridgeview Ave	Melville Ave	-	40	
Bayer St	Forest Cir	Reservation Rd	1,269	40	Need bike lanes
Bayer St	Carmel Ave	Forest Cir	1,269	40	Need bike lanes
Beach Rd	Reservation Rd	Marina Dr	4,700	42	350' sidewalk gap on north side at Reservation Road; need bike lanes
Beach Rd	Marina Dr	Del Monte Blvd	4,700	86	100' sidewalk gap on both sides crossing railroad tracks at Del Monte Blvd; need bike lanes

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Beach Rd	Del Monte Blvd	Michael Dr	-	39	300' sidewalk gap on south side at Michael Drive; need bike lanes
Beach Rd	Michael Dr	Fitzgerald Cir	-	39	Need bike lanes
Beach Rd	Fitzgerald Cir	Melanie Rd	-	29	Need bike lanes
Beach Rd	Melanie Rd	Villa Cir	-	29	Need bike lanes
Beach Rd	Villa Cir	De Forest Rd	-	29	Need bike lanes
Bostick Ave	Bayer Dr	Carmel Ave	-	40	Need bike lanes
Bostick Ave	Alexis Ct	Bayer Dr	-	40	Need bike lanes
Bostick Ave	Ridgeview Ave/Larson Ct	Alexis Ct	-	40	Need bike lanes
Bostick Ave	Reindollar Ave	Ridgeview Ave/Larson Ct	-	40	Need bike lanes
California Ave	Reservation Rd	Windsor Ct	-	44	Need sidewalk west side; need bike lanes
California Ave	Exeter Pl	O'Sullivan Ct	-	44	Need sidewalk west side; need bike lanes
California Ave	O'Sullivan Ct	Jerry Ct	-	44	Need sidewalk west side; need bike lanes
California Ave	Jerry Ct	Carmel Ave	-	44	Need sidewalk west side; need bike lanes
California Ave	Carmel Ave	Karen Ct	-	64	Need bike lanes when street is built through between Carmel and Reindollar
California Ave	Karen Ct	Helena Way	-	64	Need bike lanes when street is built through between Carmel and Reindollar
California Ave	Helena Way	Tamara Ct	-	50	Need bike lanes when street is built through between Carmel and Reindollar
California Ave	Tamara Ct	Dead End	-	33	Need sidewalk east side; need bike lanes when street is built through from Carmel to Reindollar
California Ave	Windsor Ct	Sunset Pl	-	44	Need sidewalk west side; need bike lanes
California Ave	Sunset Pl	Exeter Pl	-	44	Need sidewalk west side; need bike lanes
California Ave	Third Ave	Reindollar Ave	-	34	Meandering Sidewalks
Cardoza Ave	Aaron Way	Dead End	-	64	Need bike lanes
Cardoza Ave	Lakewood Dr	Aaron Way	-	64	Need bike lanes

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Cardoza Ave	Brookside PI/Silverwood P	Lakewood Dr	-	64	Need bike lanes
Cardoza Ave	Redondo Ct/Peppertree PI	Brookside PI/Silverwood P	-	64	Need bike lanes
Cardoza Ave	Belle Dr	Peppertree PI/Redondo Ct	-	64	Need bike lanes
Cardoza Ave	Ora Ct	Belle Dr	-	64	Need bike lanes
Cardoza Ave	Abdy Way	Ora Ct	-	40	Need sidewalk east side; need bike lanes
Cardoza Ave	Dolphin Cir	Abdy Way	-	64	Need bike lanes
Cardoza Ave	Reservation Rd	Dolphin Cir	-	64	None, has bike lane
Carmel Ave	Elm Ave	Del Monte Blvd	-	26	Need sidewalks on both sides
Carmel Ave	Sunset Ave	Elm Ave	-	34	100' sidewalk gap north side; no sidewalk south side
Carmel Ave	Seacrest Ave	Sunset Ave	-	50	120' sidewalk gap on north side at Sunset; need bike lanes
Carmel Ave	Zanetta Dr	Seacrest Ave	-	50	400' sidewalk gap on north side; 150' sidewalk gap on south side; need bike lanes
Carmel Ave	Crescent Ave	Vaughan Ave	-	40	100' sidewalk gap on north side; 200' sidewalk gap on south side at Crescent; need bike lanes
Carmel Ave	Vaughan Ave	Everett Dr/Everett Cir	-	40	Need bike lanes
Carmel Ave	Everett Dr/Everett Cir	Nicklas Ln	-	40	Need bike lanes
Carmel Ave	Nicklas Ln	Pleasant Cir	-	40	Need bike lanes
Carmel Ave	Pleasant Cir	Redwood Dr/Redwood Cir	-	40	Need bike lanes
Carmel Ave	Redwood Dr/Redwood Cir	Flower Cir	-	40	Need bike lanes
Carmel Ave	Flower Cir	California Ave	-	40	Need bike lanes
Carmel Ave	California Ave	Bradley Cir	-	40	Need bike lanes
Carmel Ave	Carmelo Cir	Lynscott Dr	-	40	Need bike lanes
Carmel Ave	Lynscott Dr	Barrett Ln	-	40	Need bike lanes

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Carmel Ave	Barrett Ln	Bayer St/Bostick Ave	-	40	Need bike lanes
Carmel Ave	Bradley Cir	Crumpton Ln	-	40	Need bike lanes
Carmel Ave	Crumpton Ln	Carmelo Cir	-	40	Need bike lanes
Carmel Ave	Busby Ln	Crescent Ave	-	65	South side sidewalk gap 250' near Busby; need bike lanes
Carmel Ave	Busby Ln	Zanetta Dr	-	50	Need sidewalks on both sides; need bike lanes
Carmel Ave	Bayer St/Bostick Ave	Salinas Ave	-	40	Need sidewalk north side; need bike lanes
Costa Del Mar Rd	De Forest Rd	Quebrada/Si rena Del Mar R	-	40	
Costa Del Mar Rd	Quebrada/Sir ena Del Mar R	Crescent Ave	-	40	
Crescent Ave	Costa Del Mar Rd	Quebrada Del Mar Rd	600	64	Need bike lanes when development occurs
Crescent Ave	Sirena Del Mar Rd	Costa Del Mar Rd	2,200	64	Need bike lanes
Crescent Ave	Whitney Pl	Sirena Del Mar Rd	3,000	64	Need bike lanes
Crescent Ave	Tallmon St	Whitney Pl	3,400	64	Need bike lanes
Crescent Ave	Shuler Cir	Tallmon St	4,200	64	Need bike lanes
Crescent Ave	Reservation Rd	Shuler Cir	4,600	64	Need bike lanes
Crescent Ave	Carmel Ave	Reservation Rd	-	65	gaps totalling 450' on west side; Need sidewalk east side; need bike lanes (450' narrow sections)
Crescent Ave	Morse Ct	Dead End	-	24	
Crescent Ave	Hillcrest Ave	Morse Ct	-	38	
Crescent Ave	Quebrada Del Mar Rd	Dead End	200	64	Need bike lanes when development occurs
Cypress Ave	Del Monte Blvd	Sunset Ave	-	40	
De Forest Rd	Costa Del Mar Rd	Oak Cir	-	40	Need bike lanes
De Forest Rd	Oak Cir	George Way	-	40	Need bike lanes
De Forest Rd	George Way	Park Cir	-	40	Need bike lanes
De Forest Rd	Park Cir	Viking Ln	-	40	Need bike lanes
De Forest Rd	Viking Ln	Reservation Rd	-	40	Need bike lanes

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
De Forest Rd	Dead End	Reservation Rd	-	40	
De Forest Rd	Beach Rd	Costa Del Mar Rd	-	40	Need bike lanes
Del Monte Blvd	Marina Greens Dr	Lapis Rd	4,200	36	
Del Monte Blvd	Cosky Dr	Marina Greens Dr	4,500	40	Need bike lanes
Del Monte Blvd	Beach Rd	Cosky Dr	4,800	44	Need bike lanes
Del Monte Blvd	Mortimer Lane	Reservation Rd	28,000	95	Need bike lanes
Del Monte Blvd	Carmel Ave	Mortimer Lane	28,500	95	270' gap in east sidewalk; need bike lanes
Del Monte Blvd	Palm Ave	Carmel Ave	29,500	95	180' gap in east sidewalk; Need bike lanes
Del Monte Blvd	Cypress Ave	Palm Ave	32,000	95	Need bike lanes
Del Monte Blvd	Reindollar Ave	Cypress Ave	33,000	95	Need bike lanes
Del Monte Blvd	Reservation Rd	Beach Rd	5,200	90	1750' gap in sidewalk on east side; need bike lanes
Del Monte Blvd	Hwy. 1 Off-Ramp	Reindollar Ave	18,400		
Del Monte Blvd	Hwy. 1 On-Ramp	Reindollar Ave	18,400		
Drew St	Lakewood Dr	Dead End	-	30	
Drew St	Abdy Way	Lakewood Dr	-	30	Need sidewalks on both sides
Dunes Dr	Dead End	Dunes Ct	-	30	
Dunes Dr	Dunes Ct	Reservation Rd	-	30	
George Way	De Forest Rd	Vista Del Camino	-	33	
Healy Ave	Paul Davis Dr	Abdy Way	-	20	Need sidewalks on both sides
Healy Ave	Marina Dr	Paul Davis Dr	-	38	Need sidewalks on south side
Hillcrest Ave	Dead End	Sunset Ave	-	40	Need bike lanes
Hillcrest Ave	Sunset Ave	Owen Ave	-	40	Need bike lanes
Hillcrest Ave	Owen Ave	Zanetta Dr	-	40	Need bike lanes
Hillcrest Ave	Zanetta Dr	Crescent Ave	-	40	Need bike lanes
Hillcrest Ave	Crescent Ave	Vaughan Ave	-	40	Need bike lanes
Hillcrest Ave	Vaughan Ave	Fredrick Cir	-	40	Need bike lanes
Hillcrest Ave	Fredrick Cir	Berney Dr	-	40	Need bike lanes
Hillcrest Ave	Berney Dr	Otto Dr	-	40	Need bike lanes
Hillcrest Ave	Otto Dr	Redwood Dr	-	40	Need bike lanes

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Lake Dr	Hilo Ave	Reservation Rd	-	40	Need sidewalks north side; need bike lanes
Lake Dr	Paddon Pl	Hilo Ave	-	34	Need sidewalks east side; need bike lanes
Lake Dr	Messinger Dr	Paddon Pl	-	40	250' sidewalk gap on east side at Paddon Place; need bike lanes
Lake Dr	Palm Ave/Messinger Dr	Messinger Dr	-	40	Need bike lanes
Lake Dr	Lake Ct	Palm Ave/Messinger Dr	-	32	Need bike lanes
Lakewood Dr	Drew St	Huntington Pl	-	40	
Lakewood Dr	Huntington Pl	Greenbrook Pl	-	40	
Lakewood Dr	Greenbrook Pl	Cardoza Ave	-	40	
Lakewood Dr	Cardoza Ave	Abdy Way	-	40	
Lynscott Dr	Andrew Cir	Reservation Rd	-	40	
Lynscott Dr	Edna Ct	Andrew Cir	-	40	
Lynscott Dr	Diana Pl	Edna Ct	-	40	
Lynscott Dr	Crivello Rd	Diana Pl	-	40	
Lynscott Dr	Albert Way	Crivello Rd	-	40	
Lynscott Dr	Carmel Ave	Albert Way	-	40	
Marina Dr	Lillian Pl	Linde Cir	-	30	
Marina Dr	Starfish Ct	Sand Dollar Ct	-	34	
Marina Dr	Sand Dollar Ct	Lillian Pl	-	30	
Marina Dr	Beach Rd	Starfish Ct	-	34	
Marina Dr	Debbie Dr	Terry Cir	-	20	Need sidewalk west side
Marina Dr	Terry Cir	Palm Ave	-	40	200 feet sidewalk gap on west side near Terry Circle
Marina Dr	Linde Cir	Legion Way	-	30	
Marina Dr	Legion Way	Healy Ave	-	30	Need sidewalk west side
Marina Dr	Paddon Pl	Debbie Dr	-	20	Need sidewalk west side
Marina Greens Dr	Paul Davis Dr	Del Monte Blvd	-	40	
Melanie Rd	Beach Rd	Susan Ave	-	33	
Melanie Rd	Susan Ave	Vista Del Camino	-	33	
Melanie Rd	Vista Del Camino	Peninsula Dr	-	33	

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Messinger Dr	Fehring Pl	Shoemaker Pl	-	40	
Messinger Dr	Lake Dr	Fehring Pl	-	40	
Messinger Dr	Shoemaker Pl	Magyar Pl	-	40	
Messinger Dr	Magyar Pl	Snell Pl	-	40	
Messinger Dr	Snell Pl	Clarke Pl	-	40	
Messinger Dr	Clarke Pl	Lake Dr	-	40	
Paddon Pl	Lake Dr	Marina Dr	-	36	Very little sidewalk on either side
Palm Ave	Lake Dr	Marina Dr	-	40	200' gap on south side; need bike lanes
Palm Ave	Marina Dr	Del Monte Blvd	-	30	Asphalt walkways not concrete sidewalks for 170' across tracks; need bike lanes.
Palm Ave	Del Monte Blvd	Elm Ave	-	60	Need bike lanes
Palm Ave	Elm Ave	Sunset Ave	-	28	Need sidewalk north side; need bike lanes
Paul Davis Dr	Healy Ave	Marina Greens Dr	-	40	
Peninsula Dr	Vista Del Camino	Melanie Rd	-	33	
Redwood Dr	Hillcrest Ave	Carmel Ave	-	32	Need sidewalk west side; need bike lanes
Redwood Dr	Milray Ct	Hillcrest Ave	-	40	Need sidewalk west side; need bike lanes
Redwood Dr	Redwood Heights Ct	Milray Ct	-	40	Need sidewalk west side; need bike lanes
Redwood Dr	Reindollar Ave	Redwood Heights Ct	-	40	Need sidewalk west side; need bike lanes
Reindollar Ave	Del Monte Blvd	Sunset Ave	-	40	200' gap in south sidewalk; need bike lanes
Reindollar Ave	Sunset Ave	Owen Ave	-	40	Need bike lanes
Reindollar Ave	Owen Ave	Zanetta Dr	-	40	Need bike lanes
Reindollar Ave	Zanetta Dr	Talcott Ave	-	40	Need bike lanes
Reindollar Ave	Talcott Ave	Max Cir	-	40	Need bike lanes
Reindollar Ave	Max Cir	Vera Ln	-	40	Need bike lanes
Reindollar Ave	Vera Ln	Crescent St	-	40	100' gap in south sidewalk; need bike lanes
Reindollar Ave	Crescent St	Vaughan Ave	-	24	300' of missing sidewalks on both sides; bike lanes needed (200' too narrow)
Reindollar Ave	Vaughan Ave	Parson Cir	-	40	Need bike lanes
Reindollar Ave	Parson Cir	Ellen Ct	-	40	Need bike lanes
Reindollar Ave	Ellen Ct	Berney Dr	-	40	Need bike lanes
Reindollar Ave	Berney Dr	Kennedy Ct	-	40	Need bike lanes

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Reindollar Ave	Kennedy Ct	King Cir	-	40	Need sidewalk north side; need bike lanes
Reindollar Ave	King Cir	Redwood Dr	-	40	Need sidewalk north side; need bike lanes
Reindollar Ave	Redwood Dr	Independence Ave		40	Need bike lanes
Reindollar Ave	Westwood Ct	Eddy Cir/Eddy St	--	33	Need sidewalk north side; need bike lanes
Reindollar Ave	Eddy Cir/Eddy St	Phillip Cir	-	40	Need bike lanes
Reindollar Ave	Phillip Cir	Sunrise Cir/Sunrise Ave	-	40	Need bike lanes
Reindollar Ave	Sunrise Cir/Sunrise Ave	Mildred Ct	-	40	Need bike lanes
Reindollar Ave	421 Reindollar Ave	Westwood Ct	-	33	Need sidewalk north side; need bike lanes
Reindollar Ave	Mildred Ct	Bostick Ave	-	40	Need bike lanes
Reindollar Ave	Independence Ave	California Ave	-	40	Need bike lanes
Reindollar Ave	California Ave	421 Reindollar Ave	-	33	Need sidewalk north side; need bike lanes
Reservation Rd	State Beach Parking Lot	Dunes Dr	-	26	
Reservation Rd	Dunes Dr	Hwy. 1 Ramp	-	36	
Reservation Rd	Cardoza Ave	Beach Rd	8,000	65	Need sidewalks on both sides; need bike lanes
Reservation Rd	Seaside Ct/Seaside Cir	Beach Rd	4,800	64	Need sidewalk west side except at hotel; need bike lanes
Reservation Rd	Lake Dr	Seaside Ct/Seaside Cir	4,900	44	
Reservation Rd	Del Monte Blvd	Lake Dr	5,000	36	
Reservation Rd	Vista Del Camino	Del Monte Blvd	31,000	95	
Reservation Rd	Eucalyptus St	Vista Del Camino	30,000	95	
Reservation Rd	Seacrest Ave	Eucalyptus St	29,000	95	

**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Reservation Rd	De Forest Rd	Seacrest Ave	28,000	95	
Reservation Rd	California Ave	Crestview Ct	26,000	84	
Reservation Rd	Lynscott Dr	California Ave	25,000	90	
Reservation Rd	Salinas Ave	Bayer St	23,000	90	
Reservation Rd	Bayer St	Rose Ln	23,500	90	
Reservation Rd	Rose Ln	Lynscott Dr	24,000	90	
Reservation Rd	Crescent Ave	De Forest Rd	27,000	95	
Reservation Rd	Hwy. 1 Ramp	Cardoza Ave	8,000	65	
Reservation Rd	Hwy. 1 Ramp (underpass)	Hwy. 1 Ramp (underpass)	-	44	
Reservation Rd	Crestview Ct	Ocean Terrace	26,000	85	
Reservation Rd	Ocean Terrace	Crescent Ave	26,000	90	
Ridgeview Ave	Bayer Dr	Bostick Ave	-	40	
Salinas Ave	Marsan Ct	Reservation Rd	-	20	Need sidewalk on west side
Salinas Ave	Lavell Ct	Marsan Ct	-	20	
Salinas Ave	Salinas Ave (Private road	Lavell Ct	-	20	
Salinas Ave	Ellis Ct	Salinas Ave (Private road	-	20	
Salinas Ave	Carmel Ave	Ellis Ct	-	16	Need sidewalk on west side
Seacrest Ave	Carmel Ave	Reservation Rd	-	40	180' sidewalk gap on east side; Need bike lanes
Sunset Ave	Palm Ave	Carmel Ave	3034	40	Need bike lanes
Sunset Ave	Hillcrest Ave	Palm Ave	3034	40	Need bike lanes
Sunset Ave	Cypress Ave	Hillcrest Ave	3034	40	Need bike lanes
Sunset Ave	Reindollar Ave	Cypress Ave	3034	40	Need bike lanes
Vaughan Ave	Everett Dr	Carmel Ave	1816	32	
Vaughan Ave	Hillcrest Ave	Everett Dr	1816	32	
Vaughan Ave	Reindollar Ave	Hillcrest Ave	1816	32	
Vista Del Camino	Melanie Rd	Martin Cir	-	33	
Vista Del Camino	Peninsula Dr	Melanie Rd	-	33	
Vista Del Camino	Martin Cir	George Way	-	33	

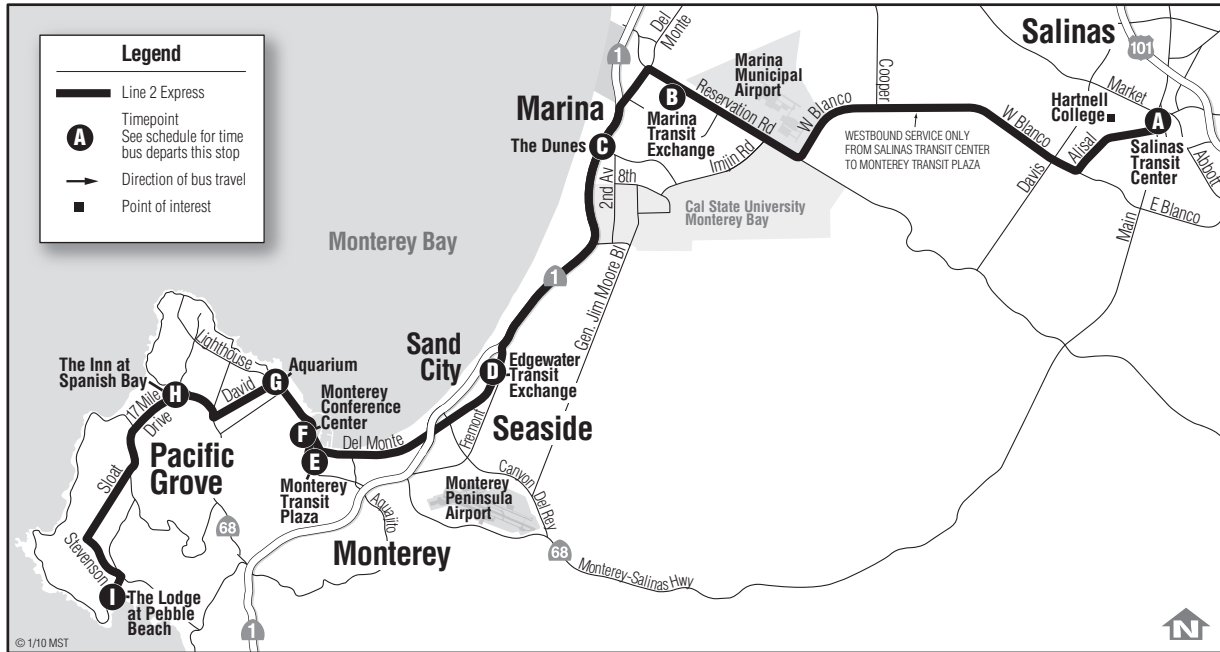
**Table 3 Collector and Arterial Streets in Marina –
Walking and Bicycling Deficiencies**

Street Name	From	To	Average Daily Trips (Vehicle Trips, 2003 Est.)	Width (feet)	Deficiencies
Vista Del Camino	Reservation Rd	Peninsula Dr	-	60	
Zanetta Dr	Bennett Ct	Weber Cir	-	30	
Zanetta Dr	Weber Cir	Carmel Ave	-	30	
Zanetta Dr	Hibbing Cir	Bennett Ct	-	40	
Zanetta Dr	Hillcrest Ave	Hibbing Cir	-	40	Need sidewalk on east side
Zanetta Dr	Reindollar Ave	Hillcrest Ave	-	40	

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**APPENDIX D
MONTEREY-SALINAS TRANSIT
BUS ROUTES SERVING
THE CITY OF MARINA**

2X Pebble Beach Express



2X Pebble Beach Express

Daily*

Notes	A	B	C	D	E	F	G	H	I
Salinas Transit Center	4:57	5:15	--	5:22	5:40	--	--	--	--
Marina Transit Exchange	--	5:56	6:02	--	6:15	6:17	6:22	6:28	6:42
Dunes Shopping Center	--	7:06	7:13	--	7:30	7:32	7:37	7:43	7:57
Edgewater Transit Exchange	--	7:56	8:03	8:14	8:30	8:32	8:37	8:43	8:57

2X Salinas Express

Daily*

Notes	I	H	G	F	E	D	C	B	A
Lodge at Pebble Beach	3:50	4:04	4:10	4:15	4:17	4:37	4:50	4:58	5:18
Inn at Spanish Bay	4:50	5:04	5:10	5:15	5:17	--	5:37	5:45	6:05
Aquarium	6:10	6:24	6:30	6:35	6:40	6:51	7:00	7:08	7:28

Light Type = AM **Bold Type = PM**

Notes:

* Line 2X Pebble Beach Express does not operate on Thanksgiving, Christmas or New Year's Day.

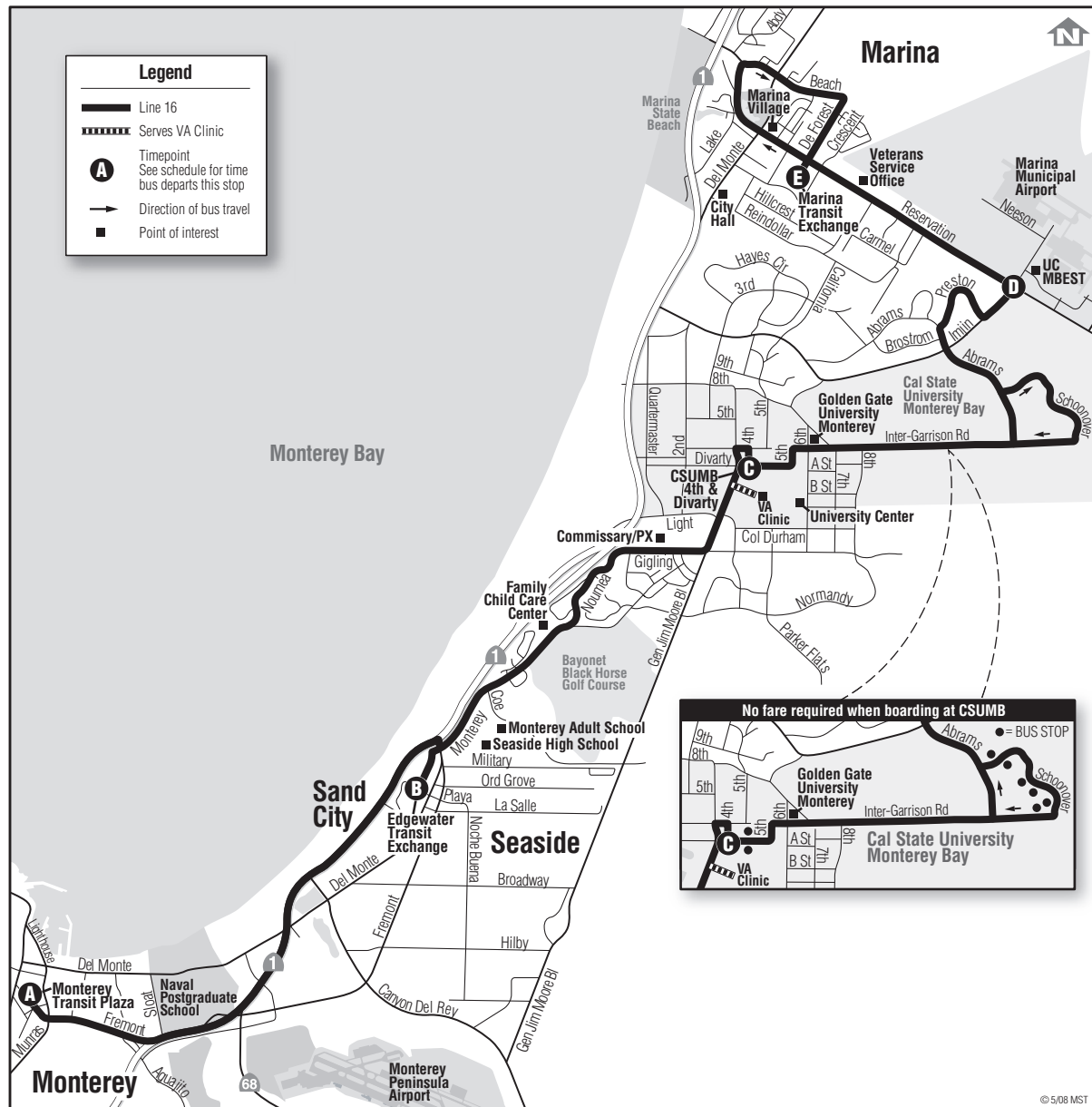
Supplemental service from downtown Monterey to special events in Pebble Beach is operated by MST.

Check with MST to confirm time and days of operation: 1-888-MST-BUS1 or visit www.mst.org.

Line 2X Special Service between Salinas Transit Center and Monterey Transit Plaza only serves stops at Salinas Transit Center, Marina Transit Exchange, The Dunes, Edgewater and Monterey Transit Plaza.

16 Marina

16 Monterey



16 Marina

Daily*

Notes	Monterey Transit Plaza A	Edgewater Transit Exchange B	CSUMB 4th & Divarty C	Injin & Reservation D	Marina Transit Exchange E
A	--	6:11	6:28	6:47	6:56
B, C	7:00	7:11	7:28	7:47	7:56
C	8:00	8:11	8:28	8:47	8:56
C	9:00	9:11	9:28	9:47	9:56
C	10:00	10:11	10:28	10:47	10:56
C	11:00	11:11	11:28	11:47	11:56
C	12:00	12:11	12:28	12:47	12:56
C	1:00	1:11	1:28	1:47	1:56
C	2:00	2:11	2:28	2:47	2:56
C	3:00	3:11	3:28	3:47	3:56
C	4:00	4:11	4:28	4:47	4:56
C	5:00	5:11	5:28	5:47	5:56
B	6:15	6:26	6:43	7:02	7:11
B	7:15	7:26	7:43	8:02	8:11
B	8:15	8:26	8:43	9:02	9:11
B	9:15	9:26	9:43	10:02	10:11
B	10:15	10:26	10:43	11:02	11:11

16 Monterey

Daily*

Notes	Marina Transit Exchange E	Injin & Reservation D	CSUMB 4th & Divarty C	Edgewater Transit Exchange B	Monterey Transit Plaza A
B, C	7:06	7:11	7:28	7:45	7:55
C	8:06	8:11	8:28	8:45	8:55
C	9:06	9:11	9:28	9:45	9:55
C	10:06	10:11	10:28	10:45	10:55
C	11:06	11:11	11:28	11:45	11:55
C	12:06	12:11	12:28	12:45	12:55
C	1:06	1:11	1:28	1:45	1:55
C	2:06	2:11	2:28	2:45	2:55
C	3:06	3:11	3:28	3:45	3:55
C	4:06	4:11	4:28	4:45	4:55
C	5:06	5:11	5:28	5:45	5:55
	6:06	6:11	6:28	6:45	6:55
B	7:21	7:26	7:43	8:00	8:10
B	8:21	8:26	8:43	9:00	9:10
B	9:21	9:26	9:43	10:00	10:10
B	10:21	10:26	10:43	11:00	11:10

Notes:

A Monday through Friday.

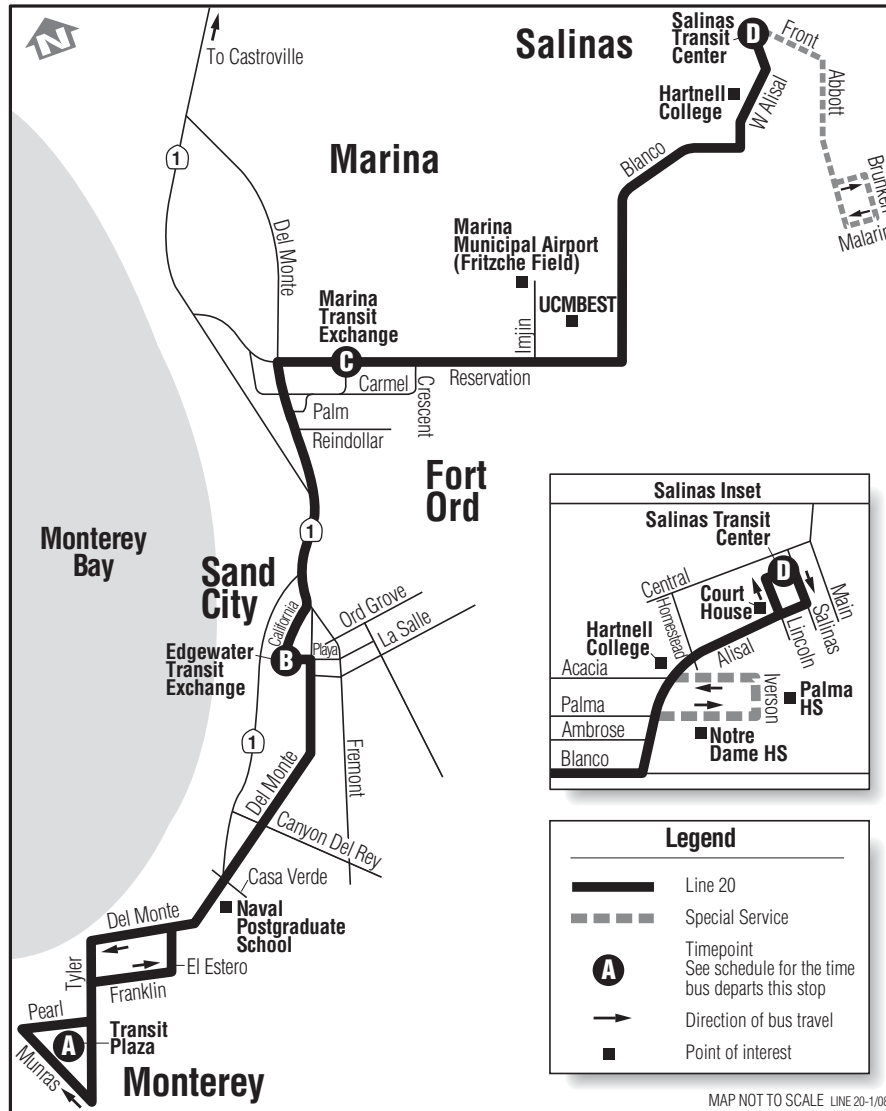
B No Sunday service.

C Serves VA Clinic M–F only.

*No service on Thanksgiving, Christmas Day and New Year's Day.



20 Salinas-Monterey via Marina



TRANSIT TIP



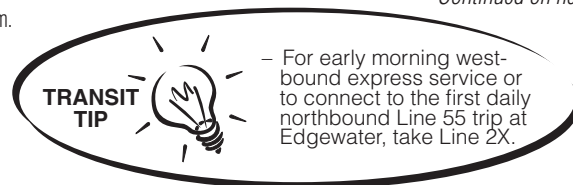
– Traveling between downtown Monterey and Edgewater? Take Lines 2X, 16 or 55 instead for an express trip.

20 Salinas				
Weekdays & Saturdays				
Notes	Monterey Transit Plaza A	Edgewater Transit Exchange B	Marina Transit Exchange C	Salinas Transit Center D
B	6:15	6:30	6:48	7:08
	6:45	7:00	7:18	7:38
A,C	7:05	7:20	7:38	8:01
	7:15	7:30	7:48	8:08
	7:45	8:00	8:18	8:38
	8:15	8:30	8:48	9:08
	8:45	9:00	9:18	9:38
	9:15	9:30	9:48	10:08
	9:45	10:00	10:18	10:38
	10:15	10:30	10:48	11:08
	10:45	11:00	11:18	11:38
	11:15	11:30	11:48	12:08
	11:45	12:00	12:18	12:38
	12:15	12:30	12:48	1:08
	12:45	1:00	1:18	1:38
	1:15	1:30	1:48	2:08
	1:45	2:00	2:18	2:38
	2:15	2:30	2:48	3:08
	2:45	3:00	3:18	3:38
	3:15	3:35	3:53	4:11
	3:45	4:00	4:18	4:38
A	4:00	4:20	4:38	4:56
	4:15	4:30	4:48	5:12
A	4:30	4:50	5:08	5:26
	4:45	5:05	5:23	5:41
	5:18	5:38	5:56	6:14
	5:48	6:08	6:23	6:44
	6:18	6:36	6:46	7:09
A	6:48	7:03	7:18	--
	7:15	7:30	7:45	8:08
	8:15	8:30	8:45	9:08
	9:15	9:30	9:45	10:08
	10:15	10:30	10:45	11:08
	11:15	11:27	11:42	12:00

20 Monterey				
Weekdays & Saturdays				
Notes	Salinas Transit Center D	Marina Transit Exchange C	Edgewater Transit Exchange B	Monterey Transit Plaza A
A	5:05	5:26	5:40	5:58
A	5:45	6:06	6:23	6:38
A	6:10	6:31	6:45	7:03
A	6:40	7:01	7:18	7:33
	6:45	7:06	7:23	7:38
	7:15	7:32	7:53	8:08
	7:45	8:02	8:23	8:38
	8:15	8:32	8:53	9:08
	8:45	9:06	9:23	9:38
	9:15	9:34	9:48	10:02
	9:45	10:06	10:23	10:38
	10:15	10:36	10:53	11:08
	10:45	11:06	11:23	11:38
	11:15	11:36	11:53	12:08
	11:45	12:06	12:23	12:38
	12:15	12:36	12:53	1:08
	12:45	1:06	1:23	1:38
	1:15	1:36	1:53	2:08
	1:45	2:06	2:23	2:38
	2:15	2:36	2:53	3:08
	2:48	3:09	3:26	3:41
A,C,D	3:00	3:23	3:42	4:00
	3:15	3:36	3:53	4:08
	3:45	4:06	4:23	4:38
	4:18	4:39	4:56	5:11
	4:48	5:09	5:26	5:41
	5:18	5:39	5:56	6:11
	5:48	6:09	6:26	6:41
	6:21	6:40	6:56	7:08
	6:51	7:12	7:29	7:44
	7:15	7:36	7:52	8:08
	8:20	8:43	8:52	9:08
	9:15	9:36	9:52	10:08
	10:15	10:36	10:48	11:02

Notes: A Not on Saturdays.
 B On Saturdays this trip starts at Edgewater Transit Exchange at 6:30 a.m.
 C Serves Palma & Notre Dame High Schools on school days.
 D This trip begins at Brunken & Malarin at 2:50 p.m. on weekdays only.

Continued on next page



20 Salinas			
Sundays			
Monterey Transit Plaza (A)	Edgewater Transit Exchange (B)	Marina Transit Exchange (C)	Salinas Transit Center (D)
7:45	8:00	8:18	8:38
8:45	9:00	9:18	9:38
9:45	10:00	10:18	10:38
10:45	11:00	11:18	11:38
11:45	12:00	12:18	12:38
12:45	1:00	1:18	1:38
1:45	2:00	2:18	2:38
2:45	3:00	3:18	3:38
3:45	4:00	4:18	4:38
4:45	5:00	5:18	5:38
5:45	6:00	6:18	6:38
6:45	7:00	7:18	7:38

20 Monterey			
Sundays			
Salinas Transit Center (D)	Marina Transit Exchange (C)	Edgewater Transit Exchange (B)	Monterey Transit Plaza (A)
7:45	8:06	8:23	8:38
8:45	9:06	9:23	9:38
9:45	10:06	10:23	10:38
10:45	11:06	11:23	11:38
11:45	12:06	12:23	12:38
12:45	1:06	1:23	1:38
1:45	2:06	2:23	2:38
2:45	3:06	3:23	3:38
3:45	4:06	4:23	4:38
4:45	5:06	5:23	5:38
5:45	6:06	6:23	6:38
6:45	7:06	7:23	7:49

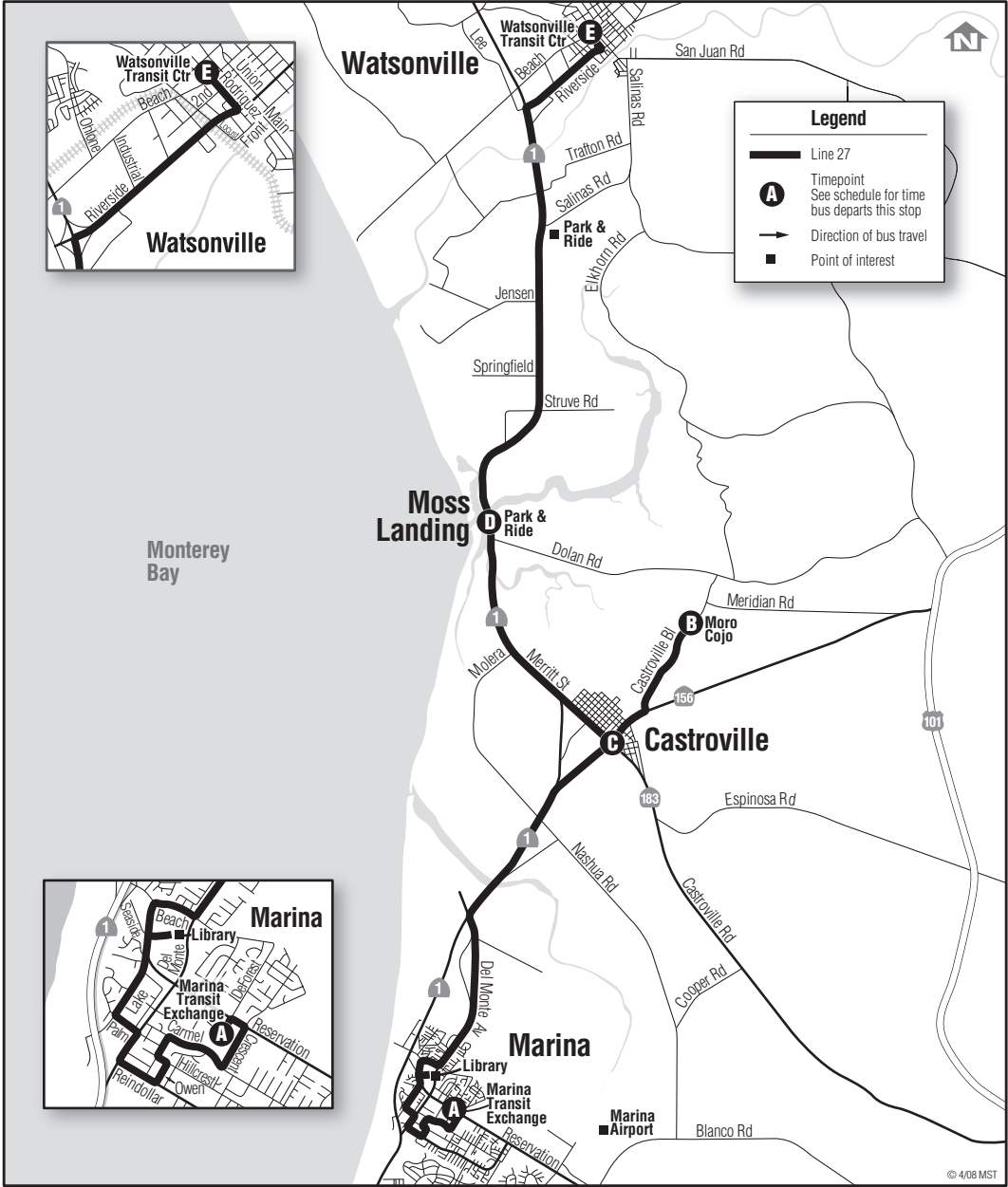
Note:

A Trip continues between Edgewater and Monterey as Line 10.

20 Salinas			
Thanksgiving, Christmas & New Year's Day			
Monterey Transit Plaza (A)	Edgewater Transit Exchange (B)	Marina Transit Exchange (C)	Salinas Transit Center (D)
7:45	7:57	8:13	8:30
8:45	8:57	9:13	9:30
9:45	9:57	10:13	10:30
10:45	10:57	11:13	11:30
11:45	11:57	12:13	12:30
12:45	12:57	1:13	1:30
1:45	1:57	2:13	2:30
2:45	2:57	3:13	3:30
3:45	3:57	4:13	4:30
4:45	4:57	5:13	5:30
5:45	5:57	6:13	6:30

20 Monterey			
Thanksgiving, Christmas & New Year's Day			
Salinas Transit Center (D)	Marina Transit Exchange (C)	Edgewater Transit Exchange (B)	Monterey Transit Plaza (A)
7:55	8:12	8:28	8:40
8:55	9:12	9:28	9:40
9:55	10:12	10:28	10:40
10:55	11:12	11:28	11:40
11:55	12:12	12:28	12:40
12:55	1:12	1:28	1:40
1:55	2:12	2:28	2:40
2:55	3:12	3:28	3:40
3:55	4:12	4:28	4:40
4:55	5:12	5:28	5:40
5:55	6:12	6:28	6:40

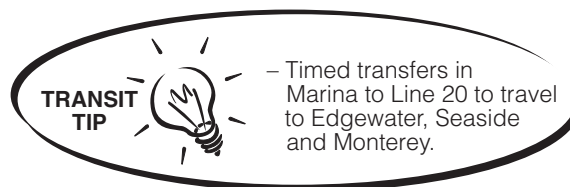
27 Marina-Watsonville



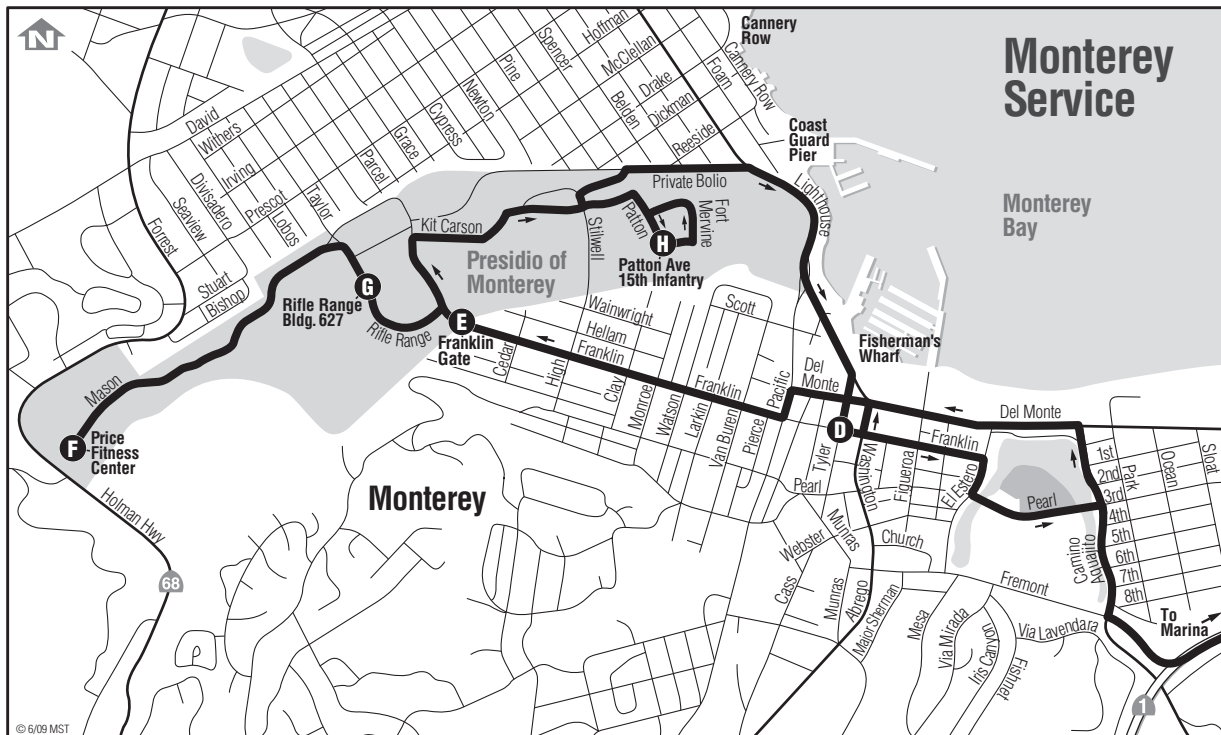
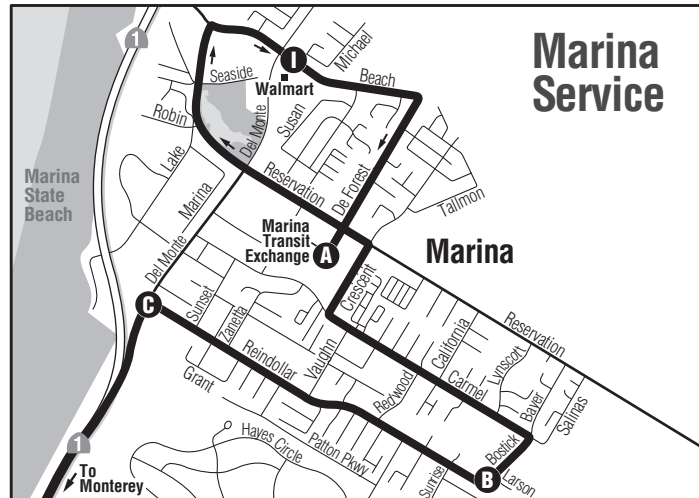
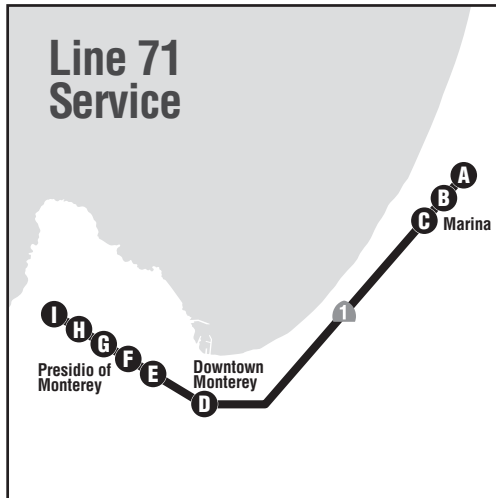
27 Watsonville					
Weekdays*					
Notes	Marina Transit Exchange A	Moro Cojo Esperanza & Vista de Tierra B	Castroville Merritt & Union C	Moss Landing Hwy 1 & Dolan Rd D	Watsonville Transit Center E
	7:18	7:42	7:49	7:54	8:09
	9:18	9:42	9:49	9:54	10:09
	11:18	11:42	11:49	11:54	12:09
	1:18	1:42	1:49	1:54	2:09
	3:18	3:42	3:49	3:54	4:09
	5:18	5:42	5:49	5:54	6:09
	7:18	7:42	7:49	7:54	8:09

27 Marina					
Weekdays*					
Notes	Watsonville Transit Center E	Moss Landing Hwy 1 & Dolan Rd D	Castroville Merritt & Pajaro C	Moro Cojo Esperanza & Vista de Tierra B	Marina Transit Exchange A
	6:10	6:23	6:31	6:37	7:05
	8:10	8:23	8:31	8:37	9:05
	10:10	10:23	10:31	10:37	11:05
	12:10	12:23	12:31	12:37	1:05
	2:10	2:23	2:31	2:37	3:05
	4:12	4:25	4:33	4:39	5:07
	6:12	6:25	6:33	6:39	7:07

Note: *Line 27 does not operate Thanksgiving, Christmas, New Year's Day, and holidays MST operates a Sunday schedule.



71 Presidio – Marina Express



71 Presidio Express							71 Marina Express								
Weekdays							Weekdays								
Notes	Marina Transit Exchange A	Bostick & Larson B	Reindollar & Del Monte C	Tyler & Franklin D	Franklin Gate E	Price Fitness Center F	Notes	Price Fitness Center F	Rifle Range Bldg 627 G	Patton Ave 15th Infantry H	Tyler & Franklin D	Reindollar & Del Monte C	Bostick & Ridgeview B	Beach Rd Walmart I	Marina Transit Exchange A
	--	--	--	--	--	--		--	--	--	--	--	--	6:10	6:15
	--	--	--	--	--	--		--	--	--	--	--	--	6:40	6:45
	6:16	6:22	6:28	6:43	6:49	6:58		7:00	7:05	7:10	7:18	--	--	--	--
	6:46	6:52	6:58	7:13	7:19	7:28		7:30	7:35	7:40	7:48	--	--	--	--
	--	--	--	4:25	4:31	4:38		4:40	4:45	4:50	5:00	5:22	5:28	5:37	5:42
	--	--	--	4:45	4:51	4:58		5:00	5:05	5:10	5:20	5:42	5:48	5:57	6:02

Note:

For entry onto the Presidio of Monterey military installation, you must present your valid military/DOD employee badge or identification card to security personnel at the gate entrance.

To Presidio		To Marina	
BUS STOP LOCATION		BUS STOP LOCATION	
MARINA-Walmart	PRESIDIO-Franklin Gate	PRESIDIO-Price Fitness Center	MARINA-Bostick & Ridgeview
MARINA-Beach & Del Monte	PRESIDIO-Rifle Range Bldg 619	PRESIDIO-Mason Bldg 834	MARINA-Carmel & Barrett
MARINA-Beach & Melanie	PRESIDIO-Rifle Range Bldg 636	PRESIDIO-PX-Ord	MARINA-Carmel & Lynscott
MARINA-De Forest & Costa Del Mar	PRESIDIO-PX	PRESIDIO-Rifle Range Bldg 630	MARINA-Carmel & Pleasant
MARINA-De Forest & George	PRESIDIO-MasonBldg 848	PRESIDIO-Rifle Range Bldg 627	MARINA-Carmel & Everett
MARINA Transit Exchange	PRESIDIO-Price Fitness Center	PRESIDIO-Kit Carson Bldg 614	MARINA-Carmel & Crescent
MARINA-Crescent & Reservation	PRESIDIO-Mason Bldg 834	PRESIDIO-Kit Carson Bldg 422	MARINA-Reservation & Crescent
MARINA-Carmel & Crescent	PRESIDIO-PX-Ord	PRESIDIO-Plummer Bldg 276	MARINA-Reservation Marina Sq
MARINA-Carmel & Redwood	PRESIDIO-Rifle Range Bldg 630	PRESIDIO-Soldier Field	MARINA-Reservation & Vista Del C.
MARINA-Bostick & Alexis	PRESIDIO-Rifle Range Bldg 627	PRESIDIO-Fitch & Stilwell	MARINA-Reservation & Beach
MARINA-Bostick & Larson	PRESIDIO-Kit Carson Bldg 614	MONTEREY-Tyler & Franklin	MARINA-Walmart
MARINA-Reindollar & Phillip	PRESIDIO-Kit Carson Bldg 422	MARINA-Reindollar & Del Monte	MARINA-Beach & Del Monte
MARINA-Reindollar & Redwood	PRESIDIO-Plummer Bldg 276	MARINA-Reindollar & Sunset	MARINA-Beach & Melanie
MARINA-Reindollar & Berney	PRESIDIO-Soldier Field	MARINA-Reindollar & Zanetta	MARINA-DeForest & Costa Del Mar
MARINA-Reindollar & Vaughn		MARINA-Reindollar & Vera	MARINA-DeForest & George
MARINA-Reindollar & Vera		MARINA-Reindollar & Ellen	MARINA Transit Exchange
MARINA-Reindollar & Sunset		MARINA-Reindollar & King	
MARINA-Reindollar & Del Monte		MARINA-Reindollar & Eddy	
MONTEREY-Tyler & Franklin			