

MONTEREY BAY SANCTUARY SCENIC TRAIL MASTER PLAN

July 2007



Prepared for:

**Transportation Agency for
Monterey County**

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ACKNOWLEDGMENTS

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The following agencies and individuals were the primary contributors to the Monterey Bay Sanctuary Scenic Trail Master Plan. Numerous other individuals contributed through their participation in the Master Plan process, including members of the Technical Advisory Committee, other Transportation Agency for Monterey County staff, Sanctuary Scenic Trail Steering Committee, Bicycle and Pedestrian Advisory Committee, and members of the public.

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1. INTRODUCTION

1.1. OVERVIEW

The Monterey Bay Sanctuary Scenic Trail is a collaborative effort between public agencies, non-profit organizations and the public to construct a trail that would span Monterey Bay from Lovers Point in Pacific Grove to Wilder Ranch in Santa Cruz. The primary purpose of the Trail is to enhance appreciation and protection of the Monterey Bay National Marine Sanctuary by promoting public use and enjoyment of its shoreline as well as provide a safe, accessible scenic trail for pedestrians, bicyclists, and other users free of automobile traffic. This Monterey Bay Sanctuary Scenic Trail Master Plan has been developed to articulate this vision and provide documentation of the preferred route as well as an implementation strategy for the proposed trail.

The project study area for the Monterey Bay Sanctuary Scenic Trail Master Plan (Master Plan) encompasses the corridor from the Pajaro River in the north to Lovers Point in the south. Figure 1: Corridor Location Map illustrates the project study area.

1.2. PURPOSE OF THE PLAN

The Monterey Bay Sanctuary Scenic Trail Master Plan for Monterey County was initiated by the Transportation Agency for Monterey County in February 2005. The purpose of this Master Plan is to identify a recommended alignment for a continuous trail from Pacific Grove to the Pajaro River at the Santa Cruz County boundary. The Master Plan will accomplish the following:

- Define the primary trail route,
- Define parallel and spur trails where appropriate,
- Identify, define and prioritize segments for phased implementation of the trail,
- Define appropriate design standards for the trail itself and associated elements including access points, interpretive locations and signage, and support facilities; and,
- Identify short- and long-term costs for implementation, management and maintenance.

- Development of the above listed items will require extensive research, documentation, analysis and decision-making.

The purpose of the Master Plan is to identify a preferred alignment for the trail and to outline an implementation strategy for the project. Recommendations for preferred alignment include design and cost estimates. This information will aid in project prioritization, which is essential to efficient implementation.

The development of the Master Plan involves several steps, including an extensive resource inventory phase, public participation phase, alignment options and assessment phase, and preferred alignment and improvement plans. The Master Plan is designed to present both the preferred alignment and the process followed to arrive at this point.

1.3. PROJECT HISTORY

In 2000, the California State Legislature passed legislation calling for the establishment of the California Coastal Trail, a 1,200 mile trail running the length of the California Coast. The Monterey Bay Sanctuary Scenic Trail will be a link in this larger chain of trail segments, connecting Santa Cruz and Monterey Counties with the rest of the California Coast.

The Sanctuary Scenic Trail originally was a project of the Santa Cruz County Inter-Agency Task Force, a Santa Cruz Committee that formed in 1993. The Mission of the group was to “develop a plan to maximize the economic and education opportunities that the National marine Sanctuary designation brings to the Santa Cruz area, and address parking, traffic circulation and other impact issues.” The Objectives of the Task Force were “to provide a coordinated effort to assess the economic benefits that the designation of Monterey Bay as a National marine Sanctuary has for the Santa Cruz area; define uses which are supportive of and complimentary to the Sanctuary; to define infrastructure needs that will allow for the education and interpretive facilities; and to define how best to promote the area as a major destination in eco-tourism markets.”

Santa Cruz County successfully received a grant from the Federal Economic Development Administration, and consultants were hired to develop an Opportunities Study. Three public agencies, Santa Cruz County, City of Santa Cruz, and City of Capitola, accepted a Master Plan for the Core Area of the proposed Trail and proposed locations for interpretive signs and other elements. These signs have been included in this Master Plan (see Chapter 7). The Core Area of the Trail is identified from Wilder State Park to Seacliff State Park, with the exact location of the Trail continuing on to the Pajaro River yet to be determined. The Sanctuary Scenic Trail received a \$100,000 grant from the National Oceanic & Atmospheric Administration (NOAA) for the construction and installation of 8 interpretive signs along the existing Scenic Trail in Santa Cruz County, and a \$100,000 Transportation Enhancements Act (TEA) grant from the Santa Cruz Regional Transportation Commission for planning and interpretation.

Congressman Sam Farr (D-Carmel) has worked to provide funding for the trail construction effort, delivering \$8.1 million dollars over the course of his terms in office. In 2001, Congressman Farr convened meetings of public agencies and non-profits to develop support for the trail. The participating entities eventually formed the project Steering Committee. Congressman Farr continues his effort to make completion of the trail a reality.

1.4. STAKEHOLDERS

The Transportation Agency for Monterey County and consultant team identified key project stakeholders early in the planning process in order to involve them directly in the development of the trail alignment and design features. These stakeholders included private property owners neighboring the project area, private and public property owners within the project area, and other special interest groups with direct social or economic ties to the project area. Stakeholders are asked to contribute to the planning effort throughout the duration of the project.

1.4.1. PUBLIC OUTREACH

The Monterey Bay Sanctuary Scenic Trail is intended to be a public landscape, and as such, the Transportation Agency for Monterey County and the consultant team determined that public values should direct the design of the proposed trail. The Master Plan included a broad-based technical advisory committee, individual meetings with key property owners and stakeholders along the corridor, and several public meetings and design workshops.

1.4.2. STEERING COMMITTEE

The Steering Committee was created by the Association of Monterey Bay Area Governments to gather technical input from State, regional and local agencies with direct knowledge of the corridor. Steering Committee meetings were held on April 11, 2005 and May 11, 2006. A list of Steering Committee members is shown in **Table 1-1**.

Table 1-1
Steering Committee Members

Committee Member	Entity
Alec Arago	Congressman Farr's Office
Silvio Bernardi	Sea Mist Farms--Agricultural Representative Monterey County
Piet Canin	Santa Cruz County Regional Transportation Commission Bicycle Committee Member
Steven Carew	TAMC Bicycle/Pedestrian Committee Member
Trish Chapman	California Coastal Conservancy Santa Cruz County Regional Transportation Commission Elderly and Disabled Transportation Advisory Committee
Tom Crain	Alternate
Kimbra Eldridge	Santa Cruz Port District
Bob Geyer	City of Watsonville
Ken Gray	California State Parks Monterey County
Stephanie Harlan	City of Capitola
Dawn Hayes	Monterey Bay National Marine Sanctuary
Maggie Ivy	Santa Cruz County Convention and Visitors Bureau
Michael Jacobo	City of Seaside
Russ Jeffries	Moss Landing Harbor District
Tim Jensen	Monterey Peninsula Regional Park District
Michael Leach	City of Pacific Grove
Patricia Lopez	Monterey County Department of Public Works
Steve Matarazzo	City of Sand City
Michael McCormick	TAMC Bicycle/Pedestrian Committee Member--Alternate
Mark McCumsey	Caltrans District 5
Linda McIntyre	Moss Landing Harbor District Santa Cruz County Regional Transportation Commission Elderly and Disabled Transportation Advisory Committee
Michael Molesky	Member
Kelly Morgan	City of Sand City
Dennis Norton	City of Capitola--Alternate
Lee Otter	California Coastal Commission
Ellen Pirie	Santa Cruz County
Victor Roth	California State Parks Santa Cruz County Santa Cruz County Regional Transportation Commission
Ben Vernazza	Bicycle Committee Alternate
Staff	Entity
John Akeman	Association of Monterey Bay Area Governments (AMBAG)
Nick Papadakis	Association of Monterey Bay Area Governments (AMBAG)
Lisa Rheinheimer	Transportation Agency for Monterey County (TAMC)
Tegan Speiser	Santa Cruz RTC



2. GOALS, POLICIES AND OBJECTIVES

Specific actions taken by the Transportation Agency for Monterey County (TAMC) and partner agencies pursuant to implementation of the Monterey Bay Sanctuary Scenic Trail (MBSST) must be based upon agreed-upon priorities that reflect the long-term goals and aspirations of the population. The goal, objective and policy statements that follow form the framework for development of the MBSST and establish the philosophy and direction for this regional trail system.

These goals, objectives and policies were reviewed by elected officials, local organizations, and at public workshops held as a part of the Master Plan development.

2.1. DEFINITIONS

- 2.1.1. **GOALS** are broad statements of purpose that reflect the community’s collective vision of the future. For example, one goal may be to “provide a continuous trail along Monterey Bay.”
- 2.1.2. **OBJECTIVES** are the “yardsticks” by which the goals may be measured. They describe specific conditions that are desirable in order to attain a given goal. For example, an objective may be to “provide a trail that is separated from motor vehicle traffic wherever feasible.”
- 2.1.3. **POLICIES** are specific statements that guide decision-making and suggest actions to be taken to meet objectives and attain goals. For example, a policy may be to maximize ocean views and beach access wherever possible.

2.2. GOALS, OBJECTIVES AND POLICIES

2.2.1. GOAL 1: TRAIL SYSTEM DEVELOPMENT

Provide a continuous public trail along the shoreline of Monterey Bay National Marine Sanctuary, without harming sensitive resources.

Objective 1.1: Define a continuous trail alignment that maximizes opportunities for a multi-use trail separate from roadway vehicle traffic where feasible.

Policies:

- 1.1.1 Identify design solutions for eliminating or improving existing gaps in the built trail system as of 2005.
- 1.1.2 Provide parallel alignments where appropriate to separate high-speed commuter and regional trail users from lower-speed recreational and interpretive trail users.
- 1.1.3 Maximize ocean views and scenic coastal vistas, emphasizing connections to existing and proposed local trail systems, with frequent lateral access opportunities for different user groups from the main trail to the beach, vista points, interpretive facilities and other points of interest along the way.
- 1.1.4 Use existing built trails, roadways and other transportation facilities to the fullest extent possible to provide for the primary trail alignment and spur trails.

Objective 1.2: Make the trail functional as a transportation facility.

Policies:

- 1.2.1 Link trails to regionally significant destinations such as parks, open space, commercial centers, schools and universities via the main trail alignment or trail connectors.
- 1.2.2 Provide safe, direct linkages between trails and paved pathway, bike lanes, transit terminals, bus stops, and park & ride lots.
- 1.2.3 Construct the trail according to Caltrans bikeway standards as described in the Caltrans Highway Design Manual, Chapter 1000 Bikeway Planning and Design .

Objective 1.3: Make the trail recognizable as a continuous facility.

Policies:

- 1.3.1 Develop a wayfinding, identity, and regulatory signage system that is visually cohesive, visually clear, and physically durable to reduce maintenance requirements.
- 1.3.2 Provide a sense of continuity along the entire trail route through unifying visual elements identified in the landscape design standards incorporated in the Master Plan.

- 1.3.3 Preserve the integrity of the trail's identity by focusing on the development of a cohesive spine trail.

Objective 1.4: Minimize the environmental impacts of the complete trail system.

Policies:

- 1.4.1 Avoid sensitive habitat areas and special-status plant and animal species to the maximum extent feasible when identifying, designing and constructing new trail segments, and closely coordinate with local planning and Coastal Commission staff and design and construct the trail to comply with the Coastal Act and local coastal program requirements.
- 1.4.2 Identify habitat enhancement projects and mitigation strategies in association with all new trail development plans and designs.
- 1.4.3 Establish initial ongoing positive working relationships with State and Federal wildlife and environmental resource protection officials and staff.

Objective 1.5: Minimize trail impacts to private lands including agricultural, residential and other land uses.

Policies:

- 1.5.1 Avoid trail development on private lands when a feasible alternative alignment exists on adjacent public properties.
- 1.5.2 Allocate staff and appointed trail steering committee members to directly engage with individual landowners prior to public consideration of a trail segment on private lands.
- 1.5.3 Document operational hazards and other management considerations associated with location of a trail segment on private agricultural lands through consultation with the landowner and/or site manager.
- 1.5.4 Document all costs of modifications to land owner operations, access controls, etc. associated with trail development and incorporate such costs into public cost estimates for the project.

- 1.5.5 Pursue a variety of land acquisition strategies, where appropriate, as established in Implementation Policies 4.5.3, 4.6.2, 4.6.3, and 4.6.4.

2.2.2. GOAL 2: ENHANCE APPRECIATION OF THE COASTAL ENVIRONMENT

Develop public trail access along the Monterey Bay National Marine Sanctuary to enhance appreciation, understanding and protection of this special resource.

Objective 2.1: Define interpretive guidelines and exhibits to address ecological, historical, and agricultural working landscapes.

Policies:

- 2.1.1 Continue work initiated by the Monterey Bay Sanctuary Scenic Trail Interpretive Work Group when developing interpretive materials.
- 2.1.2 Establish interpretive design and content guidelines via a memorandum of understanding or other formal written agreement between managing agencies.
- 2.1.3 Provide relevant, engaging interpretation and information of the Monterey Bay National Marine Sanctuary, the coastal environment and communities.

2.2.3. GOAL 3: EDUCATION AND AWARENESS

Promote awareness of the trail, trail opportunities, and trail user responsibilities.

Objective 3.1: Promote the benefits of trail usage such as economic, transportation, safety, connectivity, community image and health.

Policies:

- 3.1.1 Acknowledge existing trail designations such as the California Coastal Trail and the Monterey Bay Coastal Trail.
- 3.1.2 Create a trail identity through use of logos, maps, signage (See 1.3.1, 1.3.2) and brochures.
- 3.1.3 Develop trail promotional materials presenting the facility as alternative transportation and to draw travelers out of their cars.

- 3.1.4 Establish complementary educational and regulatory programs that emphasize respect for natural resources, private property, and other trail users.

2.2.4. GOAL 4: IMPLEMENTATION

Develop a long- and short-term program to achieve the policies set forth in this plan through a combination of public and private funding, regulatory methods, and other strategies.

Objective 4.1: Define costs associated with each defined segment and for overall improvements required to create a continuous trail.

Policies:

- 4.1.1 Develop and maintain accurate, current construction unit costs for all major elements of the recommended trail facility.
- 4.1.2 Develop and maintain accurate, current land costs where acquisition of private property and/or easements on private property is required for trail implementation.

Objective 4.2: Ensure that sponsors of the Monterey Bay Sanctuary Scenic Trail pursue all potential State, Federal, and other funding sources.

Policies:

- 4.2.1. Allocate staff, retain volunteers, and/or retain consultants to pursue funding for direct, matching and challenge grants from other agencies and source for implementation of the MBSST whenever possible.
- 4.2.2. Develop and maintain a matrix of appropriate State and Federal grant sources for specific trail segments, trail access points, and associated projects.

Objective 4.3: Utilize bond issues or other funding mechanisms as necessary to fund development of parks as allowed by the Mello-Roos Community Facilities Act, Quimby Act, or other legislation.

Policies:

- 4.3.1. Allocate staff, retain volunteers, and/or retain consultants to pursue funding for direct, matching and challenge grants from other

agencies and source for implementation of the MBSST whenever possible.

Objective 4.4: Utilize ordinances and park conservation or trail easements to ensure significant trail development opportunities.

Policies:

4.4.1. Work with City and County planning staff to seek out opportunities on new development proposals.

Objective 4.5: Utilize existing lands owned by various government entities, open space groups, institutions and other sources to acquire and develop the trail.

Policies:

4.5.1. Update and reevaluate inventory of all public agency owned lands (TAMC, County, Harbor District(s), other district, State, Federal, etc) and analyze same for trail development opportunities.

4.5.2. Investigate level of cooperation or partnering for current or future collaboration on both private and public lands.

4.5.3. Recognize that acquisition can be more flexible, more creative and less expensive than fee simple acquisition; explore property transfers, trades, donations, partial purchases, joint purchases, easements, long-term leases, encroachment permits, and a variety of other legal means from willing sellers or property owners.

Objective 4.6: Support the establishment of a “Friends of the Monterey Bay Sanctuary Scenic Trail” organization to provide and seek financial and other support for the trail.

Policies:

4.6.1. Establish a Monterey Bay community organization and recruit individuals within the community who can donate or attract contributions to serve on the organization board.

4.6.2. Explore methods to acquire funding and contributions of land through the organization, including wills and bequests, stocks, gifts of life insurance, charitable remainder trusts, maintenance endowments and gifts catalogue.

4.6.3. Explore methods for land acquisition, including life estates, contributions of surplus real estate, sequential donations or

purchases, tax delinquent property, and purchase and leaseback programs with landowners.

- 4.6.4. Develop an active volunteer program with industry, service clubs, community groups and citizens. Identify interested corporations, clubs or individuals and create an action plan tailored to fit the adopting organizations budget and interest.

Objective 4.7: Maximize funding for the project.

Policies:

- 4.7.1. Develop the Master Plan so that it can be used as a source of documentation for competitive funding programs, and pursue funding from as many sources as resources permit.
- 4.7.2. Focus on funding sources for which the entity will qualify best and be able to implement.

2.2.5. GOAL 5: OPERATION AND MAINTENANCE

Develop the necessary organizational staffing and funding mechanisms to ensure that all trail segments, trailheads, and accessory features are safe, well-maintained, and well managed.

Objective 5.1: Consider establishing a shared maintenance agreement between local, county and State agencies with ownership and management responsibility for individual trail segments.

Policies:

- 5.1.1 Engage managers and maintenance staff for existing built segments of the Monterey Coastal Trail to determine existing maintenance standards and costs.
- 5.1.2 Identify operation and maintenance entity(ies) for each proposed new trail segments.
- 5.1.3 Establish operation and maintenance standards through memorandum of agreement or other formal document for uniform application by all participating entities.

Objective 5.2: Ensure adequate revenue for the maintenance of all trail segments and related facilities.

Policies:

- 5.2.1 Accurately forecast and plan for the short-term and long-term operation and maintenance of the overall trail system as an initial step in estimating implementation cost.
- 5.2.2 Update the maintenance and operations budget sufficient for the level of trail system development in any given year, to be funded through a reliable source.
- 5.2.3 As an initial step in planning each development project, accurately estimate the operations and maintenance impact of each new project and develop a realistic strategy and funding for its success.

Objective 5.3: Provide for secure, safe sanctuary and pleasant use of trail facilities.

Policies:

- 5.3.1 Maintain facilities at appropriate levels of the written maintenance program.
- 5.3.2 Establish initial ongoing positive working relationships with local and county fire and law enforcement officials and staff.
- 5.3.3 Establish and foster a “Trail Watch” program in cooperation with local law enforcement officials.

2.3. PERFORMANCE STANDARDS

Performance standards are measurable objectives that help public agencies ensure the project is being developed and managed efficiently and effectively. Potential performance standards are:

- The remaining Trail segments will be 25% complete in 10 years, 50% complete in 15 years, and 100% completed in 20 years.
- The Trail design and maintenance will be consistent over its entire length.
- Each trail segment will be usable by a wide variety of user groups and abilities.
- Trail counts will be conducted at the same locations every year to measure increases in usage over time.

2.4. GOALS BACKGROUND

The Monterey Bay Sanctuary Scenic Trail Master Plan Goals, Objectives and Policies are based on many previously adopted documents and the documented work of numerous committees and organizations. The documents listed in Table 2-1 on the next page form the basis for the development of the Monterey Bay Sanctuary Scenic Trail Master Plan for Monterey County. The documents were reviewed as of March 25, 2005.

Table 2-1
Related Planning Documents

Document Name	Agency Author	Year Adopted/ Published
Elkhorn Slough Extended Trail Network Draft Environmental Assessment	Elkhorn Slough Foundation	
North County Local Coastal Plan	Monterey County Planning Department	1982
Monterey County General Plan	Monterey County Planning Department	1982
North County Trails Plan and North County Trails Maps	Monterey County Planning Department	1989
Monterey County Coastal Implementation Plan, Title 20 Zoning Ordinance	Monterey County Planning Department	2000
Monterey County General Bikeway Plan	TAMC	2001
City of Marina Local Coastal Program	City of Marina	2001
Monterey County Farm Bureau Comments on Monterey County 21 st Century General Plan Update, Circulation Element Trails Element	Monterey County Farm Bureau	2003
Sand City Local Coastal Program	City of Sand City	2003
Draft Long Range Interpretive Plan for the Monterey Bay Sanctuary Scenic Trail	Monterey Bay Sanctuary Scenic Trail Steering Committee for Santa Cruz County	2004
Monterey Bay Sanctuary Scenic Trail Vision Brochure	Monterey Bay Sanctuary Scenic Trail Steering Committee for Santa Cruz County	2004
Draft Monterey County Regional Transportation Plan (RTP)	TAMC	2005
California Coastal Act	California Coastal Commission (applies to various areas in corridor including Fort Ord)	Updated 2007

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3. EXISTING CONDITIONS

3.1. INTRODUCTION

This chapter provides a description of existing conditions along the Scenic Trail study corridor. Information is based on field visits, Monterey County Geographic Information Systems (GIS) map layers, existing planning documents, aerial photographs, and conversations with the Transportation Agency for Marin County, AMBAG, and other state and local agency staff.

3.2. BACKGROUND

3.2.1. OVERVIEW OF STUDY CORRIDOR

The implementation of proposed Scenic Trail segments through the project study corridor will provide a link between Monterey and Santa Cruz Counties by joining existing trail sections along the Monterey Bay coastline. The project study area encompasses the coastal corridor from Lover's Point in Pacific Grove north to the Monterey County line at the Thurwachter-McGowan Bridge, which extends over the Pajaro River. **Figure 3-1** shows the regional location of the project corridor area. Existing Scenic Trail sections run from the southern terminus of the trail at Lover's Point north through Monterey, Sand City and Seaside to Marina. North of Marina the existing trail transitions to an on-street facility as it proceeds north toward Santa Cruz County.

3.2.2. EXISTING TRAIL FACILITIES

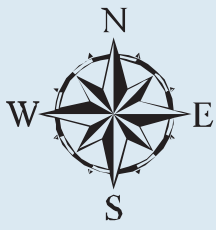
Significant progress has been made in the implementation of the Scenic Trail. Existing Scenic Trail facilities stretch from Lover's Point in the south to Castroville in the north. A description of the existing Scenic Trail, broken into three sections, is provided below.

Pacific Grove to Monterey

The section of the Scenic Trail running from Pacific Grove east to Monterey is a multi-use path located along the waterfront. During the summer tourist season, the trail is a popular promenade, heavily used by both residents and visitors. This section attracts walkers, cyclists, joggers, in-line skaters, dog walkers and families. Through the city of Monterey, the trail follows the historic Southern Pacific Railroad right-of-way. This section of the existing trail is characterized by an urban setting, with trail amenities, notable trailside destinations like the Monterey Bay Aquarium, and high volumes of trail users, especially during the summer. There are many existing access points between Pacific Grove and Monterey, at existing trail beaches.

3. Existing Conditions

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0 0.5 1 2 3 4 Miles

Monterey Bay

- Bike Shops
- Hospital
- School
- Railroads
- Class 1 Bike Path
- Class 2 Bike Lane
- Class 3 Bike Route
- City Limits
- Public Land

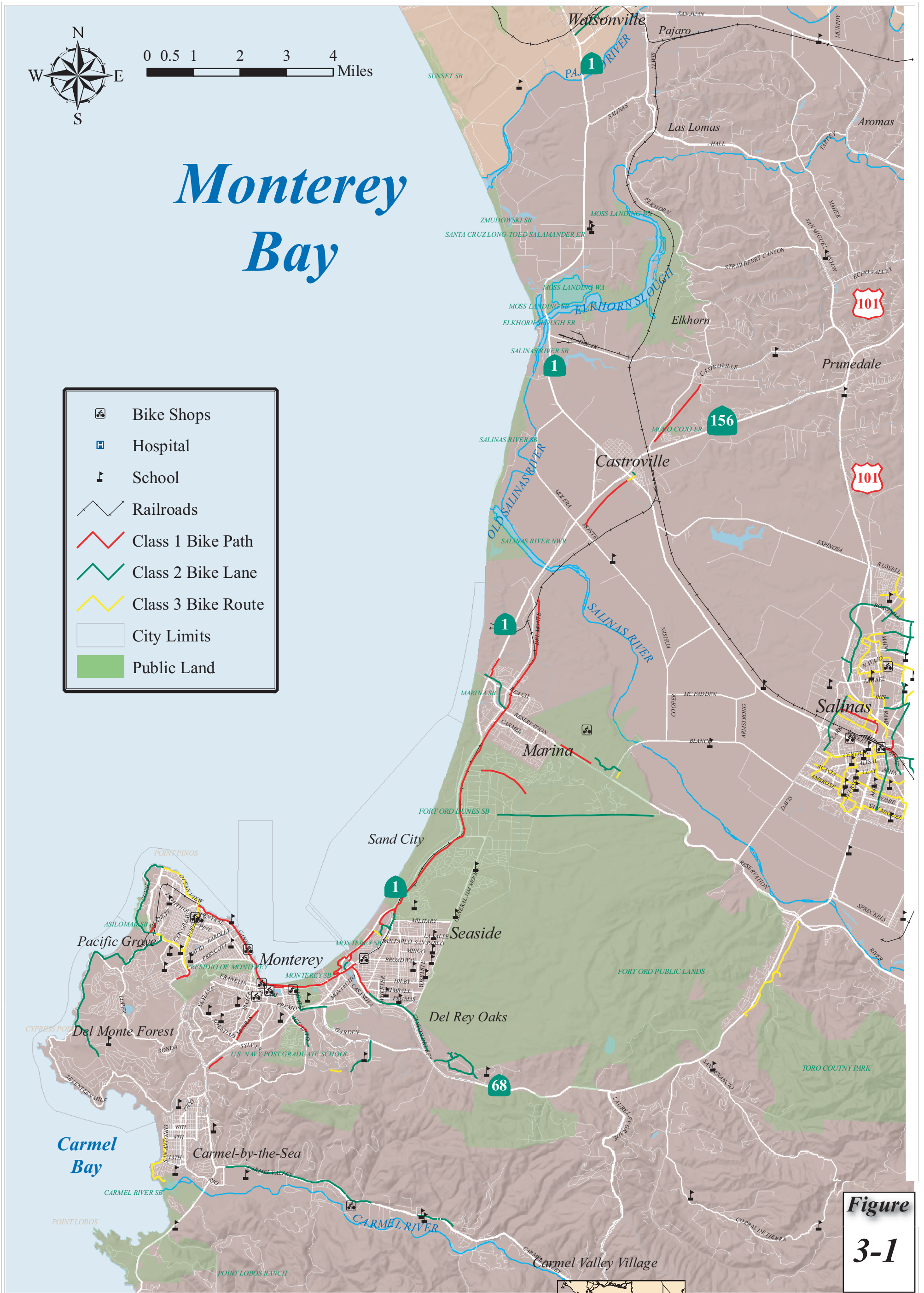


Figure 3-1

Monterey Bay Sanctuary Scenic Trail Master Plan For Monterey County Existing Conditions



Transportation Agency for Monterey County
<http://www.tamcmonterey.org>
55-B Plaza Circle
Salinas, CA 93901-2902
Contact: Lisa Rheinheimer (831) 775-0903



Sand City and Seaside

The section of Trail stretching from Sand City to Seaside is primarily an off-street facility, with the one exception of an on-street detour through the new commercial areas of Sand City. The detour was caused by the mining of sand occurring in the dunes, which prevented the alignment of the existing Trail through the quarry area. The existing Scenic Trail through Sand City and Seaside provides access to destinations like the regional commercial centers of Sand City, although the trail's setting is less urban at this location.

Marina to Castroville

From Seaside through the City of Marina, the Scenic Trail parallels SR-1. The trail is located in the Caltrans right-of-way on the western side of SR-1. The trail is adjacent to the historic Fort Ord base property along this section of the corridor. As the Scenic Trail enters Marina, the trail leaves the highway and runs along the western side of Del Monte Boulevard, providing access to the City of Marina from the trail. Along Del Monte Boulevard, the Scenic Trail is a broad, landscaped path with several at-grade street crossings.

After the trail exits Marina, it runs north along Del Monte Boulevard to the intersection of SR-1, where the trail becomes an on-street facility. A short multi-use path segment begins prior to entering Castroville from the south, terminating in Castroville at the intersection with SR-156. There are no existing multi-use path sections of the Scenic Trail north of Castroville.

3.3. PLANNING AND POLICY CONTEXT

This section discusses the key public agencies involved in the development of the Master Plan, and reviews the planning and policy documents used in the development of the Master Plan.

3.3.1. AFFECTED AGENCIES

Association of Monterey Bay Area Governments

The Association of Monterey Bay Area Governments (AMBAG) is the designated Metropolitan Planning Organization for the Monterey Bay region and is comprised of member cities from San Benito, Santa Cruz and Monterey Counties. The purpose of AMBAG is to provide a forum for regional planning and discussion of issues central to all three counties. AMBAG prepares long-range plans and regional forecasts and models. AMBAG is funded in combination by federal funds, grants and membership dues.

AMBAG is the lead agency in planning activities for the Monterey Bay segment of the Scenic Trail, charged with the receipt and disbursement of federal funding for the trail.

California Coastal Conservancy

The California Coastal Conservancy is a State agency established in its present form by State law in 1976. The Coastal Conservancy purchases, protects, restores, and enhances coastal resources and provides public access to the shore, including trails and accessways. These trails and

3. Existing Conditions

accessways include portions of the California Coastal Trail, of which the Monterey Bay Sanctuary Scenic Trail is one segment. The Coastal Conservancy is a non-regulatory agency.

California Coastal Commission

The Commission is a quasi-judicial state agency, created by a voter-approved initiative. The California Coastal Commission was made permanent by the Legislature in 1976 through adoption of the California Coastal Act. The Commission is one of two agencies charged with the administration of the Coastal Zone Management Act, which gives the Commission regulatory control over activities affecting coastal resources. Development within the Coastal Zone, including trails, is subject to the Coastal Development Permit process of Monterey County under their certified Local Coastal Program

California Department of Transportation

The State of California Department of Transportation (Caltrans) is responsible for the design, construction, maintenance, and operation of the California State Highway System, as well as that portion of the Interstate Highway System within the state's boundaries. Caltrans has jurisdiction over SR-1 and the related right-of-way. Caltrans' jurisdiction is particularly significant at the SR-1 bridge crossings over the Salinas River and Elkhorn Slough.

Deputy Directive 64

Deputy Directive (DD) 64 requires that Caltrans “fully considers the needs of non-motorized travelers (including pedestrians, bicyclists and persons with disabilities) in all programming, planning, maintenance, construction, operations and project development activities and products.” As part of this policy, Caltrans adopts the U.S. Department of Transportation’s Policy Statement on Integrating Bicycling and Walking into Transportation Infrastructure, which provides design guidance on accommodating bicycle and pedestrian travel. DD 64 identifies numerous Department responsibilities to ensure that the needs of non-motorized travelers are incorporated into all Caltrans activities.

California State Parks

The California Department of Parks and Recreation manages more than 260 park units, which total nearly 1.3 million acres, with over 280 miles of coastline; 625 miles of lake and river frontage; nearly 18,000 campsites; and 3,000 miles of hiking, biking, and equestrian trails. Within the project area, major State Parks holdings include the Monterey State Beaches, Marina State Beach, Salinas River State Beach, Moss Landing State Beach and Zmudowski State Beach.

County of Monterey

The County of Monterey, located along California’s Central Coast, is approximately 2.1 million acres in size. The population of Monterey County is approximately 415,000 persons. The County is home to a large agricultural community, located primarily in the North County and Salinas Valley areas. Agriculture is the primary land use in Monterey County, and nearly half of the County’s acreage is devoted to agricultural use.

Historically, the County has been a significant location for military operations, but the closure of Fort Ord Military Base has opened the door to other industries. As a coastal county, Monterey's economy relies heavily on tourism and related industries. Education is a growing facet of Monterey County's economy, with the recently established California State University Monterey Bay campus, and existing marine research institutions.

Monterey Bay Unified Air Pollution Control District

The Monterey Bay Air Pollution Control District (District) works in conjunction with the State's Air Resources Board to pursue the achievement of federal and state air quality standards. The District is responsible for the development of regulations governing emissions, and air quality planning, which includes transportation measures. The District is comprised of Monterey, Santa Cruz and San Benito counties, forming the North Central Coast Air Basin.

Transportation Agency for Monterey County

The Transportation Agency for Monterey County is the state-designated Regional Transportation Planning Agency, Congestion Management Agency, Local Transportation Commission, and the Service Authority for Freeways and Expressways for Monterey County. The Transportation Agency is responsible for the preparation of the Regional Transportation Plan, which is required by state and federal governments for the distribution of transportation funds to local and regional projects. The Transportation Agency is coordinating the Monterey Bay Sanctuary Scenic Trail master planning effort and project financing within Monterey County.

3.3.2. EXISTING PLANNING DOCUMENTS

Monterey County General Plan

The Monterey County General Plan was adopted in September 1982 by the Monterey County Board of Supervisors. The County General Plan provides goals and policies for transportation on a countywide level. The plan provides specific bicycle transportation goals, objectives and policies, which are listed below:

Goal 1.1: To Provide for a Safe, Convenient Bicycle Transportation System Integrated with other Transportation Modes.

Objective:

45.1 Map an integrated system of suggested bicycle routes for Monterey County as part of each area plan, and use the map as an initial step for establishing a comprehensive bicycle plan.

Policies:

45.1.1 The comprehensive bicycle plan shall be coordinated among all appropriate private and public interests and agencies.

45.1.2 Primary emphasis for establishing bicycle routes shall be within urban areas.

3. Existing Conditions

45.1.3 Bicycling shall be encouraged as a viable transportation mode for visitor-serving areas.

45.1.4 Bicycle routes in transportation corridors shall be improved, where feasible.

45.1.5 Construction or expansion of all major arterials shall consider separate bike paths.

Objective:

45.2 Promote a bicycle system integrated with other transportation modes.

Policies:

45.2.1 All visitor-serving locations shall be encouraged to provide adequate and secure bicycle parking facilities.

45.2.2 Multi-modal transfer facilities, such as park-and-ride lots, should provide adequate and secure bicycle parking facilities.

The County General Plan also includes transportation policies which apply more generally to a multi-use trails:

38.1.1 The County shall support the implementation of measures for reducing air pollution from transportation sources.

38.1.4 The County shall encourage transportation alternatives such as bicycles, car pools, transit and compact vehicles.

The goals, objectives and policies outlined in the Monterey County General Plan provide a foundation for subsequent development throughout the county.

Monterey County Regional Transportation Plan

The Monterey County Regional Transportation Plan is produced by the Transportation Agency for Monterey County as required for federal and state funding of transportation projects. The Regional Transportation Plan was most recently updated in 2005. The Regional Transportation Plan is a long-range planning document for the Monterey region. The Regional Transportation Plan includes a 25-year transportation expenditure plan, which aims to anticipate the resource needs for projects over the lifespan of the plan.

Goals, policies and objectives contained in the RTP provide direction for the development of bicycle and pedestrian facilities in Monterey County:

Goal 1.2: Bicycle and Pedestrian Transportation

Expand, improve, and maintain facilities for pedestrians and bicyclists that accommodate safe, convenient, and accessible bicycle and pedestrian transportation across Monterey County.

Objectives:

- 1: Increase the number of bicycle facility miles and pedestrian facilities in Monterey County to improve the safety, convenience, and accessibility of the regional transportation network.
- 2: Preserve or increase funding available for bicycle and pedestrian transportation projects through the Transportation Agency Transportation Development Act 2% program, or other programs.
- 3: Increase the number of bicycle storage facilities or locations in Monterey County through administration of the Bicycle Protection Program.
- 4: Update and distribute a revised copy of the Monterey County Bike Map by 2008.
- 5: Annually administer Monterey County Bike Week, and preserve or increase public and private sponsorships for Bike Week activities.

Policies:

1. Identify gaps in the countywide bicycle facilities network, and needed improvements to and within key pedestrian activity centers and county community areas, and define priorities for eliminating these gaps and making needed improvements.
2. Determine funding needs for expanding and improving bicycle and pedestrian facilities, and seek funding for those needs.
3. Update the Transportation Agency for Monterey County General Bikeways plan and Monterey County Bicycle Map in concert with the 4-year update schedule for the Regional Transportation Plan to document gaps on the regional bicycle facilities network and set priorities for funding projects.
4. Encourage routine maintenance of bikeway and walkway network facilities, as funding and priorities allow, including regular sweeping of bikeways and shared-use pathways. Programs to support these maintenance efforts could include:
 - Sidewalk repair programs, including incentives to property owners to improve adjoining sidewalks beyond any required maintenance,
 - Continued administration of the Bicycle Service Request Form
 - Program to alert public works departments to bicycle-related hazards, “Adopt a Trail” programs that involve volunteers for trail clean-up and other maintenance,
 - Enforcement of sweeping requirements of towing companies following automobile accidents.
5. Continue to administer the Bike Protection Program to subsidize the cost of bike racks and lockers in locations most heavily used by bicyclists.

3. Existing Conditions

6. Support the development and implementation of effective programs to educate drivers, bicyclists, and pedestrians as to their rights and responsibilities, and adult and youth pedestrian and bicycle education and safety programs, including:

- Enforcement of pedestrian- and bicycle-related laws by local police departments,
- Teaching of bicycle and pedestrian safety to school children and drivers
- Informing interested agencies and organizations about available education materials and assistance such as those programs included within the National Bicycle Safety Network.

7. Support programs being developed, or in place in Monterey County, that encourage and promote bicycle and pedestrian travel. These programs could include:

- Producing and distributing the Transportation Agency's Monterey County Bicycle Map as resources allow,
- Supporting programs that would encourage more students to walk or bicycle to school,
- Continuing the encouragement of bicycling and walking as part of transportation demand management and commute alternatives programs, and
- Continuing to work with local jurisdictions and partner agencies to sponsor Monterey County Bike Week as an increasingly effective mechanism for promoting bicycle travel and bicycle safety.

8. Work with local agencies to develop a coordinated approach to bicycle signage, the system for which could include:

- Directional and destination signs along bikeways and shared use trails
- Location maps in downtown areas and other major pedestrian districts
- A route identification system and common set of signs for the regional bicycle network identified in the Transportation Agency's General Bikeways Plan.

9. The Transportation Agency Pedestrian and Bicycle Facilities Advisory Committee (BPC) will continue to review development proposals from local agencies and provide comments to public works staff to help resolve bicycle and pedestrian issues of concern and to make sure that proposed facilities are practical, safe and usable. The BPC will develop countywide or subregional approaches that could help overcome obstacles standing in the way of achieving the Transportation Agency's goal for planning pedestrian and bicycle transportation.

10. Support and encourage local efforts to require the construction of bicycle and pedestrian facilities and amenities, where warranted, as a condition of approval of new development and major redevelopment projects as part of the Transportation

Agency's goal to coordinate land use decision-making with regional transportation planning.

11. Accommodate, and encourage other agencies to accommodate, the needs for mobility, accessibility, and safety of bicyclists and pedestrians when planning, designing, and developing transportation improvements. Such accommodation could include:

- Reviewing capital improvement projects to make sure that needs of non-motorized travel are considered in programming, planning, maintenance, construction, operations, and project development activities and products.
- Incorporating sidewalks, bike lanes, crosswalks, pedestrian cutthroughs, or other bicycle and pedestrian improvements into new projects.

12. In order to facilitate regional travel by bicycle, the Transportation Agency encourages its member agencies to construct bicycle facilities on new roadways as follows:

- In coordination with regional and local bikeways plans;
- According to the specifications in Chapter 1000 of the Caltrans Highway Design Manual;
- With consideration of bicycle lanes (Class 2 facilities) on all new major arterials and on new collectors with an Average Daily Traffic (ADT) greater than 3,000, or with a speed limit in excess of 30 miles per hour; and
- With special attention to safe design where bicycle paths intersect with streets.

Fort Ord State Park General Plan

The goal of the Fort Ord State Park General Plan is to provide the primary management plan for the park. The General Plan outlines the guidelines for the protection of the national environment, resource restoration, and guidance for future siting, design and construction of area-specific projects to avoid potential adverse environmental impacts. The General Plan contains guidelines of significance to the Scenic Trail:

CIR-12 Develop a Unit Trails Plan that would create opportunities for visitors to enjoy the unique and diverse topography, geology, biotic communities, and scenic values of the park. The actual location, distance, and use of future trails would be governed by this plan. Include specifications and policies concerning trail construction and maintenance, coordinated with soil erosion and sedimentation control measures.

CIR-13 Develop trails that provide for public access within the park and to adjacent regional trail systems, with priority for achieving unitwide resource management

3. Existing Conditions

goals and objectives. Support regional trail objectives, coordinate with other land management agencies in the vicinity to evaluate and monitor resource conditions and share information to develop open space management programs and multiple use trail plans on a regional scale. Recognize the Monterey Bay Coastal Trail and California Coastal Trail as an important non-vehicular transportation corridor and important means of unifying public use areas within the non-contiguous portions of Monterey Bay.

Monterey County Bikeway Plan

The Monterey County Bikeway Plan was developed in 2001 by the Monterey County Department of Public Works. The Plan satisfies Caltrans requirements for bicycle plans and provides the County with an avenue to pursue bicycle facility programs and projects in the future. The goals of the Monterey County Bikeway Plan are:

- Make bicycling on all streets and roads in Monterey County safer and more convenient and pleasurable for everyday transportation to work, to school, on errands, and to transit and rail facilities, as well as for pleasure, recreation, and health.
- Integrate the consideration of bikeways, bicycle facilities, and bicycling programs into all planning activities and documents of local, regional, and state units of government.
- Encourage development of bicycling safety education programs and enforcement programs to improve bicycle skills, observance of traffic laws, and promote overall safety for cyclists of all ages.
- Develop and upgrade bikeways and facilities to provide greater safety to all bicycle riders.
- Provide secure and visible bicycle facilities that meet the needs of commuting, utility, recreation and touring bicyclists of all ages in Monterey County.
- Provide convenient access and parking throughout county's bicycle transportation system.
- Apply bikeways and bicycle facilities to existing and future planned land uses where appropriate.
- Uniformly apply Caltrans and Monterey County design standards and policies that promote safe, convenient, and pleasurable bicycle facilities to encourage bicycle transportation.
- Continue facilitating jurisdictions to pursue bicycle grant opportunities.
- Encourage increased efforts on local, county, and regional levels to submit bicycle projects to grant sources each year from all jurisdictions.
- Remove or reduce all safety hazards.
- Promote benefits associated with bicycling to encourage greater use of bicycles for all recreational and commuter trips.

- Provide opportunities and incentives to create a 10% modal shift away from vehicle use to bicycling.
- Provide a countywide bikeway system that is integrated with all other transportation systems.

Monterey County currently maintains approximately 40 miles of bicycle facilities (Class I bike paths, Class II bike lanes, and Class III bike routes). The remaining bicycle facilities located in the County are maintained by Caltrans.

Draft Long Range Interpretive Plan for the Monterey Bay Sanctuary Scenic Trail

The Draft Long Range Interpretive Plan was prepared to guide the development of the interpretive component of the Monterey Bay Sanctuary Scenic Trail. The plan provides suggested interpretive topics, themes and sites for interpretation along the length of the Trail, from Sea Cliff State Beach to Lover's Point. The Draft Interpretive Plan is intended to be used in conjunction with the Master Plan for the Monterey Bay Sanctuary Scenic Trail.

Completing the California Coastal Trail

In 2001, the Legislature and Governor directed the Coastal Conservancy to prepare a report on a proposed trail stretching the length of the California Coast. The resulting document, "Completing the California Coastal Trail," was completed in 2003. The document outlined action objectives for each county including: "encourage and assist in the completion of the Monterey Bay Sanctuary Scenic Trail." The California Coastal Trail was designated California's Millennium Legacy Trail in 1999.

3.4. AFFECTED JURISDICTIONS AND PLACES

The Trail corridor passes through various cities within Monterey County as well as unincorporated areas of the County itself. The terrain of the trail corridor is characterized by rolling hills, dunes and coastal plains. The corridor is home to urban commercial and residential development as well as rural residential and agricultural land. The diverse land uses located along the corridor result in various user groups with differing needs. The trail will serve as a transportation connection for commuters as well as recreational users along both the urban and rural sections of the trail corridor.

The Trail corridor passes through numerous coastal cities and census designated places in Monterey County. These are presented in Table 3-1.

3. Existing Conditions

**Table 3-1
Cities and Unincorporated Places Along the Monterey Bay Sanctuary Scenic Trail**

Name	Population	Area	Economy	Other
Pacific Grove	17,145	2.7 sq mi	Tourism-based	Located at the tip of the Monterey Peninsula. Known for its wealth of historic architecture.
Monterey	30,641	8.6 sq mi	Tourism, commercial fishing	Population can fluxuate to 70,000 at peak of tourist season, Home to Naval Post-Graduate School and Defense Language Institute
Sand City	270	3 sq mi	Employment center, shopping destination	Home to two regional retail centers: Sand Dollar Plaza and Edgewater Shopping Center
Seaside	33,450	8.9 sq mi	Residential, retail, tourism	Home to Fort Ord lands
Marina	25,000	14 sq mi	Residential, retail, tourism	Home to California State University Monterey Bay
Castroville	6,741	1 sq mi	Agricultural	Unincorporated
Moss Landing	300	0.4 sq mi	Fishing, marine research, tourism	Population can increase during fishing season; home to MBARI and MLML

3.5. TRANSPORTATION AND CIRCULATION

3.5.1. PUBLIC TRANSIT

Monterey-Salinas Transit

Monterey-Salinas Transit (MST) is Monterey County’s primary public transportation system. MST operates a variety of services, urban and rural bus lines, as well as commuter bus service to Gilroy, where passengers can link with the VTA and Caltrain systems. MST also provides commuter bus service to San Jose. MST riders can access the Scenic Trail study corridor from transit lines 1, 2, 16, 17, 20, 25, 27, 28, 53, and 55. MST is operated in the cities of Carmel-by-the-Sea, Del Rey Oaks, Marina, Monterey, Pacific Gove, Salinas, Seaside, San Jose and the County as a joint powers agency. MST also operates the Waterfront Area Visitor Express (WAVE) trolley, serving tourists near Cannery Row.

3.5.2. RAIL TRANSIT

Amtrak

Amtrak's Coast Starlight train serves the Salinas Amtrak Station. The Salinas Station has a high rate of ridership relative to other stations, and is only served by one line. The popularity of rail service has caused the Transportation Agency for Monterey County to investigate the expansion of rail service throughout the county. Amtrak provides connecting bus service to several points within Monterey County as part of its Capitol Corridor train service. Riders can use the bus system to access popular destinations such as Monterey, Pacific Grove, and Carmel.

3.5.3. BIKEWAYS

Bikeway Classification Descriptions

The three types of bikeways identified by Caltrans in Chapter 1000 of the Highway Design Manual are as follows.

Class I Bikeway. Typically called a “bike path” or “multi-use path” a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. Class I bikeways are not for the exclusive use of bicyclists, and can be used by pedestrians, joggers, and other non-motorized users.

Class II Bikeway. Often referred to as a “bike lane,” a Class II bikeway provides a striped and stenciled lane for one-way travel on a street or highway.

Class III Bikeway. Generally referred to as a “bike route,” a Class III bikeway provides for shared use with pedestrian or motor vehicle traffic and is identified only by signing.

Existing Bikeways

Monterey County is currently home to approximately 245 miles of bikeways. Monterey County bikeways adhere to the Caltrans classification of bikeways. Monterey County recently updated their bikeways map, which denotes Bike Lanes, Routes, and Class I paths throughout the county. Existing Monterey County bikeways are shown on **Figure 3-1**.



4. OPPORTUNITIES AND CONSTRAINTS ANALYSIS

This chapter describes the primary opportunities and constraints that will affect the location of the proposed the Monterey Bay Sanctuary Scenic Trail. The project area presents a range of opportunities and constraints for the proposed multi-use trail. Opportunities are defined as unique conditions that will facilitate implementation of the Sanctuary Scenic Trail, and/or enhance the operations and user experience of the trail. Constraints are defined as conditions that may negatively impact the feasibility, enjoyment, and/or operation of the trail. This opportunities and constraints analysis will help identify short- and long-term alignment and trail design and operation options.

4.1. METHODOLOGY

The Sanctuary Scenic Trail Master Plan project team gathered data for this opportunities and constraints report using the following methodologies.

Biological Review

Biological analysis was conducted using the California Natural Diversity Database (CNDDDB) in conjunction with document and field review.

Field Research

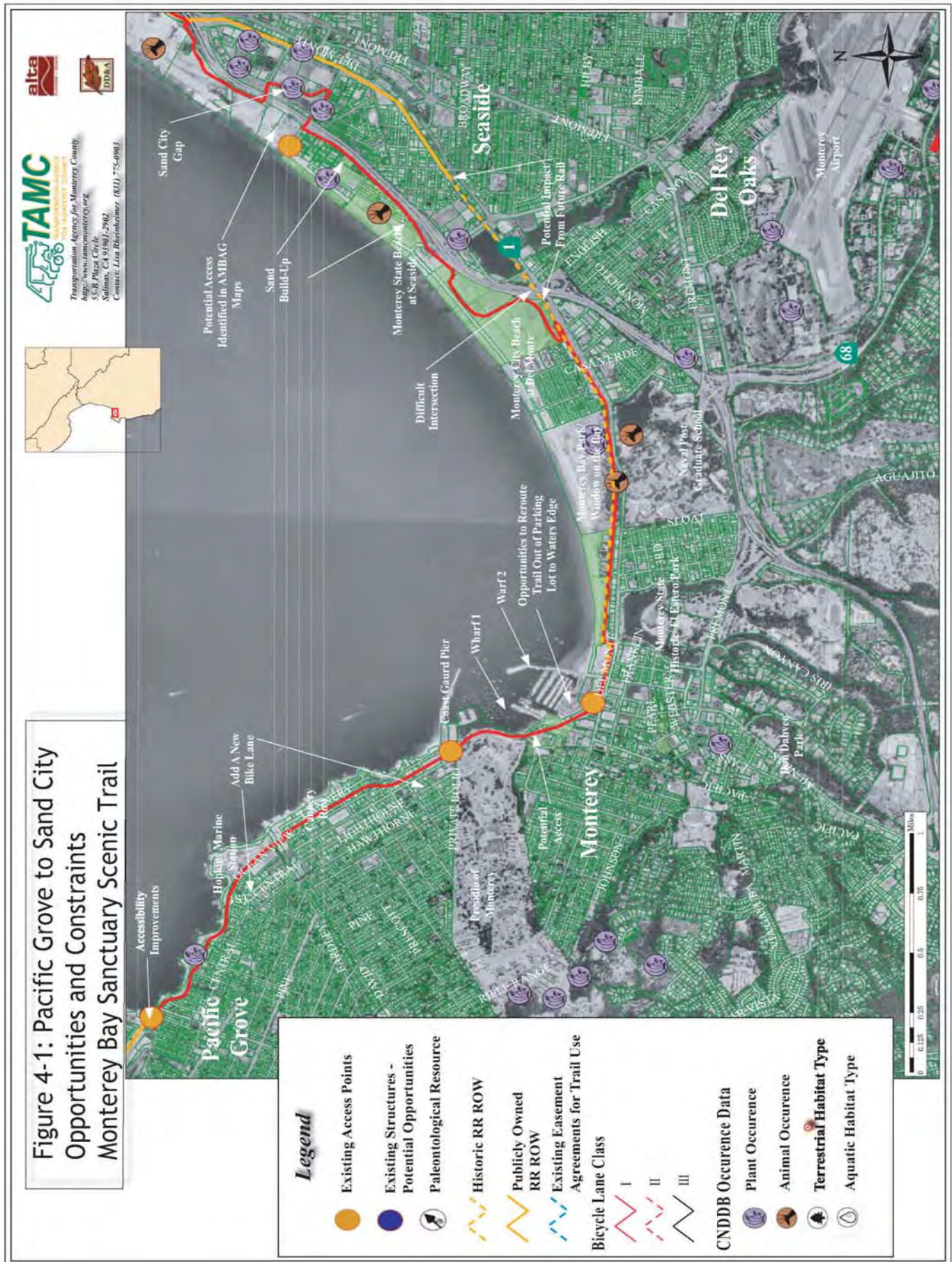
The project team conducted extensive fieldwork along the Sanctuary Scenic Trail corridor, using a combination of field notes and digital photography to document opportunities and constraints in the project area.

Document research

The project team conducted document research in order to determine the location of some opportunities and constraints. Documents reviewed included relevant plans, maps, historical documents, and environmental impact reports.

4.2. OPPORTUNITIES AND CONSTRAINTS

Opportunities and constraints of the Sanctuary Scenic Trail are presented in the text below and shown graphically in **Figures 4-1 through 4-6**. The Sanctuary Scenic Trail corridor is shown in six discrete sections for ease of graphic representation and analysis. The map sections start in Pacific Grove, shown in **Figure 4-1**, north to the terminus of the study area at the McGowan-Thurwachter Bridge, shown in **Figure 4-6**. Matrices listing opportunities and constraints are included as **Tables 4-1 and 4-2**, respectively.





**Figure 4-3: Marina to Salinas River Opportunities and Constraints
Monterey Bay Sanctuary Scenic Trail**



TAMC
 Transportation Agency for Monterey County
<http://www.tamcmonterey.org>
 55-B Plaza Circle
 Salinas, CA 93901-2902
 Contact: Lisa Rheinheimer (831) 775-0903



Legend

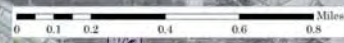
- Existing Access Points
- Existing Structures - Potential Opportunities
- Paleontological Resource
- Historic RR ROW
- Publicly Owned RR ROW
- Existing Easement Agreements for Trail Use

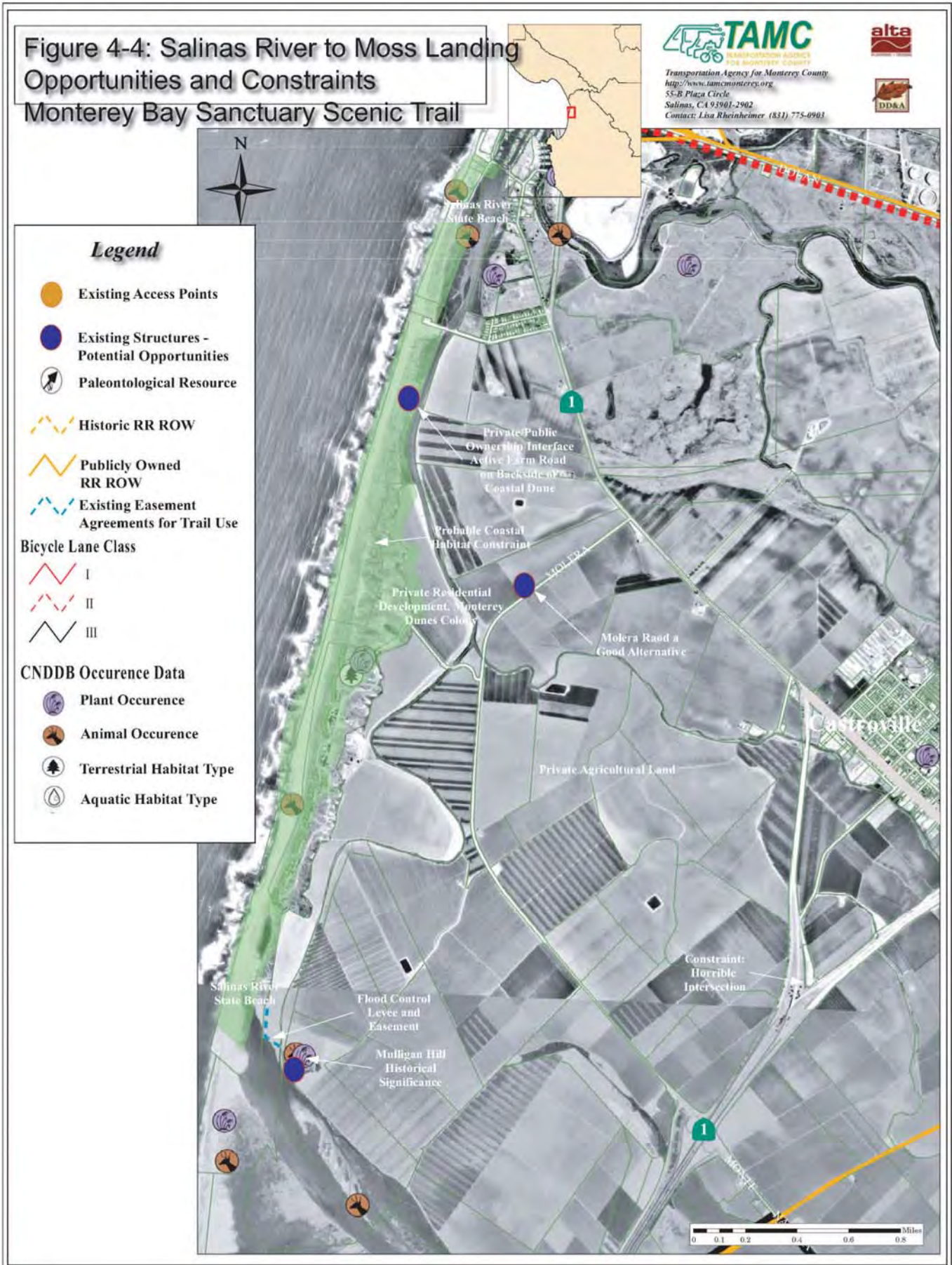
Bicycle Lane Class

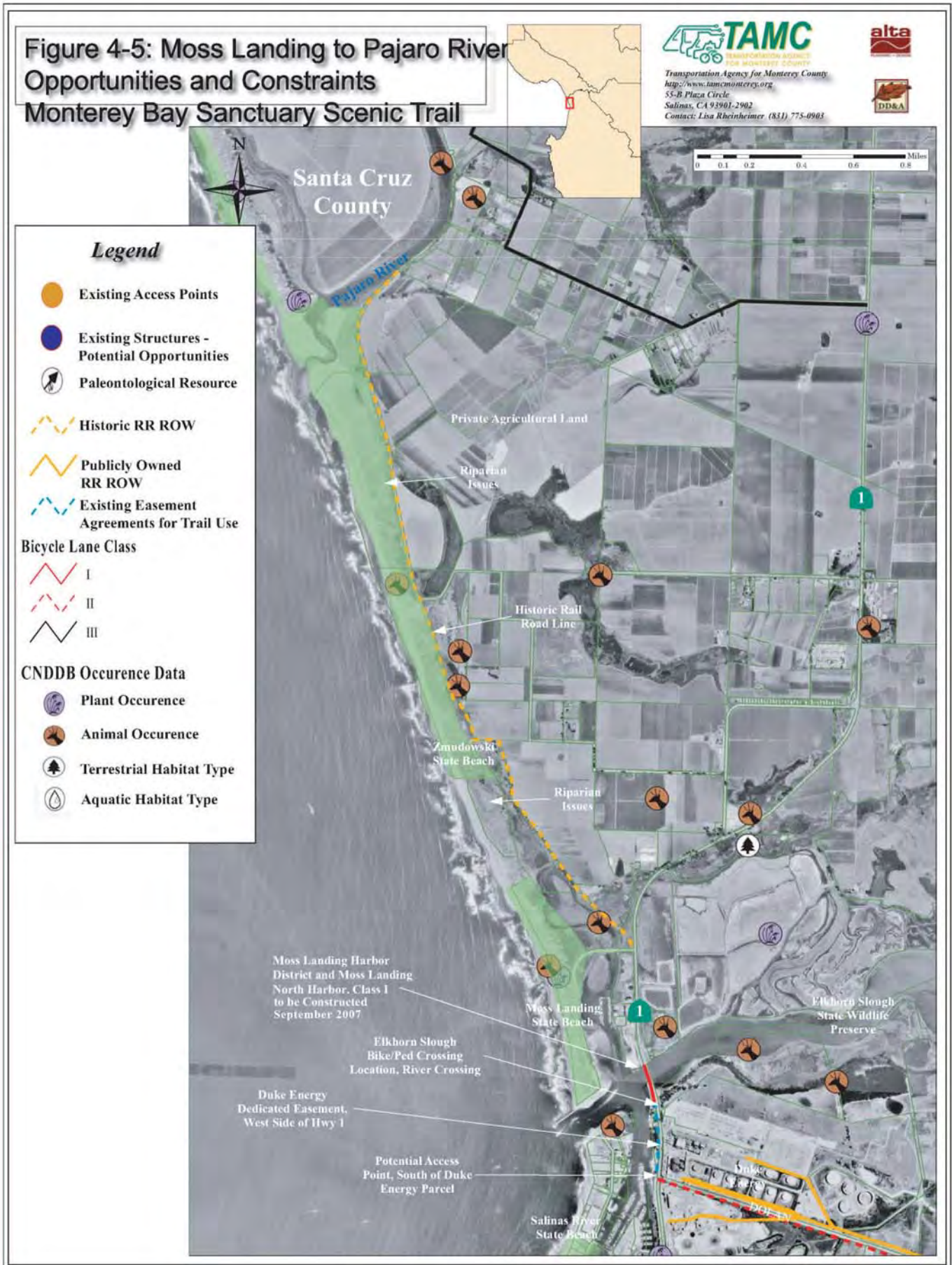
- I
- II
- III

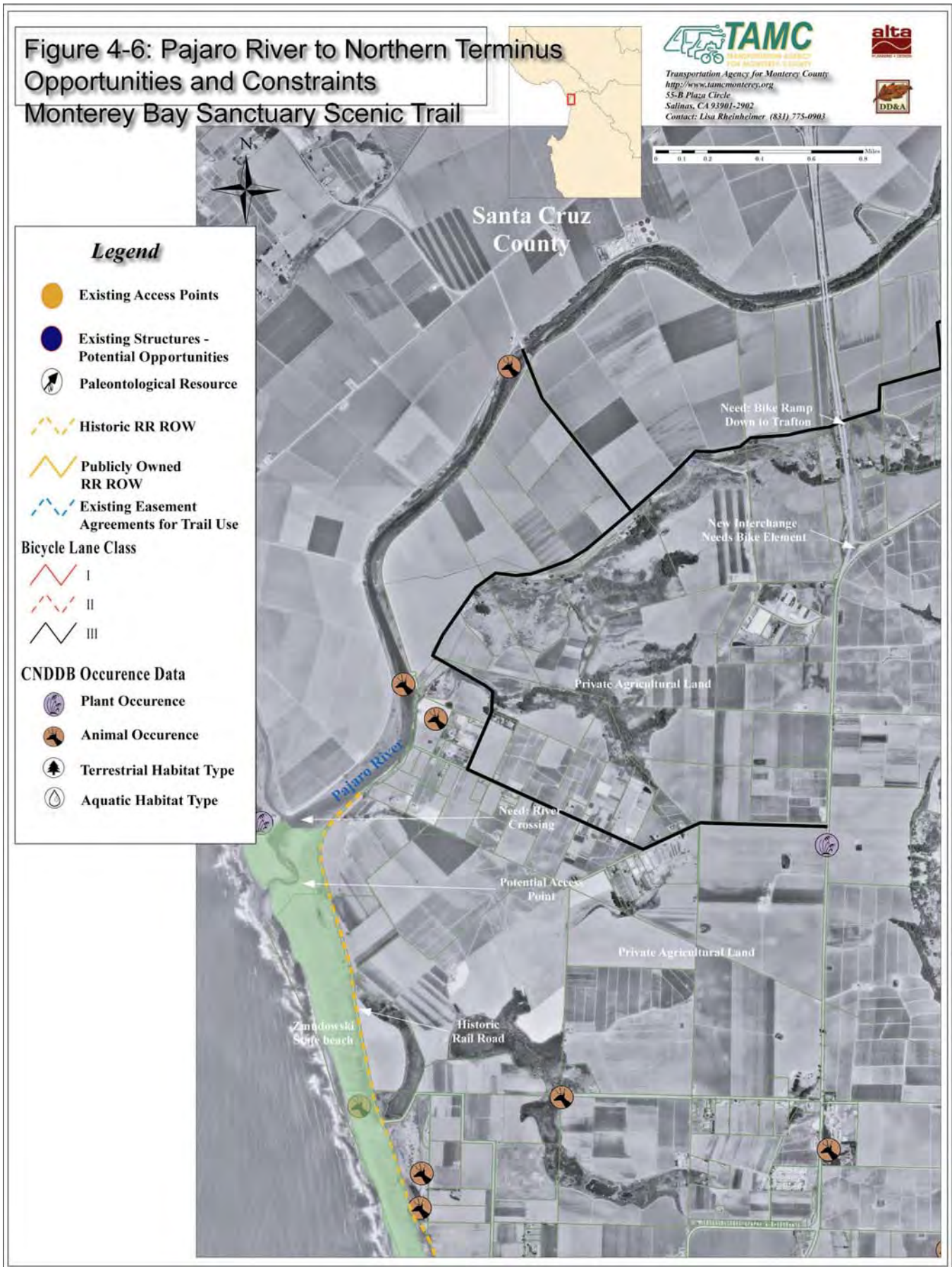
CNDDDB Occurrence Data

- Plant Occurrence
- Animal Occurrence
- Terrestrial Habitat Type
- Aquatic Habitat Type









4. Opportunities and Constraints Analysis

Table 4-1 OPPORTUNITIES													
Location	Scenic and Natural Resource Access	Ecological Education and Interpretation	Geologic Education and Interpretation	Agricultural Education and Interpretation	Cultural Resources Education and Interpretation	National and State Beaches and Parks	Existing Segments	Roadways	Existing Easements	Activity Areas and Neighborhoods	Transportation and Transit Integration	Existing Connections Under or Over Hwy 1	Railroad ROW
1: Pacific Grove to Sand City Gap Figure 4-1	Historic City of Monterey	Animal/Plant Occurrence	Offshore Shale formations	None	Historic Old Town Monterey, Cannery Row, Monterey State Historic Park, Monterey Bay Aquarium	Asilomar State Beach, Seaside Beach, Monterey Beaches, Monterey State Historical Park, Lovers Point	MBSST is existing along this segment	None	None	Commercial and Residential Uses in Monterey, Sand City, and Seaside	Monterey Transit Plaza	N/A	Historic Del Monte RR ROW
2: Sand City Gap to Edge of Marina Figure 4-2	Historic Fort Ord	Animal/Plant Occurrence	Flandrian and Pre-Flandrian Dunes	None	Historic Fort Ord Military Base	Marina State Beach, Future Fort Ord Dunes State Park	MBSST is existing along this segment. Roadways/trails exist through Fort Ord.	Beach Range Road	None	CSUMB Campus, Future State Park, Commercial and Residential Uses in Sand City, Seaside and Marina	Edgewater Transit Exchange	Fort Ord: 1st Street, 8th Street, Railroad R-O-W, Pedestrian Crossings	RR ROW parallel to existing segment
3: Marina to the Salinas River Figure 4-3	Marina Dunes Open Space Preserve	Animal/Plant Occurrence	Flandrian Dunes	Agriculture in Castroville area	Agriculture in Castroville area	Marina State Beach, Marina Dunes Open Space Preserve	MBSST is existing through Marina, sections of trail exist in the vicinity of Castroville	None	None	Commercial and Residential Uses in Marina	Marina Transit Station	N/A	None
4: Salinas River to Moss Landing Figure 4-4	Salinas River National Wildlife Refuge	Animal/Plant Occurrence	N/A	Agriculture in Castroville area	Historic Railroad Bridge over the Salinas River, Agriculture in Castroville area, Mulligan Hill	Salinas River State Beach, Salinas River National Wildlife Refuge	Sections of trail exist in vicinity of Castroville	Molera Road	None	Agriculture	MST lines 27 and 28	N/A	None
5: Moss Landing to Pajaro River Estuary Figure 4-5	Elkhorn Slough, Moss Landing State Beach	Animal/Plant Occurrence	N/A	Agriculture in Moss Landing area	Marine Research Lab at Moss Landing, Commercial Fishing in Moss Landing	Salinas River State Beach, Moss Landing State Beach, Moss Landing Wildlife Area	None	Moss Landing Road/Elkhorn Slough Rd	Existing easement along Hwy 1 through Duke Energy parcel.	Commercial and Residential Uses in Moss Landing, Agriculture, Industrial Uses	MST lines 27 and 28	N/A	Abandoned Historic Spreckels RR ROW
6: Pajaro River Estuary to Thurwachter-McGowan Bridge Figure 4-6	Zmudowski State Beach, Pajaro River	Animal/Plant Occurrence	Sandy Beach formations at Zmudowski State Beach	Agriculture in Moss Landing area	Historic Spreckels Railroad	Zmudowski State Beach	None	Elhorn Slough Rd	None	Agriculture	None	N/A	Abandoned Historic Spreckels RR ROW

Table 4-2
CONSTRAINTS

Location	Active Agricultural Uses	Sand and Dunes	Utilities and Power Generation	Private Lands	Industrial Activities	Sensitive Wildlife Habitat Areas	Sensitive Plan Communities	Cultural Resources	Floodways	Waterway Crossings	Roadways and Roadway Crossings
1: Pacific Grove to Sand City Gap Figure 4-1	N/A	Yes	N/A	N/A	Sand Excavation in Sand City	Animal occurrences throughout segment	Plant occurrences throughout segment	Potential for Historic Resources in the City of Monterey	N/A	None	On-Street connector at Sand City Gap should be replaced with an off-street facility.
2: Sand City Gap to Edge of Marina Figure 4-2	N/A	Yes	N/A	Land under ownership of California State Parks and California State University	Sand Excavation in Sand City	Animal occurrences throughout segment	Plant occurrences throughout segment	Historic Fort Ord lands	N/A	None	None
3: Marina to the Salinas River Figure 4-3	Yes	Yes	N/A	Caltrans ROW, Agricultural land near Salinas River	Lone Star Plant	Animal occurrences in Marina Dunes and Martin Property	Plant occurrences in Marina Dunes and Martin Property	Historic RR Bridge over Salinas River	Salinas River	Salinas River	Roadway Crossings in City of Marina
4: Salinas River to Moss Landing Figure 4-4	Yes	Yes	Duke Energy Power Plant	Private Condominium Development, Agricultural Land	Duke Energy Power Plant	Animal occurrence and Terrestrial habitat	Plant occurrences throughout segment	Mulligan Hill, Historic RR Bridge over Salinas River	Salinas River	Salinas River, Alisal, Trembladero and Moro Cojo Sloughs	To be determined
5: Moss Landing to Pajaro River Estuary Figure 4-5	Yes	Yes	Duke Energy Power Plant	Residential Development at Moss Landing, Agricultural Land	Duke Energy Power Plant	Animal occurrence and Terrestrial habitat	Plant occurrences throughout segment	To be determined	Elkhorn Slough	Elkhorn Slough, Moro Cojo Slough	Highway 1 at Potrero Road
6: Pajaro River Estuary to Thurwachter-McGowan Bridge Figure 4-6	Yes	Yes	N/A	Agricultural Land	N/A	Animal occurrences throughout segment	Plant occurrences throughout segment	To be determined	Pajaro River	Pajaro River	To be determined

4.2.1. OPPORTUNITIES

The greatest opportunities afforded the Sanctuary Scenic Trail are the overall existing vision of the trail, the amount of public and agency support, and extent of existing trail already completed. The vision, support, and existing infrastructure gives the completion of the remaining gaps a head start and momentum that few other regional trails enjoy.

Another important opportunity is the setting for the Trail. The Monterey Bay Area is recognized as one of the most beautiful natural environments in the country. Monterey and Santa Cruz are already major visitor destinations that, together with a resident population who actively enjoy their communities, constitute a major ready-made demand for a trail that enhances access to this environment and opportunities for exercise, commuting by foot or bicycle, and education.

Finally, Monterey Bay is recognized as major natural resource and environmental treasure. The Sanctuary Scenic Trail provides an opportunity to enhance the protection and restoration of this environment by (a) including restoration efforts as part of the trail development, and (b) providing educational elements to the public to build a greater understanding of the environment and support for preservation efforts. Key opportunities include:



neighborhoods

The Monterey Bay Sanctuary Scenic Trail would increase access opportunities to sites like this one along the Bay.

- Access to scenic and natural resources
- Ecological education and interpretation
- Environmental restoration
- Geologic and geographic education and interpretation
- Agricultural education and interpretation
- Cultural resources education and interpretation
- National and state beaches, parks and other facilities
- Existing and planned trail segments
- Roadways
- Existing trail easements and agreements
- Proximity to activity areas and
- Transportation and transit integration
- Redeveloping Fort Ord areas
- Existing connections under or over SR 1
- Publicly owned railroad right-of-way

Scenic and Natural Resource Access

The Sanctuary Scenic Trail will provide new and enhanced access to scenic and natural resources along the Monterey coastline. Currently, access to beaches and the adjacent dunes

and wetlands north of Seaside is limited. These areas are largely inaccessible by people on foot, bicycle, or horseback. For example, between Del Monte Avenue in Seaside and Moss Landing there are currently only two public access points (Marina State Beach and Salinas River State Beach). Between Moss Landing and the Santa Cruz County line, there is only one public access point, at Zmudowski State Beach. The trail will yield new access points for hikers, bicyclists, and equestrians providing new vantage and access points to the Monterey Bay shoreline.

Access and scenic vistas may be enhanced with interpretive signage as well as visitor facilities such as shade structures and benches. The existing Draft Long Range Interpretive Plan for the Monterey Bay Sanctuary Scenic Trail outlines potential locations for interpretive signage and presents interpretive themes and locations of significance.

Ecological Education and Interpretation

Monterey Bay is one of the most ecologically rich areas of the California coast. The ecology of the project setting presents a great opportunity for education and interpretation along the proposed trail. Through education and interpretation, residents and visitors will gain a new understanding of and respect for the environment—which in turn will lead to greater support for environmental restoration and protection efforts. When combined with proper design and operation, the trail will also help manage public access in environmentally sensitive areas by directing people away from sensitive habitat and channelizing access to appropriate areas.

Environmental Restoration

Trail projects in environmentally sensitive areas are often coupled with restoration efforts, including restoration of habitat, natural features, erosion control, removal of debris, water quality enhancements, and other elements. For example, new trails in the Lake Tahoe basin include drainage systems that help keep sediment out of the water. A new trail in Marin County will include removal of an old creosote-soaked railroad trestle over a wetland. Often new trail projects are coupled with land acquisition or easements that help protect natural resources as well.

Geologic and Geographic Education and Interpretation

The Monterey Bay has many unique geological and geographical elements that will be of interest to trail users. According to the Draft Long Range Interpretive Plan for the Monterey Bay Sanctuary Scenic Trail, the trail corridor is home to unique geological features including the Flandrian Dunes, which are estimated to be between 5,000 and 18,000 years old. Unique geographical elements include the historic riverbed of the Salinas River that emptied into the Moss Landing Harbor. The trail will provide numerous opportunities for



Agricultural land along the corridor presents an opportunity for education and interpretation.

interpretation and education of these and other elements.

Agricultural Education and Interpretation

The Sanctuary Scenic Trail corridor includes active agricultural lands that offer a unique opportunity to residents and visitors. Just as bicyclists in Napa Valley often combine their rides with stops at wineries, Sanctuary Scenic Trail users will be traveling through major artichoke, strawberry and other crops in the area, along with active commercial fishing operations in Moss Landing. The Draft Long Range Interpretive Plan for the Monterey Bay Sanctuary Scenic Trail specifically identifies the portion of trail between Marina and the Santa Cruz County line as an interpretive opportunity for agricultural themes.

The trail will offer opportunities for the public to learn more about agricultural operations. The trail will provide the opportunity to educate users on the dangers of entering active agricultural lands, impacts of theft and to manage access so as to protect these agricultural activities. The Sanctuary Scenic Trail may also provide these operations with an outlet to sell their goods.

Cultural Resource Education and Interpretation

The Sanctuary Scenic Trail will provide numerous opportunities to highlight and interpret the cultural resources of the Monterey Bay coastline. The Monterey Bay area has a rich human history. The Ohlone and Ensen communities of Native Californians have long inhabited the Monterey area, and were the primary residents of the region prior to Spanish exploration. In the 16th Century, Spanish explorations up the coast of Alta California landed at Monterey. By the late 18th Century the Mission San Carlos de Borromeo had been established and five years later the seat of government of Alta California was moved to Monterey. Long a government seat for California, Monterey features some of the States oldest buildings, with a wealth of adobe construction. Monterey remained the Capitol of California until 1849, one year after the discovery of gold in the Sierra Foothills.

In the era after the Treaty of Guadalupe Hidalgo, Monterey began its shift from provincial capitol to notable agricultural region. Patterns of landownership changed under American rule, resulting in the redistribution of previously consolidated Spanish and Mexican landholdings to new immigrants who began raising cattle and growing wheat and grain.

In the late 19th Century, rail lines were extended into Monterey. This provided connections to additional markets for agricultural products, as well as providing ease of travel into the Monterey area for new residents. By 1930, the agricultural landscape in the Monterey area began to take its present form, characterized by corporate growers and large scale, single crop production.

Monterey in the 20th Century was also home to the canning industries made famous by John Steinbeck in several books chronicling California life. His novels lent Monterey recognition on a worldwide scale.

The Monterey area has become a destination for tourists, due to its natural beauty, temperate weather, rich human history and wealth of amenities. This diverse and significant history, which can be displayed and interpreted with the addition of cultural resource interest, points to the design of the Sanctuary Scenic Trail. Potential locations for cultural interest points are outlined in the *Draft Long Range Interpretive Plan for the Monterey Bay Sanctuary Scenic Trail*.



National and State Beaches, Parks, and other Facilities

The Sanctuary Scenic Trail will directly or indirectly connect a total of 15 national and state beaches, parks, and other facilities, including:

- Asilomar State Beach
- Elkhorn Slough National Estuarine Research and State Ecological Reserve
- Fort Ord State Beach
- Hopkins Marine Life Refuge
- Marina State Beach
- Monterey Bay Aquarium
- Monterey Bay National Marine Sanctuary
- Monterey State Beaches
- Monterey State Historical Park
- Moss Landing State Beach
- Moss Landing Wildlife Area
- Pacific Grove Marine Gardens Fish Refuge
- Salinas River National Wildlife Refuge
- Salinas River State Beach
- Zmudowski State Beach

This list includes an unusually high number of major visitor and ecological areas in a relatively short corridor, and could serve as a major theme in the development of the trail system.

When considering the development of the Sanctuary Scenic Trail, access to these areas will be important for many reasons. Close coordination with each public facility operator will be imperative to ensure that the trailheads

A view of Salinas River National Wildlife Refuge and Salinas River State Beach at the mouth of the Salinas River.

and access points in these areas are appropriate for the existing or proposed uses of the park or beach. Access points such as trailheads and parking areas determine where users can enter and exit the trail once it is developed. These access points will in large part determine where the trail is most heavily used and what type of surfacing is most appropriate for different trail segments. The majority of trail users travel only a short distance from available access points. Smaller-scale access points with no or limited parking are also important, such as point-of-entry gates from adjacent neighborhoods. Defined access points from residential neighborhoods, schools, office and commercial areas foster broader community use and

ownership of trail facilities. Existing and potential access points are a clear opportunity for the Sanctuary Scenic Trail.

Existing park facilities are also an important opportunity for the Sanctuary Scenic Trail. Park facilities such as picnic areas, vista points, fishing areas, and many others become greater opportunities for users when they are linked together by a developed trail. Parks such as Salinas River State Beach, Marina State Beach, and Fort Ord Dunes State Beach provide a sequence of recreational opportunities along the Sanctuary Scenic Trail project area. These parks can also serve as access points to the trail. Existing park facilities present a clear opportunity for the Sanctuary Scenic Trail.

Existing and Planned Trail Segments

The existing trail segments, especially the Monterey Recreation Trail, are some of the most popular and heavily used multi-use trails in California. Other trail segments in Marina and Seaside are less heavily used, although still popular local facilities. Once a connected, consistent trail is developed from Pacific Grove to Marina and Moss Landing, overall use of the trail will increase substantially. Planned trails in the corridor, including Fort Ord State Beach, Moss Landing, Elkhorn Slough, and Sand City, also add momentum to the development of the overall system.

Roadways

Existing roadways in the study area can serve as important short or long-term alignments, both for on-road bikeways (shoulders, bike lanes) and parallel off-road paths. This may be important on some segments that are ecologically sensitive. One potential solution in this situation may be to make use of roadways in the corridor. Roadways include:

Beach Range Road (Fort Ord Dunes State Park)

This former military road in Fort Ord runs parallel to Highway 1 between the railroad tracks and the coastline. This area is now part of the undeveloped Fort Ord Dunes State Park, and is not open to the public. Depending on how the road is used once the park is opened, Beach Range Road may serve as the Sanctuary Scenic Trail through this area.

Molera Road (County)

This two-lane county road through active agricultural areas is used by bicyclists trying to avoid Highway 1. Traffic volumes are low but speeds are high on this roadway. This may serve as a short and/or long-term route through this area.

Moss Landing Road

A trail alignment coming north along the dunes from the south would have to connect into Moss Landing Road, and cross the existing bridges linking to Highway 1. A new bridge that provides pedestrian access on one side has been constructed on Moss Landing Road across the Old Salinas River. Traffic volumes and speeds are very low on this roadway.

Elkhorn Road

While outside the study corridor defined for this project, an alternative route via Dolan/Castroville Roads to Elkhorn Road, and then connecting to County Road G12 and Main Street in Watsonville provides a viable alternative route for bicyclists between Moss Landing and Watsonville.

Highway 1 (Caltrans)

Non-motorized traffic is not allowed on the freeway portion of Highway 1 in the study area. Where bicyclists or pedestrians are allowed on Highway 1, traffic volumes and speeds inhibit all but the most determined person. A parallel pathway may be feasible within the Caltrans right-of-way in some areas.



An existing easement through the Duke Energy Plant along Highway 1 presents an opportunity for trail alignment.

Existing Trail Easements and Agreements

There are several existing trail easements in the corridor, one within the Caltrans right-of-way in Moss Landing through the Duke Energy power plant. This 10-foot wide easement may be an important element in getting the Sanctuary Scenic Trail through a very constrained area. The other alignment is adjacent to the Moss landing North Harbor on the north side of the Highway One bridge.

Proximity to Activity Areas and Neighborhoods

The Sanctuary Scenic Trail will not only link existing state parks and beaches, but also neighborhoods and activity centers along the corridor. Providing good access to these areas is critical for the trail to function not only as a regional facility, but also as a local commuter and recreation route. The proximity of the trail to residential areas and major activity centers, along with good connectivity, will help ensure the trail is well used by the community.

Transportation/Transit Integration

Access to transportation and transit options will result in increased user diversity for the Sanctuary Scenic Trail. With available transit connections, users may be able to access the trail by bus or future rail. This type of connection between transit modes will encourage use of the trail as a commuter route. Trail users are already commuting between Seaside and Monterey using the existing Sanctuary Scenic Trail. Additional connections to transit can extend the reach of the trail for commuters.

Redeveloping Fort Ord Areas

As Fort Ord redevelops, there will be many great opportunities to integrate the trail into the transportation and recreation systems for these areas, enhancing both the redevelopment projects and use of the trail. The Fort Ord Dunes State Park Preliminary General Plan and Draft Environmental Impact Report presents several policies that refer to the role of bicyclists and pedestrians in the future state park. The Plan/DEIR calls for the establishment of reasonable public access for pedestrians, bicyclists and other forms of non-vehicular transportation. The Plan aims to prioritize pedestrian and bicycle access at key public access points. The Plan suggests that development of a north-south connector trail for bicyclists and pedestrians be allowed. Non-motorized forms of transportation are emphasized by the Plan, and present an opportunity for the integration of bicycle and pedestrian facilities into redeveloping areas of historic Fort Ord.

Existing Connections Under/Over Highway 1

Highway 1 through Seaside and Marina separates the communities from the coastline and the Sanctuary Scenic Trail corridor, acting as a major barrier to the trail and beaches. Four existing crossings of Highway 1 in Fort Ord provide opportunities to enhance connectivity. Three under crossings, one used by the rail siding into Fort Ord (being studied as a bikeway connection), and two former U.S. Army vehicle and pedestrian connections on the base, will serve as ready-made connections to the trail. The Eighth Street Bridge over Highway 1 will also serve as major trail connector and beach access route.

Publicly Owned Railroad Rights-of-Way

The Monterey Branch Line, with sections currently owned by the Transportation Authority, Monterey County, and the State of California, is already used by the Sanctuary Scenic Trail and will provide excellent possibilities for trail alignments north of Marina. Rail with trail projects are a popular method of integrating off-street multi-use paths with active or proposed transit or passenger rail. The location and design of the trail will need to be coordinated with the proposed rail service. The potential re-use of the Salinas River Bridge, the placement of tracks into Monterey, and coinciding with the existing trail are significant.



Publicly owned railroad rights-of-way present opportunities for trail alignment.

4.2.2. CONSTRAINTS

The project team identified the following constraints for the Sanctuary Scenic Trail:

- Active agricultural uses
- Sand and dunes
- Utilities and power generation
- Privately owned land

- Industrial activities
- Sensitive wildlife habitat areas
- Sensitive plant communities
- Cultural resources
- Designated floodways
- Waterway Crossings
- Roadways and roadway crossings

Active Agricultural Uses

From Marina northward to the Santa Cruz County line, the Sanctuary Scenic Trail corridor is located in active agricultural areas. Farming activities such as spraying, crop harvesting, tilling, and irrigating take place throughout the year, primarily in the production of artichokes. While public roadways, State Beaches, and other facilities coexist with active agricultural fields, increases in public access close to active farming operations may pose problems. Some of these potential issues include:

- a. Impacts on farm equipment operations
- b. Theft and vandalism
- c. Safety and liability concerns
- d. Loss of farming land
- e. Spraying health concerns

Since it is a policy of the Sanctuary Scenic Trail, TAMC, and local agencies in Monterey County to preserve and protect agriculture, it will be imperative that the trail is planned and designed to minimize those impacts. Where it is determined that an easement on the perimeter of private land being farmed is the best functional location for the trail, close coordination with each property owner will be critical. Trails and increased public access can coexist with agriculture, as has been found in places like Napa Valley and Yolo County, but this requires an understanding of farming operations and methods to reduce or eliminate impacts.



Sand can render trail facilities unusable. Design measures should be taken to counteract the sand and regular maintenance should be performed.

Sand and Dunes

The Sanctuary Scenic Trail corridor includes an almost continuous sandy beach and sand dunes, most of which lie within existing State Beaches. The corridor is also windy, with the result that sand intrusion onto roads and paths is a continual issue in many areas—as are shifting sand dunes. This constraint falls into the category of an ongoing maintenance and

erosion control issue rather than a serious implementation flaw. Windbreaks, plantings, and other measures, along with regular sweeping, are typically enough to manage this on-going issue.

Utilities and Power Generation

Although Ellis Power (formerly Duke Energy Power Plant) in Moss Landing has provided an easement for trail use, the location of the easement along such a constrained segment of trail may present a challenge for the trail alignment.



Private property holdings are one of the primary constraints along the Monterey Bay Sanctuary Scenic Trail corridor.

Private Lands

Much of the corridor north of Marina consists of privately owned property. Other than agricultural impacts, which have been discussed above, other private property concerns in areas such as the Monterey Dunes Colony may include a loss of privacy, security, and noise. Where easements on private property are necessary, methods for addressing those concerns will be required.

Luckily, trails have an established record of co-existence with private property owners. Extensive studies have shown that trails do not result in additional crime or vandalism, and may even result in higher property values. Some of the best-known and heaviest used trails in the country bisect wealthy residential neighborhoods and are considered community assets. Fencing, patrols, and other techniques can address issues of privacy and security as well. However, given the sensitivity of this issue, alternative alignments that are not on private property will be developed when feasible for every segment as well.

Industrial Activities

Two industrial operations may affect at least the short-term viability of the trail. The first is the sand excavation activities in Sand City. It is understood that this site, which currently results in an alternative routing for the trail, is planned by the City for a development that will include provisions for the trail. The other location is the Lone Star plant located north of Marina. While the existing trail is located along Del Monte, a future coastal alignment would be blocked by this active operation. Research will be conducted on the expected life of this plant and the feasibility of routing a trail alignment in a manner so as not to affect this operation.

Wildlife Habitat and Sensitive Plant Communities

The proposed Sanctuary Scenic Trail corridor travels through many different types of habitat and plant communities. The habitats and communities along the corridor include:

Marine and Coastal Dunes
Coastal Salt Marsh
Maritime Chaparral

Riparian Communities
Wetland and Open Water Communities¹



Riparian habitats typically support the greatest diversity of wildlife.

Marine and Coastal Dunes encompass Central Foredunes and Central Dune Scrub. The Central Foredune habitat is located between the mean high tide and the more stabilized backdunes. It is characterized by variable low-growing colonial herbaceous species and grasses in mobile and recently stabilized dunes near the shoreline. Central Dune Scrub habitat overlaps with Central Foredune habitat and is characterized by dense vegetation of low or erect woody shrubs and subshrubs on stable dunes with herbaceous species in gaps.

Coastal Salt Marsh habitat is typically a vernal pool with associated salt-water marsh vegetation.

Maritime Chaparral habitat is characterized by a variety of evergreen, sclerophyllus shrubs occurring in moderate to high density on sandy, well-drained substrates within the zone of coastal fog.

Riparian habitat is located on the banks of seasonal or permanent creeks and drainages. Riparian habitats are significant because they typically support the highest diversity of wildlife and provide movement corridors between different communities.

Wetland and Open Water habitat consists of location of both permanent and seasonal inundation.

Each of the habitats and communities along the proposed Sanctuary Scenic Trail corridor is home to notable species, particularly shorebirds. Several State and Federal listed rare, threatened and endangered species occur in the vicinity. Located along the Pacific Flyway, many Monterey area beaches are destinations for bird watching. Species such as sanderlings,

¹ Monterey Bay Sanctuary Scenic Trail Regulatory Context and Habitat Types/Areas, Denise Duffy & Associates, 2005.

plovers, godwits, ground squirrels, deer mice, gray fox, red-tailed hawk, red-shouldered hawk, American kestrel, loggerhead shrike and red foxes are all found near the Sanctuary Scenic Trail corridor. Specific animal occurrences are depicted in **Figures 4-1 through 4-6**. The historic dune communities of the Monterey Bay area are also home to numerous plant species. Among the species at home in the Sanctuary Scenic Trail corridor are wild buckwheat, broadleaf paintbrush, Douglas bluegrass, bush lupine, and coyote brush. Specific plant occurrences are depicted in **Figures 4-1 through 4-6**.

Further research on environmental issues will be conducted as trail segments are selected for preferred alignment. Many of the habitat constraints identified in this Appendix can be overcome or mitigated with appropriate design.

Cultural Resources

Cultural resources, discussed above as an opportunity for education and interpretation, can also be considered a constraint to development of the Sanctuary Scenic Trail. The environmental review for this project, to be conducted pursuant to the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA) requires that the project be analyzed for its potential impacts to cultural and historic resources. The requirement includes a review by the State Historic Preservation Office (SHPO) of the project area for any known significant historic artifacts.

Because of the unique human history of the Monterey area, the project team will develop appropriate mitigation measures to ensure protection of any unknown cultural resources that may be discovered during project development.

Designated Floodways

Potential Sanctuary Scenic Trail alignments cross the Salinas and Pajaro Rivers, both prone to seasonal flooding. Some potential options may be subject to actual inundation or otherwise impact or be impacted by flooding. Evaluation of trail alignments will include an analysis of flood impacts including a review of the Federal Emergency Management Agency Flood Insurance Rate Maps (FIRM) for the project area to determine the extent and frequency of flooding. This may impact the feasibility, design, and operation of an alignment.

Roadways and Roadway Crossings

Trails that rely on public right-of-way often end up alongside roadways at some point, since these are often the most common publicly owned lands available. This scenario is currently the case for the Sanctuary Scenic Trail along Del Monte Avenue in Monterey and Marina. At the same time, riding along roadways is generally considered a detriment to an aesthetic experience for trail users, who would prefer to be away from traffic if at all possible. Safety is also an issue for any trail directly adjacent to fast moving traffic and with numerous crossings. Some of the potential alignments will be along roadways such as Molera Road and Highway 1 in Moss Landing— and the balance between right-of-way availability and aesthetics and safety will be reflected in the evaluation criteria.

Helping trail users avoid crossing busy roadways at unprotected locations, either on the trail itself or accessing the trail, will be a high priority. Luckily, the existing and most of the proposed alignments avoid these types of crossings. Existing trail crossings in Monterey and Marina appear to be very well designed. Where a crossing may be needed, special attention will be paid to the traffic speeds and volumes (existing and future), and visibility. Appropriate crossing design and operations will be part of any feasibility analysis and recommendation.

Waterway Crossings

Six waterway crossings present a potential constraint for the Sanctuary Scenic Trail. The trail corridor includes crossings of the Salinas River, Tembladero Slough, Moro Cojo Slough, Elkhorn Slough, Moss Landing Harbor (near Jetty Road), and Pajaro River. Existing river crossings will be utilized where possible to avoid the expense of constructing new crossings; however, in some locations, such as Elkhorn Slough, it is apparent that a new trail bridge will be required. The project team worked with relevant agencies and stakeholders to identify opportunities for use of existing crossings or construction of a trail element in conjunction with new crossings slated for development. Bridge constraints include cost and potential environmental impacts, along with the safety of sharing some crossings with roadway traffic.

Trail Development

Development of the trail itself, including potential visual impacts such as new retaining walls and safety barriers, are also a constraint. While the topography of the area should minimize the need for major cuts, fills, retaining walls, and other elements, the trail will still require signage, fencing, trail heads, restrooms and other facilities..



5. NEEDS ANALYSIS

5.1. INTRODUCTION

This chapter provides an overview of the user needs for the Monterey Bay Sanctuary Scenic Trail. The need for the trail is documented in existing plans, by public comments in workshops, and through observation of the amount of use on completed segments of the trail. It is important to understand the number and type of user on the existing trail to ensure that the future Sanctuary Scenic Trail is planned and designed to accommodate the demand and user type.

5.2. USER GROUPS

The completed sections of the project, including the Monterey Recreation Trail, are heavily used by a wide variety of bicyclists and pedestrians due to the combination of: 1) location near major regional visitor destinations (such as the Monterey Bay Aquarium and Fisherman's Wharf), 2) the scenic quality of the existing segments especially in Pacific Grove, and 3) the close proximity to residential communities in Pacific Grove, Monterey, Sand City, Seaside and Marina. The existing trail segments serve both a strong recreation and transportation function. They provide a commute and utility corridor for people traveling to work or shopping and a recreational opportunity for residents and visitors alike.



Existing Monterey Sanctuary Scenic Trail.

Each user group has specific needs that will directly affect the planning and design of the Sanctuary Scenic Trail. For example, many less experienced bicycle riders prefer to use multi-use trails (also known as Class I bike paths) or side streets rather than busy arterials with no shoulders.

Experienced bicyclists are often willing to trade more traffic and higher traffic speeds for a more direct route to their destination. Hikers and runners may wish to use unpaved trails.

The Sanctuary Scenic Trail should be designed to accommodate the greatest variety of user groups that will potentially use the corridor including:

- students going to school
- shoppers running errands
- recreational and commuting bicyclists
- pedestrians, hikers, dog walkers, in-line skaters
- parents pushing strollers
- seniors
- children
- persons with disabilities

5.2.1. COMMUTER NEEDS

Commuters consist of employed adults and students of all ages. Commute trips between work and home typically account for about one-third of all weekday personal trips. This represents a substantial opportunity for bikeway and pedestrian usage, especially where links between commercial and residential areas exist. Common commute characteristics include:

- Commuter trips usually range from several blocks to ten miles.
- Commuters typically seek the most direct and fastest route available.
- Commute periods typically coincide with peak traffic volumes and congestion, increasing the exposure to potential conflicts with vehicles.
- Places to safely store bicycles are of paramount importance to all bicycle commuters.
- Major commuter concerns include changes in weather (rain and heavy fog), riding in darkness, personal safety and security.
- In general, a primary concern to all bicycle commuters are intersections with no control signs (i.e., stop or yield signs) or signal controls.
- Commuters generally prefer routes where they are required to stop as few times as possible, thereby minimizing delay.

Commuters who currently drive to Monterey, California State University, Monterey Bay, or other employment centers from residential areas may also face parking shortages and traffic delays at their destinations. Use of a dedicated Class I bike path may encourage some commuters who currently drive to walk or bicycle, thereby saving resources, reducing traffic congestion, and reducing the demand for parking.

5.2.2. RECREATIONAL NEEDS

Recreational use generally falls into one of three categories: (1) exercise, (2) non-work destinations (such as shopping or libraries), and (3) sightseeing. Recreational bicyclists can be a varied user group in and of themselves, since the term encompasses a broad range of skill and fitness levels, from a racer who rides 100-miles each weekend, to a family with young children who occasionally want to ride a couple miles down a quiet trail. Other trail users, including hikers, walkers and runners, are similarly varied groups. Regardless of the skill level of the recreational user, directness of route is typically less important than scenic surroundings, amenities like restrooms and water fountains, and routes with few traffic conflicts. Visual interests, shade, protection from wind, moderate gradients, and artistic or informational features also have a much higher value. In addition, trails should meet the needs of equestrians by including unpaved loop trails and staging areas to accommodate horse trailers.

All recreational corridor users require some basic amenities to have a comfortable experience and to want to return. They include dedicated facilities, good access, clear destination and intersection signage, and even surfaces. The aesthetic component of a facility is very important to most recreational users. In other words, most people prefer to walk or bicycle in pleasant surroundings. Some of the Sanctuary Scenic Trail options will offer users more pleasing surroundings (such as along the coast) than others (such as directly along a roadway).



Trail signage at Sand City.

Once completed, the Sanctuary Scenic Trail will become the premier recreational trail on the Central California coast and one of the premier trails in California. It will offer over 50 miles of separated bike paths in some of the most pristine and scenic shoreline areas in the state. It will also serve as a primary non-motorized transportation facility in northern Monterey County.

5.2.3. NEEDS OF USERS WITH DISABILITIES

Designing trails for users with disabilities ensures that all trail facilities are accessible and that all trail users are adequately served. Accessible facilities that comply with the Americans with Disabilities Act (ADA) are free of obstructions, consider the needs of blind and low-vision users at intersections, provide sufficient crossing time for users with disabilities, are compliant with ADA requirements for grade, cross slope, and curb ramps. The design of future Sanctuary Scenic Trail segments should comply with ADA requirements and should be accessible to all potential trail users.

5.3. CONNECTING FACILITIES

The Sanctuary Scenic Trail will be integrated with and serve as a major spine to existing and proposed trails and bikeways in Santa Cruz and Monterey County, including:

- The Santa Cruz County Monterey Bay Sanctuary Scenic Trail Network, which is partially designated on existing facilities, and eventually planned to link to Monterey County,
- Gilroy and Hollister along the Pajaro River Valley to the east,
- Eastward along Elkhorn Slough to Elkhorn and Prunedale,
- Castroville via Highway 1 and potentially a pathway on Tembladera Slough,
- Salinas and central Monterey County via on-street and off-street bikeways, and
- Carmel, Big Sur, and Carmel Valley via on-street bikeways.

5.4. SURROUNDING LAND USES AND DESTINATIONS

Surrounding land uses directly impact potential usage on any bicycle or pedestrian facility. The Sanctuary Scenic Trail corridor traverses a wide variety of land uses, from agriculture to residential and commercial areas. The various land uses adjacent or proximal to the trail, and any connectivity issues related to them, are summarized below.

5.4.1. RESIDENTIAL

The trail corridor passes through numerous residential areas located in the county and in cities along the corridor. These residential areas include, but are not limited to: Pacific Grove, Monterey, Del Rey Oaks, Sand City, Seaside, Marina, Castroville and Moss Landing. Each community features some residential development. Greater population densities are found in Pacific Grove, Monterey, Seaside, Sand City and Marina. Greater population density may mean increased ease of access for a larger percentage of the population, as people reside closer to the trail and trail access points.

5.4.2. COMMERCIAL

Multiple commercial centers are located along the trail, providing recreational trail users with amenities like food and supplies. Employees of these commercial centers may also use the trail for transportation to and from work. Key commercial areas are located along the waterfront in Pacific Grove and Monterey, and east of Highway 1 through Sand City, Seaside and Marina. The regional commercial centers in Sand City are a significant employment center for Monterey County, and have the potential to significantly increase the use of the trail for commuting.

5.4.3. CIVIC

Pacific Grove, Monterey, Sand City, Seaside and Marina are all incorporated cities within Monterey County. The Sanctuary Scenic Trail provides access between each of these cities, and can be linked to each jurisdiction's civic center through the use of additional paths or a combination of Class I and II bicycle facilities and existing pedestrian facilities. Providing non-motorized access to civic centers can help ensure the equitable availability of city government and services to members of the public who are unable to drive.

5.4.4. EDUCATIONAL

The Sanctuary Scenic Trail corridor is located near many institutions of elementary, secondary and higher education. Included among the educational institutions are the US Naval Post Graduate School, California State University Monterey Bay, and University of California, Santa Cruz Natural Reserve. Numerous elementary schools throughout Pacific Grove, Monterey, Seaside and Marina are located within a mile of the trail corridor. California State University Monterey Bay is located nearly adjacent to the existing trail alignment, and is a significant destination for student bicycle commuters.

5.4.5. INDUSTRIAL AND AGRICULTURAL

The Sanctuary Scenic Trail corridor lies adjacent to some of the most productive agricultural land in the nation. Agriculture accounts for 12 percent of all employment in Monterey County, making agricultural lands a significant commuter destination.

5.4.6. TOURISM AND RECREATION

Much of the Monterey Bay Sanctuary Scenic Trail corridor is bordered by public lands, such as the California State Park and Beach lands. These areas, along with private and municipal recreational facilities, provide numerous recreational opportunities for trail users.

Monterey State Beach

Monterey State Beach is located along the shoreline of the Cities of Monterey, Seaside and Sand City. Comprised of three separate beaches approximately one mile apart, Monterey State Beach is popular with surfers, fishermen, and families. The beaches are accessible from the Cities of Monterey, Seaside, and Sand City.

Marina State Beach

Marina State Beach is located along the City of Marina's coastline and is accessible from Reservation Road on the Beach's northern end. Featuring a boardwalk that winds through the Marina Dunes Preserve, the Marina State Beach is popular with beachgoers and hang gliders alike. Swimming is not recommended at Marina State Beach due to the presence of strong rip tides.

Salinas River National Wildlife Refuge

The Salinas River National Wildlife Refuge is located south of the mouth of the Salinas River. The Refuge provides habitat for several threatened and endangered species. Recreational access is allowed in accordance with U.S. Fish and Wildlife Service regulations.

Salinas River State Beach

Salinas River State Beach stretches from the mouth of the Salinas River north to Moss Landing. A popular surfing, fishing and horseback riding site, Salinas River State Beach is home to a diverse assemblage of birds and excellent examples of native coastal dune vegetation.

Moss Landing State Beach

Moss Landing State Beach is located on the north side of Moss Landing and is accessible off Highway One via Jetty Road. The beach is adjacent to the north harbor and is popular for surfing, fishing, and bird watching

Zmudowski State Beach

Zmudowski State Beach is located south of the mouth of the Pajaro River along the Monterey Bay coastline. The Beach is a popular fishing destination and is also home to the Pajaro River Mouth Natural Preserve. Swimming is not recommended at Zmudowski State Beach due to the presence of strong rip tides.

Moss Landing Wildlife Area

Located along Elkhorn Slough, east of the community of Moss Landing, the Moss Landing Wildlife Areas was established in 1984 by the Department of Fish and Game. The purpose of the Wildlife Area is to preserve and enhance the salt marsh and salt pond ecosystem for water-associated birds. Recreational use of the Wildlife Area is permitted, in accordance with Department of Fish and Game regulations.

Monterey Bay Aquarium

With over 1.8 million visitors per year, the Monterey Bay Aquarium is a primary destination for tourists on the Monterey Peninsula. Established in 1984, the Aquarium is home to approximately 550 different species of marine life. Its sister institution, the Monterey Bay Aquarium Research Institute conducts deep-sea research in the Monterey Canyon. The Aquarium is one of the primary tourist destinations served by the Sanctuary Scenic Trail.



Existing Monterey Recreation Trail

Cannery Row

Cannery Row, once home to many canneries serving the productive fisheries of Monterey Bay, is now a destination for tourists. With shopping, dining and lodging available in historic cannery buildings, the location memorialized in the writings of John Steinbeck is now a significant tourist destination

along the Sanctuary Scenic Trail

Monterey State Historic Park

Monterey State Historic Park includes ten buildings, including the Custom House, built in 1827, and California's First Theatre (1846-47), and several residences (now museums) built in the 1830s. These buildings preserve the area's rich history of early California. A variety of tours, museums and educational programs are available in the park.

Asilomar Conference Grounds and State Beach

A national historic landmark, the Asilomar Conference Center provides accommodations, dining and affordable conference facilities owned by the California Department of Parks and Recreation. The conference grounds are a significant destination near the southernmost point of the Sanctuary Scenic Trail corridor.

5.5. PROJECTED USAGE

One of the goals of the Sanctuary Scenic Trail is to maximize the number and variety of user groups who will benefit from it, including recreational and commuter user groups. The selection of the preferred alternative will impact the number and diversity of users who will be attracted to the corridor.

The 2000 Census found that approximately 1% of work trips were made by bicycle in Monterey County and 4% of work trips were made on foot. Nationally these percentages were .5% and 3% respectively; in California, they were 1% and 3% respectively. In addition, bicycling is one of the most popular forms of recreational activity in the United States. The Bureau of Transportation Statistics' October 2000 survey found that of the 41 million people riding bicycles (almost 15% of the 281,421,906 national population (Census 2000)), 54 percent are bicycling for recreation and 35 percent are bicycling for exercise. The 2001 *American Sports Data Study* by the Sporting Goods Manufacturer's Association tallied 84,182,000 national recreational walkers (almost 30% of the national population). If nothing else, this indicates a latent demand for connected trails and user facilities.

Table 5-1 shows the 2000 Census journey to work data for Monterey County and the cities located along the Sanctuary Scenic Trail corridor: Pacific Grove, Monterey, Sand City, Seaside, Marina, Castroville and Moss Landing.

Table 5-1
Mode of Journey to Work

Location	Total	Drove Alone	Public Transit	Bicycle	Walked	Worked at Home
<i>Monterey County</i>						
Number of Employed Adults	164,517	113,023	3,588	1,348	6,303	5,931
Percent		69%	2%	1%	4%	4%
<i>Pacific Grove</i>						
Number of Employed Adults	8359	6,284	141	166	419	271
Percent		75%	2%	2%	5%	3%
<i>Monterey</i>						
Number of Employed Adults	16,699	10,854	523	294	2,691	643
Percent		65%	3%	2%	16%	4%
<i>Seaside</i>						
Number of Employed Adults	13,944	9,609	787	204	329	271
Percent		69%	6%	1%	2%	2%
<i>Sand City</i>						
Number of Employed Adults	132	70	3	28	4	8
Percent		53%	2%	21%	3%	6%
<i>Marina</i>						
Number of Employed Adults	9,477	7,124	203	50	228	239
Percent		75%	2%	1%	2%	3%
<i>Castroville</i>						
Number of Employed Adults	2,184	1,290	78	0	72	46
Percent		59%	4%	0%	3%	2%
<i>Moss Landing</i>						
Number of Employed Adults	198	101	0	10	0	0
Percent		51%	0%	5%	0%	0%

Source: 2000 US Census

The Monterey Peninsula Regional Park District conducted user counts in the Sanctuary Scenic Trail Master Plan project area in April and August of 2002. The counts were taken along the existing Monterey Bay Coastal Trail at multiple locations: Fisherman's Wharf, Casa Verde, Coast Guard Pier, Monterey Beach Hotel, Window on the Bay and Cannery Row. The counts were taken over the course of one day at each location. **Table 5-2** displays the counts taken at various locations and dates.

Table 5-2
Monterey Bay Coastal Trail User Counts, 2002

Location	Date	Number of Users
Fisherman's Wharf	Saturday, April 13	6,550
Fisherman's Wharf	Wednesday, April 17	3,095
Fisherman's Wharf	Saturday, August 24	5,707
Casa Verde	Saturday, April 13	1,181
Casa Verde	Wednesday, April 17	766
Coast Guard Pier	Wednesday, April 17	1,752
Monterey Beach Hotel	Wednesday, April 17	138
Monterey Beach Hotel	Saturday, August 24	399
Window on the Bay	Saturday, August 24	1,962
Cannery Row	Saturday, August 24	3,443

Additional user counts were taken along the Monterey Bay Coastal Trail in July 2005. These counts targeted users at three locations: in Monterey near Fisherman's Wharf, in Seaside/Sand City near Del Monte Avenue, and in Marina at Reindollar Avenue. The counts were taken over the course of two hours at each location. **Table 5-3** displays the counts taken on Thursday, July 7 and Saturday, July 9, 2005.

Table 5-3
Monterey Bay Coastal Trail User Counts, 2005

Location	Date	Number of Users
Fisherman's Wharf	Thursday, July 7	366
Fisherman's Wharf	Saturday, July 9	908
Seaside/Sand City	Thursday, July 7	25
Seaside/Sand City	Saturday, July 9	171
Marina	Thursday, July 7	23
Marina	Saturday, July 9	88

The user counts taken along the existing segments of the Monterey Bay Coastal Trail are indicative of the levels of use possible for the proposed Sanctuary Scenic Trail. Employing a trail use demand model which takes into account trail quality and location, a projected figure for the overall use of the trail can be developed. Through the incorporation of data relating to population, weather, trail maintenance, area attractors and destinations, the resulting model determined that a projected 2,486,200 people might use the proposed Sanctuary Scenic Trail annually once the trail is complete.

5.6. USER NEEDS

5.6.1. PUBLIC WORKSHOP STATED NEEDS

Approximately 20 people attended the May 16, 2005 public workshop in the City of Marina. The workshop provided an overview of the project, a summary of the existing condition of the trail and trail corridor, and a hands-on mapping exercise for workshop participants. A summary of the comments received by the participants is listed below.



- Trail should be accessible to users in wheelchairs
- Need trail access from northern Monterey County
- Trail should make a loop
- Sand needs to be removed from trail through Sand City
- Bike lane needed between Cannery Row and Pacific Grove
- Intersection improvements needed at Fremont Boulevard and SR 1 in Seaside
- Railroad track crossings needed in Fort Ord
- Molera Road is a good alternative for Class II facility
- Connections to Castroville are important
- Bike Routes should be sheltered from the wind if possible
- Multiple connections to Santa Cruz County should be explored

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6. EVALUATION OF RECOMMENDED SYSTEM

6.1. INTRODUCTION

When completed, the Monterey Bay Sanctuary Scenic Trail will be one of the premier regional trails in California, providing unrivaled coastal access and interpretive, recreational, and transportation opportunities to residents and visitors alike. From the Monterey Recreation Trail to future links along the County’s sand dunes, beaches, wetlands, and agricultural fields, the length and variety of terrain will be unparalleled. The proposed segments of the Scenic Trail include multiple alignments and distinct segments that lend themselves to phasing over time. This chapter presents an evaluation of each alignment option and segment, and a proposed phasing plan. Unlike some trail projects that have a requirement to select one preferred alignment from numerous alternatives, the Scenic Trail may have parallel segments that serve different user groups and reflect different local conditions.

The trail segments are organized geographically and numbered, beginning with Segment 1 at Lover’s Point near the southern tip of the Monterey Bay and ending with Segment 17 at the Mc Gowan Thurwachter Bridge over the Pajaro River (see Figure 6-1). This chapter provides a description and analysis of each segment and also contains maps, photographs, and cross-sections of representative conditions and potential treatments along each proposed alignment. This chapter also presents the criteria used to evaluate each segment and provides an evaluation matrix summarizing the results of segment evaluation. This evaluation is then used to identify priorities and phasing of proposed segments.



Looking east along the Pajaro River from the McGowan Thurwachter Bridge, one of the many opportunities for interpretation along the Scenic Trail

6.2. SEGMENT DESCRIPTIONS

Descriptions of each segment are provided to orient the reader and to aid in the evaluation of segments according to the criteria presented in “Evaluation Criteria and Methodology” located in section 6.3. Where appropriate, this chapter identifies alternative design treatments or recommendations for specific segments or locations. Segment numbers have been changed from the original Scenic Trail “Blueprint” developed by the Association of Monterey Bay Area Government and the Transportation Agency due to design and phasing considerations.



6.2.1. COASTAL VERSUS INLAND ROUTES

Two basic alignments are either existing or proposed for the Scenic Trail. The **Inland Route** follows the existing trail for 7.4 miles through Seaside and into Marina, primarily on or along the railroad corridor or Del Monte Boulevard, all the way to its current end point two miles north of Marina. Future Inland alignments continue northward toward Moss Landing along the railroad right-of-way and local roads such as Molera Road.

The Inland Route, as its name suggests, is not close to the coast but utilizes available public right-of-way. The following elements are characteristic of the Inland Route:

1. **Short-term implementation options:** Many Inland Route segments could be easily implemented to fill gaps in the larger trail network as more costly facilities along the coast await implementation.
2. **Commuter facilities:** The Inland Route lends itself to the higher speeds and more direct paths desired by commuter cyclists.
3. **Limited pedestrian facilities:** Because the Inland Route makes use of existing roadways and public right-of-way, there are limited opportunities for Class I pathway development or trails suitable for pedestrians. Implementation of Class II and III facilities will not be attractive to most pedestrians.

The **Coastal Route**, as its name implies, would be located as close to the coast as possible. The land is owned by a combination of California State Parks, Big Sur Land Trust, U.S. Department of the Interior, Monterey Dunes Colony Homeowners Association, and private agricultural and industrial landowners. Some of the key facets of this corridor include:

1. **Beach:** The beach itself along this route is already walkable from Monterey to Moss Landing, except in the middle of winter. For some Scenic Trail users, walking on the packed sand along the water may be preferable to the soft sand of the interior dunes. While not identified as a specific option of the Scenic Trail, the beach could provide hikers with an alternative route along most the trail.
2. **Sand Dunes:** The sand dunes are the dominant feature of this area. They are environmentally sensitive habitats that support several special status species and therefore may not always be available for a path or trail. The dunes also help protect the adjacent farmland, often have blowing sand, and are constantly moving. This last fact can be seen where sand dunes and farm fields intersect and parcel boundaries bear little resemblance to actual farm field limits.
3. **Farmland:** Active farmlands border the sand dunes for most of the corridor. Farmers may be concerned about attracting the general public on trails next to their land. This subject is addressed in more detail in Chapter 7: Implementation and Design.
4. **Salinas River:** The river has changed course numerous times over the years, with the result that property boundaries do not resemble actual physical conditions in some cases. The river is also an important environmental resource, and is prone to flooding.

5. **Multi-use facility:** The Coastal Route would be primarily a multi-use facility accessible to pedestrians, cyclists, hikers, and equestrians.

The Inland and Coastal routes consist of numerous sub-segments and connector links, allowing for various alternative phasing and maximizing flexibility in implementation. In fact, some segments are neither exclusively coastal nor inland, and would function as important segments of either route for access purposes.

It is important to note that the Monterey Bay Sanctuary Scenic Trail may consist of **both** the Inland and Coastal Routes, since each serves a different potential user group and has its own implementation issues. For example, a paved bicycle path along the coast may prove to be difficult to implement and maintain compared to an unpaved network of walking trails. Since a major goal of the Scenic Trail is to provide a consistent facility from one end to the next, the Inland Route may provide that paved route.

Segment 1: Pacific Grove

Length: 4,800 feet (0.9 miles)
Type: Class I bike path
Width: 10-22 ft
Agency: City of Pacific Grove

DESCRIPTION OF OPTION

This existing pathway is already one of the most popular facilities in the State (see Figure 6-2). Potential improvements include:

- Pathway repairs to remedy shoreline erosion
- Interpretive and directional signage
- Enhanced delineation between bicyclists and pedestrians

The existing pathway is narrow at points. However, the lack of available width and the risk of destabilizing the waterfront prevents the City of Pacific Grove from expanding the facility. Due to the popularity of the facility and potential for user conflicts, interpretive and directional signage should be used to educate trail users about the responsibilities of good trail use practices. Where possible, additional striping may be used to provide a bike lane for faster moving cyclists, thereby separating them from slower pedestrians, children and strollers.

ADVANTAGES

1. Stabilization of the shoreline will help minimize erosion over time.
2. Additional interpretive signage may help enhance the user experience.
3. Directional signage can increase path usage by helping path users to find their way to and from the path to nearby destinations.
4. Improved delineation will help separate user groups and minimize conflicts, which occur when pedestrians and cyclists are using the same limited space at varying speeds.



The existing trail in the City of Pacific Grove

Segment 1: Pacific Grove



Figure 6-2

Segment 2: Monterey

Length:	18,600 ft (3.5 miles)
Type:	Class I bike path
Width:	10-22 ft
Agency:	City of Monterey

DESCRIPTION OF OPTION

Like its Pacific Grove counterpart, this existing pathway is already one of the most popular facilities in the State. For the most part, the trail is located on the abandoned Southern Pacific branch line, except at the eastern end where the trail traverses a hill within Monterey State Beach near the Del Monte Boulevard/Highway 1 southbound off-ramp (See Figure 6-3). While there is an existing Scenic Trail alignment through Monterey, the City of Monterey has approved plans to re-align and improve the Scenic Trail between Fisherman's Wharf and the Monterey Bay Park. A short spur of the trail also extends along Del Monte Boulevard into Seaside.

The City of Monterey has a Scenic Trail project that involves widening and improving the Scenic Trail between Park Avenue and Casa Verde Way and from David Avenue to Fisherman's Wharf in the Cannery Row area to accommodate the high volume of users and increase separation between travel flows.

The only other implementation issue is the potential future need to relocate the trail when passenger rail service returns to the Fisherman's Wharf area. There appears to be sufficient space in the corridor to provide a trail and tracks, although the setback would be minimal. Potential improvements include:

- Interpretive and directional signage
- Enhanced delineation between bicyclists and pedestrians
- Relocated trail next to future railroad tracks

ADVANTAGES

1. Additional interpretive signage may help enhance the user experience.
2. Directional signage can increase path usage by helping path users to find their way to and from the path to nearby destinations
3. Improved delineation will help separate user groups and minimize conflicts.

Segment 3: Seaside

Length:	600 feet (0.11 miles)
Type:	Class I bike path
Width:	12 ft
Agency:	City of Seaside

DESCRIPTION OF OPTION

This segment starts at the Monterey City limits at Canyon Del Rey Boulevard and continues as a Class I bike path along Sand Dunes Drive through Seaside to the Sand City limits (See Figure 6-4). In addition, a spur of the trail that continues along the railroad tracks and Del Monte to Canyon

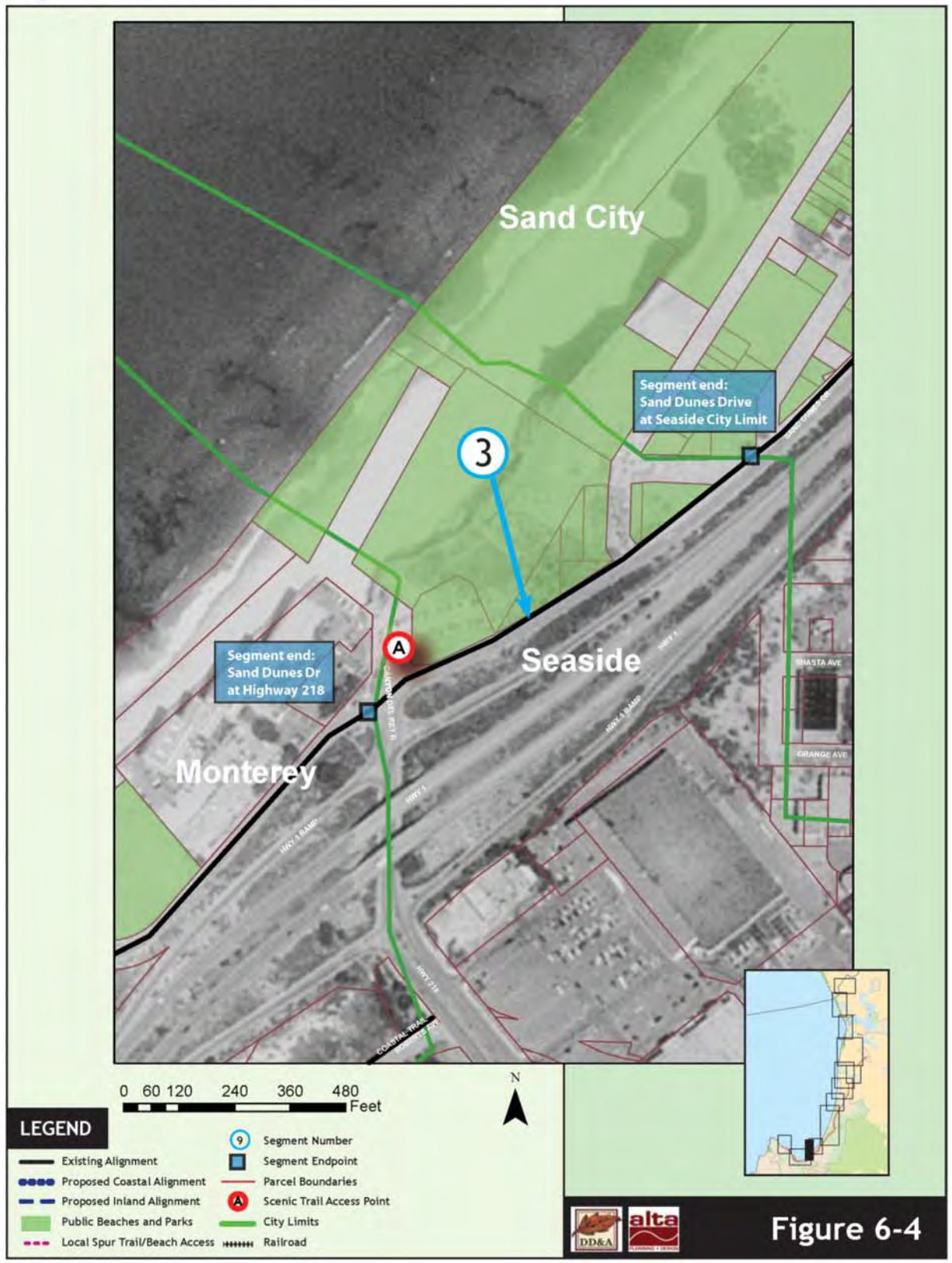
Del Rey exists—but requires improvements. Similar to the Monterey Recreational Trail, these short segments may benefit from:

- New interpretive and directional signage
- Enhanced delineation between bicyclists and pedestrians

Segment 2: Monterey



Segment 3: Seaside



ADVANTAGES

- Additional interpretive signage may help enhance the user experience
- Directional signage can increase path usage by helping path users to find their way to and from the path to nearby destinations
- Improved delineation will help separate user groups and minimize conflicts

Segment 4A and 4B: Sand City

Length: 5,500 ft (1.04 miles) Existing; 1,800 ft (.34 miles) Proposed Class I
 Type: Class I bike path
 Width: 12 ft
 Agency: City of Sand City

DESCRIPTION OF OPTION

This segment starts at the Sand City limits adjacent to Monterey State Beach in Seaside, and continues as a Class I bike path on the west side of Sand Dunes Road. At Tioga Avenue (4A), a temporary route directs trail users over Highway 1 around a shopping center, and back under Highway 1 to a Class I bike path on the west side of Highway 1 (4A). The Sand City ‘Gap’ (4B) is an undeveloped parcel that the City is in the process of planning and approving that will include a Class I bike path connector as part of the project. The alignment and/or timing of construction through this dune habitat area will need to be adjusted to protect habitat values (such as Snowy Plover nesting sites), based on site specific analysis. Figure 6-5 shows the alignment of the proposed segment 4B, as depicted on the development applications, in relationship with segment 4A. Figure 6-6 shows a detailed view of segment 4B. As part of the redevelopment planning process, consideration should be given to designing the bike path into the development site from the south under Tioga Avenue, considering that this would reduce the grade of the pathway into the site, enhancing user safety.

While not specifically shown as a Scenic Trail alignment, an improved trail along the railroad tracks in Seaside and Sand City would provide a good access route to the Scenic Trail, and also offers an opportunity for environmental enhancements in the area. We recommend that a pathway be considered as part of any planning/design on the rail corridor, and a pathway be included in the right-of-way if feasible.

There are no specific improvements recommended for this segment other than completion of the gap as part of future development. The path should be implemented in a manner that provides a contiguous facility for users.

Segment 5 Fort Ord Dunes

Length: 22,800 ft (4.3 miles)
 Type: Class I bike path/shared access road
 Width: 12-14 ft
 Agency: California State Parks



DESCRIPTION OF OPTION

This segment traverses the entire length of Fort Ord Dunes State Park, which is currently undeveloped. The segment

Looking north toward Fort Ord Dunes from Sand City

Segments 4A and 4B: Sand City



Figure 6-5

would parallel—but be located west of—the existing Class I bike path located between the railroad tracks and Highway 1. The existing pathway should be retained to benefit commuters, students, and other users who need access to this corridor when the State Park may be closed, or other facilities are being maintained/re-constructed. This paved trail would offer both access to the beaches from Seaside and Sand City and a greater separation from traffic on the highway and at interchanges (See Figure 6-7).

At the southern end of Segment 5, a new Class I bike path would extend from the western side of the Fremont Boulevard/Highway 1 interchange in Sand City. This area is currently a popular access point to the beach for local residents; although the beach access route traverses private property and on-site parking is prohibited, requiring visitors to park east of the freeway, either on Fremont Street or within the shopping center.

The new bike path across private property in Sand City would be approximately 2,500 feet long, located in active dune areas with significant amounts of moving sand. The new path would connect to Beach Range Road, a former military access road ranging between 18 and 24 feet wide. This road continues north for almost four miles to Marina, and could be an excellent bicycle and pedestrian facility if vehicles (other than State Park) were not allowed to use it.

According to the Fort Ord Dunes State Park General Plan Circulation Guideline 13, meeting regional trail objectives is a high priority. However, in Circulation Guideline 16, the Fort Ord Dunes State Park General Plan refers to the potential need for trail users to share roads with motor vehicles, and refers to traffic management strategies and bike lanes. If this road is proposed to be accessible by the public in their cars, it would become a shared use facility. Assuming traffic volumes and speeds were kept very low, it would function as a Class III bike route. However, this shared use would diminish its attractiveness to many less-experienced bicyclists and would discourage use by pedestrians. Class II bike lanes may be an option in this scenario, but would require widening of the roadway. On the portions of Beach Range Road where public vehicles will be allowed, a parallel Class I path should be constructed (segment 5A).

Beach Range Road is in usable condition and would require only periodic maintenance, striping, and signing. There are several potential routes leading from Beach Range Road west to the dunes and beaches. State Parks plans enhanced access and erosion control measures for three access routes through the dunes to the beaches.

Four access routes provide grade-separated routes over or under Highway 1 to the east. One is in the form of the rail branch line route under Highway 1 near 5th Street that was converted to a bicycle route. There are two under crossings near 1st Street. The northern access point is a bridge over Highway 1 at 8th Street. To reach any but this last bridge, grade crossings of the inactive rail line would be required from this segment.

At the northern end of the segment, a new Class I bike path connection (about 1,000 feet) would be needed from the end of Beach Range Road across the tracks to the existing Class I bike path in

Marina. It may be possible to use the Lake Court under crossing of Highway 1 in Marina to connect to Del Monte.

Segments 4A and 4B: Sand City Detail

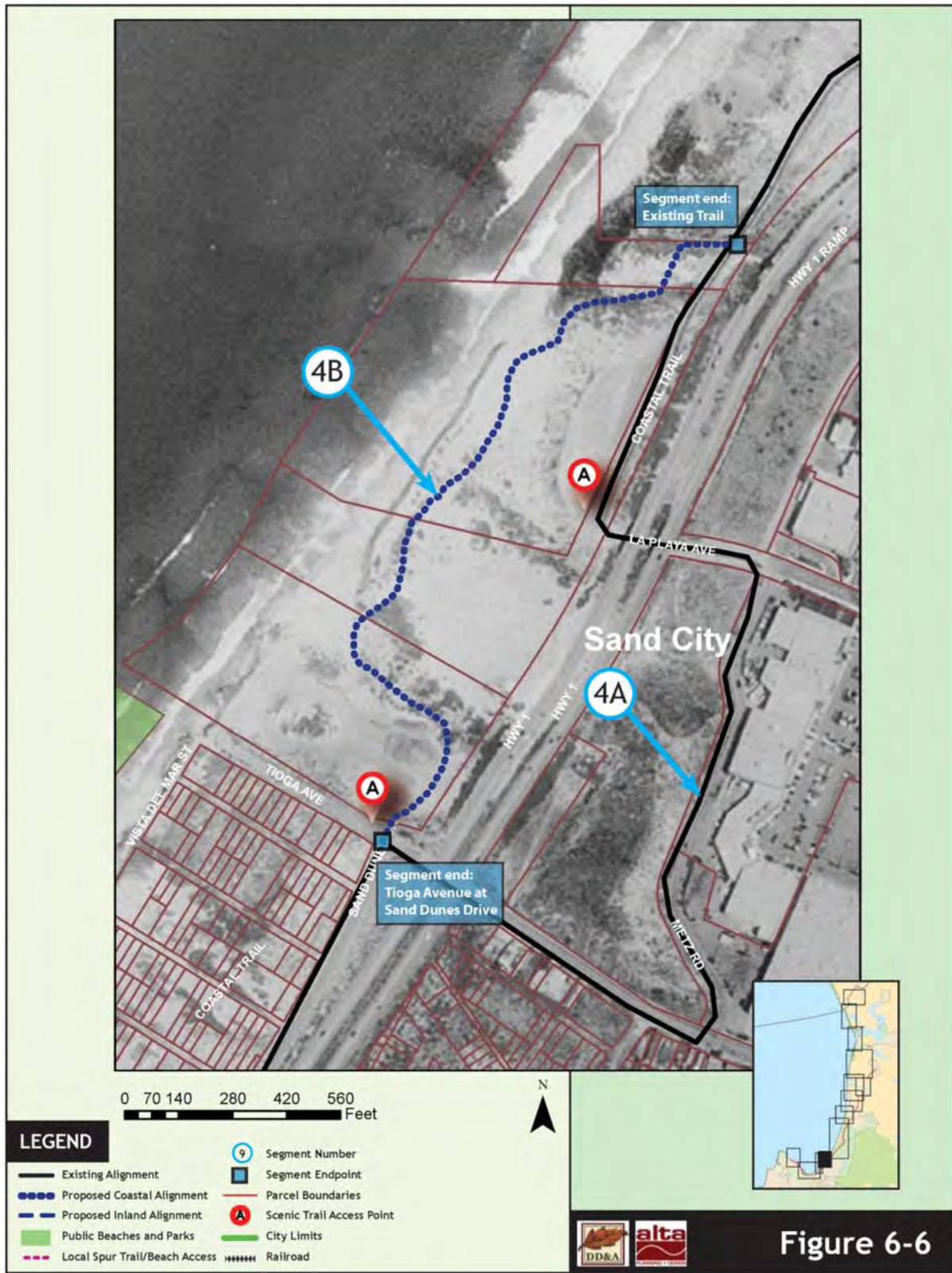


Figure 6-6

Segments 5 and 5A: Fort Ord Dunes



ADVANTAGES

1. Fort Ord State Beach will become a major local and regional recreational area when opened, and a natural location for the Scenic Trail.
2. This segment provides excellent coastal access and interpretive opportunities.
3. Beach Range Road is a ready-made facility for trail users, especially if vehicle traffic volumes are relatively low.

DISADVANTAGES

1. If State Parks decides that automobiles will be allowed on Beach Range Road, this would lessen the attractiveness of this segment to many recreational users unless a new paved pathway was developed. However, if vehicle volumes and speeds were kept relatively low this road would still be a viable option for most users.
2. New at-grade crossings of the railroad tracks at the north end of the segment may be problematic, unless the Lake Street under crossing in Marina can be used.
3. The new Class I bike path at the southern end of the segment may have significant maintenance issues with blowing sand, and potential environmental impacts.

Segment 6: Marina State Beach

Length:	8,200 ft (1.55 miles)
Type:	Dune Trail
Width:	2-6 ft (unpaved or boardwalk)
Agency:	Marina State Beach, City of Marina, Monterey County

DESCRIPTION OF OPTION

This segment starts at the northern extremity of the Fort Ord Dunes State Beach (where Segment 5 terminates), and continues on the west side of Highway 1 in Marina State Beach (See Figure 6-8). A spur of the trail on Lake Court could connect to Del Monte as well. While formal and informal trails exist in this area, this segment would provide the first formal linkage along this section of coastline in Marina. The dunes in this area are large and high, and relatively stable. The alignment would connect to the Marina State Beach main access and a potential Scenic Trail trailhead at Reservation Road. This section of Segment 6 could conceivably be constructed as a stand-alone project, either as a Class I bike path, a multi-use unpaved facility (suitable for mountain bikes), or a single-track trail. Chapter 7: Implementation and Design, outlines trails and paths in dune areas. The California Coastal Commission has expressed their desire to see the pathway alignment limited to areas that are previously-disturbed, adjacent to developed areas, or fall within the allowed uses in the adopted Local Coastal Plan (LCP).

1. This alignment will offer new coastal access and linkages in Marina, and provides an opportunity for spur trails through dunes to the beach.
2. While close to the highway, the overall setting is undeveloped coastal dunes.
3. Reservation Road and Lake Court offer ready-made access and an excellent trailhead for the Scenic Trail.

4. Completion of this segment would offer a great loop route in Marina for bicyclists and hikers alike.

Segment 6: Marina State Beach



DISADVANTAGES

1. A new paved path, especially a Class I bike path, may have significant environmental impacts. A focused design/environmental review will be needed to determine the ultimate feasibility of this alignment
2. A trail adjacent to the Highway One freeway would be noisy and potentially have safety issues unless a substantial fence and vehicle barrier were constructed.

Segment 7: Marina Trail

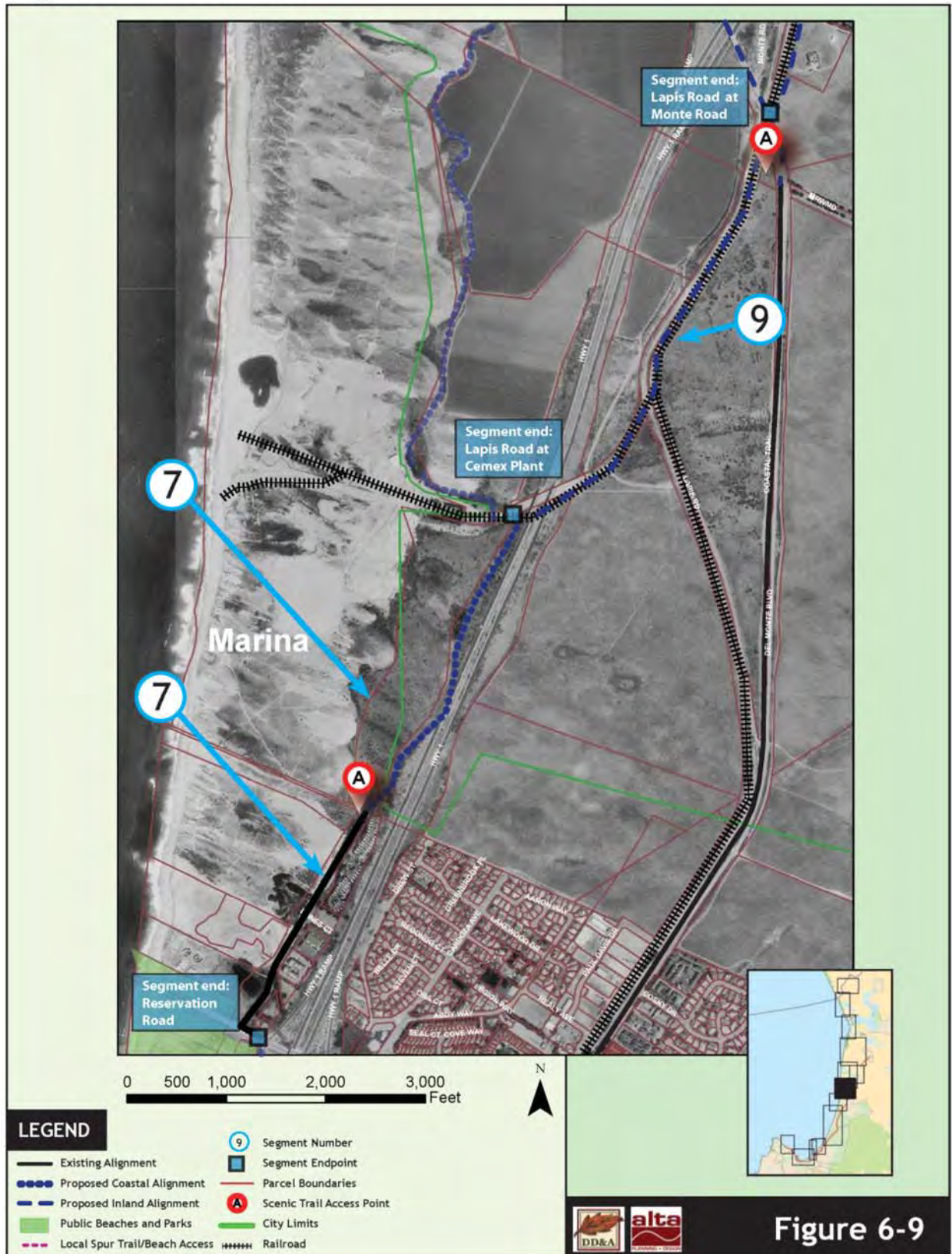
Length:	4,500 ft (.85 miles)
Type:	Dunes Trail
Width:	2-6 ft
Agency:	City of Marina/Monterey County

DESCRIPTION OF OPTION

From Reservation Road north, there is a short existing segment of Class I bike path along Dunes Drive to the Marina Dunes Open Space Preserve (See Figure 6-9). Existing unpaved trails continue into the dunes and to the beach from the end of the Class I facility. A future alignment could continue northward through the east side of the Preserve and into the Cemex Lapis Sand Plant. The sand plant is an active quarry operation, with most of the extraction activities located on the western (beach) side of the property. A proposed trail on a new easement could be located on the eastern side of the property, and could be within the Caltrans Highway 1 right-of-way if needed. The termination point for this segment is the quarry access road, which is a private road heavily used by trucks. There may be safety and security issues with bringing the trail to the private quarry access road unless adequate safety measures are implemented.

The California Coastal Commission has expressed their desire to see the pathway alignment limited to areas that are previously-disturbed, adjacent to developed areas, or fall within the allowed uses in the adopted Local Coastal Plan (LCP). The Commission (Lee Otter, April 10, 2007) also identified a potential alignment that would avoid many environmental and right-of-way issues that will be identified in the next phase of design.

Segment 7: Marina Trail



Segment 8: Salinas River Crossing

Length:	11,900 ft (2.25 miles)
Type:	Class I bike path
Width:	12 ft
Agency:	Monterey County, TAMC

DESCRIPTION OF OPTION

This segment extends the existing Class I bike path that ends at Del Monte Boulevard and Lapis Road further north across the Salinas River. Once across Del Monte Boulevard, the pathway would be located between Del Monte Boulevard and the inactive railroad tracks—a space of about 100 feet (See Figure 6-10). Some of this area is currently used as a truck staging area for the nearby packing plant and may need to be delineated.

There are two options for crossing the Salinas River, all of which preserve future rail service (See Figure 6-11). Option 8-A would be on the existing railroad trestle. This trestle has been evaluated for future rail service with the finding that, over the long term, it would be less expensive to construct a new structure rather than rehabilitate the existing trestle. The final determination by the Transportation Agency and others will directly impact the feasibility of this option. The existing trestle could be retrofitted for trail use relatively inexpensively, although some rehabilitation and maintenance work would be required. Option 8-B would be on a new structure adjacent (and possibly attached) to the old county bridge, a span of approximately 400 feet.



An aerial view of the mouth of the Salinas River and the National

Future rail service needs may require that a new bridge be located to the west of the existing trestle and east of the existing county bridge. In this case, the design of the new bridge would need to take into consideration the location of the trail and the need for the trail to cross under the new bridge in order to connect to Segment 12. The alignment of Options 8-A and 8-B are depicted in detail in Figure 6-11.

Once across the Salinas River, a junction with Segment 12 occurs. Segment 12 follows on the north side of the Salinas River between Segment 8 and Segment 13 at the coast. Segment 8 continues north between Del Monte Boulevard and the railroad tracks up to Nashua/Molera within the public right-of-way. A short section of path on the north or south side of Nashua Road is required to connect to the existing bike path reaching into Castroville along the east side of Highway 1.

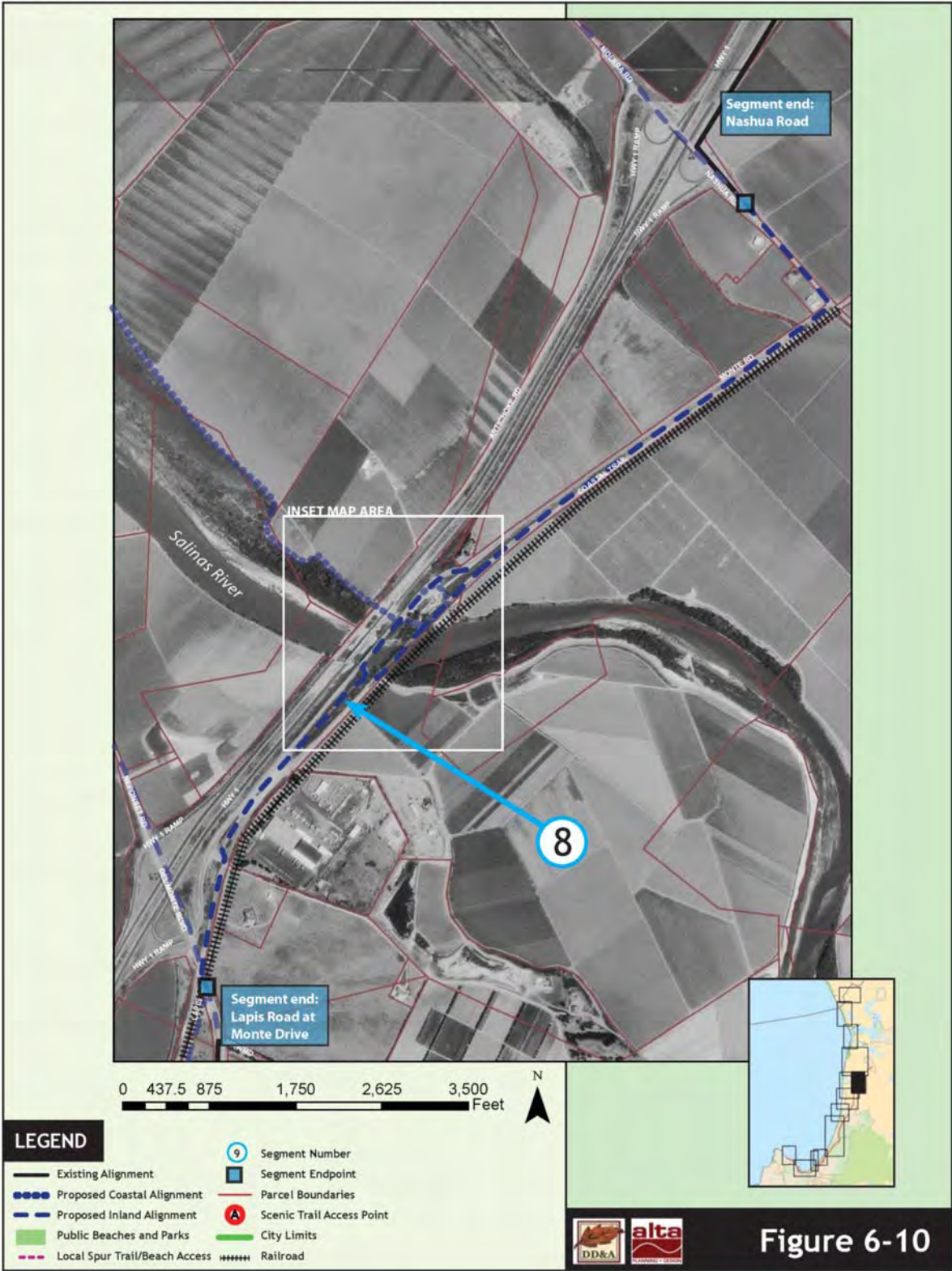
ADVANTAGES

1. Uses available public right-of-way.
2. This option provides an alternative for bicyclists to using Del Monte Road.

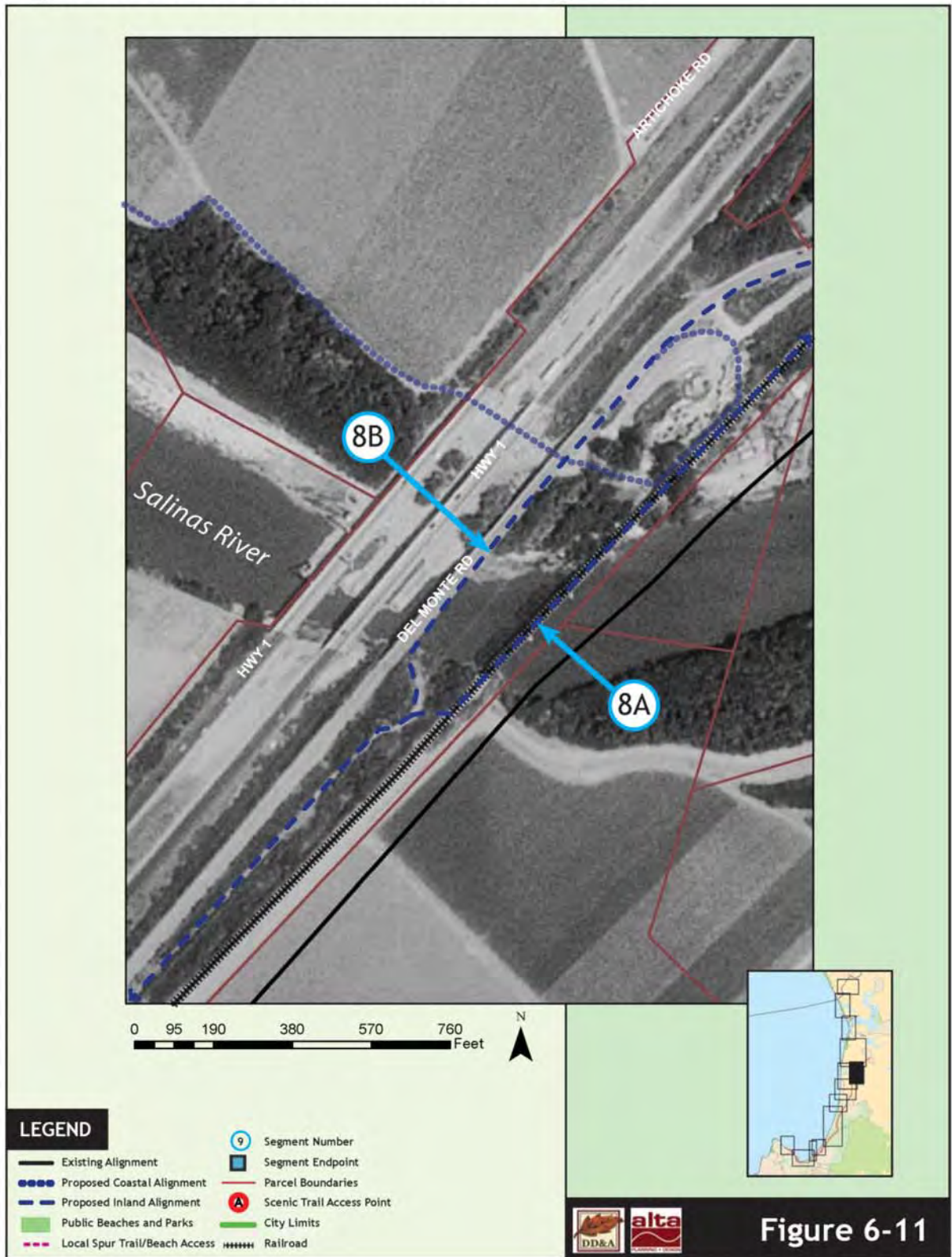
DISADVANTAGES

1. Constructing a new bridge over the Salinas River will prove costly and may have flood and environmental impacts.
2. Trucks queuing for the packing plant currently use part of this right-of-way.
3. The crossing of Del Monte Boulevard may need to be protected by a stop sign.
4. Relatively low traffic volumes and a good shoulder on Del Monte Road make a new bridge a lower priority for bicyclists, although it would also benefit pedestrians.

Segment 8: Salinas River Crossing



Segments 8A and 8B: Salinas River Crossing Detail



Segment 9: Lapis Connector

Length:	2,800 ft (.53 miles)
Type:	Class I bike path
Width:	12 ft
Agency:	Monterey County

DESCRIPTION OF OPTION

Segment 9 connects the Coastal Route (Segment 7) with the Inland Route (Segment 8) along Lapis Road, just north of Marina (See Figure 6-12). This segment would serve two specific functions:

1. If Segment 8 were a paved Class I bike path and Segment 10 (the next Coastal Route segment to the north) was not developed as a Class I bike path, which seems likely, this segment could connect bicyclists to the Inland Route at Del Monte Road.
2. Bicyclists coming south on the Inland Route (Segment 8) from Castroville and points north and west could access the Coastal Route here without having to enter Marina.

The path would need to cross the existing quarry access road, which has relatively low truck volumes. The path most likely could be located next to the existing railroad siding tracks on a new easement from Cemex, and then stay on the west side of Lapis Road on public right-of-way. A new crossing of Lapis Road at Del Monte Boulevard would be required.

ADVANTAGES

1. This option would create a new loop route for Scenic Trail users.
2. The segment provides a direct connection for trail users headed south to the coastal area.
3. Bicyclists can access the Inland Route if Coastal Routes to the north are unpaved.

DISADVANTAGES

1. A new easement may be required from Cemex, due to concerns about safety and liability.
2. The segment may not attract a lot of users, and could be costly to build if the railroad line cannot be used as the pathway alignment

Segment 10: Salinas River National Wildlife Refuge

Length:	10,000 ft (1.9 miles)
Type:	2-6 ft unpaved, 8 ft boardwalk
Width:	2-6' ft (unpaved or boardwalk)
Agency:	Monterey County, Salinas River National Wildlife Refuge

DESCRIPTION OF OPTION

Segment 10 is in one of the more remote portions of the Scenic Trail corridor (See Figure 6-12). From the quarry access road at RMC, the trail would extend either along the base of the sand dunes—along an existing farm access road—or in the sand dunes themselves. Given the remote nature of the area, sensitive sand dunes, and active farmlands, an unpaved trail and/or a boardwalk is the preferred trail type on Segment 10. Trail design types in these settings are discussed in greater detail in Chapter 7.

The sand dunes are owned by RMC at the southern end, and by the Big Sur Land Trust in the central and northern areas. The farmlands have a variety of owners and are actively farmed with artichokes and other crops. A description of how trails may co-exist with active farmlands is discussed in Chapter 7. An easement of between 10 and 20 feet would need to be negotiated with these landowners.

Segment 9: Lapis Connector / Segment 10: Salinas River National Wildlife Refuge
 Segment 11: Neponset Road Access Point / Segment 12: Salinas River

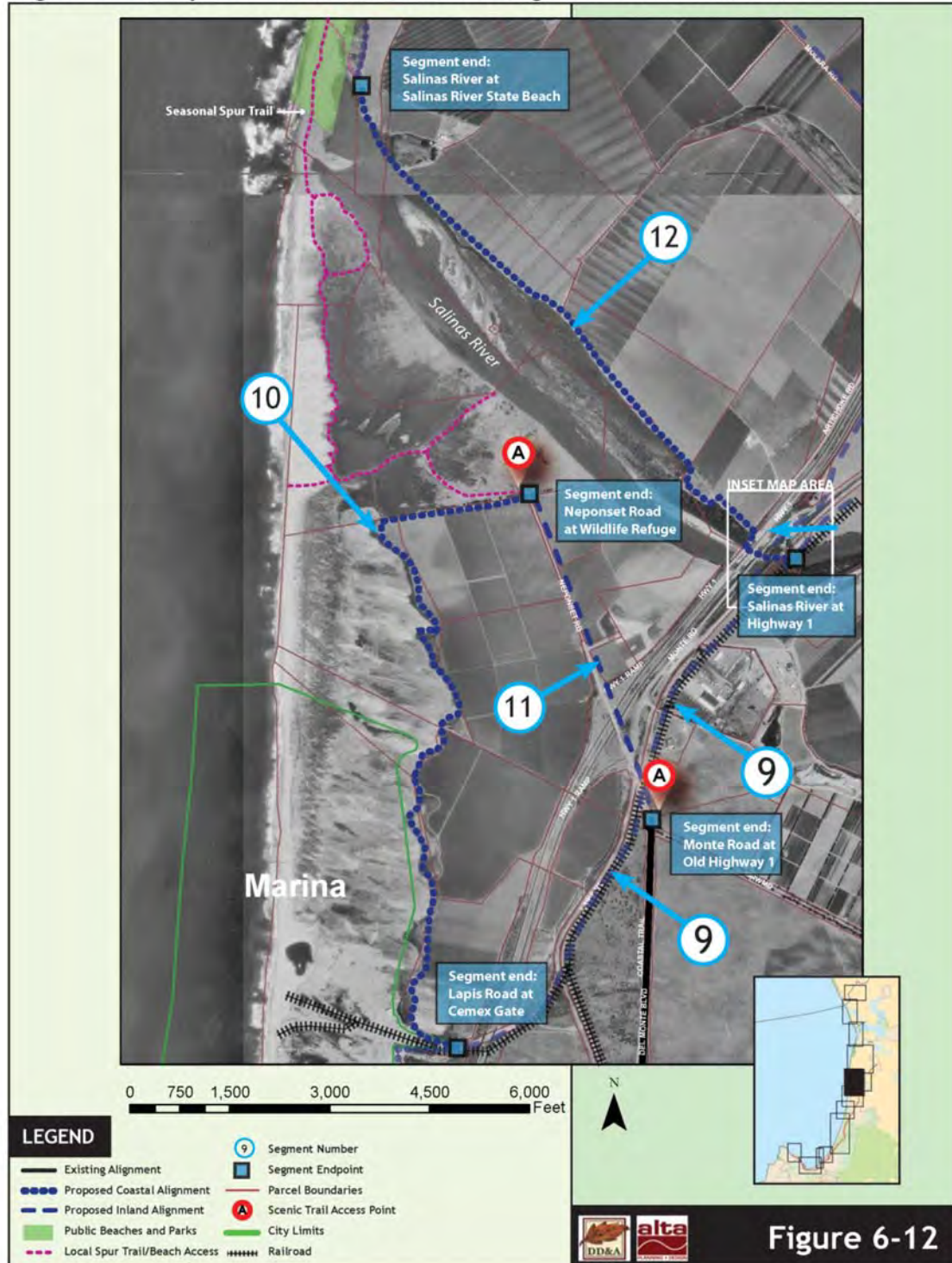


Figure 6-12

It would address issues such as maintenance, access, and liability. This trail segment may prove very popular with Marina residents who could access the remote beaches and Salinas River mouth areas.

At the northern end of Segment 10, the sand dunes dissipate and are replaced by low-lying scrub and the floodplain of the Salinas River. This area is part of the Salinas River National Wildlife Refuge, a little-known resource accessible via an unmarked access route on Neponset Road. Segment 10 would terminate at the end of Neponset Road (Segment 11). Numerous trails exist from this point to the Salinas River mouth.

RECOMMENDATIONS

1. Given environmental and agricultural constraints, combined with the remote location that will appeal primarily to recreational users, Segment 10 is assumed to be an unpaved facility. This segment will provide good access to the National Wildlife Refuge for Scenic Trail users.

ADVANTAGES:

1. Segment 10 would provide coastal and riparian access at the mouth of the Salinas River.
2. Segment 10 will provide non-motorized access options for visitors to the National Wildlife Refuge.

DISADVANTAGES:

1. The trail alignment options are located in sensitive environmental areas, would require further environmental study and may not be feasible.
2. The trail alignment options may be subject to seasonal flooding, which would require additional maintenance.

Segment 11: Neponset Road Access Route

Length: 5,100 ft (.97 miles)
Type: Class III bike route on improved road
Width: 24'
Agency: Monterey County, Salinas River National Wildlife Refuge

DESCRIPTION OF OPTION

Neponset Road is an unpaved road linking the Inland Route (Segment 8) to the Coastal Route (Segment 10). This route (See Figure 6-12) would provide coastal access for Inland Route users traveling from Castroville and other locations, and also create a loop route for people traveling from Marina. Neponset Road, however, is an unpaved, heavily used farm road unsuitable for walking or bicycling most of the year in its current muddy condition. The road needs to be paved to function as a Class III bike route.

RECOMMENDATIONS

1. Explore the feasibility of paving this route so Neponset Road could be used by bicyclists.

ADVANTAGES:

1. Segment 11 would provide coastal and riparian access at the mouth of the Salinas River.
2. Segment 11 will provide non-motorized access options for visitors to the National Wildlife Refuge.

DISADVANTAGES:

1. The cost of paving Neponset Road may not be warranted based on the projected relatively light volumes of people expected to use this route.

Segment 12: Salinas River

Length: 10,000 ft (1.9 miles)
Type: Class I bike path, unpaved trail, boardwalk
Width: 2-6 ft (unpaved or boardwalk), 12 ft (bike path)
Agency: Monterey County

DESCRIPTION OF OPTION

This segment is a major potential connector between the Inland Route (Segment 8) and the Coastal Route (See Figure 6-12). Since the Coastal Route may be unpaved at least from Marina State Beach north, this segment may be the best opportunity to return users on a paved or compacted unpaved facility to the coast. It would also offer some of the most scenic opportunities on the entire trail, and would provide new coastal access as well as numerous interpretive opportunities.

From Segment 8 at the Salinas River bridges, Segment 12 would require a new pathway to be ramped down the embankment on the north side of the river to a new under crossing of Highway 1. While there is adequate headroom under this bridge, this area floods annually and would require additional maintenance. Once under Highway 1, the pathway would follow the north side of the river at the edge of existing agricultural fields and the riparian zone of the river. This area is now occupied by a narrow unpaved farm road, which would need to be relocated to accommodate a path. A full description of how the trail may co-exist with active farmlands is discussed in Appendix 6.

It may be possible to locate the path in the undeveloped riparian areas south of the farm road, but environmental impacts may prevent this. Either location will need to address the issue of flooding in the area, which regularly intrudes into the farmlands in this area. If the path were to be developed on a new levee, it would help protect the farmlands but might add to the flooding problems elsewhere. A preferable approach may be to place the path on a levee that is interspersed with a boardwalk that would allow flood waters to inundate surrounding lands but offer limited protection to specific areas.

Near the western end of Segment 12, the trail would wrap around the river side of Mulligan Hill, a unique and historic landform in an otherwise flat terrain. The trail may need to be located on a boardwalk through the dunes here, but would offer unparalleled views of the estuary and beach. Careful siting of the trail combined with adequate fencing and 'No Trespassing' signs would help protect the privacy and security of nearby residents.

ADVANTAGES

1. This option provides unique scenic and interpretive opportunities, along with new coastal access.
2. Trail users on the Inland Route could access the coast, via this segment.
3. This segment provides an off-road option between the Salinas River and Moss Landing.

DISADVANTAGES

1. The entire trail is located on private property, most of it active farmland.

2. The trail will be in an active flood zone, and will need to address this issue, especially under Highway 1.
3. The trail would be located near active farmlands, and may affect farm operations if not designed appropriately.
4. The riparian corridor is environmentally sensitive habitat.

Segment 13: Salinas River State Beach Dunes Trail

Length:	20,000 ft (3.78 miles)
Type:	Class I bike path, unpaved trail, boardwalk
Width:	2-6 ft (unpaved or boardwalk), 12 ft (bike path)
Agency:	Monterey County

DESCRIPTION OF OPTION

This segment starts near the mouth of the Salinas River, where an existing farm access road terminates where the Old Salinas River connects to the estuary (See Figure 6-13). Originally, the Salinas River did not open directly into Monterey Bay but turned north at this location and ran behind the sand dunes to Moss Landing Harbor. The water course still remains today, albeit with a much smaller volume of water controlled by a flood gate on the main Salinas River. The farm access road is located where the sand dunes end and the active farmland begins, and winds its way northward towards Moss Landing.

The path would follow either the farm road or be located in the dunes immediately to the west. The sand dunes are part of the Monterey Dunes Colony residential development, which fronts the beach for over a mile in this area. The final location for the trail would be dependent on negotiating with the farm owners and/or the Monterey Dunes Colony Homeowners Association. In either case, the privacy, safety, security, and liability issues would need to be addressed. A full description of how the trail may co-exist with active farmlands and in sand dune areas is discussed in Chapter 7.

The segment continues north from the Monterey Dunes Colony on an existing farm road west of the Old Salinas River. The segment follows the Old Salinas River corridor, and could be located on existing farm roads, or at the base of the sand dunes. The sand dunes are part of the Salinas River State Beach, and already have some informal and formal trails. Alignment of the trail along existing farm roads or abutting productive farmland will require negotiation with landowners, in addition to addressing issues of privacy, safety, security, and liability related to the location of the trail.

Entering Moss Landing, between Potrero and Sandholdt Roads, the trail would be located on an existing service road within Salinas River State Beach that could be converted to a Class I trail segment. Near the northern end of this road there is a parcel of private property: legal access through this parcel needs to be researched. North of the private parcel the trail would be located on the access road to the State Beach parking lot and then Sandholdt Road as a Class III Route. Traffic levels and speeds are so slow on these roads that shared use for most people should not be a problem.

ADVANTAGES

1. This segment provides views of both coastal dune and inland agricultural landscapes.
2. This segment provides access to the coast as well as the Salinas River.
3. This segment provides an off-road option for the Scenic Trail between Monterey Dunes Way and Moss Landing.

DISADVANTAGES

1. Potential for environmental impacts of trail implementation in sand dunes.
2. Potential impacts to agricultural operations if trail is not designed appropriately.
3. Portions of the trail may be located on private property.

Segment 13: Salinas River State Beach

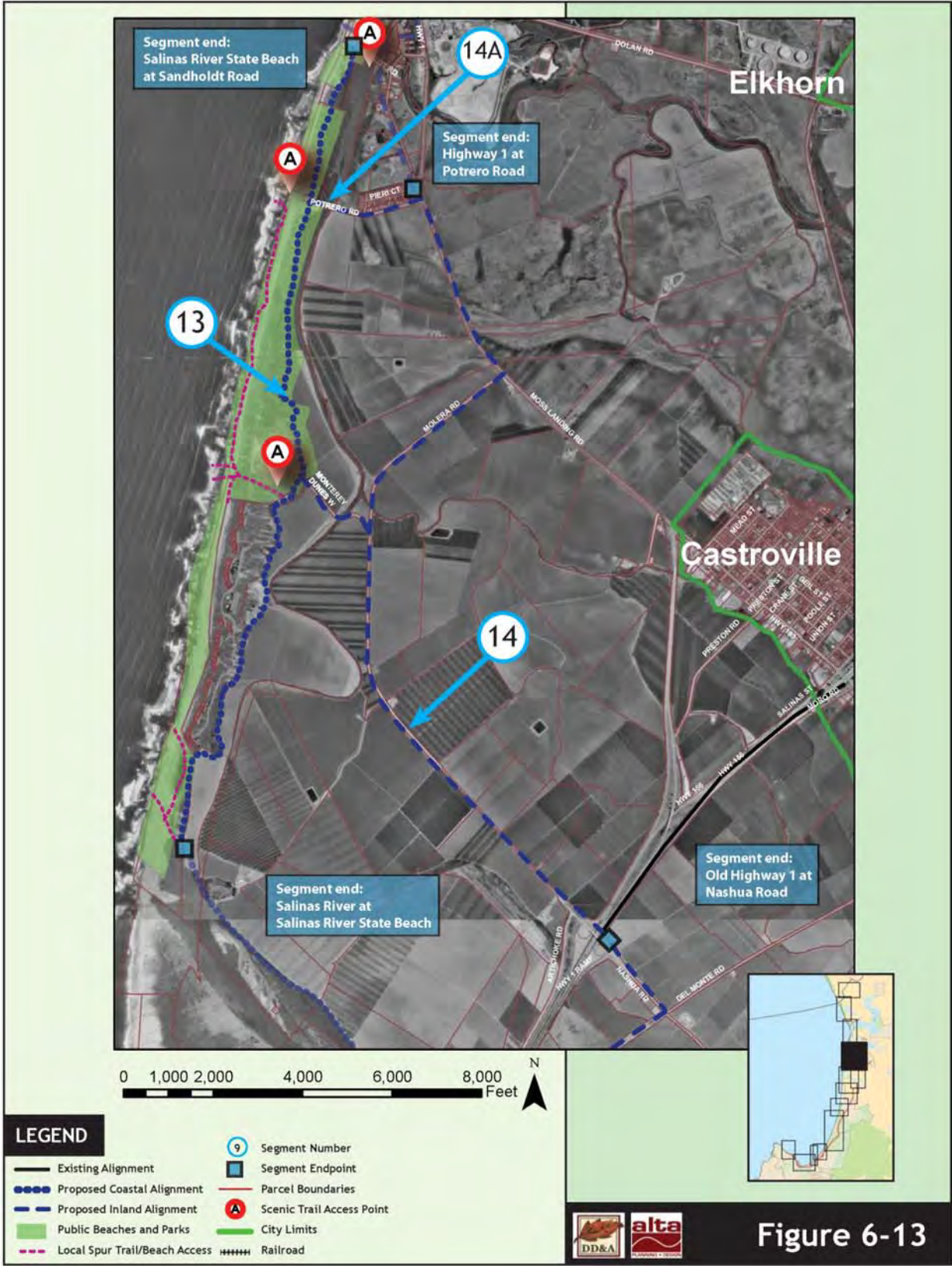


Figure 6-13

Segment 14: Molera Road-Moss Landing Bikeway

Length: 19,750 ft (3.74 miles); 14A (Portero Road): 2,680 ft (.5 miles)
Type: Class I bike path or new Class II bike lanes/Class III bike route with shoulders
Width: 12 ft (bike path), 4 ft wide bike lanes or shoulders
Agency: Monterey County

DESCRIPTION OF OPTIONS

This segment would serve as the Scenic Trail link between the Salinas River Crossing (Segment 8), the Castroville bike path, and the Moss Landing area (See Figure 6-13). From the intersection of Nashua Road/Molera Road at Highway 1, the alignment follows Molera Road to Highway 1, and Highway 1 to Moss Landing. Molera Road is a two-lane County road with no shoulders that bisects agricultural fields. There are no barriers between the road and fields, and farm equipment uses the road frequently. Traffic is very low but moves fast (over 50 mph), and there is often significant mud on the pavement left from farm tractors and trucks. The public right-of-way is typically 72 feet wide, and the roadway itself is about 36 feet wide—leaving about 18 feet of public land on each side of the road. The road is currently used by some bicyclists as the primary route from Santa Cruz County to Monterey.

A potential future greenway connection between Segment 14 and Castroville may be achieved by using the Tembladero Slough water course, which connects to the Castroville bike path. In addition, TAMC is planning a future extension of the Castroville pathway to Castroville Blvd., as part of the future Caltrain rail station, including a bicycle and pedestrian undercrossing at the Union Pacific railroad.

There are three basic improvement options for this segment. These options are shown in Figure 6-14.

Option 1: Construct a Class I bike path on the south side of Molera Road. This path would need to be set back at least 5 feet from the current pavement edge.

ADVANTAGES

1. This would provide a consistent off-street experience for pathway users.
2. No private right-of-way would be needed.

DISADVANTAGES

1. Farm equipment accessing the adjacent fields is likely to affect the pathway.
2. The pathway would be located close to active agricultural fields, with potential safety and health issues.
3. A bike path may not fit on the existing Molera Road overcrossing of Highway 1.

Option 2: Construct Class II bike lanes four feet wide on each side of Molera Road.

ADVANTAGES

1. This would provide a dedicated on-road bicycle facility.
2. The bike lanes could also serve as an emergency breakdown lane for vehicles.
3. No private right-of-way would be needed.

DISADVANTAGES

1. A Class II bike lane would not be usable by pedestrians.
2. Farm equipment accessing the adjacent fields is likely to affect the bike lanes.
3. The bike lanes would be located close to active agricultural fields, with potential safety and health issues.
4. Bike lane treatments, which include pavement stencils and signs, are typically used in more urban rather than rural settings, and may not be necessary.
5. The road may need to be partially reconstructed for lateral expansion.

6. Evaluation of Recommended System

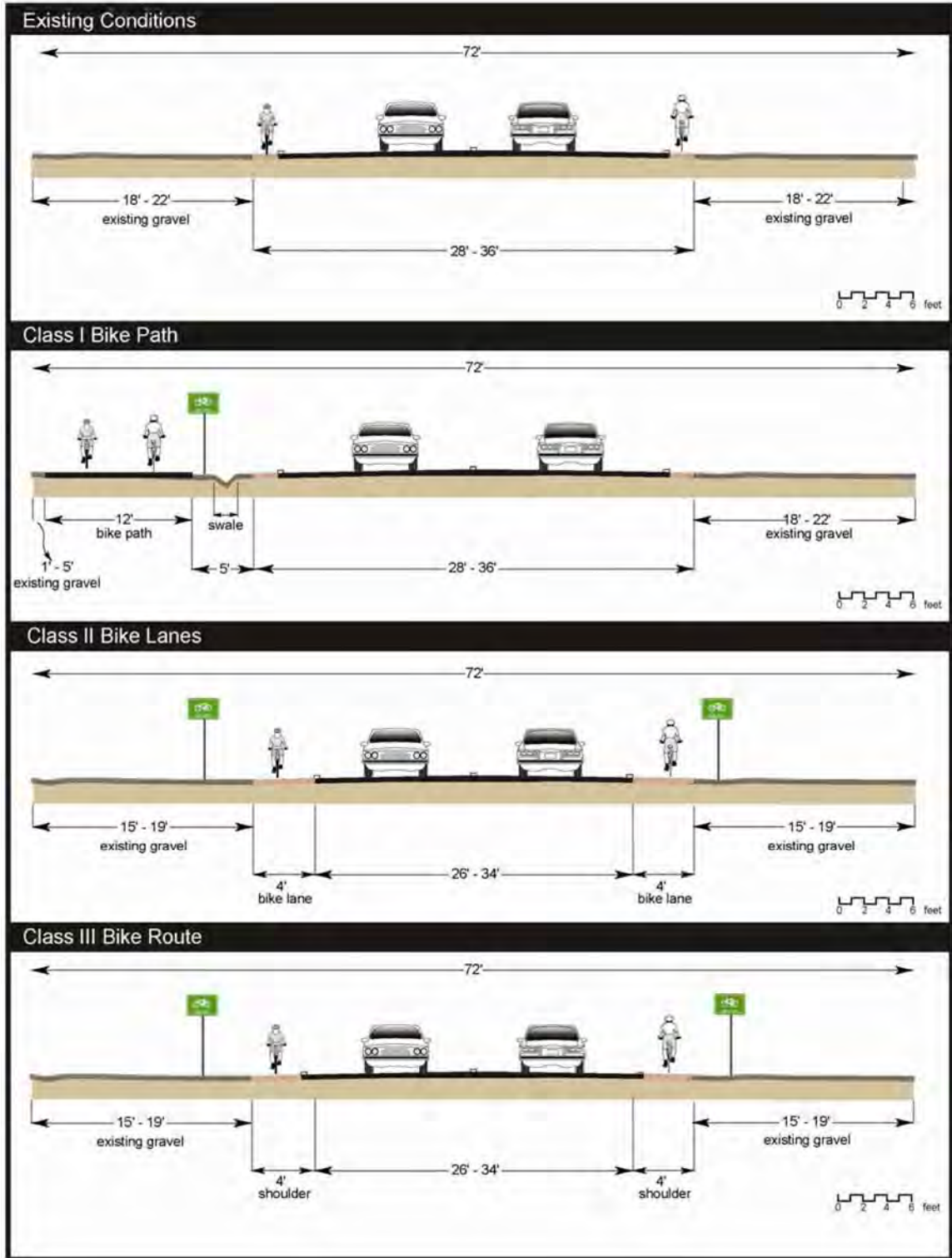


Figure 6-14 Cross-Section of Molera Road

Option 3: Construct four-foot-wide shoulders and a Class III bike route on each side of Molera Road.

ADVANTAGES

1. The shoulders could also serve as an emergency breakdown lane for vehicles.
2. No private right-of-way would be needed.

DISADVANTAGES

1. A Class III bike route would not be usable by pedestrians.
2. Farm equipment accessing the adjacent fields is likely to affect the shoulders.
3. The bike route would be located close to active agricultural fields, with potential safety and health issues.

RECOMMENDATION

In order to provide a consistent facility that can also be used for transportation purposes, Option 1 (bike path) would be the preferred option since all of the other sections, which comprise the Coastal Route, are Class I bike paths. Many users of a pathway would not feel comfortable riding on a road, even if there were good shoulders or bike lanes.

If the Coastal Route (Segments 12 and 13) is developed and can be used by mountain bikes, Segment 14 on Molera Road is likely to be used primarily by road bicycles. Road bicycles are typically ridden by more experienced riders, who in turn feel more comfortable riding on-road than on off-road paths. If this is the case, Option 3 (Class III bike route and shoulders) might suffice for this segment.

All options need to address the impacts of farm equipment crossing the facility, maintenance, and potential safety and health impacts from nearby fields. Chapter 7 has an entire section that addresses these types of issues.

In summary, if the Coastal Route is expected to be developed to accommodate wide-tired bicycles, Molera Road should be retrofitted as a Class III bike route with new four-foot-wide shoulders. If the Coastal Route is expected to be a single-track walking trail with no bicycle access, Segment 14 should be constructed with a bike path (Option 1).

Segment 14 continues along Molera Road to Highway 1, and from that point north on Highway 1 to Moss Landing Road. Highway 1 in this area is a two-lane highway, typically with 8-foot wide shoulders—although actual widths vary. The highway is a designated part of the Pacific Coast Bikeway, and has Class II bike lanes striped on a portion of this segment in Moss Landing. The road has high traffic volumes and speeds. By almost any measure, Highway 1 is an unfriendly bicycle environment for the vast majority of existing and potential users, although it is used currently by some long-distance riders.

1. Highway 1 already has been signed as a Class II facility for a portion of this segment, and future facilities should be consistent.
2. A Class I bike path on the south side of Highway 1 would be crossed by several driveways and side streets, creating additional conflicts with decelerating and accelerating vehicles.
3. Any option that required users of the Scenic Trail to cross Highway 1 at Molera Road, i.e., any Class II or Class III option, may not be acceptable from a safety perspective.

Given this last issue, unless Segment 14 along Highway 1 is constructed as a Class I bike path on the west/south side of Highway 1, it would be preferable to develop Segment 12 and 13 as a paved route into Moss Landing.

Segment 14A is a short spur on Moss Landing Road that would serve as a connector to the Coastal Route from the Inland Route in the event that Segment 13 could not be developed. This would allow Scenic Trail users to bypass Highway 1. This narrow, low traffic road is the access route for farms in the area, and would likely be acceptable as a shared use Class III bike route, minor shoulder widening would help. In addition, enhanced pedestrian access to the Moss Landing Marine Laboratory from Moss Landing Road should be explored as part of any future specific planning in Moss Landing.

ADVANTAGES

1. This option would provide connection to Salinas River State Beach.
2. This option would connect the proposed Inland and Coastal Routes.

DISADVANTAGES

1. The short segment is isolated.
2. For long-distance bicyclists, this is a very indirect route.

Segments 15A-B: Moss Landing

Length: 6,960 ft (1.32 miles)
Type: Class I bike path
Width: 12 ft (bike path)
Agency: Monterey County

DESCRIPTION OF OPTION

Segments 15A and B would connect the northern and southern areas of Moss Landing across the Elkhorn Slough (See Figure 6-15). Segment 15A starts at the intersection of Moss Landing Road and Highway 1, runs parallel and to the west of Highway 1 heading north, and crosses the Elkhorn Slough just west of the existing highway bridge. The location of the Scenic Trail along this segment would take advantage of an existing easement along the Duke Energy property. The location of the trail north of the Elkhorn Slough (Segment 15B) would connect the North Harbor



Looking north at the Moss Landing Bridge

Redevelopment Area, providing trail users with access to the pedestrian-oriented commercial activity planned for this area.

This segment will provide trail users with links between the activities in the Moss Landing area and those planned for the North Harbor area and nearby State Beaches. The location provides unusually rich opportunities for interpretation and scenery, including exposure to the harbor at Moss Landing.

Alignment of the trail through the Moss Landing area will require significant engineering due to the varied topography and the need to provide a bridge crossing over the slough. Bridge and retaining wall engineering and construction costs make some design options costly relative to other segments in the Scenic Trail corridor. A detailed analysis of alignment options and recommendations for the Moss Landing area are provided in Appendix 1 Moss Landing Segment Alternatives Analysis. The recommended option is located close to Highway 1 and minimizes the amount of structure and right-of-way needed for this segment. The alignment to Jetty Road could either be located within the harbor area, or along Highway 1.

Segments 15A and 15B: Moss Landing



ADVANTAGES:

1. This segment provides coastal access as well as premier opportunities for interpretation.
2. This option provides internal bicycle and pedestrian circulation for the community of Moss Landing, including the Moss Landing North Harbor area.
3. This segment would provide notable views of the Moss Landing and Elkhorn Slough areas.
4. Improved harbor north-south safety for local residents and visitors.
5. Improved ADA access.
6. Capacity to be used by harbor safety and security vehicles if Highway 1 is congested.
7. Capacity to be used for oil spill and other emergency staging.

DISADVANTAGES:

1. This portion of the trail will require significant and costly engineering, design and construction.
2. Portions of the trail may be located partially on private property.
3. Portions of the trail may be located adjacent to Highway 1.
4. Enhanced security may be needed to protect the Power Plant.
5. Potential cost of mitigating environmental impacts.

Segments 16A-B: Zmudowski State Beach Trail

Length:	17,800 ft (3.37 miles)
Type:	Class I bike path, shared access road, soft trail, boardwalk
Width:	12 ft (bike path), 4-6 ft soft trail, 8 ft boardwalk
Agency:	Monterey County, State Parks

DESCRIPTION OF OPTION

This alignment includes two options located relatively close together, an Inland Trail option (16A) and Coastal Trail option (16B) (See Figure 6-16). **Segment 16A** would link the Moss Landing area with Zmudowski State Beach and the Pajaro River along the historic Pajaro Valley Consolidated Rail Road right-of-way. The segment begins at the intersection of Jetty Road and Highway 1 and runs north along the historic right-of-way to the Pajaro River. The historic right-of-way was divested by the railroad in the early twentieth century and is now a privately held parcel. Negotiations with owners of the former railroad parcel, as well as adjacent landowners, will be necessary. The location of this segment provides access to the coast through Moss Landing and Zmudowski State Beaches, although the alignment of the trail is separated from the beaches and sand dunes in some locations by water, wetlands, and active farmlands. Being a former railroad corridor also means the route is level and generally above local floodwaters. This location will provide opportunities for interpretation of environmental and agricultural resources, as well as interpretation of the historic significance of the railroad right-of-way.

ADVANTAGES

1. This segment provides coastal access as well as opportunities for interpretation.
2. This option provides a connection from the community of Moss Landing to the more remote Zmudowski State Beach.
3. This is a level route located above floodwaters.

Segments 16A and 16B: Zmvdowski State Beach



Figure 6-16

DISADVANTAGES

1. The trail alignment is at least partially on private property. Negotiations with landowners will be necessary. Status of the historic railroad property is unclear.
2. In some areas the trail would traverse back-through dune and wetland areas, requiring boardwalks or other measures to protect the resources.
3. A new bridge across an arm of Elkhorn Slough will be needed. However, this new bridge would take advantage of an existing historic railroad fill section, and eliminate the need for new fill.
4. The route is located adjacent to active farmlands in some areas.
5. At the northern end of the segment, seasonal restrictions on dune access may be needed to protect nesting areas for the endangered Snowy plover.
6. Along the South Bank of the Pajaro River, coordination with the Corps of Engineers, Coastal Commission, and Monterey County Water Resources Agency will be needed to address the issues of river erosion and public use of the levee.

Segment 16B is located on an existing unpaved access road located between the sand dunes and wetlands, water, and active farmlands. The road is used by State Parks to access the northern reaches of the State Beach, and is not accessible to the general public. The location of this segment provides access to the coast through Moss Landing and Zmudowski State Beaches as well as interpretive opportunities for the wetlands located east of Zmudowski State Beach. Additional study will determine the degree of environmental impact of trail alignment.

ADVANTAGES

1. This segment provides coastal access as well as opportunities for interpretation.
2. This section of the trail provides a connection from the community of Moss Landing to the more remote Zmudowski State Beach.
3. This option utilizes State Park land for most of the segment.

DISADVANTAGES

1. Portions of the trail may be located on private property. Negotiations with landowners may be necessary.
2. Environmentally sensitive wetland areas are in close proximity to the proposed alignment.
3. The segment is adjacent to sand dunes, so maintenance may be required to accommodate drifting sand.

Both Segments 16A and B merge at the Pajaro River, and are located on the existing levee on the south side of the river. The levee is managed through an easement by the Monterey County Water Resources Agency (see Segment 17 description). The segment terminates near Trafton Road.

CROSSING OF THE PAJARO RIVER MOUTH

The California Coastal Trail, which is located primarily on the beach on this area, crosses the Pajaro River mouth near the end of Segment 16. This is available seasonally to trail users. While it would not be appropriate to identify this connection as part of the continuous paved MBSST, a

sign could be placed identifying this Coastal Trail option to trail users along with advisory language.

Segments 17A-B: Pajaro River Trail

Length:	9,600 ft (1.81 miles)
Type:	Class I bike path, Unpaved Road, Class III bike route
Width:	10-12 feet pathway, 10 feet wide unpaved road
Agency:	Monterey County

DESCRIPTION OF OPTION

These segments would link the Zmudowski State Beach Trail with the McGowan Thurwachter Bridge and Santa Cruz County. **Segment 17A** utilizes Trafton, and McGowan Roads (See Figure 6-17). The segment begins where Segment 16 ends, connects to Trafton Road, then northeast to McGowan Road, and north to the McGowan Thurwachter Bridge. Trafton, and McGowan Roads will need signage to alert motorists to the presence of bicyclists on the roadway because they are rural two-lane roads with limited traffic and narrow width.

ADVANTAGES

1. The segment provides a connection to Santa Cruz County.
2. Trail alignment is largely located in public right-of-way.

DISADVANTAGES

1. The trail alignment is primarily located on well-traveled roadways.
2. Potential conflict with agricultural operations
3. Although the traffic volumes and speeds are significantly lower than nearby Highway 1, this alignment may not be appropriate for inexperienced bicyclists or pedestrians.

Segment 17B follows the Pajaro River levee north and east to the McGowan-Thurwachter Bridge. This segment will provide opportunities for coastal access, as well as access to the Pajaro River. The location of the trail along the existing levee top will minimize impacts on the riparian environment. The Pajaro River levees are maintained by the Monterey County Water Resources Agency, and the easements allowing for the establishment of the levees are held by Monterey County. In order to allow for trail implementation and public access along the levee top, the levee easements owned by the Monterey County Water Resources Agency will be explored.

ADVANTAGES

1. This option provides coastal and riparian access as well as opportunities for interpretation.
2. This option is more direct than 17A, offering a better transportation connection
3. Less conflicts with adjacent agricultural operations
4. This segment provides a connection to Santa Cruz County on Class I bike path.

DISADVANTAGES

1. The trail alignment is entirely on private property, although the Monterey County Water Resources Agency has a levee easement Negotiations will need to take place.

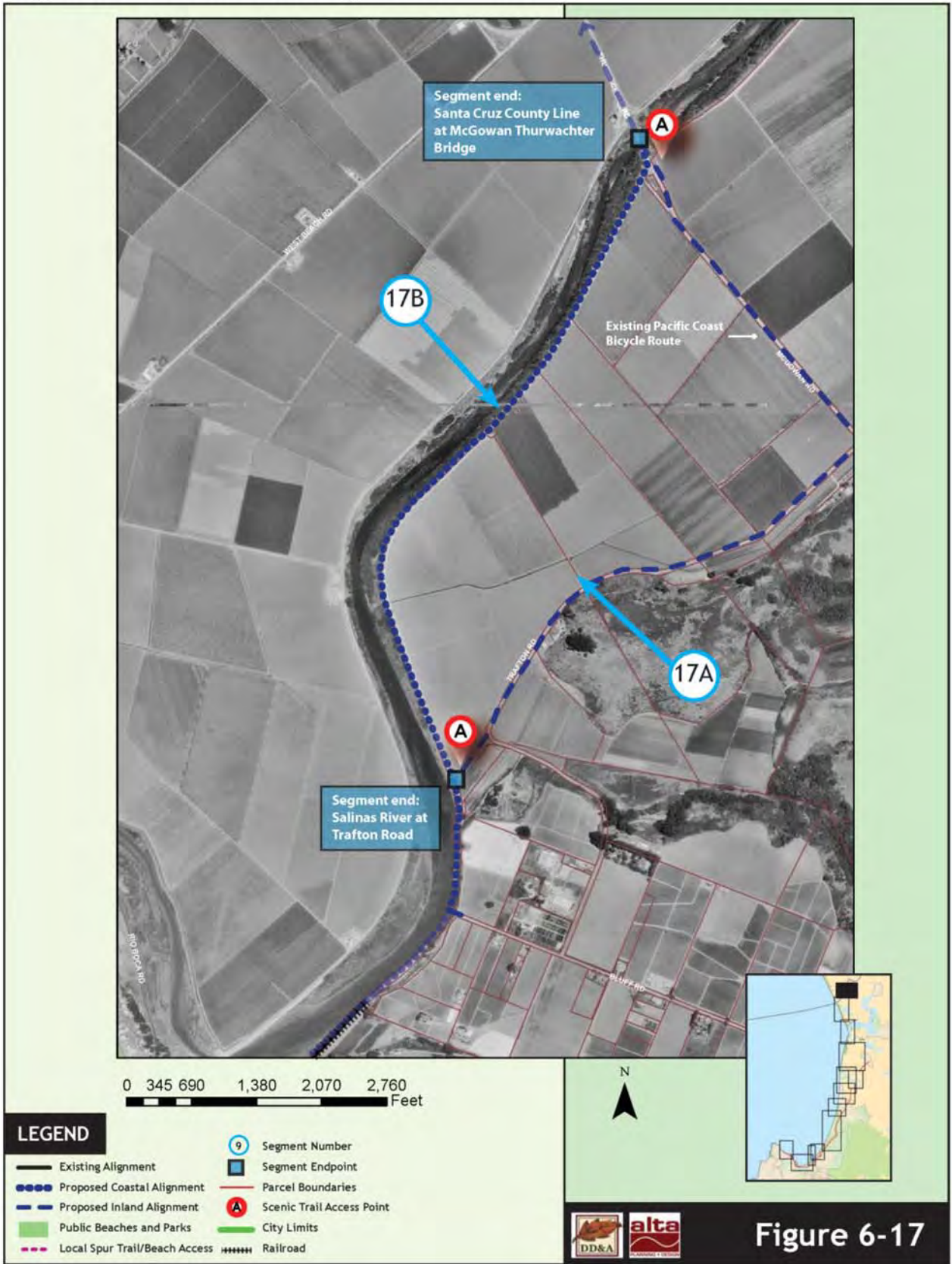
Elkhorn Road Alternative Route

An alternative route to Segments 15, 16, and 17 would be the use of Castroville Road or Dolan Road to connect people to Elkhorn Road, and from there along the east side of Elkhorn Slough into Watsonville via County Road G12 and Main Street. This is not identified as an alternative to the segments discussed in this plan because (a) it does not meet the objectives of the MBSST by maximizing access to the coast and also providing a separated facility wherever possible—at least compared to the alternatives discussed in this plan. The roads used in this option typically have no shoulders and moderate to high traffic speeds, making them unsuitable for all but the most experienced bicyclist. These routes may provide an alternative to the current routes on Highway 1 and, if Segments 15-17 prove to be infeasible to construct, a viable alternative that could be implemented through the Elkhorn Slough Foundation planning process and County of Monterey Bicycle Master Plan process.

Connection to Watsonville

A future trail connection from the MBSST at the Thurwachter Bridge into Watsonville would provide an important access route for this community to the shoreline. This trail connection could be located on either (or both) sides of the Pajaro River, and be developed by either County and/or the City of Watsonville.

Segments 17A and 17B: Pajaro River Trail



6.3. SEGMENT EVALUATION AND PHASING OVERVIEW

Each segment presented in this chapter may be a feasible alternative for Scenic Trail alignment depending on future study and analysis and negotiations with property owners. This chapter does not identify one preferred alignment, but rather presents multiple segments that can be implemented over time. In this section, segments are assigned to one of three phasing categories:

- Short-Term (1-5 years)
- Mid-Term (6-10 years), and
- Long-Term (11-15 years).

The assignment of segments to each of these three categories is based on a set of criteria that in turn are based on the overall project goals. Segments are assigned to phasing categories as a result of their total evaluation score. The score of each segment is a product of its relationship to each evaluation criteria. Evaluation criteria and methodology are discussed in the following section.

In general, segments with more obstacles and higher cost are more likely to be assigned to a later phase. Although phasing segments is intended to aid staff in identifying project readiness and developing funding strategy, the phasing presented in this chapter represents an educated forecast of future needs, and should be adapted and revised accordingly with trail implementation.

6.3.1. EVALUATION CRITERIA AND METHODOLOGY

The proposed trail segments in the Scenic Trail corridor are subject to a number of existing conditions that dictate whether or not the alignments are feasible in the short-, mid-, or long-term. The evaluation criteria reflect the overall goals, objectives, and policies of the Monterey Bay Sanctuary Scenic Trail Master Plan, as outlined in Chapter 2. Specific goals and objectives that were used in developing the evaluation criteria are outlined and discussed below:

CRITERIA

CONTINUITY

GOAL 1	PROVIDE A CONTINUOUS PUBLIC TRAIL ALONG THE SHORELINE OF MONTEREY BAY NATIONAL MARINE SANCTUARY, WITHOUT HARMING SENSITIVE RESOURCES.
OBJECTIVE 1.2	MAKE THE TRAIL FUNCTIONAL AS A TRANSPORTATION FACILITY.
OBJECTIVE 1.3	MAKE THE TRAIL RECOGNIZABLE AS A CONTINUOUS FACILITY.

A continuous and functional trail will encourage recreational and utilitarian users alike to extend their Scenic Trail trips further. Continuous facilities are especially important for commuters. Segments with ample access to and from neighborhoods and with utility as a transportation facility will score higher than those without.

COASTAL ACCESS

GOAL 2	DEVELOP PUBLIC TRAIL ACCESS ALONG THE MONTEREY BAY NATIONAL MARINE SANCTUARY TO ENHANCE APPRECIATION, UNDERSTANDING AND PROTECTION OF THIS SPECIAL RESOURCE.
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As an essential component of the California Coastal Trail, the Scenic Trail should meet the Coastal Trail’s Objective 1 to “provide a continuous trail as close to the ocean as possible, with vertical access connections at appropriate intervals and sufficient transportation access to encourage public use.” Consistent with the goals of this Master Plan, the Scenic Trail should be aligned the closest possible proximity to the coastline. Segment alignments with greater direct coastal access will score higher than those with limited or no direct coastal access.

EASE OF IMPLEMENTATION

GOAL 4	DEVELOP A LONG- AND SHORT-TERM PROGRAM TO ACHIEVE THE POLICIES SET FORTH IN THIS PLAN THROUGH A COMBINATION OF PUBLIC AND PRIVATE FUNDING, REGULATORY METHODS AND OTHER STRATEGIES.
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A variety of complex issues can slow down the implementation of a project, and the fewer that exist for a project, the more likely it is to be built. They typically include such things as environmental reviews, construction permits, the need for multiple agency support, coordination with other construction projects, or difficulty of construction due to physical location or required components. Projects that are more straightforward or do not include complex or difficult implementation or operation efforts will score higher than options that are more complex.

AGRICULTURAL IMPACTS

OBJECTIVE 1.5	MINIMIZE TRAIL IMPACTS TO PRIVATE LANDS INCLUDING AGRICULTURAL, RESIDENTIAL AND OTHER LAND USES.
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Agriculture is a significant economic and cultural element of the Monterey Bay area. The Scenic Trail aims to minimize impacts to agricultural production, while simultaneously providing interpretive and educational opportunities for trail users to better understand the role of agriculture in the region. Segments with potential to adversely impact agricultural production receive a lower score.

ENVIRONMENTAL IMPACTS

OBJECTIVE 1.4	MINIMIZE THE ENVIRONMENTAL IMPACTS OF THE SELECTED ROUTES, CONSTRUCTION METHODS AND OPERATION OF THE COMPLETE TRAIL SYSTEM.
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The Monterey Bay region is home to unique plant and animal life which constitute sensitive habitats and environments. The Scenic Trail aims to avoid impacts to these environments and as such, segments with no adverse environmental impacts will score higher, while segments with adverse impacts will score lower.

COST

OBJECTIVE 4.7 | MAXIMIZE FUNDING FOR THE PROJECT.

The cost of the segment is always a critical component, especially where crossing improvements, fencing, signals, or other expensive infrastructure improvements are being considered. The cost of each segment also has bearing on the ease of implementation and the time frame under which the segment can be constructed. Segments with lower costs per mile will receive higher scores.

USE OF AVAILABLE RIGHT-OF-WAY

POLICY 1.5.1 | AVOID TRAIL DEVELOPMENT ON PRIVATE LANDS WHEN A FEASIBLE ALTERNATIVE ALIGNMENT EXISTS ON ADJACENT PUBLIC PROPERTIES.

OBJECTIVE 4.5 | UTILIZE EXISTING LANDS OWNED BY VARIOUS GOVERNMENT ENTITIES, OPEN SPACE GROUPS, INSTITUTIONS AND OTHER SOURCES TO ACQUIRE AND DEVELOP THE TRAIL.

The availability of public right-of-way is an important criterion. Segment alternatives that require the purchase of easements or property may involve timely and complex negotiations, plus additional costs. These projects would score lower than projects where right-of-way ownership is not an issue.

AESTHETICS

POLICY 1.1.3 | MAXIMIZE OCEAN VIEWS AND SCENIC COASTAL VISTAS, EMPHASIZING CONNECTIONS TO EXISTING AND PROPOSED LOCAL TRAIL SYSTEMS, WITH FREQUENT LATERAL ACCESS OPPORTUNITIES FOR DIFFERENT USER GROUPS FROM THE MAIN TRAIL TO THE BEACH, VISTA POINTS, INTERPRETIVE FACILITIES AND OTHER POINTS OF INTEREST ALONG THE WAY.

Does the alignment contain negative aesthetic elements (such as proximity to a freeway) or positive aesthetic elements (such as access and/or views to the coast) that may be an important user amenity and meet Scenic Trail objectives?

SAFETY

OBJECTIVE 5.3 | PROVIDE FOR SECURE, SAFE SANCTUARY AND PLEASANT USE OF TRAIL FACILITIES.

Trail safety is primarily affected by proximity to motor vehicles. Conflicts with motor vehicles can be a major impediment to use by less experienced and capable users, especially recreational users, children, and the elderly. Segments with safety hazards such as uncontrolled crossings, proximity to high speed roadways or other vehicle conflict points will score lower than segments without safety hazards.

USAGE

NO RELEVANT MASTER PLAN GOALS, OBJECTIVES, OR POLICIES.

The project should appeal to the widest variety of users possible. Multiple users include bicyclists, walkers, joggers, dog walkers, in-line skaters, and others. Some of the segments are expected to attract a broader cross-section of users, and more users overall, than others due to their location, surrounding land uses, access points, and topography. Segments serving a broad variety of user groups will receive a higher score.

6.3.2. EVALUATION SCORING DETAILS

Table 6-1, on the next page, shows the point range and scoring guide for each evaluation criterion. Each segment receives a score for each criterion, ranging from 0 to 10 points. Scores for each segment are presented in Table 6-2 Evaluation Matrix.

**Table 6-1
Evaluation Criteria Scoring Details**

Evaluation Criteria	Scoring	
<i>Continuity</i>	0	Discontinuous
	5	Providing average continuity
	10	Continuous
<i>Coastal Access</i>	0	No Coastal Access
	5	Some Coastal Access
	10	Segment aligned along beach, or segment with loop or spur trails providing access to beach
<i>Ease of Implementation</i>	0	Significant feasibility issues
	5	Moderate feasibility issues
	10	Minor feasibility issues
<i>Agricultural Impacts</i>	0	Segment directly adjacent to agricultural resources in remote locations
	5	Segment adjacent to agricultural resources but with some separation and/or located on public right-of-way
	10	Segment has no impact on agricultural resources
<i>Environmental Impacts</i>	0	Segment located directly next to or in sensitive environmental areas
	5	Segment located close to sensitive environmental areas
	10	Segment has no impact on environmental resources
<i>Cost</i>	0	Segment has a high per mile cost
	5	Segment has a mid-level per mile cost
	10	Segment has a low per mile cost
<i>Use of Available Right-of-Way</i>	0	Segment is entirely on private property
	5	Segment runs both in public and private right-of-way
	10	Segment is entirely in public right-of-way
<i>Aesthetics</i>	0	Segment is located next to or on a roadway or similar facility
	5	Segment has some aesthetic qualities
	10	Segment offers excellent scenic qualities
<i>Safety</i>	0	Segment may have significant safety issues
	5	Segment has some potential safety issues, including crossings
	10	Segment is completely separated from roadways
<i>Usage</i>	0	Segment serves a limited number of users
	5	Segment attracts a moderate number and diversity of users
	10	Segment serves a high number and variety of users

Table 6-2: EVALUATION MATRIX

SEGMENT	Possible Score	Continuity	Coastal Access	Ease of Implementation	Agricultural Impacts	Environmental Impacts	Cost	Use of Available Right-of-Way	Aesthetics	Safety	Usage	TOTAL
		10	10	10	10	10	10	10	10	10	10	100
	1	10	10	9	10	7	6	10	10	8	10	90
2	10	10	9	10	8	8	10	9	8	10	92	
3	10	9	9	10	7	6	10	9	9	10	89	
4	10	10	9	10	7	8	10	9	9	10	92	
5	5	10	9	10	5	8	10	10	2	10	79	
6	2	10	9	10	5	8	10	9	2	8	73	
7	2	10	4	10	5	7	6	8	2	3	57	
8	10	2	2	8	5	1	10	7	10	7	62	
9	2	4	4	5	7	7	8	4	5	2	48	
10	1	10	3	3	3	7	4	9	1	4	45	
11	1	8	2	5	10	4	10	2	4	1	47	
12	7	10	2	2	3	5	1	10	5	5	50	
13	7	10	2	2	4	5	1	8	5	5	49	
14	7	2	6	5	9	6	10	2	10	2	59	
15A	10	8	2	10	5	2	9	8	10	5	69	
15B	6	8	8	10	10	7	10	2	10	3	74	
16A	7	5	2	1	5	4	1	6	9	3	43	
16B	7	10	6	8	1	6	8	7	9	3	65	
17A	7	5	8	6	7	8	9	3	7	1	61	
17B	7	5	7	7	5	6	10	8	9	3	67	

6.4. EVALUATION AND PHASING SUMMARY

Each segment is assigned to a phasing category in accordance with the total score received by that segment. An initial review of the recommended phasing reveals a pattern of trail development stemming from two hubs, Moss Landing and the existing Monterey Recreation Trail segments in Pacific Grove, Seaside, Sand City, and Marina. Development of the Coastal Route would begin with the completion of the Sand City Gap, upgrading the existing trail segments in Monterey, Pacific Grove, and Seaside, completion of the segments in the Fort Ord Dunes State Park, and completion of the link between Fort Ord Dunes State Park and Marina State Beach. Development of the northern hub would begin at Moss Landing, and provide a new pathway between Moss Landing Road and Jetty Road, including a new bridge over the Elkhorn Slough. This strategy would provide facilities for areas with the highest short-term demand, while helping through users avoid the worst parts of Highway 1. Table 6-3, Table 6-4 and Table 6-5 present the segments assigned to each phasing category. Additional information regarding the Moss Landing segments is included as Appendix 1 to this document.

Table 6-3
Short-Term Segments

Number	Description	Score
1	Pacific Grove	90
2	Monterey	92
3	Seaside	89
4	Sand City	92
5	Ft. Ord Dunes State Park	79
6	Marina: Marina State Beach	73
15B	County: Moss Landing-North	74

Table 6-4
Mid-Term Segments

Number	Description	Score
8	County-Salinas River	62
14	County-Molera Road	68
16B	County: Zmudowski State Beach Trail	68
17B	County: Pajaro River Trail	67

Table 6-5
Long-Term Segments

Number	Description	Score
7	Marina: Marina Trail	57
9	County: Lapis Connector	48
10	County: Salinas Ntl' Wildlife Refuge	45
11	County: Neponset Road Connector	47
12	County: Salinas River Trail	50

The mid-term segments include a number of key improvements (such as the extension of the Monterey Recreation Trail across the Salinas River to Nashua Road), improvements along Molera Road into Moss Landing, and completion of the Scenic Trail between Jetty Road and Santa Cruz County. Both of the Coastal Route options scored higher in this area due primarily to fewer implementation issues and greater aesthetics and coastal access.

The long-term segments are primarily unpaved trails north of Marina near the Salinas National Wildlife Refuge that have a combination of implementation issues, lower projected demand, and less of a continuity benefit. Segments 12 and 13 are considered alternatives to Segment 14 (Molera Road) should there be any problem providing a Class I bikepath on segment 14, segments 12 and 13 would move into the mid-term category.



7. IMPLEMENTATION AND DESIGN

This chapter addresses the implementation and design of the Monterey Bay Sanctuary Scenic Trail, including design standards and guidelines, cost estimates, funding, permitting, and operations and management. Technical reports are included in the Appendices and include an analysis of Trails and Agricultural Areas, the Moss Landing Segment Feasibility Study, and a Summary of Public Input.

The Sanctuary Scenic Trail will be constructed over time based on the availability of funding, with each completed segment functioning either as a stand-alone project or as an extension of an existing trail. Specific criteria used to evaluate individual segments resulted in a short, mid, and long-term phasing plan at the end of Chapter 6.

7.1. RIGHT-OF-WAY ACQUISITION STRATEGY

One of the greatest challenges to implementing the Sanctuary Scenic Trail is the need to acquire right-of-way from both public and private entities. Wherever possible, the trail is located on public right-of-way to minimize the impacts to property owners. Some segments will require the acquisition of an easement of property rights from private property owners. As part of the planning process, the Transportation Agency has met or attempted to meet with every property owner who might be directly or indirectly impacted by the trail. Special efforts have been made to gather input from the agricultural community, and to understand their unique needs and concerns. The Operations and Management Plan addresses relevant issues such as liability and safety.

7.1.1. STRATEGY WITH PRIVATE PROPERTY OWNERS

One of the basic goals of the Sanctuary Scenic Trail is to protect and, where possible, to enhance the private properties along the trail alignment. National studies have consistently shown that trails, if properly designed and managed, help increase local property values and do not increase crime or liability rates. The existing Monterey Recreational Trail, which is adjacent to private property along much of its route, has proven to be a good neighbor and popular amenity in the County.

Easements or right-of-way may be donated, purchased, leased, or otherwise acquired as part of this process. One easement already exists for the Sanctuary Scenic Trail through

Ellis Power (formerly Duke Energy Plant) at Moss Landing. Another segment (Sand City) is already proposed as part of future development. The lead agency for each segment of the trail could also make special arrangements in terms of safety and liability protection, minimizing impacts to agricultural operations including spraying, screening the trail from adjacent properties, installing fencing and other barriers as needed, and posting and enforcing ‘No Trespassing’ signs and ordinances. The lead agency will contact each property owner individually to discuss options prior to any plans being made public. Any property owner along the proposed alignments may also initiate this contact with the appropriate lead agency. All discussions will be kept confidential throughout this process until an agreement, if any, is reached.

7.1.2. STRATEGY WITH PUBLIC PROPERTY OWNERS

Aside from the individual cities and Monterey County, five other public agencies control property on which the Sanctuary Scenic Trail is proposed:

Moss Landing Harbor District: An easement for a planned segment of the MBSST in the north harbor area has already been approved by the District, but future extensions of the trail northward may require the granting of an easement by the District.

Caltrans: Segments south of and through Moss Landing would require a Caltrans easement within the Highway 1 right-of-way. Some preliminary discussions have already been held with Caltrans, but no formal process initiated. One typical issue is whether the Sanctuary Scenic Trail needs to be located to allow for a future widening of Highway 1 even though there are no funded plans for such a widening currently.

Monterey County Water Resources Agency: This district holds a maintenance easement on the Pajaro River levees, which are included in the proposed alignment at the north end of the Sanctuary Scenic Trail. Preliminary indications are that a trail would fit within their easement description, but impacts to adjacent landowners still need to be resolved.

California State Parks: Most of the proposed Sanctuary Scenic Trail alignment runs through State Park land, in one of the seven different units operated by the agency along the Monterey County coastline. Traditionally, State Parks develops their own internal master plans that include non-motorized access and trail systems. Due to the unique regional nature of the Sanctuary Scenic Trail, the trail type and alignment in each park unit will require close coordination with State Park staff to ensure that it conforms with the organization’s policies and the unit’s environmental constraints. The issue of how the trail will be managed within each State Park unit, and whether it will be on an easement or simply operated as a State Park facility, has not been resolved.

U.S. Fish & Wildlife Service: Proposed unpaved trail segments in the Salinas River national Wildlife Refuge are under the control of the U.S. Fish & Wildlife Service, and will require agency approval. Since none of these segments are proposed to serve a transportation function, the trail type and alignment is highly flexible.

7.1.3. TYPES OF RIGHT-OF-WAY INSTRUMENTS

The Sanctuary Scenic Trail will require the development of agreements and possibly the acquisition of easements or right-of-way. There are a variety of instruments that can be used in this process.

Memorandum of Understanding (MOU): An agreement between agencies outlining which agency is responsible for the planning, design, construction and management of a facility. An MOU typically does not delineate any specific right-of-way boundaries and is less detailed than other instruments. Liability may be shared among all signing partners including the owner of the underlying property.

License Agreement: Allows the use of a public or private right-of-way within specific parameters, but no rights to the land itself. The landowner may retain some liability.

Easement Agreement: Similar to a license agreement, but typically specifies right-of-way that the trail owner controls within specific parameters set by the property owner. The right-of-way may be purchased or donated, and the landowner will retain some liability.

Encroachment Permit: Used by public agencies such as Caltrans, this instrument allows local agencies to construct improvements within Caltrans right-of-way as long as they are designed and operated within established requirements. Both agencies would be protected under the Design Immunity statutes, but some shared liability would remain.

Purchased/Title: Right-of-way for the trail may be purchased and the title transferred to the trail development entity. The major issues are (1) obtaining approval for a lot line adjustment and (2) the cost of the right-of-way. The former landowner would have no legal responsibility for anything that happens on the trail after the sale is complete.

The type of instrument selected will depend on a variety of factors, including the desire to maintain control over the underlying property, the need to be protected from liability, and other issues. Some funding programs require that the right-of-way be under control prior to an agency receiving a grant, and that the facility have a minimum serviceable life of 20 years.

7.2. DESIGN GUIDELINES

This section presents the design guidelines for the Monterey Bay Scenic Sanctuary Trail. Due to the varied terrain, constraints, and user needs along the trail, several different treatments are outlined here. Each trail segment alignment reflects user needs, the overall goals of the Scenic Trail, and existing physical conditions. Design guidelines for the facilities, including descriptions and cross-sections for the different facility types are presented first, followed by amenities and trailhead design. Over crossing design is discussed in Section 7.3 and interpretive signage is discussed in Section 7.4.

The design standards in this section are derived from the following sources:

- Caltrans: Highway Design Manual (Chapter 1000: Bikeway Planning and Design)
- Americans with Disabilities Act (ADA)
- AASHTO: A Policy on Geometric Design of Highways and Streets
- Manual of Uniform Traffic Control Devices
- USDOT/FHWA: Conflicts on Multiple-Use Paths
- ITE: Design and Safety of Pedestrian Facilities
- USFS Trail Accessibility Guidelines

The California Department of Transportation (Caltrans) has developed specific design guidelines in the Highway Design Manual for Class I multi-use paths. Off-road paved portions of the Scenic Trail will be designed to Class I standards wherever possible. These standards are intended to be a guide to engineers in their exercise of sound judgment in the design of projects. Design standards should meet or exceed the Caltrans standards to the maximum extent feasible. Lower standards may be used “when such use best satisfies the concerns of a given situation.”

Mandatory design standards “are those considered most essential to achievement of overall design objectives. Many pertain to requirements of law or regulations such as those embodied in the Federal Highway Administration’s controlling criteria.” Mandatory standards are identified in Chapter 1000 of the Highway Design Manual with the use of bold text and the word “shall”. Advisory standards are important but allow for greater flexibility and are both underlined and identified by the word “should.” Permissive standards are identified by the words “should” or “may” and can be applied at the discretion of the project engineer.

Controlling Criteria, as defined by the FHWA, consists of 13 specific criteria to be used in the selection of design standards. They are: (1) design speed, (2) lane width, (3) shoulder width, (4) bridge width, (5) horizontal alignment, (6) vertical alignment, (7) grade, (8) stopping sight distance, (9) cross slope, (10) super elevation, (11) horizontal clearance, (12) vertical clearance, and (13) bridge structural capacity.

Except for the Caltrans guidelines, all design guidelines must be considered as simply design resources for the Scenic Trail, to be supplemented by the reasonable judgment of professionals. The following sections establish the basic design parameters as developed by Caltrans. Mandatory standards are shown in bold face.

7.2.1. TYPES OF FACILITIES

To ensure that the Sanctuary Scenic Trail is sensitive to the varied environments through which it passes, this plan recommends several different facility trail and bikeway types.

(See Table 7-1: Trail and Bikeway Types Matrix) Facility types are classified according to trail and bikeway types, with trail types referring to primarily unpaved recreational facilities, and bikeway types referring to paved on-road or pathway facilities that can be used for recreational and transportation purposes.

Trail Types

Trail types include Recreational Trail Type A (an unpaved trail 2-6 feet wide suitable for hikers and equestrians recommended for dune trails). Recreational Trail Type B is an unpaved trail or unpaved road 6-10 feet wide suitable for hikers, equestrians and cyclists. This trail type is recommended for inland dune edges, agricultural field edge, service roads or along levees. Recreational Trail Type C is an elevated boardwalk 6-8 feet wide suitable for walking. Recreational Trail Type D is an at-grade boardwalk 4-8 feet wide suitable for walking. Both boardwalk facilities are recommended as part of the sand dune trails. Cross sections for these facilities are provided in Figures 7-1 through 7-3.

Table 7-1: Trail and Bikeway Types Matrix

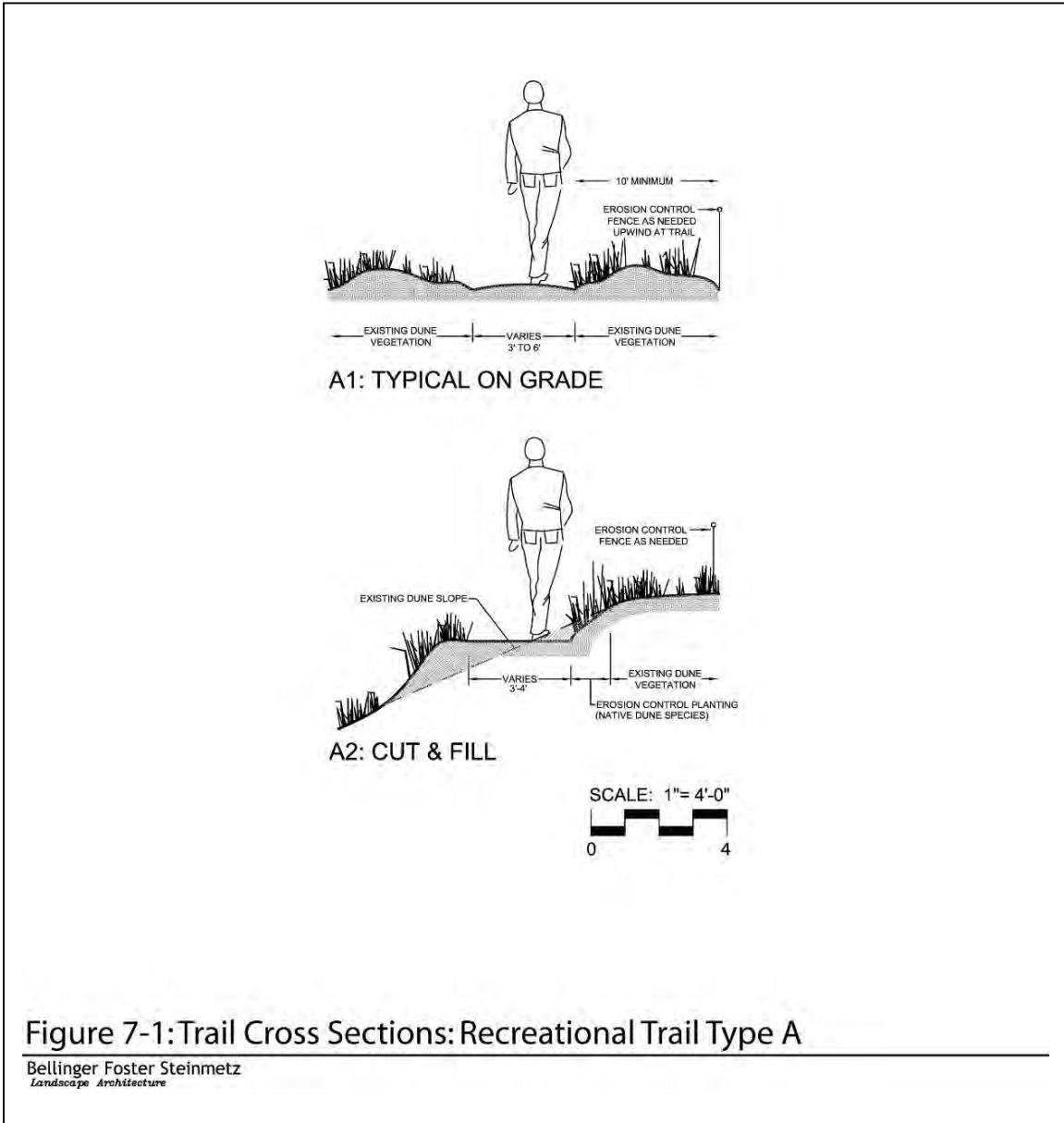
Category	Description	Construction	Active Dune					Road Edge	Levees	Possible uses
			Beach side	Crest	Inland side	Agricultural Field Edge				
Recreational Trail Type A	Unpaved Narrow Trail	Earth	No (1)	Yes (2)	Yes (2)	No (3)	No (3)	No (3)	Walking, horse-riding	
Recreational Trail Type B	Unpaved Wide Trail or Unpaved Road	Earth, polymer stabilized earth	No (1)	No (4)	Yes (5)	Yes (6)	Yes (7)	Yes (8)	Walking, horse-riding, biking	
Recreational Trail Type C	Elevated boardwalk	Wood	Yes (9)	Yes (9)	Yes (9)	No (10)	No (10)	No (10)	Walking	
Recreational Trail Type D	At grade boardwalk	Wood	Yes (9)	Yes (9)	Yes (9)	No (10)	No (10)	No (10)	Walking	
Class-I Bike Path	Separated bike path	Asphalt	No (11)	No (11)	No (11)	Yes (12)	Yes (13)	Yes (12)	Biking, Walking	
Class-II Bike Lane	Marked bike lane	Asphalt	No (11)	No (11)	No (11)	No (14)	No (14)	No (14)	Biking	
Class-III Bike Route	Sign-posted, wide curb lanes and/or shoulders	Asphalt	No (11)	No (11)	No (11)	No (14)	No (14)	No (14)	Biking	

Notes

1. Beach-side of dune is ecologically too fragile and dynamic. Beaches in this area are experiencing long-term erosion and State Parks will not approve any structures or trails along the beach edge.
2. Example already exists south of Potrero Road. *See trail cross-sections A1 & A2.*
3. Single track width is inadequate for safety reasons.

7. Implementation and Design

4. Dune crest is too fragile and dynamic for the establishment of a wide path per State Park advice.
5. Only where dune edge cross-section is less than 1:4 slope. Will require erosion control measures. *See trail cross-section B1.*
6. At agricultural land will require no-climb fence, and planting to absorb field dust. *See trail cross-section B2.*
7. At smaller service roads can be adjacent to road shoulder. *See trail cross-section B3.*
8. At levees can share road cross-section. *See trail cross-section B4.*
9. Only for beach access over dunes and interpretive trails. *See trail cross-sections C1 & D1.*
10. No benefit to the increased cost of a boardwalk in this location.
11. Dune is too fragile and dynamic for the establishment of asphalt trails.
12. Significant increase in investment required to establish asphalt surface
13. Per established prototypes.
14. Not applicable to areas away from roads.



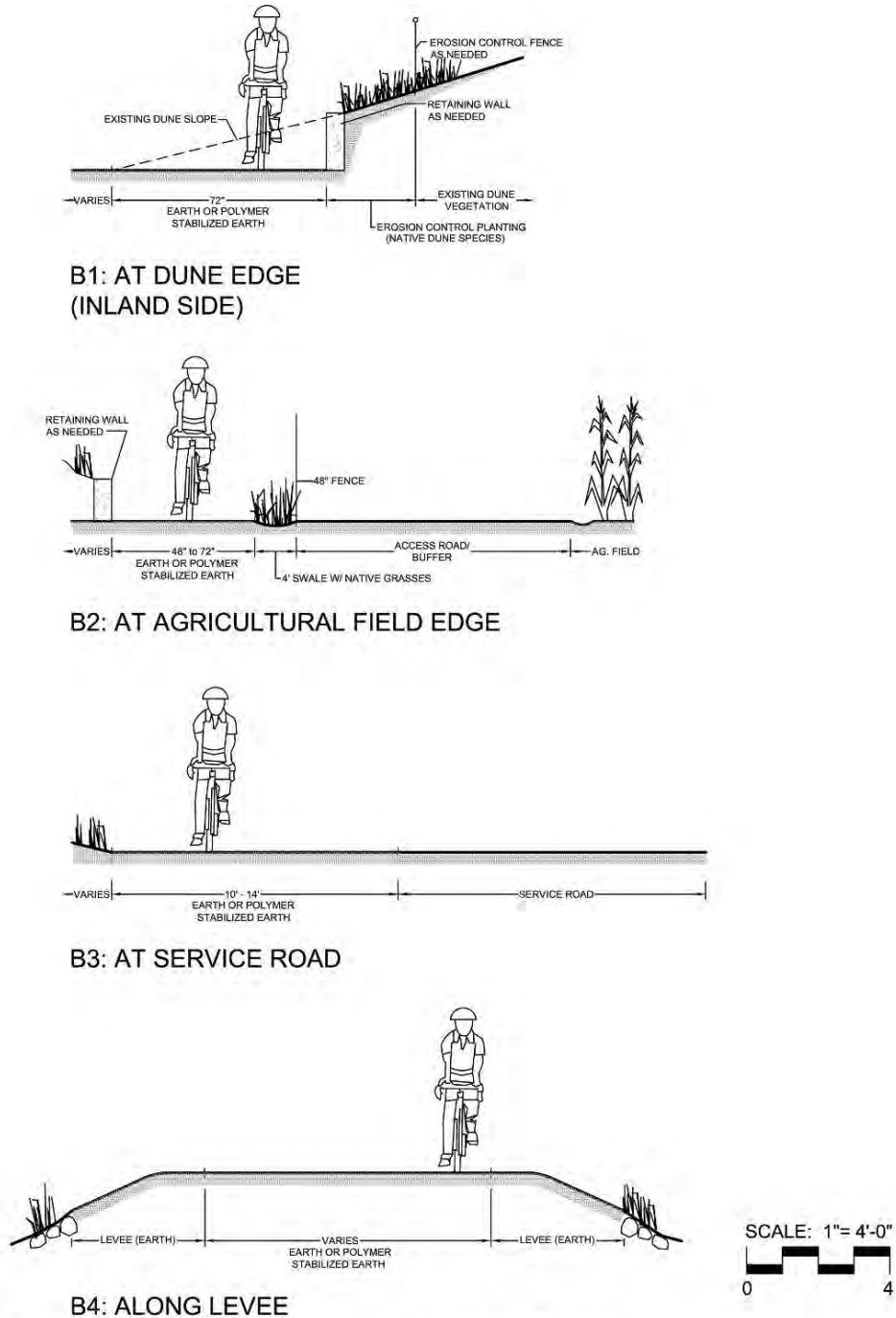


Figure 7-2: Trail Cross Sections: Unpaved Wide Trail

Bellinger Foster Steinmetz
Landscape Architecture

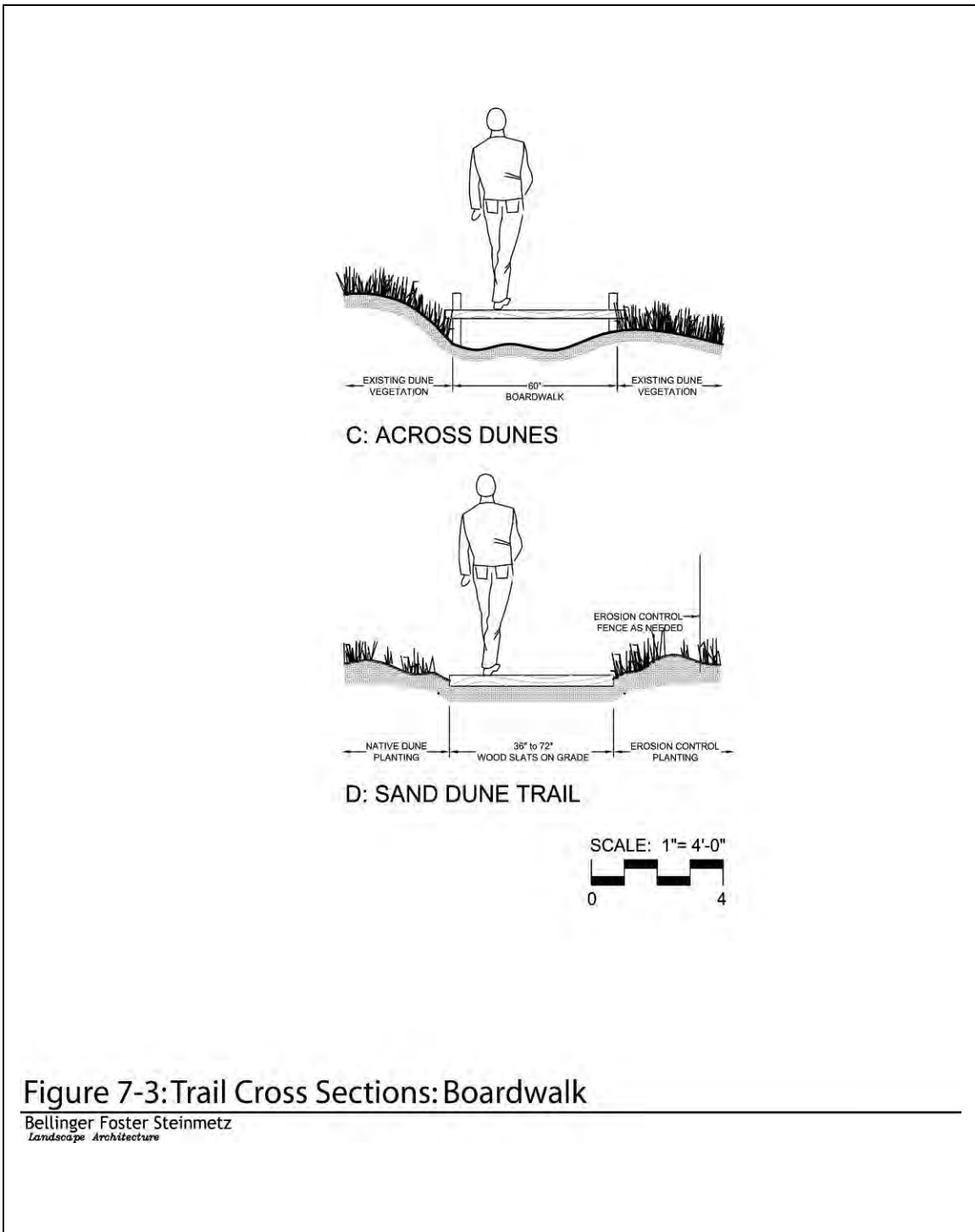
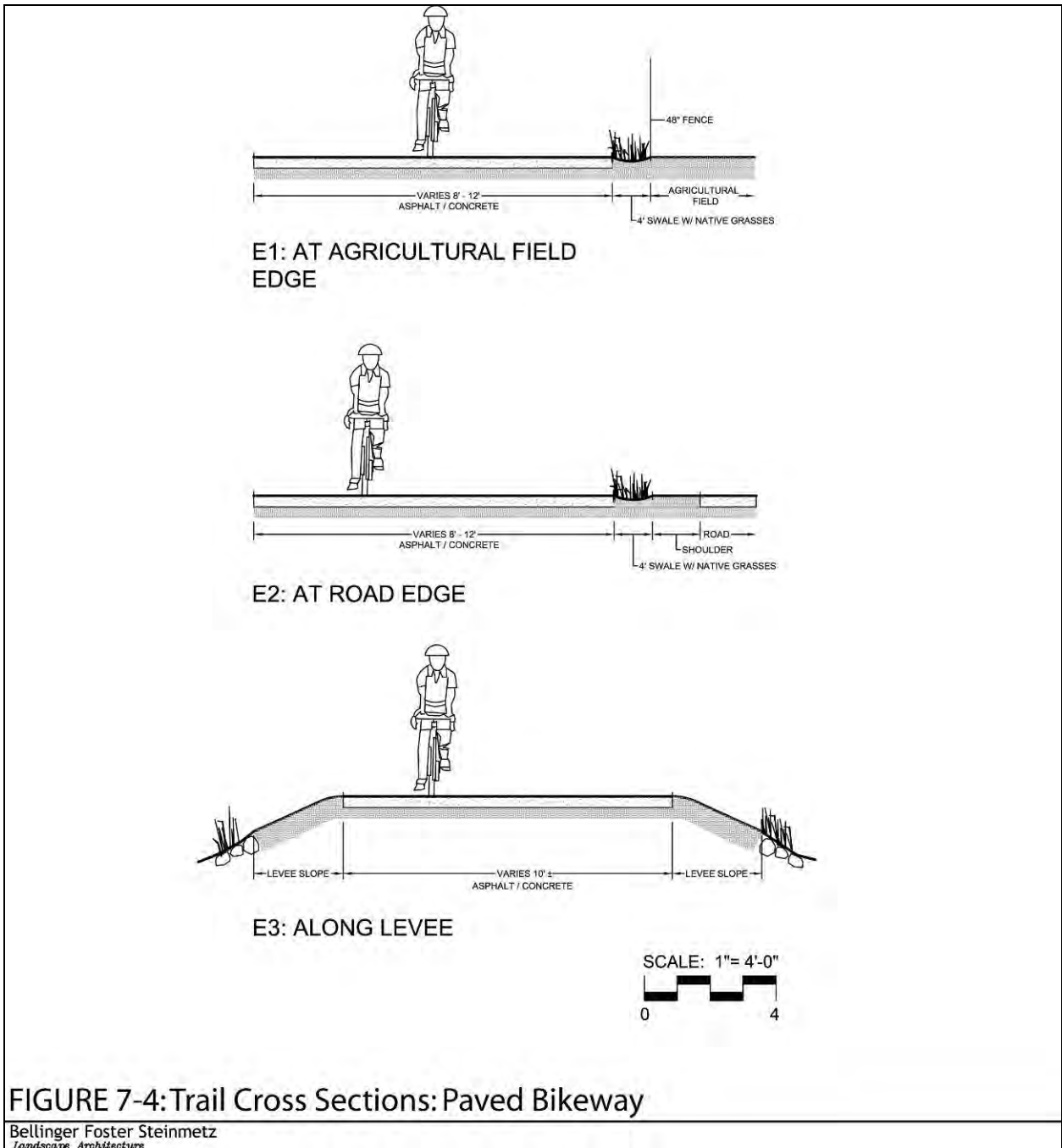


Figure 7-3: Trail Cross Sections: Boardwalk

Bellinger Foster Steinmetz
Landscape Architecture



Bikeway Types

Though most of the Sanctuary Scenic Trail will consist of off-street bike paths and trails, several segments will be designed as on-street bikeways. Caltrans recognizes three types of bikeways.

Class I Bikeways, typically called a “bike path,” a Class I bikeway provides bicycle travel on a paved right-of-way completely separated from any street or highway. Per Caltrans

standards, the minimum paved width of a two-way bike path is 2.4 meters (~8 feet), but 12 feet are recommended.

Class II Bikeways, often referred to as a “bike lane,” a Class II bikeway provides a striped, signed and stenciled lane for one-way travel on a street or highway. Caltrans’ minimum bike lane width requirements vary depending on the presence of on-street parking and curb, but generally range between 1.2 to 1.5 meters (~4 to ~5 feet).

Class III Bikeways, generally referred to as a “bike route,” a Class III bikeway allows shared use with motor vehicle traffic and is identified only by signing. Caltrans does not state minimum widths for bike routes, but recommends that designated bike routes “should offer a higher degree of service than alternative streets” by providing direct connections between existing segments, by providing traffic control devices compatible with cyclists (such as bicycle detector loops), by having street parking eliminated, or by having a higher degree of maintenance than other streets. Class III bike routes are not required to, but may have striped shoulders.

A detailed breakdown of trail and bikeway standards is presented in Appendix 2.

7.2.2. SIGNING, MARKINGS, AND TRAFFIC CONTROL DEVICES

Traffic Control

Uniform signs, markings, and traffic control devices shall be used per Chapter 2 of the Manual of Uniform Traffic Control Devices California Supplement 2003.

Multi-use path signing and markings should follow the guidelines as developed by Caltrans and the Manual on Uniform Traffic Control Devices (see Table 7-2). This includes advisory, warning, directional, and informational signs for bicyclists, pedestrians, and motorists. The final striping, marking, and signing plan for the Scenic Trail should be reviewed and approved by a licensed traffic engineer or civil engineer.

Designs which deviate from the mandatory Caltrans design standards shall be approved by the Chief, Office of Project Planning and Design, or to delegated Project Development Coordinators. These standards represent the basic guidelines set forth by Caltrans. There are many conditions that are not explicitly covered in the Caltrans or American Association of State Highway and Transportation Officials guidelines. Table 7-2 identifies the range of trail and bikeway signs that can be used on the Scenic Trail.

Table 7-2
Recommended Signing and Marking

Item	Location	Color	Caltrans Designation	*MUTCD Designation
No Motor Vehicles	Entrances to trail	B on W	R44A	R5-3
Bicyclists Use Pedestrian Signal/Bicyclists Yield to Pedestrians	At crosswalks; where sidewalks are being used	B on W	N/A	9-5 R9-6
Bike Lane Ahead: Right Lane Bikes Only	At beginning of bike lanes	B on W	N/A	R3-16 R3-17
STOP, YIELD	At trail intersections with roads and Coastal Rail Trails	W on R	R1-2	R1-1 R1-2
Bicycle Warning	For motorists at trail crossings		W79	W11-1
Bike Lane	At the far side of all arterial intersections	B on W	R81	D11-1
Hazardous Condition	Slippery or rough pavement	B on Y	W42	W8-10
Turns and Curves	At turns and curves which exceed 20 mph design specifications	B on Y	W1,2,3,4,5,6,14, 56, 57	W1-1,2 W1-4,5 W1-6
Trail Intersections	At trail intersections where no STOP or YIELD required, or sight lines limited	B on Y	W7,8,9	W2-1, W2-2 W2-3, W2- 3 W2-4, W2-5
Stop Ahead	Where STOP sign is obscured	B, R on Y	W17	W3-1
Signal Ahead	Where signal is obscured	B, R, G	W41	W3-3
Bikeway Narrows	Where bikeway width narrows or is below 8'	B on Y	W15	W5-4a
Downgrade	Where sustained bikeway gradient is above 5%	B on Y	W29	W7-5
Pedestrian Crossing	Where pedestrian walkway crosses trail	B on Y	W54	W11A-2

Table 7-2
Recommended Signing and Marking

Item	Location	Color	Caltrans Designation	*MUTCD Designation
Restricted Vertical Clearance	Where vertical clearance is less than 8'6"	B on Y	W47	W11A-2
* The Manual on Uniform Traffic Control Devices (MUTCD)				
Railroad Crossing	Where trail crosses railway tracks at grade	B on Y	W47	W10-1
Directional Signs (i.e. Beaches, Downtown, Coaster Station, etc.)	At intersections where access to major destinations is available	W on G	G7,G8	D1-1b(r/l) D1-1 C
Right Lane Must Turn Right; Begin Right Turn Here, Yield to Bikes	Where bike lanes end before intersection	B on W	R18	R3-7 R4-4
Coastal Rail Trail	Trail logo: at all trail entrances, major intersections, major access points	-	N/A	N/A
Trail Regulations	All trail entrances	-	N/A	N/A
Multi-purpose Trail: Bikes Yield to Pedestrians	All trail entrances	-	N/A	N/A
Bikes Reduce Speed & Call Out Before Passing	Every 2,000 feet	-	N/A	N/A
Please Stay On Trail	In environmentally-sensitive areas	-	N/A	N/A
Caution: Storm Damaged Trail	Storm damaged locations	-	N/A	N/A
Trail Closed: No Entry Until Made Accessible & Safe for Public Use	Where trail or access points closed due to hazardous conditions	-	N/A	N/A
Speed Limit Signs	Near trail entrances: where speed limits should be reduced from 20 mph	-	N/A	N/A
Trail Curfew 10PM - 5AM	Based on local ordinance	-	N/A	N/A

In general, all signs should be located two to four feet from the edge of the paved surface, have a minimum vertical clearance of 8.5 feet when located above the path surface and be a minimum of four feet above the path surface when located on the side of the path. All signs should be oriented so as not to confuse motorists. The designs (though not the size) of signs and markings should be the same as used for motor vehicles.

In addition to required traffic control signs, other signs and markings, including logo signs and directional signs, will be needed on the Scenic Trail. These are discussed briefly below.

Logo Sign

A distinctive logo for the Scenic Trail should be developed and adopted, and used to identify the Scenic Trail throughout the County. A series of logo signs from the Santa Cruz section of the Sanctuary Scenic Trail is shown in **Figure 7-5** (shown below and on page 7-24). The Santa Cruz signage plan includes directional signs with the Sanctuary Scenic Trail logo and in-pavement tile and stamped concrete identifier sign.



Figure 7-5: Santa Cruz Monterey Scenic Trail Signage Types
From Sanctuary Scenic Trail Standards Manual, June 2005

Directional Signs

Directional signs on the Scenic Trail indicate directional turns and connections on the trail itself, but also directions to nearby destinations or support facilities (such as rest areas, water, restrooms, downtowns, etc.). Directional signs also need to be placed on approaches to the trail in each community and major connection point, so people are aware of how to reach the Trail. See **Figure 7-5** for examples of directional signs with logos.

7.2.3. INTERSECTIONS AND CROSSINGS

The Scenic Trail alignment is intended to reduce trail crossings with existing roadways and future active rail lines. However, the trail must cross some roadways and rail lines. This section describes proposed crossings and recommended treatments.

Road Crossings

Road crossings from separated paths require two critical considerations: (1) path users will be enjoying an auto-free experience and may enter into an intersection unexpectedly, and (2) motorists will not expect to see bicycles or pedestrians exiting from an unmarked location into the roadway. In most cases, path crossings at-grade can be properly designed to a reasonable degree of safety and to meet existing traffic and safety standards.

In general, crossings should occur at established pedestrian crossings wherever possible, or at locations completely out of the influence of intersections. Path approaches at intersections should always have Stop or Yield signs to minimize conflicts with autos. Crossing signs may be placed in advance of path crossings to alert motorists. Ramps should be placed on sidewalk curbs for bicyclists and to meet ADA requirements.

When considering a proposed separated bike path and required crossings of roadways, it is important to remember two items: (1) trail users will be enjoying an auto-free experience and may enter into an intersection unexpectedly, and (2) motorists will not expect to see bicyclists quickly riding out from an unmarked intersection into the roadway. In most cases, bikeway crossings can be properly designed to a reasonable degree of safety. Virtually all crossings fit into one of four basic categories, described in **Table 7-3**.

Table 7-3:
Basic Crossing Prototypes

<i>Crossing Type</i>	<i>Description</i>
1. Unprotected Mid-Block	Crossing does not have signal or stop sign for vehicle traffic, though bikeway traffic may have yield or stop signs. Warning signs and pavement markings may be used to identify crossing to drivers. Unprotected crossings are generally appropriate at mid-block crossings of rural, residential, collector, and sometimes major arterial streets.
2. Routed to Existing Intersection	Trail users are directed to an existing intersection (signalized or stop controlled) and use the intersection as appropriate.
3. Signalized/Controlled	The bikeway crossing has a signal or stop sign to allow trail users to cross the roadway. Bikeway crossings that require signals or other control measures due to high traffic volumes and/or speeds on the cross street, and/or high trail usage.

**Table 7-3:
Basic Crossing Prototypes**

4. Grade Separated	Trail users cross over or under a facility on a continuation of the trail. Appropriate for crossing freeways, rail lines, major arterials. Bridges or under crossings provide the maximum level of safety but also generally are the most expensive and have right of way, maintenance, and other public safety considerations.
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The most appropriate type of crossing design is determined by traffic patterns of vehicles as well as trail users. Factors to analyze includes traffic speeds (85th percentile), street width, traffic volumes (average daily traffic, and peak hour), line of sight, and trail user profile (age distribution, destinations). General recommendations are described below.

Type 1 Crossings. Uncontrolled crossings are recommended for streets with 85th percentile travel speeds below 45 mph and average daily trips below 10,000 vehicles.

Type 2 Crossings. Crossings within 250 feet of an existing signalized intersection with pedestrian crosswalks are typically diverted to the signalized intersection for safety purposes. In order for this option to be effective, barriers and signing are needed to direct trail users to the signalized crossings. In many cases, the intersections are directly adjacent to the crossings and are not a significant problem for trail users.

New signalized crossings (**Type 3 Crossings**) are identified for crossings more than 250 feet from an existing signalized intersection and where 85th percentile travel speeds are 45 mph and above and/or average daily traffic volume meets or exceeds 10,000 vehicles. Each crossing, regardless of traffic speeds or volumes, requires additional review by a registered engineer to identify sight line and other factors. No new signalized crossings are proposed for the trail.

Where required, new grade separated crossings of the railroad or major arterials have been recommended as a more permanent solution. Grade separated crossings are often warranted when roadway average daily traffic volume is in excess of 25,000 vehicles, and 85th percentile speeds in excess of 45 mph. No new grade separated crossings of roadways or rail lines are proposed as part of the Scenic Trail, although the plan does recommend overcrossings of the Salinas River and Elkhorn Slough.

Table 7-4, on the next page, summarizes the proposed crossing treatments on the Scenic Trail.

Additional details on roadway crossings including signing, striping, and other treatments can be found in Appendix 3: Trail Crossings.

Table 7-4
MONTEREY BAY SANCTUARY SCENIC TRAIL: NEW CROSSINGS BY TYPE

Segment	Agencies	Crossing Location	Crossing Controls
5 Coastal	CA State Parks	Fremont/SR 1 entry	Signs
		Beach Range Rd/8th	Signs
8-A Inland	Monterey Co/TAMC	Del Monte Rd	Signs/Flasher
		Nashua Rd/Del Monte	Signs/Flasher
9 Inland	Monterey Co	Lapis Rd/Quarry Entry	Signs
11 Inland	Monterey Co/Caltrans	Neponset Rd/SR 1 Ramps	Signs
13 Coastal	Monterey Co	Potrero Rd/Path	Signs
		Moss landing Rd/Path	Signs
14 Inland	Monterey Co/Caltrans	SR 1 Ramps/Molera Rd	Signs
		Molera Rd/Monterey Dunes	Signs
		SR 1/Molera Rd	Signs/Flasher
		SR 1/Portrero Rd	Signs
15-A Coastal	Monterey Co/Caltrans	SR 1/Moss Landing Rd	Signs
15-B Coastal	Monterey Co/Caltrans	Path/Harbor Entry	Signs
		Path/Jetty Rd	Signs
17-B	Monterey Co	Path/McGowan Rd	Signs

7.3. FENCING AND BARRIERS

Fencing and other barriers are typically used to separate a path from adjacent private property and land uses. The Scenic Trail contains some segments in areas where no fencing is needed, and some segments in areas where it is needed to protect private property and prevent people from walking in sensitive areas. A variety of fencing materials are available, as shown in **Figure 7-6**. The following are important considerations when selecting fencing or barriers:

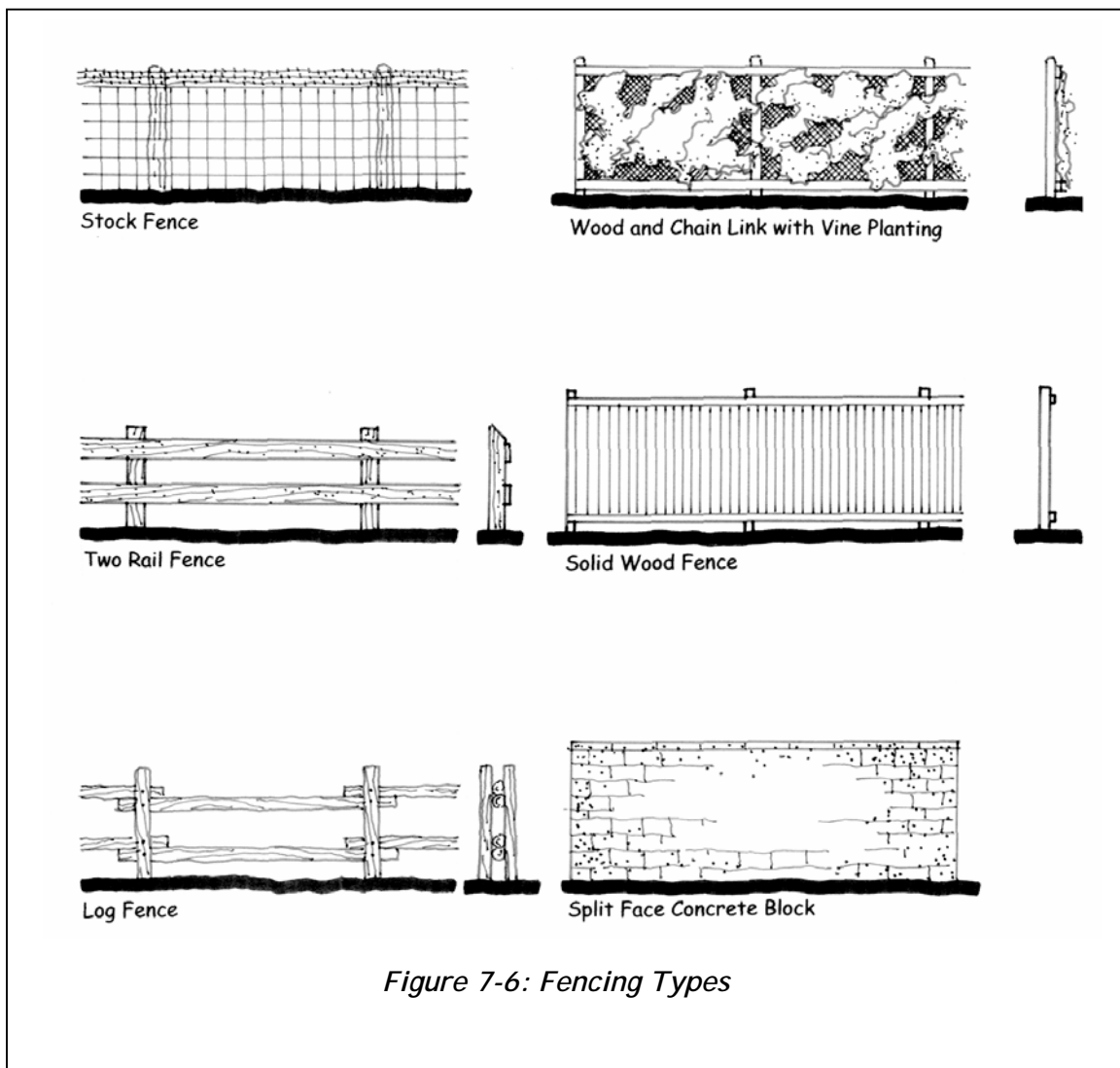
Aesthetics: Fencing type and height can affect the overall attractiveness of the facility. Depending on the type and height of the barrier, the aesthetics of a path could be impacted by eliminating or reducing views and visibility, or creating a “bowling alley” effect for users. Fencing materials should contribute—rather than detract—to the overall community aesthetics.

Security: Fencing between the path and adjacent land uses can protect the privacy and security of the property owners. While crime or vandalism have not proven to be a common problem along most multi-use paths, fencing is still considered a prudent feature, especially in residential areas. The type, height, and maintenance responsibility of the fencing is dependent on local policies.

Farmlands: Fencing between the Scenic Trail and active farmlands is proposed to be post and cable, with ‘No Trespassing’ signs and civil penalties posted every 200 feet. Post and cable fencing with two wire strands will clearly demarcate private property, but will also be easy to move as needed, is inexpensive, and will not impact wildlife movement or views from the trail.

Sand Dunes: Fencing along Scenic Trail segments in active sand dunes will be needed to help control sand movement. Since almost all sections of trail in active dune areas are within State Parks property, we propose to defer to State Parks expertise in fencing type and location.

Highway: The section of the Scenic Trail next to Highway 1, where it is closer than 5 feet from the edge of pavement, will require a barrier to protect trail users. Caltrans typically would require installation of a standard concrete K-rail to meet this need. However, The Transportation Agency has been working with Caltrans to allow a more aesthetic wood treatment for the Scenic Trail section at Moss landing harbor.





7.4. UTILITIES AND LIGHTING


Surface and sub-surface utilities are not expected to be a major issue during implementation of the Scenic Trail. Most of the trail will be located in undeveloped areas where there are few utilities. Some segments along roadways may require construction or reconstruction of drainage facilities, and possibly moving utility poles. Segments within the railroad right-of-way may impact utilities, although trails can be constructed on top of most sub-surface utilities. The trail alignment was designed to avoid having to move most active surface utilities. The path may be located directly over existing sub-surface utilities assuming (a) adequate depth exists between the path surface and utility to prevent damage, and (b) agreements can be reached with the utility owner regarding access for repairs and impact to the path.

For environmental and cost reasons, the Scenic Trail is not proposed to have new lighting except at new crossings. Individual cities may choose to light portions of the path in their jurisdiction, especially where there is considerable evening pedestrian and bicycle commuter traffic. Table X shows a range of trail lighting standards and their relevant costs and features. Adjacent private property concerns will have to be considered when locating lights on the right-of-way section.

Lighting is not proposed to be provided on the Scenic Trail due primarily to cost and impacts on adjacent land use, except at roadway crossings where these is documented public safety concerns. Individual agencies may choose to provide lighting where negative impacts are minimal, and where commuter usage is expected to be high enough to warrant this added visibility. Low profile or ‘bollard’ lighting may be an appropriate design alternative to consider for future trail construction in this area. Samples of trail lighting are shown below in Table 7-5.

TABLE 7-5
EXAMPLE TRAIL LIGHTING

Product Photo/Name	Spacing	Costs Per Item	Lt Hours	Maintenance	Auto Turn Off	Vandal Resistant
 Lumec Oval Series 1 on 12' Pole	100	\$4,200	8000-18000 hrs	Requires a maximum of 1 annual maintenance visit	yes	Yes-with custom shield
 Lumec DOS on 12' pole	100'	\$3,000	8000-18000 hrs	Requires a maximum of 1 annual maintenance visit	yes	No

	100'	\$2,300	8000-18000 hrs	Requires a maximum of 1 annual maintenance visit	yes	Yes-with custom shield
<p>American Electric Lighting LUX Master LL</p>						

7.5. TRAILHEAD DESIGN

Major trailheads are expected to provide, at a minimum, at least 20 parking spaces, a Sanctuary Scenic Trail entry sign, and a trail kiosk with directional and other information (Figure 7-7). Some major trailheads may also provide full restroom, drinking fountains, benches, and other amenities. Minor Trailheads are expected to provide, at a minimum, a Sanctuary Scenic Trail entry sign with smaller trail information signs. All trailheads will have bollards as described previously. A description of a range of trail entry features and related amenities is provided below.

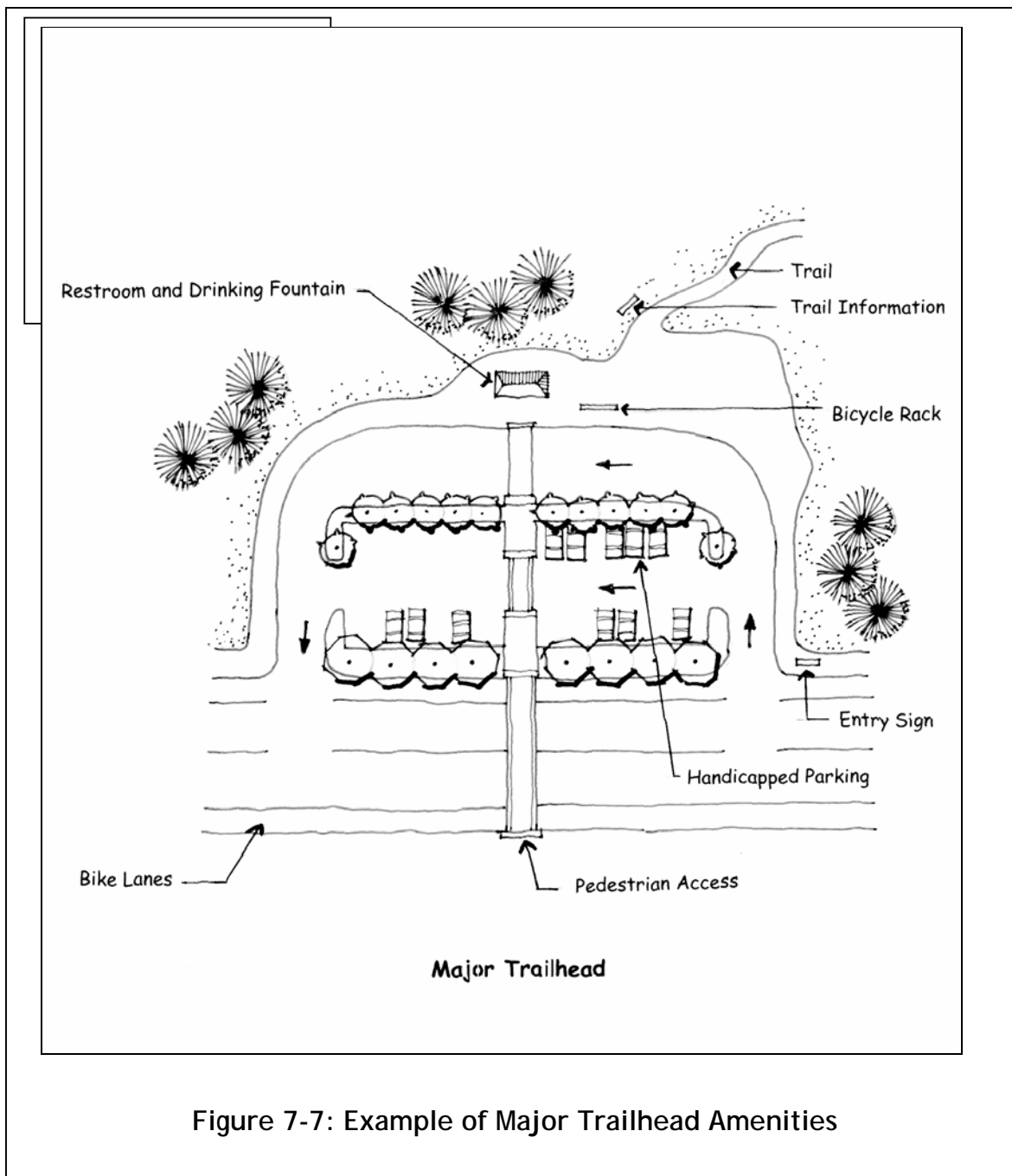
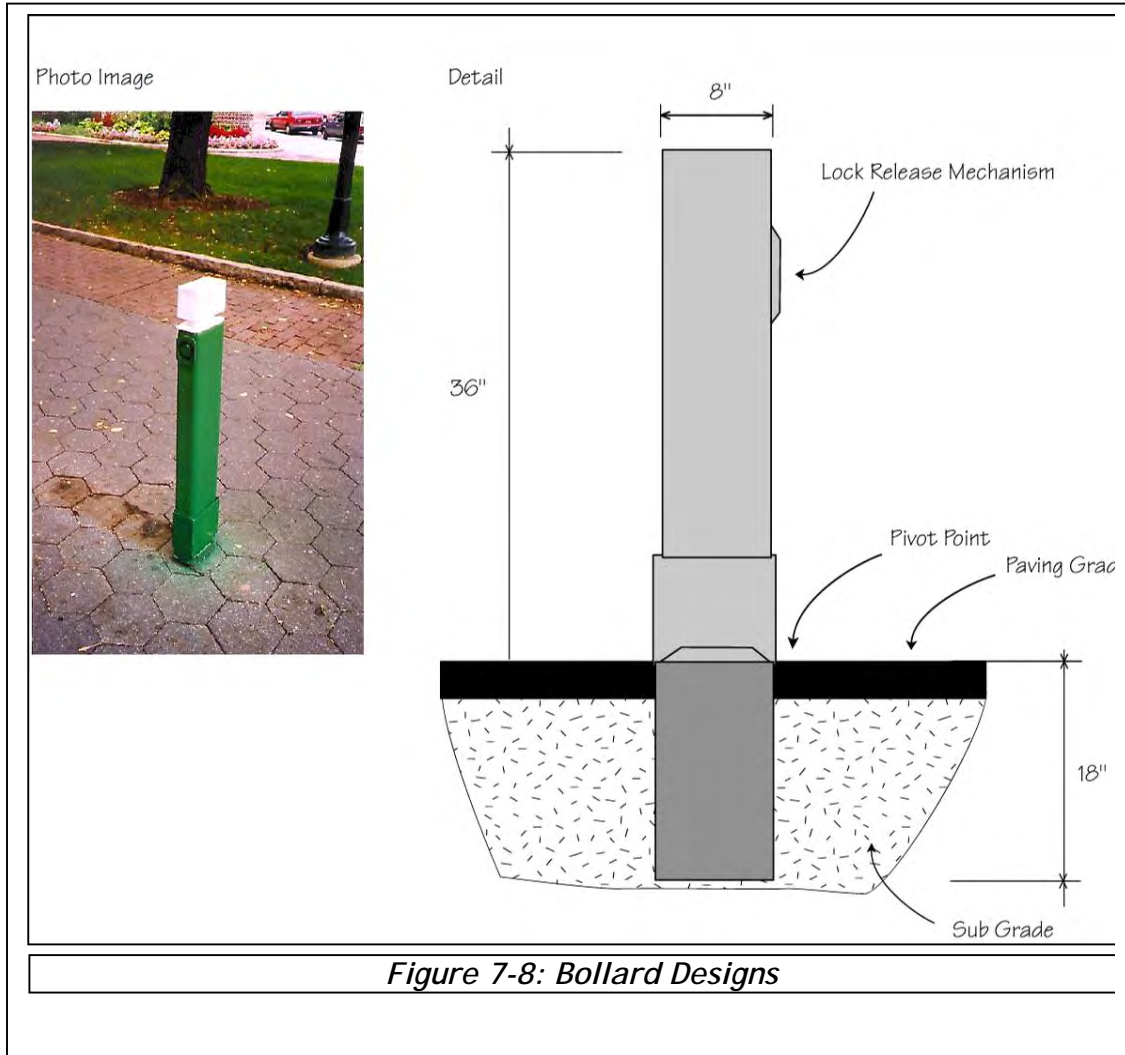


Figure 7-7: Example of Major Trailhead Amenities

Path entries. The Scenic Trail will draw substantial numbers of users during peak times. Path users may be directed to specific path entries where parking and other amenities are provided, helping to relieve some of the pressure on residential and commercial areas. Path entries may also contain drinking fountains, telephones, restrooms, bike lockers, public art, and other features. They should be accessible by transit service whenever feasible.

Bollards. A single 48-inch wood or metal bollard (post) should be placed on the centerline of the path at all entrances to prevent motor vehicles from entering the path, leaving at

least 48” of clearance on each side. The bollard should be designed with high reflective surfaces and be brightly painted. The bollard should be locked to a ground plate and be easily removed by emergency vehicles. Collapsible bollards are another option. Refer to Figure 7-8 for an example of bollard design and installation.



Trail Approaches to Entries. The trail alignment should have a sharp (20' or less radius) curve at all intersection approaches to help slow bicycles (See Figure 7-9). Barriers may also be required at the end of the trail where it has a long down slope over 5% ending at a 'T' intersection with a roadway, to help prevent bicyclists from riding directly into the street.

Kiosks. Most trailheads will have trail kiosks, which provide information on the trail, destinations, distances, trail operating restrictions, and other information. They may be combined with interpretive elements as well.

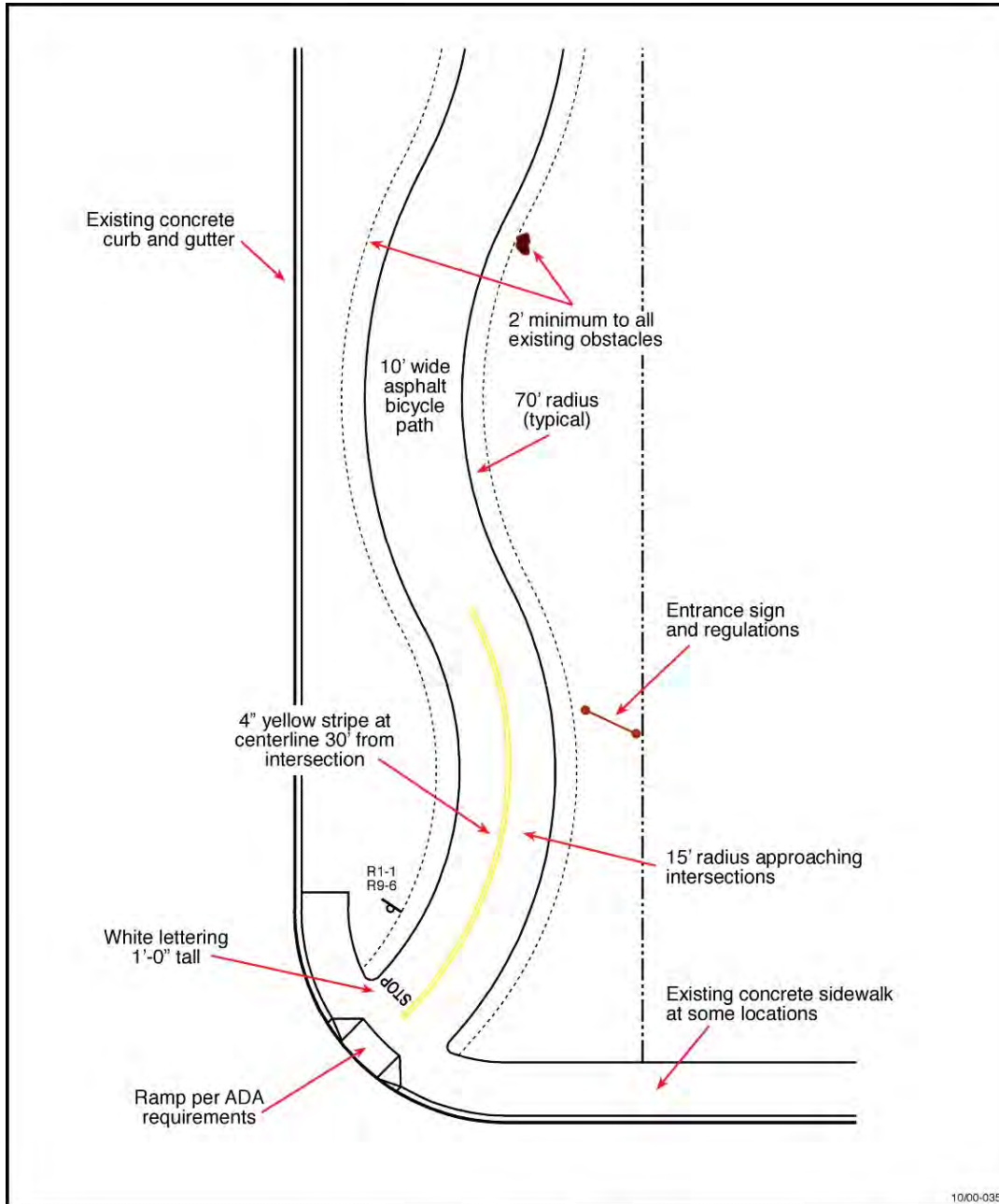


Figure 7-9: Path Approach Design

Entry Sign. All trail access points will have a trail entry sign, which can be a simple sign with the trail name and logo. See Figure 7-10 for examples of trail entry signs. Trail signs may also incorporate the name of the local jurisdiction managing the trail as well.

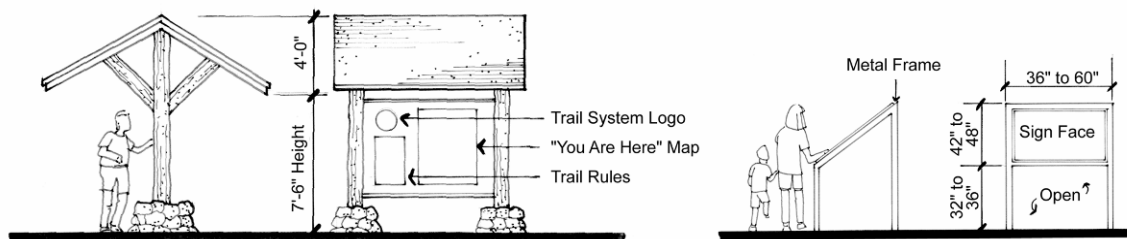


Figure 7-10: Entry Sign Examples

Parking. Existing major trailheads either already have parking (such as at State Beaches and Parks) or on-street parking is permitted. Some new trailheads may require new or expanded parking areas, depending on patterns of use during peak periods. It is not expected that any trail-related parking will affect local neighborhoods, but if this proves to be true, parking restrictions may need to be implemented or new parking provided.

Benches. Benches should be provided at major trailheads, vista overlooks, and any other area where trail users might stop for rest, snack, or travel orientation. Benches should be simple, low-maintenance structures. Wood or wood composite materials are durable, have warm colors, and are visually consistent with the natural landscape of the corridor. If metal components are used, they should be hot-dipped or galvanized to resist corrosion. Metal may be painted as desired by public agencies that will be taking responsibility for on-going maintenance. Other seating options are local boulders 24" x 36" or larger or tree trunk segments 18" to 24" diameter that blend with the natural landscape character and can be stabilized in the ground for sitting.

Drinking Fountains / Potable Water. Drinking water should be provided at major trailheads, and preferably at intervals of five miles or less along the trail. In place of fountains, trail users can be directed to nearby parks or retail centers with water fountains or places to purchase beverages. If no potable water will be available for distances greater than five miles, information signs should alert the trail users. Water for domestic animals may be provided at trail staging area locations.

Restrooms. Unless public restrooms are already available nearby, major trailheads should provide restrooms, of which at least one is unisex. Permanent facilities or portable units are both appropriate. Anticipated volume of users will dictate the type of facility that is chosen. Design style of restroom facilities varies along the coastline. Public concern for visual impacts to views of the coastline is a primary concern. To reduce the visual impact of restroom facilities, one may integrate the use of natural materials and earth-tone colors and provide planting and earth grading to blend structures with the natural environment. Facilities should be located discretely within existing development wherever possible. Long-term maintenance responsibility of either a portable or a fixed unit must be established prior to design.

7.6. LANDSCAPING

The Monterey Bay Sanctuary Scenic Trail travels through a mix of urban and native coastal landscapes. Within an urban area, planting may be used to highlight trail entrances, provide a vegetation buffer between the trail and street. Vine or low shrub planting should be used to soften the use of fences in an urban setting. Trees may be part of the natural landscape palette, used to soften parking lot appearances, or formally planted at trailheads to highlight access points. Planting should be drought tolerant species, preferably native to the Central California Coastal Region. Irrigation may be required for establishment, but plantings should be able to withstand considerable periods without supplemental water.

In most cases, outside of urban areas, planting will not be necessary. Cut and fill slopes should be replanted or seeded to stabilize slopes and control erosion. Plants should be indigenous species to the Monterey Bay coastline, appropriate to the particular landscape eco-type along the corridor.

Trail entries may include some landscaping depending on the interest of each local agency, especially in developed areas where the landscaping would also serve as streetscape for the community. The type of landscaping will be dependent on each local agency, and may range from low or no water native plants to more ornate irrigated flowers and grass.

Trail segments in sensitive environmental locations may require some landscaping to (a) help reduce sand movement and erosion, (b) screen private property from the trail (such as vines on a fence), and/or (c) help keep people out of or away from sensitive areas. The trail may actually improve environmental conditions in some areas by including the removal of non-native species as part of the development plans.

7.7. STRUCTURES

The Scenic Trail will include one major new bridge over Elkhorn Slough, and a rehabilitated railroad trestle over the Salinas River. The proposed structures across the Salinas River and Elkhorn Slough in Moss Landing are briefly described below. A detailed analysis of the Moss Landing crossing is provided in Appendix 1, and detailed analysis and cost estimates of the Salinas River crossing options are provided in Appendix 4.

Pajaro River

The initial review of alignment options included a potential new bridge across the Pajaro River, either at the mouth of the river or parallel to the McGowen-Thurwatcher Bridge. Given the very low traffic volumes, width of the McGowen-Thurwatcher Bridge, and cost and impacts of developing a new Class I bike path bridge here, it was determined that this existing structure would suffice at least as a short to mid-term option for trail users.

Elkhorn Slough in Moss Landing

A new bridge will be required across the Elkhorn Slough in Moss Landing. The bridge length would vary between 550 and 780 feet depending on the alignment of the Trail approach to the bridge. The location of the Elkhorn Slough Bridge would be 40 feet west and parallel to the Highway 1. The estimated cost for the 12-foot wide bridge is \$1.87 million.

Salinas River Crossing

Extending the Class I Bike Path beyond the current ending point at Del Monte Boulevard and Lopez Road north of Marina will involve crossing the Salinas River. The proposed crossing is near the existing railroad bridge and Monte Road.

There are four options to cross the River:

- Use existing Monte Road Bridge
- Use the existing railroad bridge
- Construct a new bridge
- Attach to the existing Monte Road Bridge

A detailed description of the proposed Salinas River Crossings can be found in Appendix 4

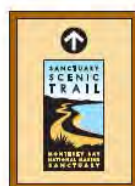
7.8. INTERPRETIVE AND DIRECTIONAL SIGNAGE

Travelers on the Monterey Bay Scenic Sanctuary Trail will need a variety of information to navigate and fully explore the trail system. Signs and graphics will enhance passage through this coastal corridor, understanding of the marine sanctuary’s unique features, and discovery of linkages to other regional destinations.

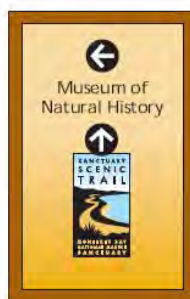
The Santa Cruz County commissioned the Sanctuary Scenic Trail Standards - Manual for Signage and Exhibits, which presents an artful approach to signage. Prepared by Leslie Stone Associates, the quality and character of proposed signage should be adopted and customized for the Monterey County segment to provide continuity from one trail



6 x 9



8 x 11



10 x 18



In-Ground Trail Marker
12 inches square
Ceramic Tile



In-Ground Trail Marker
12 inches square
Stamped Concrete

Figure 7-5: Santa Cruz Monterey Scenic Trail Signage Types
From Sanctuary Scenic Trail Standards Manual, June 2005

The Scenic Sanctuary Trail will offer residents and visitors new opportunities to experience the natural beauty and history of Monterey Bay and its coastal landscape. As summarized by Santa Cruz Sanctuary Scenic Trail Signage Master Plan, five major interpretive themes were identified:

- Monterey Bay National Marine Sanctuary - Where? What? Why?
- Awareness, Appreciation, and Stewardship of Sanctuary Resources
- Union of Land and Sea - Natural and Cultural Manifestations
- Sanctuary Scenic Trail Links Coastal and Regional Experiences
- Beyond Sanctuary Boundaries



Monterey Canyon

Based on these major themes, interpretive exhibits for the Monterey County portion of the Scenic Sanctuary Trail could focus on the following features:

A. Elkhorn Slough National Estuarine Research Reserve hosts a dynamic fresh water - salt-water habitat in evolution. Home to hundreds of species of birds and wildlife, preservation of the slough is a work in progress.

B. Monterey Canyon at Moss Landing (right) is an underwater canyon boasting deeper reaches than the Grand Canyon. Following the trail of sand in Monterey Canyon illustrates the continued forces of the ocean on the coastline landscape.

C. Central California agriculture is a dynamic local force taking advantage of the moderate Monterey Bay climate to be an agricultural economy powerhouse in the global marketplace. From artichokes to strawberries, the challenges of feeding the world requires stewardship beyond the reaches of the Marine Sanctuary.

D. Fort Ord was created by the United States government in response to training soldiers for diverse landscape conditions. Since the 1940's, this active army base simultaneously modified the coastal landscape for intense military exercises while preserving thousands of acres of maritime chaparral.

E. **Lower Presidio Hill**, a granite promontory exposed by wave and wind erosion, defines the south end of Monterey Bay. Formed in the Cretaceous period some 66 to 140 million years ago, it is said to have originated far south near Santa Barbara and is moving north with the Pacific Plate. Its history includes the presence of man dating back 7,000 years.



Tidepools

F. **Tidepools** are nature-made ponds of sea water left on the rocky shores during low tide. Ocean plants and creatures can be observed in these marine gardens.

These interpretive themes can be illustrated and described as major or minor interpretive exhibits along the Scenic Sanctuary Trail in Monterey County. As noted in the Trail Design section, utilizing the exhibit design as adopted by Santa Cruz County would provide continuity along the overall trail and take advantage of some beautiful design ideas. Potential locations for these features are shown in Figure 7-11.



Figure 7-11 Potential Locations for Interpretive Exhibits

Santa Cruz Sanctuary Scenic Trail Sign Standards

The Santa Cruz Sanctuary Scenic Trail signage system, as shown in **Figure 7-12**, proposes a system of signage types, which can be modified and used in different combinations to create different alternatives to match specific location-types and site conditions. The five sign and exhibit types proposed are directional signs, orientation signs, trail markers, minor interpretive exhibits, and major interpretive exhibits. While directional signs help in way-finding, orientation signs describe the trail and its context at trailheads. Trail markers are simply indicators of the presence of the trail away from trailheads. Minor interpretive exhibits are graphic panels placed on freestanding sculptural stands to explain various location-based themes. Major interpretive exhibits are multi-sensory sculptural

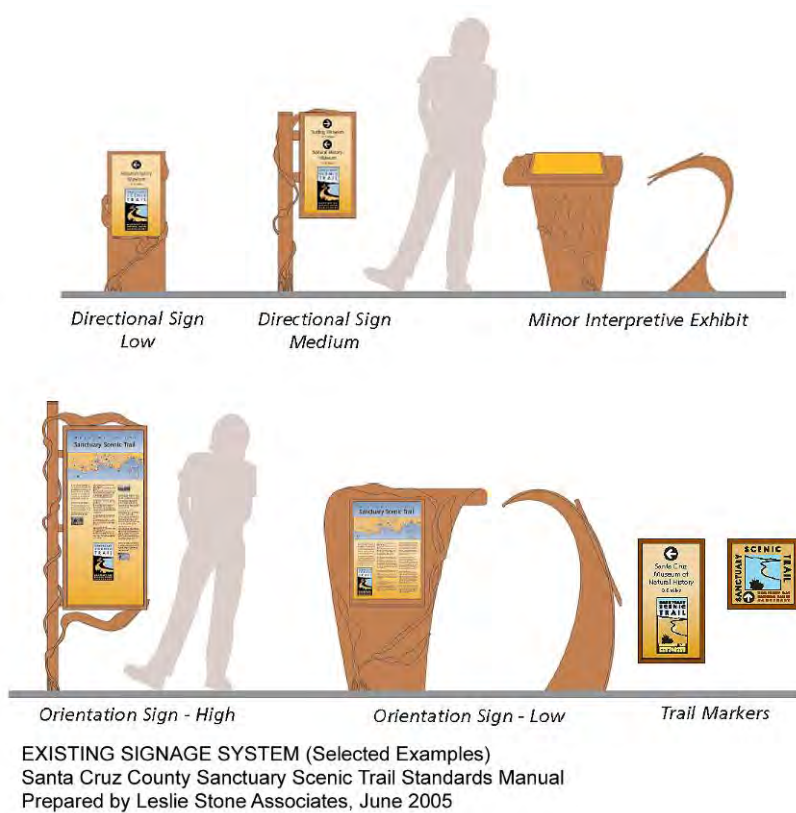


Figure 7-12: Santa Cruz Sanctuary Scenic Trail System

installations; each which would typically form the centerpiece of an interpretive site.

Importantly, the Santa Cruz Sanctuary Scenic Trail signage manual outlines a methodology for graphics, fabrications and installation of signs and exhibits, through a jurisdiction-specific process for funding, approvals, selection of fabricators. The manual also provides model construction documents and material specifications for the signage system.

It is important to note that adopting the Santa Cruz Sanctuary Scenic Trail signage manual only provides a graphic and logistical framework for proceeding. Adapting the system as a whole or in part for Monterey County will require the hiring of a content writer(s) as well as a graphic design firm to design the signage system as well as assist in the preparation of a *Sign Location Plan* and an *Interpretive Content Plan* – both outlined in the Santa Cruz Sanctuary Scenic Trail signage manual. The Sign Location Plan is a programming and implementation document consisting of trail maps, location specific plans, and sign matrices to program the recommended locations, types, and quantities of signs. The Interpretive Content Plan is a document that programs statements of significance, interpretive content identification, research and development for use by the graphic design team in designing the panels and preparing fabrication documents and specifications.

Monterey Sanctuary Scenic Trail Standards

As with the Santa Cruz portion of the trail, the Monterey portion will also have trail markers, directional and orientation signage, and minor and major interpretive exhibits. Signage design consists of logo, content, graphic design, and the sign framing/support system. The logo design developed for the Sanctuary Scenic Trail should remain consistent in graphic organization, content, and color.

The content of minor interpretive exhibits would be developed along the six themes proposed for the Monterey county portion of the trail. The content of major interpretive exhibits would be developed by a graphic design firm.

The signage framing/support and graphic organization of the trail markers, directional, and orientation signage, and minor and interpretive exhibits should also remain consistent across both counties.

A unique but complementary color palette could be developed for the Monterey County portion of the trail, which would provide visual continuity across the two Counties, yet indicate a change of jurisdiction. For example, the color of the signage structures could change from sand/earth based (as proposed for the Santa Cruz portion) to natural vegetation (cypress/oak/pine) greens as shown in **Figure 7-13**.

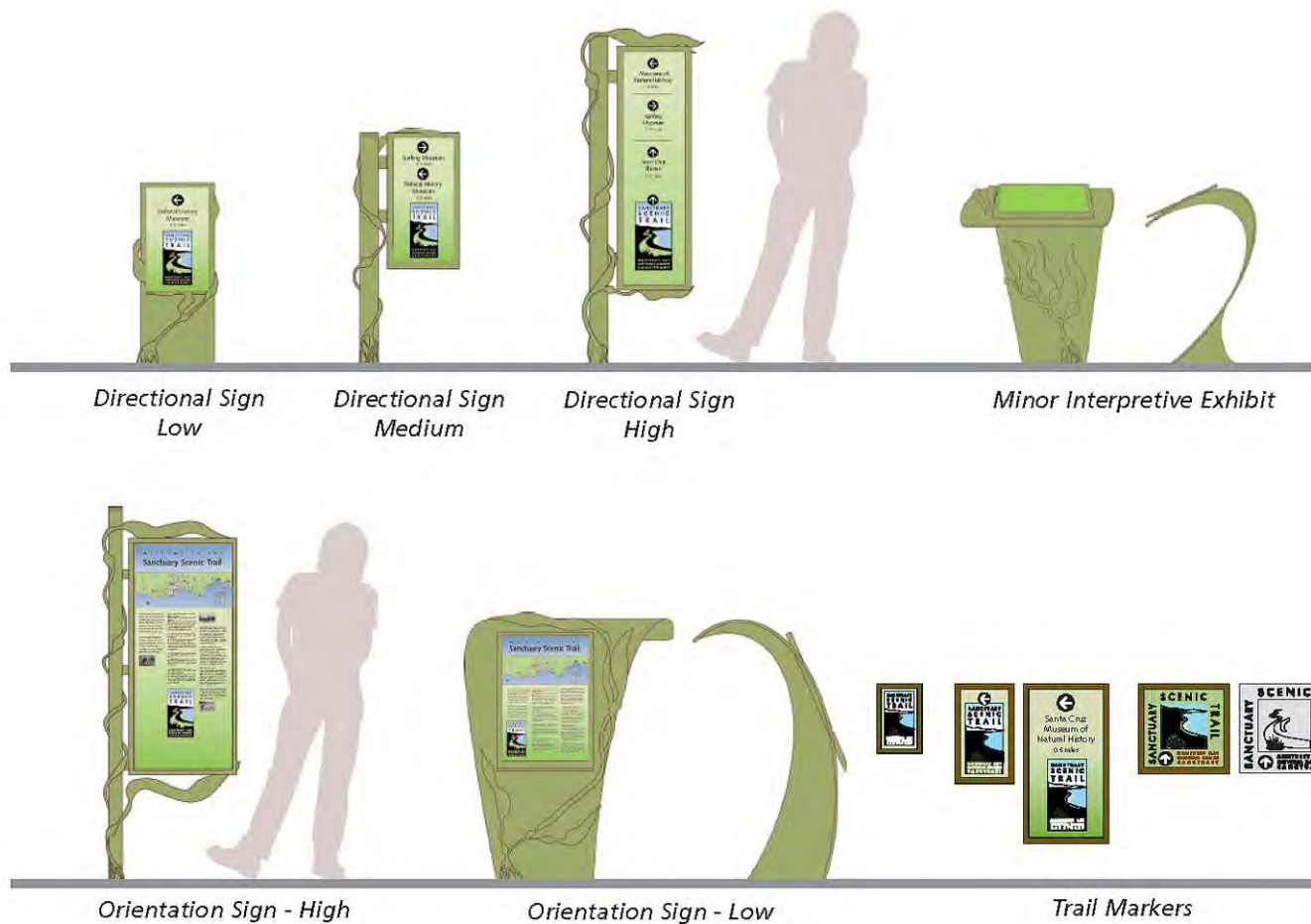
The content for each interpretive exhibit would be designed into a graphic panel using the graphic standards for background, color, and typography developed for the Santa Cruz portion of the Sanctuary Scenic Trail, as illustrated in **Figures 7-14, 7-15 and 7-16**.

California Coastal Trail Signs

The California Coastal Trail is contiguous with some segments of the Sanctuary Scenic Trail. The California Coastal Conservancy has developed small (4.5” x 4.5” aluminum markers (see below) that could be co-located with Sanctuary Trail signs, helping to identify this



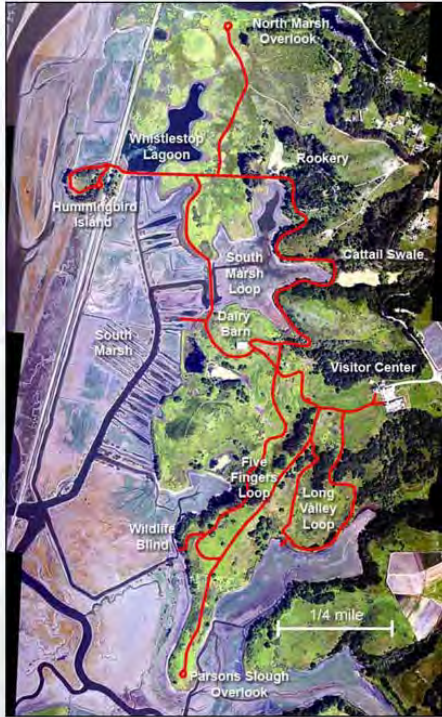
statewide trail and also reducing the number of needed posts.



PROPOSED SIGNAGE SYSTEM
 Adapted from Santa Cruz County Sanctuary Scenic Trail Standards Manual
 Prepared by Leslie Stone Associates, June 2005

Figure 7-13: Proposed Signage for Monterey Bay Sanctuary Scenic Trail

Elkhorn Slough National Estuarine Research Reserve



Description

The Elkhorn Slough National Estuarine Research Reserve is one of 26 National Estuarine Research Reserves established nationwide as field laboratories for scientific research and estuarine education.

Cultural History

The first Native Americans migrated into the Monterey Bay area between 10,000 B.C. and 6,000 B.C. There is some evidence of native presence around the slough as early as 6000 years ago.

American settlers moving into California farmed the slough's fertile, coastal valley during the 1800's. They built a system of dikes to drain additional land for crops and dairy pastures.

Recognizing the pressing need to protect the slough from further development, the California Department of Fish and Game purchased 1,000 acres in 1980, calling it Elkhorn Slough Ecological Reserve. In 1983, dikes used to drain the land were broken and, once again, tidal waters flowed deep into the marsh. The 400 cows that once resided there have been replaced by hundreds of resident and migratory wildlife species.

Rookery

For nearly 15 years, Great Blue Herons and Great Egrets have gathered every spring to nest in the tree tops in the Elkhorn Slough's north marsh. This nesting site, called Rookery, is home to the largest breeding colony of its kind in Monterey County. Sheltered within Elkhorn Slough National Estuarine Research Reserve, the Rookery is truly a magical place to visit.

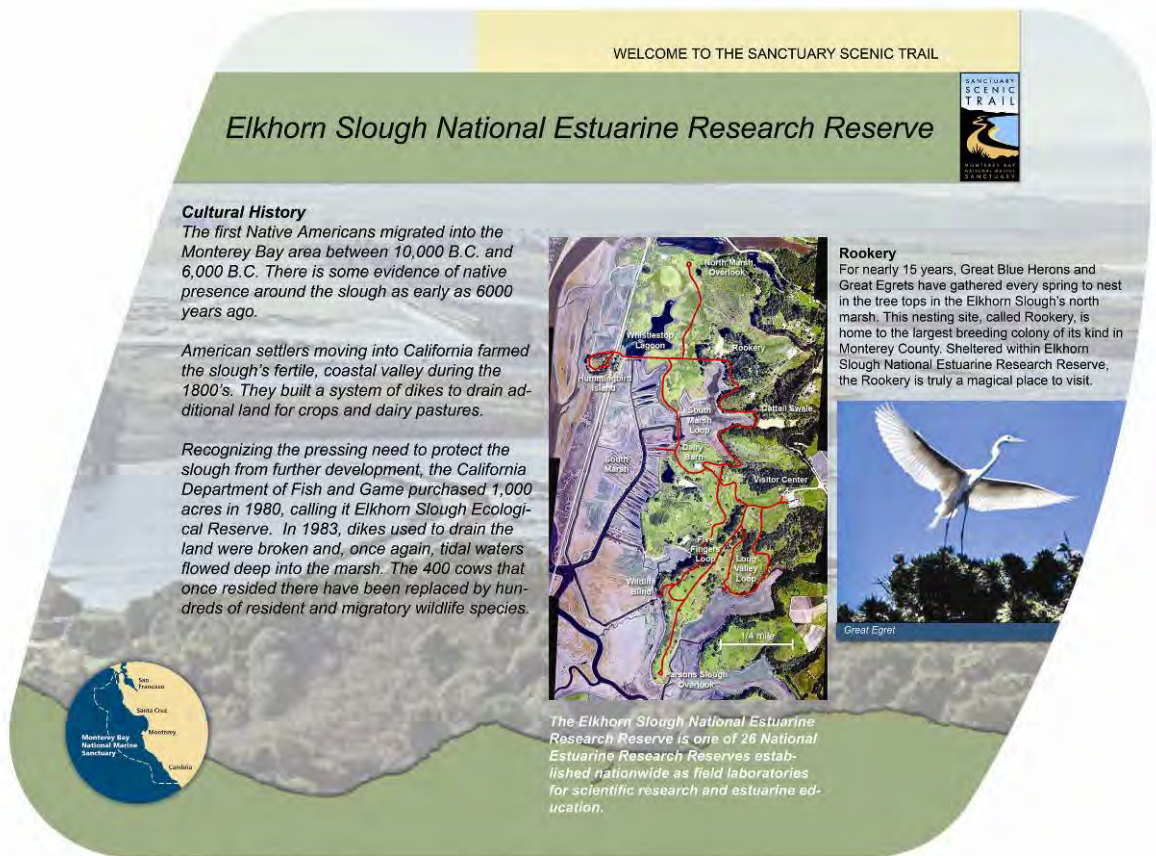


Figure 7-14: Sample Interpretive Information



MINOR INTERPRETIVE PANEL (SANTA CRUZ COUNTY)
 Santa Cruz County Sanctuary Scenic Trail Standards Manual
 Prepared by Leslie Stone Associates, June 2005

Figure 7-15: Santa Cruz County Interpretive Panel



MINOR INTERPRETIVE PANEL (MONTEREY COUNTY)
 Adapted from Santa Cruz County Sanctuary Scenic Trail Standards Manual
 Prepared by Leslie Stone Associates, June 2005
 Adapted by Bellinger Foster Steinmetz September 2006

Figure 7-16: Sample Monterey Bay Sanctuary Scenic Trail Interpretive Panel

7.9. COST ESTIMATES

The total cost of the Scenic Trail is estimated be \$28.5 million. Of this cost, over \$9 million is associated with expected easement acquisition costs that may change significantly. The transportation (paved) portion of the trail, eliminating most of the coastal dunes trails, could be developed for about \$15 million. The \$28.5 million cost is based on all of the segment alignments identified in Chapter 6 for short, mid, and long-term projects. Where two or more alternative alignments existed for a specific segment, a preferred alignment was identified in the Evaluation Matrix at the end of Chapter 6 based on the stated criteria.

Many segments include multiple types of trail construction, which affects the cost. Alternative unit cost estimates are presented in Table 7-6 for different trail types and for all features on the trail including bridges, road improvements, and trailheads. Cost estimates include design and environmental review and contingencies, estimated at 35% of the direct construction cost. Segment costs also include estimates of easement acquisition costs from public and private entities. They represent a major cost that may change substantially over time.

Table 7-6:
MONTEREY BAY SANCTUARY SCENIC TRAIL UNIT COST ESTIMATES

Type	Unit	Cost
Trails		
Dune Trail (6' wide), stable dunes, minor screening	LF	\$ 11
Dune Trail (6' wide), wind screens, surface stabilizer	LF	\$ 19
Unpaved Trail (native soil); 6-8' wide, level terrain	LF	\$ 7
Unpaved Trail (native soil); 10-12' wide' wide on existing road	LF	\$ 11
Bikeways		
Class I bike path minor repair	LF	\$ 15
Enhanced pathway delineation	LF	\$ 8
Class I bike path (12'); level terrain, drainage, utilities	LF	\$ 121
Class I bike path (12'); moderate terrain, drainage, utilities	LF	\$ 162
Class I bike path (12'); difficult terrain, retaining walls, drainage, utilities	LF	\$ 405
Class II bike lanes	LF	\$ 20
Class II bike lanes, 4' widening each side of road	LF	\$ 108
Class II bike lanes, 4' road widening, drainage, utilities, retaining walls	LF	\$ 270
Class III bike route, wayfinding signage	LF	\$ 6
Class III bike route, wayfinding signage, minor roadway improvements	LF	\$ 61
Structures (incl abutments, piers)		
Wood bridge, short span	SF	\$ 40

**Table 7-6:
MONTEREY BAY SANCTUARY SCENIC TRAIL UNIT COST ESTIMATES**

Type	Unit	Cost
Pre-fab steel bridge, 12' wide, bikes and peds only	SF	\$ 60
Pre-fab steel bridge, 12' wide, maintenance vehicle access	SF	\$ 120
Concrete bridge (12')	SF	\$ 290
Retrofit historic railroad trestle	SF	\$ 276
Boardwalk, 10' wide, bikes & peds only	SF	\$ 80
Boardwalk, 10' wide, maintenance vehicle access	SF	\$ 140
Amenities		
Interpretive signage	LF	\$ 4
Bike racks	EA	\$ 1,000
Fencing type 1: simple cable or low (36") chain link	LF	\$ 10
Fencing type 2: 48" vinyl coated chain link w/ screening	LF	\$ 14
Fencing type 3: 60" vinyl coated chain link	LF	\$ 20
Furnishings (benches)	EA	\$ 1,000
Access		
Trailhead, small (10 cars)	EA	\$ 30,000
Trailhead, medium (20 cars), portable restroom	EA	\$ 50,000
Trailhead, large (30 cars), restroom, drinking fountain	EA	\$ 80,000
Crossings		
New railroad crossing, flashers, gates	EA	\$ 150,000
Road crossing type 1: stop and warning signs, crosswalk	EA	\$ 20,000
Road crossing type 2: stop/warning signs, overhead flasher, crosswalk	EA	\$ 90,000
Road crossing type 3: signals, signage, crosswalk	EA	\$ 160,000
Right-of-Way		
Easement (from private property owner)	SF	\$ 10

Note: costs include design, environmental, and contingencies

Unit costs from this table are applied to the improvement type and quantities for each Segment. For comparison, two or more cost estimates were developed for Segments where there could be different types facilities, typically a paved versus unpaved path. For example, the Zmudowski State Beach Segment (#16) presents the cost of the two optional alignments (16A: Inland, and 16B: Coastal) even though 16B was identified as the preferred alignment in the Evaluation Matrix. Each of these alignments could have either a paved Class I bike path (16A-1, or 16B-1) or an unpaved path (16A-2, 16B-2). This information is

presented so that implementing agencies can understand the cost trade-offs between various options (See Table 7-7).

TABLE 7-7: MONTEREY BAY SANCTUARY SCENIC TRAIL: COST ESTIMATES BY SEGMENT

Segment	Agencies	Improvement Type(s)	Item Cost	Segment Cost
1: Pacific Grove	Pacific Grove	Bike path repairs/cliff stabilization	\$ 1,800,000	
		Interpretive signage	\$ 19,200	
		Enhanced delineation	\$ 38,400	
		Bike racks	\$ 10,000	\$ 1,868,000
2: Monterey	Monterey	Relocate Trail /1	\$ 1,210,000	
		Interpretive signage	\$ 74,400	
		Enhanced delineation	\$ 148,800	
		Bike racks	\$ 10,000	\$ 1,443,200
2A: Monterey Spur	Monterey	Relocate Trail /1	\$ 145,200	\$ 145,200
3: Seaside	Seaside	Interpretive signage	\$ 2,400	
		Enhanced delineation	\$ 4,800	\$ 7,200
4A: Sand City	Sand City	Enhanced delineation	\$ 44,000	\$ 44,000
4B: Sand City Coastal	Sand City	New Class I bike path (12')	\$ 291,600	\$ 291,600
5: Fort Ord Dunes Coastal	CA State Parks	New Class I Bike Path (12')	\$ 567,000	
		New Class III (Beach Range Rd)	\$ 115,800	
		Railroad crossings	\$ 300,000	\$ 982,800
5-A: Fort Ord Dunes Coastal	CA State Parks	New Dunes Trail	\$ 152,000	\$ 152,000
6: Marina State Beach Coastal	CA State Parks/Marina/ Monterey Co	New Dunes Trail (s of Reservation Rd)	\$ 90,200	\$ 90,200
7: Marina Trail Coastal	Marina/Monterey Co	New Dunes Trail (n of Dunes Dr)	\$ 85,500	
		Easement (20 ft wide)	\$ 400,000	\$ 485,500

TABLE 7-7: MONTEREY BAY SANCTUARY SCENIC TRAIL: COST ESTIMATES BY SEGMENT

Segment	Agencies	Improvement Type(s)	Item Cost	Segment Cost
Continued on next page				
8-A: Salinas River (Railroad) Inland	Monterey Co/TAMC	New Class I Bike Path (12')	\$ 1,439,900	
		New Roadway Crossing (type 2)	\$ 270,000	
		Fencing (type 1)	\$ 58,800	
		Fencing (type 2)	\$ 106,400	
		Retrofit railroad trestle	\$ 3,980,000	\$ 5,855,100
8-B: Salinas River Old County Bridge Inland	Monterey Co/TAMC	New Class I Bike Path (12')	\$ 1,439,900	
		New Roadway Crossing (type 2)	\$ 270,000	
		Fencing (type 1)	\$ 58,800	
		Fencing (type 2)	\$ 106,400	
		Del Monte Bridge Structure /2	\$ 3,080,000	\$ 4,955,100
9: Lapis Connector Inland	Monterey Co	New Class III Bike Route	\$ 16,800	
		New Roadway Crossing (type 1)	\$ 20,000	\$ 36,800
10: Salinas River National Wildlife Refuge Coastal	Monterey Co	New Dunes Trail	\$ 111,100	
		Fencing (type 2)	\$ 126,000	
		New Roadway Crossing (type 1)	\$ 20,000	
		Easement (20 ft wide)	\$ 1,800,000	\$ 2,057,100
11: Neponset Road Access Route Inland	Monterey Co/Caltrans/ National Wildlife Refuge	New Class III Bike Route	\$ 30,600	
		New Roadway (24 ft)	\$ 600,000	
		Existing Dunes Trail	\$ 3,800	\$ 634,400
12-1: Salinas River Inland	Monterey Co/Caltrans	New Class I Bike Path (12')	\$ 1,210,000	
		Levee Repair/Enhancement	\$ 150,000	
		Easement (20 ft wide)	\$ 1,840,000	
		Fencing (type 2)	\$ 126,000	\$ 3,326,000

TABLE 7-7: MONTEREY BAY SANCTUARY SCENIC TRAIL: COST ESTIMATES BY SEGMENT

Segment	Agencies	Improvement Type(s)	Item Cost	Segment Cost
12-2: Salinas River Inland	Monterey Co/Caltrans	New Unpaved Trail (10')	\$ 110,000	\$ 2,226,000
		Levee Repair/Enhancement	\$ 150,000	
		Easement (20 ft wide)	\$ 1,840,000	
		Fencing (type 2)	\$ 126,000	
Continued on next page				
13-1: Monterey Dunes Coastal	Monterey Co/ CA State Parks	New Class I Bike Path (12')	\$ 2,274,800	\$ 4,792,600
		Fencing (type 2)	\$ 250,600	
		Easement (20 ft wide)	\$ 2,220,000	
		New Roadway Crossing (type 1)	\$ 40,000	
		New Class III Bike Route	\$ 7,200	
13-2: Monterey Dunes Coastal	Monterey Co/ CA State Parks	New Unpaved Trail (10')	\$ 206,800	\$ 2,611,200
		Fencing (type 2)	\$ 137,200	
		Easement (20 ft wide)	\$ 2,220,000	
		New Roadway Crossing (type 1)	\$ 40,000	
		New Class III Bike Route	\$ 7,200	
14-1: Molera Road-Moss Landing Inland	Monterey Co/Caltrans	New Class I Bike Path (12') /3	\$ 2,153,800	\$ 2,799,000
		New Class III Bike Route	\$ 11,700	
		Fencing (type 2)	\$ 134,400	
		New Roadway Crossing (type 2)	\$ 180,000	
		Fencing (type 2)	\$ 163,100	
		Road Widening (4 ft) (Monterey Dunes)	\$ 156,000	
14-2: Molera Road-Moss Landing Inland	Monterey Co/Caltrans	New Class II Bike Lanes	\$ 376,000	\$ 1,412,700
		Roadway widening (8 ft)	\$ 920,000	
		New Class III Bike Route	\$ 26,700	
		New Roadway Crossing (type 2)	\$ 90,000	
14-3: Molera Road-Moss Landing Inland	Monterey Co/Caltrans	New Class III Bike Route	\$ 139,500	\$ 1,059,500
		Roadway widening (8 ft)	\$ 920,000	
15-A: Moss Landing RoadCoastal	Monterey Co/Caltrans/ Harbor District	New Class I Bike Path (12')	\$ 379,180	
		New Roadway Crossing (type 1)	\$ 20,000	
		Easement (20 ft wide)	\$ 240,000	

TABLE 7-7: MONTEREY BAY SANCTUARY SCENIC TRAIL: COST ESTIMATES BY SEGMENT

Segment	Agencies	Improvement Type(s)	Item Cost	Segment Cost
		New concrete bridge (12') Continued on next page	\$ 1,914,000	\$ 2,553,180
15-B: Elkhorn SloughCoastal	Harbor District/Caltrans Caltrans	Planned New Class I Bike Path (12') New Class I Bike Path (12') New Roadway Crossing (type 1) Continued on next page	\$ 121,000 \$ 169,400 \$ 40,000	\$ 330,400
16-A1: Zmudowski State Beach Trail Inland	Monterey Co	New Class I Bike Path (12') Easement (20 ft wide) Fencing (type 2)	\$ 2,153,800 \$ 3,560,000 \$ 235,200	\$ 5,949,000
16-A2: Zmudowski State Beach Trail Inland	Monterey Co	New Unpaved Trail (10') Easement (20 ft wide) Fencing (type 2)	\$ 195,800 \$ 3,560,000 \$ 235,200	\$ 3,991,000
16-B1: Zmudowski State Beach Trail Coastal	Monterey Co/ CA State Parks	New Class III Bike Route New Class I Bike Path (12') Easement (20 ft wide)	\$ 6,000 \$ 2,274,800 \$ 1,220,000	\$ 3,500,800
16-B2: Zmudowski State Beach Trail Coastal	Monterey Co/ CA State Parks	New Class III Bike Route New Unpaved Trail (10') Easement (20 ft wide)	\$ 6,000 \$ 206,800 \$ 1,220,000	\$ 1,432,800
17-A1: Pajaro River Trail Inland	Monterey Co/MCWRA	New Class I Bike Path (12') Easement (20 ft wide) New Class III Bike Route	\$ 24,200 \$ 600,000 \$ 75,000	\$ 699,200
17-B1: Pajaro River Trail Coast	Monterey Co/MCWRA	New Class I Bike Path (12') New Class III Bike Route Easement (20 ft wide) /6 New Roadway Crossing (type 1)	\$ 1,113,200 \$ 2,400 \$ 2,400,000 \$ 20,000	\$ 3,535,600
17-B2: Pajaro River Trail Coast	Monterey Co/MCWRA	New Unpaved Trail (10')	\$ 101,200	

TABLE 7-7: MONTEREY BAY SANCTUARY SCENIC TRAIL: COST ESTIMATES BY SEGMENT

Segment	Agencies	Improvement Type(s)	Item Cost	Segment Cost
		New Class III Bike Route	\$ 2,400	
		Easement (20 ft wide) /6	\$ 2,400,000	
		New Roadway Crossing	\$ 20,000	\$ 2,523,600

7.9.1. COST BY PHASES

Estimated costs by phase are presented below in Table 7-8, with short term (1-5 years), mid-term (5-10 years) and long-term (10-20 years). The major conclusions for each phase are as follows:

Table 7-8: MONTEREY BAY SANCTUARY SCENIC TRAIL: COST ESTIMATES BY PHASE

	Segment	Phase
Phase I (Short Term)	Cost	Cost
1: Pacific Grove (repairs, amenities)	\$ 1,868,100	
2: Monterey (path improvements)	\$ 233,200	
3: Seaside (path upgrades)	\$ 7,200	
4B: Sand City (new Class I bike path)	\$ 291,600	
6: Marina/Marina State Beach (new dunes trail)	\$ 90,200	
15A: County - Moss Landing South (new Class I bike path, bridge)	\$ 2,553,180	
15B: County- Moss Landing North (new Class I bike path)	\$ 330,400	
Total Short Term		\$ 6,508,680
	Segment	Phase
Phase 2 (Mid Term)	Cost	Cost
5/5A: Ft. Ord State Park (new Class I bike path, RR xings)	\$ 1,134,800	
8A: County-Salinas River (new Class I bike path, retrofit trestle)	\$ 5,855,100	
14-3: County-Molera Rd (new shoulders, Class III bike route)	\$ 1,059,500	
16B-1: County-Pajaro River Levee (new Class I bike path, ROW)	\$ 3,500,800	
17B-1: Zmudowski State Beach Trail (new Class I bike path, ROW)	\$ 3,535,600	
Total Mid Term		\$ 13,951,000
	Segment	Phase
Phase 3 (Long Term)	Cost	Cost
2-2A: Monterey (relocate Class I bike path)	\$ 1,355,200	
7: Marina- Marina Trail (new dunes trail, ROW)	\$ 485,500	
9: County-Lapis Connector (new Class III bike route)	\$ 36,800	
10: County - Salinas Nat'l Refuge (new dunes trail, ROW)	\$ 634,400	
11: County - Neponset Rd Connector (pave roadway)	\$ 634,400	
12-2: County -Salinas River Trail (new unpaved trail, ROW)	\$ 2,226,000	
13-2: County-Monterey Dunes Trail (new unpaved path, ROW)	\$ 2,611,200	
Total Long Term		\$ 7,983,500
TOTAL SYSTEM		\$28,443,180

- PHASE 1:** This phase focuses on improving existing trail segments in Seaside and Monterey, completing the Sand City gap, completing all of the trail in the new Fort Ord State Park (both a paved bikeway and unpaved dunes trail), a new dunes trail between this park and the Marina State Beach, completing both Moss Landing projects (including a new bridge across Elkhorn Slough) at a total cost of \$6.5 million. With the completion of Phase 1, the Scenic Trail will be completed between Pacific Grove and Marina, including a new coastal bike path and trail network through Fort Ord State Park, connecting to Marina State Beach. Moss Landing will also have a link allowing bicyclists and pedestrians to move through the area on a separate pathway rather than directly on Highway 1.
- PHASE 2:** This phase will complete the paved portion of the Scenic Trail from its current terminus north of Marina, across the Salinas River on a retrofitted railroad trestle, connecting to a new Class III bike route with shoulders on Molera Road directly into Moss Landing. This phase would also see the completion of a paved bike path along the coast and the Pajaro River between Moss Landing and the McGowen-Thurwatcher Bridge at the County line. A major remaining gap would be that bicyclists would still need to negotiate the very busy Molera Road/Highway 1 intersection, unless a new pathway was constructed on the south side of Highway 1 from this point into Moss Landing. It is also important to note that of the \$14 million associated with this phase, almost \$3 million is estimated as easement cost on the Pajaro River levee that is managed by the Monterey County Water Resources Agency.
- PHASE 3:** Phase 3 would see the completion of the Scenic Trail in Monterey County, with almost all of the remaining segments being unpaved trails located along the coast between Marina State Beach and Moss Landing. Of the \$7.9 million cost, \$6.2 million (or 80%) is associated with expected easement acquisition costs. These figures may change significantly. It would also include the relocation of the trail in Monterey to accommodate the new rail line.

Table 7-9 below shows how the funding for the Scenic Trail could come from a variety of sources over time. Specific funding programs are described in detail in the following section (7.9 Funding). These estimates are based on experiences with other regional trails in the country, and may change depending on changes in grant requirements, level of competition, and availability.

Table 7-9: MONTEREY BAY SANCTUARY SCENIC TRAIL: POTENTIAL FUNDING SOURCES

Segment	Total Cost	Federal Recreation	Federal Transportation	Regional	State	Local
PHASE 1	\$6,508,680	\$ 1,301,736	\$ 2,603,472	\$ 650,868	\$ 1,301,736	\$ 650,868
PHASE 2	\$13,951,000	\$ 2,790,200	\$ 5,580,400	\$1,395,100	\$ 2,790,200	\$ 1,395,100
PHASE 3	\$7,983,500	\$ 1,596,700	\$ 3,193,400	\$ 798,350	\$ 1,596,700	\$ 798,350
TOTAL	\$27,150,180	\$ 5,430,036	\$ 10,860,072	\$2,715,018	\$ 5,430,036	\$ 2,715,018

As can be seen, federal funding sources are expected to cover about 60% of total costs, regional sources 10%, State sources 20%, and local sources about 10%.

7.10. FUNDING

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

In addition to the funding available from competitive funding sources and state apportionments, the Scenic Trail has existing funding through federal transportation bill earmarks. The monies are currently administered by the Association of Monterey Bay Area Governments (AMBAG) acting as the lead agency, and are disbursed, as needed, to the Transportation Agency for Monterey County and Santa Cruz County Regional Transportation Commission for the master planning of the Scenic Trail. Once the Scenic Trail planning phase is complete, the Transportation Agency for Monterey County or the local jurisdiction will become the lead agency for the Scenic Trail's implementation in Monterey County.

7.10.1. FEDERAL FUNDING SOURCES

The primary federal source of surface transportation funding—including bicycle and pedestrian facilities—is the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. This Federal bill is the third iteration of the transportation vision established by Congress in 1991 with the Intermodal Surface Transportation Efficiency Act and renewed in 1998 and extended in 2003 through the Transportation Equity Act for the 21st Century and the Safe, Accountable, Flexible, and Efficient Transportation Equity Act of 2003. Also known as the Federal Transportation Bill, the \$286.5 billion bill was passed in 2005 and authorizes federal surface transportation programs for the five-year period between 2005 and 2009.

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

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

Specific funding programs under the federal transportation bill for bicycle and pedestrian facilities include:

- Federal Lands Highway Funds—Approximately \$1 billion dollars are available nationally through 2009 for planning and construction of bicycle and pedestrian projects built in conjunction with roadways
- Transportation, Community and System Preservation Program—\$270 million nationally through 2009 for projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers
- Recreational Trails Program—\$370 million nationally through 2009 for non-motorized trail projects
- Safe Routes to School Program—\$612 million nationally through 2009 for bicycle, pedestrian and education programs that implement safer routes to schools (Described under State Funding Sources, below.)

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	▪ Construction
	▪ Planning
	▪ Safety and Education Programs
TYPE OF TRAILS ELIGIBLE	▪ Paved
	▪ Unpaved
LINK TO PROGRAM	http://www.fhwa.dot.gov/safetealu/index.htm

Transportation, Community and System Preservation Program

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

APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning▪ Construction
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none">▪ Paved
LINK TO PROGRAM	http://www.fhwa.dot.gov/tcsp/pi_tcsp.htm

Recreational Trails Program

The Recreational Trails Program of the federal transportation bill provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized as well as motorized uses. In California, the funds are administered by the California Department of Parks and Recreation. Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails;
- Purchase and lease of trail construction and maintenance equipment;
- Construction of new trails; including unpaved trails
- Acquisition of easements or property for trails;
- State administrative costs related to this program (limited to seven percent of a State's funds); and
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

APPLICATION DEADLINE	October
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning▪ Property Acquisition▪ Construction▪ Safety and Educational Programs▪ Maintenance and Restoration of Existing Trails
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none">▪ Paved▪ Unpaved
LINK TO PROGRAM	http://www.fhwa.dot.gov/environment/rectrails/index.htm http://www.parks.ca.gov/?page_id=21362

Land and Water Conservation Fund

The Land and Water Conservation Fund is a federally funded program that provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. The Fund is administered by the National Parks Service and the California Department of Parks and Recreation and has been reauthorized until 2015.

Cities, counties and districts authorized to acquire, develop, operate and maintain park and recreation facilities are eligible to apply. Applicants must fund the entire project, and will be reimbursed for 50% of costs. Property acquired or developed under the program must be retained in perpetuity for public recreational use. The grant process for local agencies is competitive, and 40% of grants are reserved for Northern California.

In 2006, approximately \$480,000 was available for projects in Northern California.

APPLICATION DEADLINE	May 1
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> ▪ Planning
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> ▪ Paved ▪ Unpaved
LINK TO PROGRAM	http://www.parks.ca.gov/?page_id=21360

Rivers, trails and conservation assistance program

The Rivers, Trails and Conservation Assistance Program (RTCA) is a National Parks Service program which provides technical assistance via direct staff involvement, to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based upon criteria, which include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation and focusing on lasting accomplishments.

APPLICATION DEADLINE	Ongoing
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> ▪ Planning
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> ▪ Paved ▪ Unpaved
LINK TO PROGRAM	http://www.nps.gov/rtca/

7.10.2 STATEWIDE FUNDING SOURCES

The State of California uses both federal sources and its own budget to fund the following bicycle and pedestrian projects and programs.

California River Parkways Program

The California River Parkways Program is a state program that provides competitive grants to projects that provide public access to rivers or streams or are a component of a larger parkway plan that provides public access to rivers or streams. The program focuses on non-motorized access. The program was established in 2002 when California voters passed The Proposition 50, the Water Security, Clean Drinking Water and Beach Protection Act of 2002. Funds can be used to develop walking, bicycling trails, provide amenities, property acquisition, construction of interpretive signage and overlooks,

boardwalk construction, informational displays, interpretive kiosks, signage. The program is administered by the California Resources Agency.

In addition to providing public access to rivers or streams, eligible projects must meet two of the following five requirements:

- Recreation - Provide compatible recreational opportunities, including trails for strolling, hiking, bicycling and equestrian uses along rivers and streams.
- Habitat - Protect, improve, or restore riverine or riparian habitat, including benefits to wildlife habitat and water quality.
- Flood Management - Maintain or restore the open-space character of lands along rivers and streams so that they are compatible with periodic flooding as part of a flood management plan or project.
- Conversion to River Parkways - Convert existing developed riverfront land into uses consistent with River Parkways.
- Conservation and Interpretive Enhancement - Provide facilities to support or interpret river or stream Restoration or other conservation activities.

Public agencies and nonprofit organizations are eligible for funding.

Projects must comply with CEQA, real property must be acquired from a willing seller priority is given to projects that are included in an approved watershed plan and include watershed protection measures.

Deadline: October

Types of projects funded: construction, planning, design

Types of trails eligible: paved, unpaved

http://www.resources.ca.gov/bonds_prop50riverparkway.html

Bicycle Transportation Account

The Bicycle Transportation Account provides state funding for local projects that improve the safety and convenience of bicycling for transportation. Because of its focus on transportation, Bicycle Transportation Account projects must provide a transportation link. Funds are available for both planning and construction. Bicycle Transportation Account funding is administered by Caltrans and cities and counties must have an adopted Bicycle Transportation Plan in order to be eligible. City Bicycle Transportation Plans within Monterey County must be approved by the Transportation Agency prior to Caltrans approval. The maximum amount available through the Bicycle Transportation Account is \$1.2 million dollars, cities and counties are eligible to apply.

APPLICATION DEADLINE	December 1
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning▪ Construction▪ Maintenance

TYPE OF TRAILS ELIGIBLE	Paved
LINK TO PROGRAM	http://www.dot.ca.gov/hq/LocalPrograms/bta/btaweb%20page.htm

Wildlife Conservation Board Public Access Program

Funding for the acquisition of lands or improvements that preserve wildlife habitat or provide recreational access for hunting, fishing or other wildlife-oriented activities. There is up to \$250,000 dollars available per project with applications accepted quarterly. Projects eligible for funding include interpretive trails, river access, and trailhead parking areas. The State of California must have a proprietary interest in the project. Local agencies are generally responsible for the planning and engineering phases of each project.

APPLICATION DEADLINE	Quarterly
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> ▪ Construction
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> ▪ Paved ▪ River Access and Trailheads ▪ Unpaved
LINK TO PROGRAM	http://www.wcb.ca.gov/Pages/public_access_program.htm

California Conservation Corps

The California Conservation Corps is a public service program, which occasionally provides assistance on construction projects. The Corps may be written into grant applications as a project partner. In order to utilize Corps labor, project sites must be public land or be publicly accessible. Corps labor cannot be used to perform regular maintenance; however, they will perform annual maintenance, such as the opening of trails in the spring.

APPLICATION DEADLINE	Not Applicable
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> ▪ Construction ▪ Paved
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> ▪ River Access and Trailheads ▪ Unpaved
LINK TO PROGRAM	http://www.ccc.ca.gov

Safe Routes to School (SR2S)

In September 2004, with the passage of Senate Bill 1087 (Soto), the State Routes to School legislation to January 1, 2008. This program is meant safety of walking and cycling to school and encourage students to walk school through identification of existing and new routes to school and pedestrian and bicycle safety and traffic calming projects. Due to the e



Federally funded Safe Routes to Schools Program in 2005, the State-funded Safe Routes to School Program will be phased out and replaced with the Federally funded program. The seventh and final funding cycle of the State Safe Routes to School Program will be announced in 2007. Funding amount for the final cycle has not yet been determined.

APPLICATION DEADLINE	Currently unknown due to program reorganization
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning▪ Construction
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none">▪ Paved
LINK TO PROGRAM	http://www.dot.ca.gov/hq/LocalPrograms/saferoute2.htm

Environmental Justice: Context Sensitive Planning Grants

The Caltrans-administered Environmental Justice: Context Sensitive Planning Grants promotes context sensitive planning in diverse communities and funds planning activities that assist low-income, minority and Native American communities to become active participants in transportation planning and project development. Grants are available to transit districts, cities, counties and tribal governments. The State Highway Account funds this grant at \$1.5 million annually statewide. Grants are capped at \$250,000.

APPLICATION DEADLINE	October 14
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning
TYPE OF TRAILS ELIGIBLE	Not Applicable
LINK TO PROGRAM	http://www.dot.ca.gov/hq/tpp/offices/opar/titleVland%20EJ.htm

Office of Traffic Safety Grants

The California Office of Traffic Safety distributes federal funding apportioned to California under the National Highway Safety Act and Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users. Grants are used to establish new traffic safety programs, expand ongoing programs or address deficiencies in current programs. Bicycle and pedestrian safety are included on the list of traffic safety priority areas. Eligible grantees are governmental agencies, state colleges, and state universities, local city and county government agencies, school districts, fire departments and public emergency services providers. Grant funding cannot replace existing program expenditures, nor can traffic safety funds be used for program maintenance, research, rehabilitation or construction. Grants are awarded on a competitive basis, and priority is given to agencies with the greatest need. Evaluation criteria to assess need include: potential traffic safety impact, collision statistics and rankings, seriousness of problems, and performance on previous Office of Traffic Safety grants. Office of Traffic Safety expects to have \$56 million in funding available statewide for Federal Year 2006/07.

APPLICATION DEADLINE	January 31
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TYPE OF PROJECTS FUNDED	Safety Programs
TYPE OF TRAILS ELIGIBLE	Not Applicable
LINK TO PROGRAM	http://www.ots.ca.gov/grants/default.asp

Community Based Transportation Planning Demonstration Grant Program

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

APPLICATION DEADLINE	October
TYPE OF PROJECTS FUNDED	Planning
TYPE OF TRAILS ELIGIBLE	Not Applicable
LINK TO PROGRAM	http://www.dot.ca.gov/hq/tpp/offices/ocp/cbtpg.htm

Coastal Conservancy Non-Profit Grants Program

The Coastal Conservancy provides grants to non-profit organizations for projects, which provide access to the California coast and preserve coastal lands, including the construction of trails, public piers, urban waterfronts, and other public access facilities. The Conservancy has helped build more than 300 accessways and trails, including major portions of the California Coastal Trail and San Francisco Bay Trail, thus opening more than 80 miles of coastal and bay lands for public use.

APPLICATION DEADLINE	Applications accepted year round
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> ▪ Planning ▪ Construction
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none"> ▪ Paved ▪ Unpaved
LINK TO PROGRAM	http://www.coastalconservancy.ca.gov/Programs/guide.htm

7.10.3 REGIONAL FUNDING SOURCES

Regional bicycle and pedestrian grant programs come from a variety of sources, including federal funding, the State budget and vehicle registration fees.

Regional Surface Transportation Program

The Regional Surface Transportation Program (RSTP) is a block grant program, which provides funding for bicycle and pedestrian projects, among many other transportation projects. Under this program, the Transportation Agency of Monterey County,

prioritizes and approves projects, which will receive these funds. The Transportation Agency for Monterey County distributes these funds to local jurisdictions. In Monterey County, funds are distributed on a fair share and competitive basis. California apportions approximately \$320 million annually in Regional Surface Transportation Program funds. Of these, 76% must be spent within the 11 urban areas of 200,000 or more. The remainder of the funds are apportioned based on population. Monterey County received approximately \$4.8 million in Regional Surface Transportation Program Funds in 2006.

APPLICATION DEADLINE	Varies.
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">ConstructionSafety and Education ProgramsPlanning
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none">Paved
LINK TO PROGRAM	http://www.dot.ca.gov/hq/transprog/reports/Official_R_STP_Web_Page.htm

AB 2766 Motor Vehicle Emission Reduction Grant Program

The Monterey Bay Unified Air Pollution Control District provides a grant program in accordance with Assembly Bill 2766 which authorized air districts in California to impose a two to four dollar motor vehicle registration fee to be used for the purpose of reducing motor vehicle emissions in order for air districts to meet their responsibilities under the California Clean Air Act. Projects include bicycle facility improvements, safety and enforcement. Proposals must demonstrate the relationship between reduced motor vehicle emissions and improved air quality.

APPLICATION DEADLINE	May 31
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">PlanningConstructionSafety and Enforcement
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none">Paved
LINK TO PROGRAM	http://www.mbuapcd.org/index.cfm/Cat/18.htm

Transportation Enhancement Program

The Transportation Enhancement Program provides funds for the construction of projects, beyond the scope of typical transportation projects, which enhance the transportation system. Transportation Enhancement projects may include landscaping, bicycle facilities and streetscape improvements. Transportation Enhancement projects are programmed as part of the State Transportation Improvement Program. The annual apportionment to the Transportation Agency for Monterey County averages around \$800,000.

APPLICATION DEADLINE	Not Applicable
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">Construction

TYPE OF TRAILS ELIGIBLE	Not Applicable
LINK TO PROGRAM	http://www.the_Transportation_Agency_of_Monterey_Countymonterey.org/prog_fund/index.html

7.10.4 LOCAL FUNDING SOURCES

Transportation Development Act

Transportation Development Act Article 3 funds are state block grants awarded monthly to local jurisdictions for transit, bicycle and pedestrian projects in California. Funds for pedestrian projects originate from the Local Transportation Fund, which is derived from a ¼ cent of the general state sales tax. Local Transportation Funds are returned to each county based on sales tax revenues. Article 3 of the Transportation Development Act sets aside 2% of the Local Transportation Funds for bicycle and pedestrian projects. Eligible pedestrian and bicycle projects include: construction and engineering for capital projects; maintenance of bikeways; bicycle safety education programs (up to 5% of funds); and development of comprehensive bicycle or pedestrian facilities plans. A city or county may use these funds to update their bicycle and pedestrian plan not more than once every five years. These funds may be used to meet local match requirements for federal funding sources. Monterey County's total Transportation Development Act apportionment for 2006-2007 is approximately \$12,000,000. Of this apportionment, 2% is available for bicycle and pedestrian projects.

APPLICATION DEADLINE	Varies. Administered by the Transportation Agency for Monterey County
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none"> ▪ Planning ▪ Construction ▪ Maintenance ▪ Safety and Education
TYPE OF TRAILS ELIGIBLE	Paved
LINK TO PROGRAM	http://www.the_Transportation_Agency_of_Monterey_Countymonterey.org/prog_fund/index.html

7.10.5 NONTRADITIONAL SOURCES

Community Development Block Grants

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

7. Implementation and Design

APPLICATION DEADLINE	N/A
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning▪ Construction▪ Property Acquisition▪ Safety and Education
TYPE OF TRAILS ELIGIBLE	Not Applicable
LINK TO PROGRAM	http://www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

American Greenways Program

Administered by The Conservation Fund, the American Greenways Program provides funding for the planning and design of greenways. Applications for funds can be made by local regional or statewide non-profit organizations and public agencies. The maximum award is \$2,500, but most range from \$500 to \$1,500. American Greenways Program monies may be used to fund unpaved trail development.

APPLICATION DEADLINE	June 1
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Planning▪ Construction
TYPE OF TRAILS ELIGIBLE	<ul style="list-style-type: none">▪ Paved▪ Unpaved
LINK TO PROGRAM	http://www.conservationfund.org/?article=2471

California Center for Physical Activity Grant Program

The California Center for Physical Activity runs several programs related to walking and offers small grants to public health departments. Grants are in the amount of \$4,999 dollars or less and are offered intermittently.

APPLICATION DEADLINE	Varies
TYPE OF PROJECTS FUNDED	<ul style="list-style-type: none">▪ Education and Encouragement
TYPE OF TRAILS ELIGIBLE	Not Applicable
LINK TO PROGRAM	http://www.caphysicalactivity.org/our_projects.html

7.10.6 REQUIREMENTS FOR NEW DEVELOPMENT

With the increasing support for routine accommodation and complete streets, requirements for new development, road widening and new commercial development provide opportunities to efficiently construct pedestrian facilities.

Impact Fees or Developer Construction

One potential local source of funding is developer impact fees, typically tied to trip generation rates and traffic impacts produced by a proposed project. A developer may attempt to reduce the number of trips (and hence impacts and cost) by paying for on- and off-site pedestrian improvements designed to encourage residents, employees and visitors to the new development to walk rather than drive. Establishing a clear nexus or connection between the impact fee and the project's impacts is critical for avoiding a potential lawsuit. Developer construction or easement are both viable options for the Moss Landing Segment.

Mello-Roos Community Facilities Act

The Mello-Roos Community Facilities Act was passed by the Legislature in 1982 in response to reduced funding opportunities brought about by the passage of Proposition 13. The Mello-Roos Act allows any county, city, special district, school district or joint powers authority to establish a Community Facility District for the purpose of selling tax-exempt bonds to fund public improvements within that district. Community Facility Districts must be approved by a two-thirds margin of qualified voters in the district. Property owners within the district are responsible for paying back the bonds. Pedestrian facilities are eligible for funding under Community Facility District bonds.

7.10.7 FUNDING MATRIX

The matrix below provides detailed information for the funding sources listed in the preceding section. Beside each source is listed the corresponding application deadline, the allocating agency, the amount available (and for what time period and to whom), matching requirements, eligible applicants, eligible projects and comments, including agency contact information, where available.

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Funding matrix placeholder page 1

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7.11. ENVIRONMENTAL AND PERMITTING REQUIREMENTS

The Monterey Sanctuary Scenic Trail will require significant permitting and consultation with local, regional, state and federal agencies. The alignment passes through several jurisdictions and includes sensitive and varied areas such as sand dunes, coastal areas, wetland, active agricultural lands, cultural resources, industrial uses, designated floodways, and waterway and road crossings. The specific permitting requirements for each segment will need to be addressed as that segment nears construction. Aside from the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Protection Act (NEPA, each project will require permits and approvals from a variety of local and state agencies. A list and description of possible permitting requirements for the Sanctuary Scenic Trail is provided in Appendix 5. Detailed information on environmental constraints is provided in Chapter Four, Opportunities and Constraints Analysis. If the Master Plan will be adopted by TAMC or local agencies, it will be subject to the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Protection Act (NEPA).

7.12. OPERATIONS AND MANAGEMENT

Operations and maintenance of the Sanctuary Scenic Trail is of utmost importance for the productive use of the facility, and the financial and liability resources of the cities and agencies involved in its implementation. It is expected that each local agency will develop (with the assistance of the Transportation Agency), construct, maintain, and manage their segments of the Sanctuary Scenic Trail, serving as the trail manager. Some portions of the trail may represent new or unusual operations and maintenance costs or practices. Some of these areas are identified below.

7.12.1. OPERATIONS

Operation activities on the Sanctuary Scenic Trail will consist primarily of monitoring and security. Monitoring accidents including identifying the primary cause and rectifying any physical deficiencies must be accomplished by each operating agency. The local police department typically has the responsibility for collecting accident information and identifying fault, while trail manager has the responsibility for identifying and improving physical or operational conditions that may have contributed to the accident. The trail manager typically also has the responsibility for making the determination to warn path users of problems, and to close the path when conditions warrant.

7.12.2. SECURITY

Most multi-use paths in the United States do not have a dedicated police patrol for the facility. . As a rule of thumb, a multi-use trail requires one person-hour per day for every five miles of trail. This translates into six person-hours per day for the entire segment. This figure would also vary by time of week and year. Off-peak weekdays may require only .2 person-hours per day, while peak weekends may require a full 8 person-hour per day.

A summary of key security recommendations is presented below.

- Make all paved segments of the Scenic Trail located more than 100' from public roads accessible to emergency vehicles.
- Illuminate all grade crossings.
- Trim all vegetation at least 10 feet from the Scenic Trail where possible to maximize visibility in developed areas.
- Provide bicycle racks and lockers at key destinations that allow for both frame and wheels to be locked.
- Provide fire and police departments of local jurisdictions with map of system, along with access points and keys/combinations to gates/bollards.
- Enforce speed limits and other traffic laws, for bicyclists, pedestrians and motorists.
- Provide emergency call boxes every one mile in remote rural areas.

7.12.3. MAINTENANCE

Maintenance of the Sanctuary Scenic Trail should include the following regular activities shown in Table 7-11:

Table 7-11: RECOMMENDED TRAIL MAINTENANCE PRACTICES

Item	Frequency
Sign replacement/repair	1-3 years
Sand Removal	as needed
Pavement marking replacement	1-3 years
Tree, Shrub, & grass trimming/fertilization	5 months- 1 year
Pavement sealing/potholes	5-15 years/30-40 years for concrete
Clean drainage system	1 year
Pavement sweeping	Monthly - annually as needed
Shoulder and grass mowing	as needed
Trash disposal	as needed
Lighting replacement/repair	1 year
Graffiti removal	Weekly - monthly as needed
Maintain furniture	1 year
Fountain/restroom cleaning/repair	Weekly - monthly as needed
Pruning	1-4 years
Remove fallen trees	As needed
Weed control	Monthly - as needed

Many of these maintenance items are dependent on the type and amount of supporting infrastructure that is developed along the path.

7.12.4. SAFETY

Safety will be addressed on the Scenic Trail in the following manner:

- Adhere to the established design, operation, and maintenance standards presented in this document and recommended by Caltrans.
- Supplement these standards with the sound judgment of professional engineers.
- Maintain adequate recording and response mechanisms for reported safety and maintenance problems.
- Thoroughly research the causes of each reported accident on the Sanctuary Scenic Trail. Respond to accident investigations by appropriate design or operation improvements.
- Design the paved portions of the Scenic Trail, its structures, and access points to be accessible by emergency vehicles. Bollards at the path entries should be removable by the appropriate fire, ambulance, and police agencies. Constrained segments of the any paved path that cannot accommodate emergency vehicles should not be longer than 500 feet, and identified in advance by the appropriate police, fire, and ambulance services.
- Provide regular police patrols to the extent needed.

7.12.5. PRIVATE PROPERTY PROTECTION

Parts of the Sanctuary Scenic Trail will be located directly adjacent to private properties. Neighbor concerns regarding path location near their properties typically include a loss of visual privacy, and concerns about increased crime, vandalism, noise, and fire. Wherever possible, the path should be located as far away as possible to protect the privacy of adjacent property owners. Criminal activity is not likely to occur along a path that is well planned, designed, operated, maintained, and used. Fire concerns should be addressed in part by adequate weed abatement.

New privacy fencing is not required as part of the trail project as there are few private homes located near proposed trail segments. If a private property owner requests additional privacy, fencing and/or landscaping should be included to accommodate this request. Property owners should be permitted to install gates leading directly onto the trail, if desired.

7.12.6. AGRICULTURAL LANDS

Public trail access across private land is by nature a controversial issue. However, the opportunity exists to reframe the issue of public trail access to highlight the benefits to landowners, recreational users, and the communities in which they are already coexisting. The proposed Monterey Bay Sanctuary Scenic Trail Master Plan has the potential to serve as a representative facility, demonstrating the ability of both agricultural landowners and

trail users to work together, recognizing the significant role they each play in the future of the Monterey Bay region.

There are many potential conflicts that may arise as trails and agricultural production coexist in close quarters. These problems include (1) theft of produce, (2) safety and liability concerns associated with trespassing, (3) health and liability concerns associated with spraying, (4) impacts to agricultural operations, and (5) loss of productive agricultural land.

A detailed description of trail and agricultural issues is presented in Appendix 6

7.12.7. TRAIL REPAIRS & CLOSURE

Trail users will need to be informed and directed during construction and periodic maintenance of the trail, when sections of the trail will be closed or unavailable to users. Trail users must be warned of impending trail closures, and given adequate detour information to bypass the closed or unfinished section of trail. Trail users must be warned through the use of standard signing at the entrance to each affected section of trail (“Trail Closed”), including (but not limited to) information on alternate routes and dates of closure. Sections of the trail that are closed must be gated or otherwise blockaded and clearly signed as closed to public use. Alternate routes should provide a reasonable level of directness and lower traffic volumes, and signed consistently. If no reasonable alternate routes are available, the trail should have an “End Trail” sign and provide access to the street and sidewalk system.

7.13. NEXT STEPS

The list below summarizes the next steps for this project.

- **Project Approval:** The Transportation Agency for Monterey County must formally approve this report and the identified alignments, at a meeting open to the public.
- **Project Sponsor:** The Transportation Agency will be involved as a partner with local agencies in implementing the Monterey Bay Scenic Sanctuary Trail in Monterey County. Once the project is approved, each local agency will become the project sponsors responsible for designing, constructing, and managing segments in their jurisdictions.
- **Environmental Review:** An environmental analysis must be conducted per the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) requirements as identified in Section 7.11. Due to the trail’s potential impact on sensitive dune and riparian habitats and on adjacent agricultural lands, a full Environmental Impact Report may need to be conducted. The public will have several opportunities to review and comment on the project and potential impacts in this process. Each project will need meet the requirements of the California Environmental Quality Act (CEQA) and likely the National Environmental Protection Act (NEPA), in

addition to other permits. Each implementing agency will be responsible for this process and obtaining the needed clearances and approvals. The Transportation Agency has and will be involved in helping to fund these environmental approval efforts.

- **Funding:** Funding can be acquired from federal, state, local and private resources. It is likely that the Monterey Bay Scenic Sanctuary Trail will be funded through all of these sources. In some cases, funding is contingent on acquisition of long-term easements or right-of-way. The Transportation Agency has and will be involved in the funding process.
- **Easement Acquisition:** Easement acquisition for the trail will be complex. The proposed alignment traverses public and private lands. Easements may need to be requested from Caltrans, State Parks (Fort Ord Dunes State Park), RMC Pacific Lapis Sand Plant, CEMEX Lapis Sand Plant, RMC Pacific, private agricultural landowners, and private residential landowners including the Monterey Dunes Colony. The Transportation Agency has already been involved in helping to secure easements for the Scenic Trail through the Moss Landing area and in Sand City.
- **Design:** The design process can proceed at the same time the environmental work and fundraising is taking place. Design will take into account the concerns of adjacent landowners and will be environmentally sensitive. A contract for full design and engineering services can be written once the environmental process indicates there are no fatal environmental flaws.
- **Permitting:** Permit approvals from Corps of Engineers, U.S. Coast Guard, Caltrans, and other entities will be likely as identified in Section 7-11.