monterey bay sanctuary
SCENIC TRAIL NETWORK
MASTER PLAN

Prepared for the:
SANTA CRUZ COUNTY REGIONAL
TRANSPORTATION COMMISSION

ADOPTED 11-07-2013
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17TH DISTRICT, CALIFORNIA

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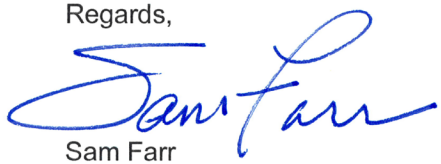
Welcome to the Monterey Bay Sanctuary Scenic Trail Network Master Plan!

Completion of this Monterey Bay Sanctuary Scenic Trail Network (Trail Network) Master Plan brings us all one step closer to realizing our long-standing dream of providing greater access and use of transportation corridors to connect Santa Cruz County with the Monterey Bay National Marine Sanctuary and other regional attractions. With the rail corridor as a tremendous new public resource, the Santa Cruz County Regional Transportation Commission is in a unique position to provide a continuous and separated bicycle and pedestrian path as the spine of a braided Trail Network. The primary corridor will link coastal access to schools, retail centers, residences and other destinations in our vibrant community. The rail right-of-way will also serve freight and passenger rail service thereby expanding travel options and providing unprecedented integration of bicycle, pedestrian and transit options.

I challenge you to join me in working to bring all segments of this continuous Trail Network to fruition. And thank you for helping to make Santa Cruz County a great place to live, work, thrive and to get around.

Regards,



Sam Farr

ACKNOWLEDGMENTS

Congressman Sam Farr

California Coastal Conservancy

Santa Cruz County Sanctuary Interagency Task Force

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Cover photo - View from Manresa State Beach looking south

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Congressman Sam Farr

I. EXECUTIVE SUMMARY

I.I OVERVIEW

The Monterey Bay Sanctuary Scenic Trail Network (MBSST Network) is a two-county pedestrian and bicycle pathway project that was initially conceived by the Santa Cruz County Sanctuary Interagency Task Force and championed by Congressman Sam Farr to foster appreciation for the Monterey Bay National Marine Sanctuary and provide a non-motorized coastal path for walkers, joggers, cyclists, people with mobility impairments, families, locals, and visitors.

The Monterey Bay Sanctuary Scenic Trail Network Master Plan (Master Plan) is the result of a directed effort by the Santa Cruz County Regional Transportation Commission (RTC) to develop a braided bicycle/pedestrian MBSST Network along Santa Cruz County's coast. The Santa Cruz Branch Rail Line corridor, which includes the proposed Coastal Rail Trail, will serve the MBSST Network's continuous multi-use trail "spine" to provide alternative transportation and coastal access. The spine, or primary alignment, of the MBSST Network will be built parallel to (not in place of) the operational rail line, within the rail right-of-way, to the extent possible so freight service can continue and future passenger rail service may be provided.

The Coastal Rail Trail promises to be a highly valuable asset to the Santa Cruz County community for transportation, recreation, education, health, eco-tourism, coastal access, economic vitality, and other visitor-serving purposes. Implementation of this key 32-mile-long transportation corridor will allow greater transportation options to 88 parks, 42 schools, and over half of the county's population who live within one mile of the corridor (per 2010 Census tract information). The full MBSST Network will also serve as the California Coastal Trail, although additional facilities may be added.

I.II MASTER PLAN PURPOSE

The purpose of this Master Plan is to establish the continuous alignment and set of design standards for the Coastal Rail Trail and its associated spur trails within the context of existing physical constraints of the railroad, coastal access requirements, highway, and public street rights-of-way. The Master Plan identifies planning issues associated with the Coastal Rail Trail's construction and presents feasible solutions for its design and long-term operation and maintenance.

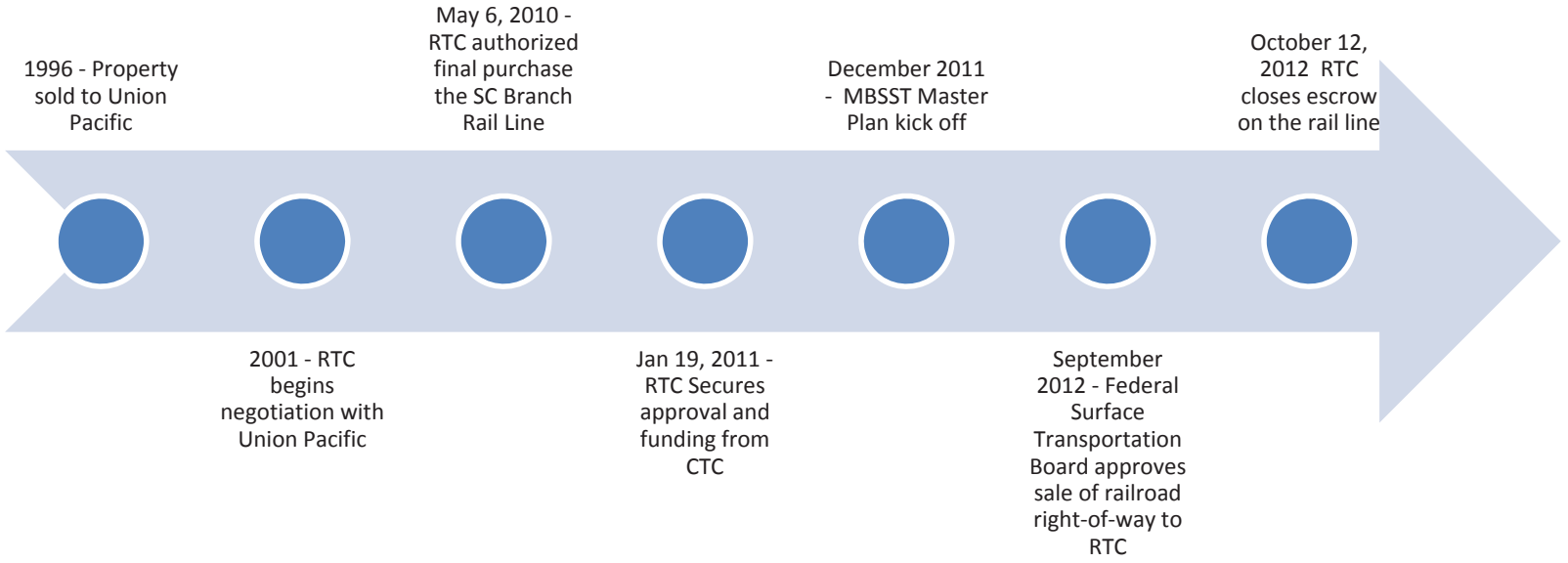
The focus of this Master Plan is on the proposed alignment of the 32-mile-long Coastal Rail Trail as the spine of the broader MBSST Network with additional spur trails and natural surface paths providing connectivity to the coast and to activity centers.

These trails and other existing on-road bicycle and pedestrian facilities form the braided network of trails that is the MBSST Network project. The continuous MBSST Network also proposes gap closures within the project area and access to other desirable destinations, as well as to the coast. These trails, on-street facilities, and natural surface paths will form the approximately 50-mile bike/pedestrian MBSST Network.

I.III PROJECT HISTORY

The Coastal Rail Trail, serving as the system's spine, is a result of a 20-year-long effort to purchase the Santa Cruz Branch Rail Line, which was first established in 1876. In the early 1990s, the RTC began efforts to purchase the Santa Cruz Branch Rail Line right-of-way. Originally owned by Southern Pacific, the property was sold to Union Pacific in 1996. In 2001, the RTC officially began negotiating with then-owner Union Pacific. Over the next decade, negotiations and due diligence work were conducted. On May 6, 2010, the RTC decided to purchase 31 miles of the 32-mile Santa Cruz Branch Rail Line from Union Pacific for $14.2 million, with $11 million coming from the California voter-approved Proposition 116. On January 19, 2011, the RTC secured approval and funding from the California Transportation Commission for the purchase of the Santa Cruz Branch Rail Line. On October 12, 2012, the RTC successfully closed escrow, placing title of the branch line into public ownership with the commitment of facilitating passenger and freight service, as well as creating a multi-use bicycle and pedestrian trail.

Iowa Pacific runs the line as the Santa Cruz & Monterey Bay Railway. The Chicago-based railroad company is responsible for maintenance, though not for the work that needs to be done to upgrade the line. Iowa Pacific owns a 20-foot-wide easement along the length of the rail line for rail operations and maintenance.



I.IV PROJECT GOALS

Through a collaborative planning process, the following goals were developed to guide the development of the Master Plan. They are designed to enhance non-motorized mobility and improve safety, access, traffic congestion, air quality, and the quality of life for Santa Cruz County residents, workers, and visitors. The goals are meant to function as the common framework that integrates the countywide rail trail to new and existing bicycle and pedestrian facilities.

GOAL 1: TRAIL SYSTEM DEVELOPMENT

Define a continuous trail alignment that maximizes opportunities for a multi-use bicycle and pedestrian trail separate from roadway vehicle traffic.

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.

GOAL 3: EDUCATION AND AWARENESS

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

GOAL 4: IMPLEMENTATION

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

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.

I.V PUBLIC INPUT

The planning effort for the Master Plan has been conducted within the framework of an extensive public outreach program designed to involve all those interested and affected by the proposed trail. It does not consider use of private property, does not presume eminent domain actions, and does not prohibit continued agricultural and rail operations.

STAKEHOLDER INTERVIEWS

The majority of the interviews were conducted over a three-day period (October 25, 26, and 27, 2011) at the Santa Cruz County Regional Transportation Commission's office. Following the initial meeting series, two additional stakeholder groups were interviewed—one on November 16, 2011 at RRM Design Group's office and the other on December 1, 2011 via telephone.

A total of 68 people representing 52 stakeholder groups were interviewed. The interviews began with a summary of the project by RTC staff. Following this introduction, the consulting planning team discussed with each stakeholder group their interest in the project, specific technical issues, perceived opportunities and constraints, and, finally, their key desired outcomes. The stakeholder's comments were noted on interview forms by planning team members.

WORKSHOP SERIES #1

This workshop series occurred on three consecutive evenings in north, mid and south county locations from December 13, 2011 to December 15, 2011; approximately 200 members of the public attended. The goal of the workshop series was to bring the community into the MBSST Network development early in the process, with the focus on soliciting ideas for new alignment opportunities, connection points, and design elements.

Workshops began with an overview by RTC staff of the Master Plan's evolution and goals, followed by an update from the consultant on the field work, corridor analysis and initial trail alignment effort completed so far. Following this introduction, the MBSST Network was defined to help illustrate the concept of a "braided" trail system with a well-defined, off-street, paved, multi-use trail following the rail corridor, and serving as the spine for the MBSST Network. With the MBSST Network defined, the consultant team then presented constraints, opportunities, and the emerging trail alignment(s) within the Master Plan area.

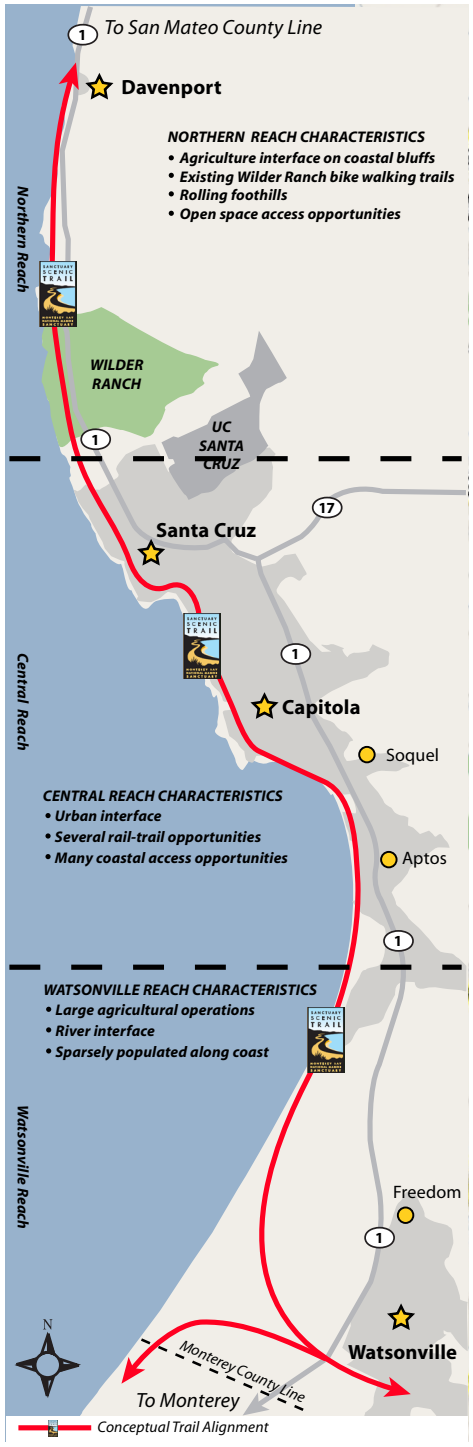
WORKSHOP SERIES #2

This workshop series occurred on four consecutive evenings in north, mid and south county locations from November 26, 2012 to November 29, 2012. The workshops were attended by approximately 300 members of the public. The workshop series' goal was to provide an overview of the Draft Master Plan, demonstrate how community input provided at the first workshop influenced the trail alignments, and solicit the community's preferences for trail segment implementation prioritization.

Workshops began with an overview by RTC Staff of the Master Plan's evolution and goals, followed by a summary from the consultant of the field work, corridor analysis, trail alignment development, design standards establishment, and cost analysis efforts completed for the Draft Master Plan. Following this introduction, the organizational structure of the Draft Master Plan was presented along with a synopsis of each section contained within the document. With the Draft Master Plan's contents presented, the consultant team then described the "look and feel" of the MBSST Network's various components through renderings and photographs to help workshop participants visualize the project's build-out.

Following the presentation, workshop participants were provided segment priority preference surveys and asked to list their first and second segment priorities for implementation. To facilitate this exercise, RTC and consultant team members staffed Trail Reach Stations set up around the perimeter of each workshop room. Community members were invited to visit their geographical area (or reach) of interest to ask questions and gather additional information about trail segments before listing their prioritization preferences.

As a result of this interactive process, Table 6.9 in Section 6 was developed to represent community preferences. Table 6.10 includes the cumulative sum of each participating community member's top two preferences. Community input was one of nine prioritization criteria utilized to determine the top segments per trail reach.



I.VI PROJECT AREA DESCRIPTION

The Master Plan organizes the proposed trail alignment into two categories: reaches and segments.

A reach is defined as a geographic area identified by regional similarities, such as the urbanized areas of Santa Cruz, Capitola, and Aptos. The Master Plan area is divided into the Northern, Central, and Watsonville Reaches, which are further explained in Sections 3.3 through 3.5.

Segments are defined as potential trail projects with logical beginning and end points. The Master Plan trail alignment is divided into 20 segments with the intent that each segment will be funded, designed, and constructed in part or as a whole.

NORTHERN REACH DESCRIPTION

The defined Northern Reach of the MBSST Network begins where Highway 1 crosses the San Mateo/Santa Cruz County line, just north of the Waddell Bluffs, and continues south to the northern Santa Cruz city limit near Schaffer Road. The Northern Reach consists primarily of narrow, steep coastal bluffs from Waddell Creek to Yellow Bank Beach at Coast Dairies, and transitions to rural agricultural land and natural coastal mesas south to Schaffer Road. There are numerous small coves and beach strands with mostly informal footpaths down to the beach shore. Large sections of the coastal edge are owned by California State Parks, with several scenic rest stops along Highway 1 that include passive recreation access to beaches, coastal bluffs, and inland parkland trails. Much of the land between Highway 1 and the coastal bluffs is managed under agricultural leases with intermittent public coastal access adjacent to the agricultural land. These intermittent access points vary from paved parking lots with restrooms, potable water, and scenic overlooks to unpaved informal roadway pullouts with difficult access to steep coastal bluff tops and beaches.

An existing multi-use paved path runs parallel between the railroad corridor and Highway 1, heading north just over one mile from Schaffer Road to Wilder Ranch trailhead parking off Highway 1. Many of the other public access points along the Northern Reach have limited signage and provide limited trail access along the coast. The railroad corridor parallels the coastal side of Highway 1 from Schaffer Road to Davenport, where the tracks cross Highway 1 to the inland side before ending one mile north of Davenport. Except for the crossing in Davenport, the railroad's offset from Highway 1 varies from 100 feet to 1/4 mile from Schaffer Road to Scaroni Road, then parallels Highway 1 at a distance of 50 to 100 feet as the coastal bluffs steepen and narrow toward Davenport. The rail tracks cross several small drainages with both wood trestles and box culverts in the Northern Reach. Much of the land south of Coast Dairies is flat, with intermittent rolling hills giving way to steep coastal cliffs further north. Sensitive biological areas exist along perennial creeks and drainages, and near coastal bluffs and sand dunes. The Northern Reach is comprised of Segments 1-5.

CENTRAL REACH DESCRIPTION

Beginning at Santa Cruz's northern city limit near Schaffer Road and extending southeast to Seascape Park just south of Aptos, this reach of the rail corridor traverses through densely populated coastal urban areas. The combination of intense urban development and the steep coastal edge in the Central Reach creates many physical challenges. However, the central reach has the highest potential to improve bicycle and pedestrian access to key destinations and reduce the number of vehicle miles traveled and associated greenhouse gas emissions.

Within the Santa Cruz city limits, the rail corridor parallels many existing segments of the core route of the Monterey Bay Sanctuary Scenic Trail (MBSST) alignment. Much of the original alignment in the Central Reach is made up of on-road facilities, sidewalks, bike lanes or coastal edge pedestrian boardwalks with beach access and interpretive signs. Some sections are strictly in the street as Class III bike routes with no sidewalks. The rail corridor parallels the entire length of the existing MBSST alignment and could serve as an alternate off-street, multi-use route connecting communities north and south to the regional network.

Other challenges along the Central Reach are the many existing large rail bridge and trestle structure crossings. These structures are old, narrow in width, and span steep drainages and roadways. In one scenario the structure spans across a historic district in Capitola. The southern portion of the Central Reach parallels the coast meandering atop the steep coastal bluffs and multiple residential and resort areas. Equestrian use may be provided in Segment 6 of the reach. The Central Reach connects over six state beaches, numerous coastal access points, parks, schools, and provides future connection opportunities for countless communities along the corridor. The Central Reach is comprised of Segments 6-14.

WATSONVILLE REACH DESCRIPTION

The Watsonville Reach of the Monterey Bay Sanctuary Scenic Trail begins at railroad mile marker 10 near Seascape Park, and ends over the Santa Cruz and Monterey County border at the Pajaro River and at Railroad Avenue in Monterey County. This reach only parallels the coastal edge for about one mile before it begins following the San Andreas Road alignment inland as it heads south and east. The landscape is primarily open space, with some residential areas near Manresa and tapers off to rural farm and agricultural lands further to the south. The rail alignment eventually drifts away from San Andreas Road just south of railroad mile maker 7 and follows the inland side of a steep sloping mesa.

The Watsonville Reach stretch of the corridor travels through native woodlands, flanked on the west by agricultural land on top of the mesa and to the east, rural land sloping away to the Gallighan Slough below. The Harkins Slough is an impressive wetland crossing with wide open fields flooded throughout the year. The rail crossing at the Harkins Slough is on a stretch of raised earthen dike. The rail line then crosses Watsonville Slough and passes through the center of the agricultural fields, just west of the city of Watsonville, eventually connecting to city park land and the downtown street network at Walker Street. The rail line crosses the Pajaro River to the south and ends at Railroad Avenue in the town of Pajaro. The Watsonville Reach is comprised of Segments 15-20.

I.VII PROJECT COSTS AND FUNDING

Through Congressman Sam Farr's leadership and effort, the project was solidified as a two-county system in order to establish a trail around the full arc of the Monterey Bay. Congressman Farr secured $9 million through federal appropriations and earmarks towards the project to be split equally between the two counties. Through the RTC's discretionary funding sources, an additional $2.2 million was designated for the project. Finally, the California Coastal Conservancy granted the RTC $250,000 toward the preparation of the Master Plan so the trail will span the length of the Santa Cruz County coast from the San Mateo County line to the Monterey County line. Federal transportation dollars mandate the Trail Network serve the mobility needs of bicyclists and pedestrians. Additional funding will need to be identified to bring the project into full implementation. Figure A includes a cost breakdown summary associated with completing the MBSST Network.

NORTHERN REACH PROJECTS AND COSTS

The Northern Reach includes Segments 1-5. Table A prioritizes the segments by the number of points they received through nine project prioritization criteria (proximity to activity center, coastal access connectivity, trail segment cost, trail segment length, minimal or no bridge crossings, limited right-of-way constraints, gap closures, public input, and population density). The segments that received the most number of points are considered the most feasible for implementing within a short time frame. This includes Segments 5, 1, and 2 (in that order) as the top three segments within this reach.

These segments provide gap closures to existing MBSST Network segments, provide access to numerous activity centers, connect to the coastal edge and beaches, and provide connectivity to other existing local and regional bikeway and pedestrian facilities. Segments 3 and 4 may require a bit more lead time to resolve physical design constraints, right-of-way conflicts, complex coastal connections, and other budgetary challenges. However, these segments serve to close the gap in the overall MBSST Network, which will help elevate their importance for funding. Segment 5 is particularly in a good position for implementation as it falls within the railroad right-of-way corridor with minimal private land interference or significant environmental impacts. Also, equestrian use is appropriate for the Northern Reach, particularly in Segments 5 and 6.

TABLE A - Northern Reach Projects

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
33	5.1 - Davenport and Wilder Ranch	2.75 miles	**Subsegment 5.1 proposed improvements include:** • 1.49 miles (7,890 LF) multi-use paved path (Class I) along the coastal-side rail right-of-way • 1.26 miles (6,680 LF) native soil coastal bluff trails and coastal access between Davenport Beach and Yellow Bank Beach (this distance is comprised of Segments 5A, 5B, and 5C) • One (1) rail crossing at spur trail connecting Davenport parking lot to rail trail, parking lot improvements to existing dirt lot, coastal side of Highway 1 in Davenport near the Davenport Overlook • One (1) new signalized at-grade road crossing of Highway 1 in Davenport • One (1) rail crossing at the Highway 1 crossing • One (1) private road crossing • Fencing may be considered when project is implemented	$3,365,904	4-25 to 4-34
	5.2 - Davenport and Wilder Ranch	4.18 miles	**Subsegment 5.2 proposed improvements include:** • 2.58 miles (13,630 LF) multi-use paved path (Class I) along the coastal side rail right-of-way • 1.60 miles (8,430 LF) native soil coastal bluff trails (this distance is comprised of Segments 5D and 5E) • One (1) rail crossing at upper Scaroni Rd. • One (1) road crossing of upper Scaroni Rd. and two (2) additional private crossings • Fencing may be considered when project is implemented	$4,997,232	4-25 to 4-34
	5.3 - Davenport and Wilder Ranch	3.62 miles	**Subsegment 5.3 proposed improvements include:** • 3.51 miles (18,520 LF) multi-use path (Class I) along the coastal side rail right-of-way • 0.11 miles (570 LF) native soil coastal bluff trails (Segment 5F) • One (1) rail crossing at lower Scaroni Rd. • One (1) road crossing of lower Scaroni Rd. and eleven (11) additional private crossings • Fencing may be considered when project is implemented	$6,643,648	4-25 to 4-34

TABLE A - Northern Reach Projects Continued

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
24	1 - Waddell Bluffs	1.06 miles	• 0.87 miles (4,600 LF) Class III on-street/road shoulder bike route • 0.19 miles (1,000 LF) unpaved native soil trail • Unpaved roadway shoulder on coastal side of Highway 1 • Fencing may be considered when project is implemented	$107,120	4-5 to 4-8
24	2 - Greyhound Rock/Cal Poly Bluffs	4.77 miles	• 4.77 miles of primarily existing road shoulder improvements due to limited available space and adjacent public land on the coastal side of State Highway 1 • Routine road edge clearing, signs, and shoulder pavement striping • Fencing may be considered when project is implemented	$308,032	4-9 to 4-14
21	4 - Davenport Landing/End of Railroad Tracks	3.64 miles	• 1.38 miles (7,300 LF) multi-use rail trail (Class I) • 1.41 miles (7,470 LF) bluff trail (Segment 4A) • 0.85 miles (4,510 LF) on-street bike lanes (Segment 4B) • One (1) Highway 1 crossing at Davenport Landing Rd. • One (1) rail crossing in front of cement plant • Three (3) road crossings • Fencing may be considered when project is implemented	$2,685,424	4-21 to 4-24
15	3 - Upper Coast Dairies at Scott Creek	1.11 miles	• 1.11 miles (5,870 LF) multi-use paved path (Class I) • One (1) preengineered bike/pedestrian bridge, 150-foot span • Fencing may be considered when project is implemented	$2,550,096	4-15 to 4-20
	TOTALS	**21.13 miles**		**$20,657,456**	

CENTRAL REACH PROJECTS AND COSTS

The Central Reach includes Segments 6-14. Table B prioritizes the segments by the number of points they received. The segments that received the most number of points are considered the most feasible for implementing within a short time frame. This includes Segments 7, 9, and 8 (in that order) as the top three segments.

These segments provide gap closures to existing MBSST Network segments, provide access to numerous activity centers, connect to the coastal edge and beaches, and provide connectivity to other existing local and regional bikeway and pedestrian facilities. These segments are located in some of the most densely populated areas of the MBSST Network and provide ideal start/end points from residential neighborhoods. Some of the segments that received a lower number of points did so due to influences such as: high cost of construction, difficult or numerous rail crossings, narrow right-of-way, minimal access to greater population, and other limiting factors. However, these segments serve to close gaps in the overall MBSST Network, which will help elevate their importance for funding.

TABLE B - Central Reach Projects

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
33	7 - Coastal Santa Cruz	3.10 miles	• 2.17 miles (11,450 LF) multi-use paved path (Class I) along rail right-of-way • 0.08 miles (410 LF) on-street bike route • 0.85 miles (4,480 LF) multi-use paved path (Class I) along the coastal side of the rail right-of-way (Segment 7A) • Fourteen (14) street crossings • Three (3) rail crossings and one (1) additional private crossing • One (1) preengineered bike bridge (Moore Creek crossing) • Existing staging area at Depot Park • Fencing may be considered when project is implemented	$11,218,016	4-39 to 4-44
31	9 - Twin Lakes	1.73 miles	• 1.53 miles (8,100 LF) multi-use paved path (Class I) • 0.20 miles (1,040 LF) on-street facilities (Segments 9A and 9B) • One (1) new preengineered bike/pedestrian bridge crossings over the harbor • One (1) new preengineered bike/pedestrian bridge crossing Upper Schwan Lagoon • One (1) new preengineered bike/pedestrian bridge crossing (rail culvert crossing) near El Dorado Ave. • Four (4) road crossings (Mott Ave., Seabright Ave., 7th Ave.) • Two (2) rail crossings (trail spur at El Dorado Ave., 7th Ave.) • Fencing may be considered when project is implemented	$11,914,384	4-51 to 4-56

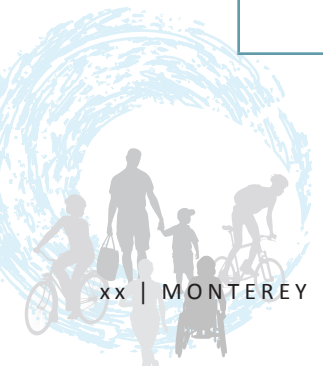


TABLE B - Central Reach Projects Continued

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
30	8 - Santa Cruz Beach Boardwalk	0.77 miles	• 0.77 miles (4,070 LF) existing Class II bike lanes • One (1) new preengineered bike and pedestrian bridge, 400-foot span • Improvements of striping to existing cycle track with future roadway roundabout at Pacific Ave. and Beach St. (2000 LF) • Upgrade existing rail trail to the minimum 8-foot standard from Depot Park to the intersection of Pacific Ave. and Beach St. • One (1) rail crossing with upgrades to Beach St. and Pacific Ave. intersection • Two (2) street crossings with upgrades to Beach St. and Pacific Ave. intersection • Fencing may be considered when project is implemented	$10,314,240	4-45 to 4-50
28	6 - Wilder Ranch Trailhead/Shaffer Road	1.49 miles	• 1.36 miles (7,160 LF) multi-use paved path (Class I) along the coastal side of the rail right-of-way • 0.13 miles (670 LF) native soil coastal bluff trails (Segment 6A) • One (1) road crossing of Schaffer Rd. • Two (2) culvert crossings up the coast from Wilder Ranch trailhead and three (3) additional private crossings • Fencing may be considered when project is implemented	$3,114,224	4-35 to 4-38
28	11 - Capitola-Seacliff	3.20 miles	• 3.20 miles (16,880 LF) multi-use paved path (Class I) along the rail right-of-way • Bike and pedestrian facilities to be included in any design plans for new rail bridge replacement of the Soquel Creek rail crossing • Two (2) preengineered bike/pedestrian bridges (one [1] at New Brighton State Beach parking lot and one [1] at Borregas Creek) • Five (5) at-grade street crossings (47th St., Monterey Ave., New Brighton Rd., Estates Dr., Mar Vista Dr.) • One (1) private at-grade street crossing (Grove Ln.), one (1) private at-grade crossing at 48th St., and one (1) additional private crossing • One (1) rail crossing at 47th St. • Fencing may be considered when project is implemented	$8,868,336	4-61 to 4-66

TABLE B - Central Reach Projects Continued

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
24	10 - Live Oak/Jade St Park	1.50 miles	• 1.50 miles (7,940 LF) multi-use paved path (Class I) along the rail right-of-way • Relocation of approximately 1.0 mile (5,280 LF) of rail track and signal arm assemblies • One (1) preengineered bike/pedestrian bridge crossing at Rodeo Gulch Creek 200-foot span • Four (4) non-signalized street crossings (17th Ave., 30th Ave., 38th Ave., 41st Ave.) • One (1) at-grade rail crossing • Fencing may be considered when project is implemented	$9,707,440	4-57 to 4-60
22	14 - Seascape	1.17 miles	• 1.17 miles (6,160 LF) multi-use paved path (Class I) along the inland rail right-of-way • Two (2) at-grade road crossings (Clubhouse Dr., Seascape Blvd.) • One (1) trail undercrossing of the existing rail bridge at Hidden Beach • Fencing may be considered when project is implemented	$2,079,872	4-79 to 4-82
17	13 - Rio Del Mar-Hidden Beach	0.85 miles	• 0.85 miles (4,510 LF) multi-use paved path (Class I) along the coastal side rail right-of-way • One (1) undercrossing connection to Rio Del Mar Blvd. • One (1) preengineered bike/pedestrian bridge, 200-foot span • One (1) existing staging area at Hidden Beach • Fencing may be considered when project is implemented	$3,306,112	4-73 to 4-78
17	12 - Aptos Village	1.14 miles	• 1.14 miles (6,030 LF) multi-use paved path (Class I) along the rail right-of-way • Three (3) preengineered bike/pedestrian bridges (bridge spans vary) • One (1) retrofit of northern Highway 1 concrete bridge for bike and pedestrian facility • Three (3) at-grade street crossings (State Park Dr., Aptos Creek Rd., Trout Gulch Rd.) • One (1) rail crossing at Trout Gulch Rd. • Fencing may be considered when project is implemented	$10,831,696	4-67 to 4-72
	TOTALS	**14.95 miles**		**$71,354,320**	

WATSONVILLE REACH PROJECTS AND COSTS

The Watsonville Reach includes Segments 15-20. Table C prioritizes the segments by the number of points they received. The segments that received the most number of points are considered the most feasible for implementing within a short time frame. This includes Segments 18, 19, and 20 (in that order) as the top three segments.

These segments provide gap closures to existing MBSST Network segments, provide access to numerous activity centers, and provide connectivity to other existing local and regional bikeway and pedestrian facilities. These segments are located in some of the most densely populated areas of the Watsonville Reach and provide ideal start/end points from residential neighborhoods and the city of Watsonville. Segments 16 and 15 may require a bit more lead time to resolve physical design constraints, right-of-way conflicts, bridge design and construction issues, and other budgetary challenges. However, these segments serve to close gaps in the overall MBSST Network, which will help elevate their importance for funding.

TABLE C - Watsonville Reach Projects

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
26	18 - Watsonville Slough Open Space Trails	4.01 miles	• 1.20 miles (6,350 LF) multi-use paved path (Class I) along the inland rail right-of-way • 2.81 miles (14,820 LF) Class II bike lanes (Segments 18A and 18B) • One (1) rail culvert crossing • Two (2) road crossings (one [1] at Lee Rd. and one [1] at Ohlone Pkwy.) • This segment also includes fencing for agricultural operations and safety; additional fencing may be considered when project is implemented	$3,010,720	4-99 to 4-104
23	19 - Walker Street, City of Watsonville	0.47 miles	• 0.29 miles (1,510 LF) existing Class II bike lane along Walker St. right-of-way • 0.18 miles (950 LF) proposed Class II bike lane along Walker St. right-of-way (Segment 19A) • New sidewalks on the inland side of Walker St. from the intersection of W. Riverside Dr. to the end of Walker St., connecting to the Pajaro River • One (1) at-grade street crossing at Riverside Dr. • Additional fencing may be considered when project is implemented	$381,280	4-105 to 4-108
20	20 - Pajaro River	0.74 miles	• 0.74 miles (3,930 LF) multi-use paved path (Class I) along the inland rail right-of-way • One (1) new preengineered bike/pedestrian bridge at the Pajaro River crossing, 200-foot span • 3,930 feet of fencing for agricultural operations and safety; additional fencing may be considered when project is implemented	$3,009,136	4-109 to 4-112

TABLE C - Watsonville Reach Projects Continued

Points	Segment	Length	Proposed Improvements	Cost Estimate	Document Reference Page
20	16 - Ellicott Slough	2.66 miles	• 1.78 miles (9,400 LF) multi-use paved path (Class I) along the rail right-of-way • 0.40 miles (2,100 LF) multi-use paved path (Class I) coastal trail (Segment 16A) • 0.48 miles (2,530 LF) Class II bike lanes (Segment 16B) • Two (2) at-grade road crossings (Spring Valley Rd., Peaceful Valley Rd.) • One (1) at-grade rail crossing (Spring Valley Rd.) • Fencing may be considered when project is implemented	$3,613,600	4-89 to 4-92
20	15 - Manresa State Beach	1.37 miles	• 1.37 miles (7,240 LF) multi-use paved path (Class I) along the inland rail right-of-way • Two (2) at-grade road crossings (Sumner Ave., Camino Al Mar) and two (2) additional private crossings • Two (2) preengineered rail bridge crossings (one [1] 300-foot span at La Selva, and one [1] 225-foot span at San Andreas Rd.) • One (1) rail at-grade crossing (Camino Al Mar) • Fencing may be considered when project is implemented	$4,735,680	4-83 to 4-88
14	17 - Harkins Slough	4.0 miles	• 4.0 miles (21,140 LF) multi-use paved path (Class I) along the inland rail right-of-way • Seven (7) rail bridge/culvert crossings of varying lengths • One (1) private farm road crossing (1/2 mile west of Lee Rd.) • One (1) private road crossing at Buena Vista Dr. and one (1) additional private crossing • This segment also includes fencing for agricultural operations and safety; additional fencing may be considered when project is implemented	$19,961,888	4-93 to 4-98
	TOTALS	**13.25 miles**		**$34,712,304**	

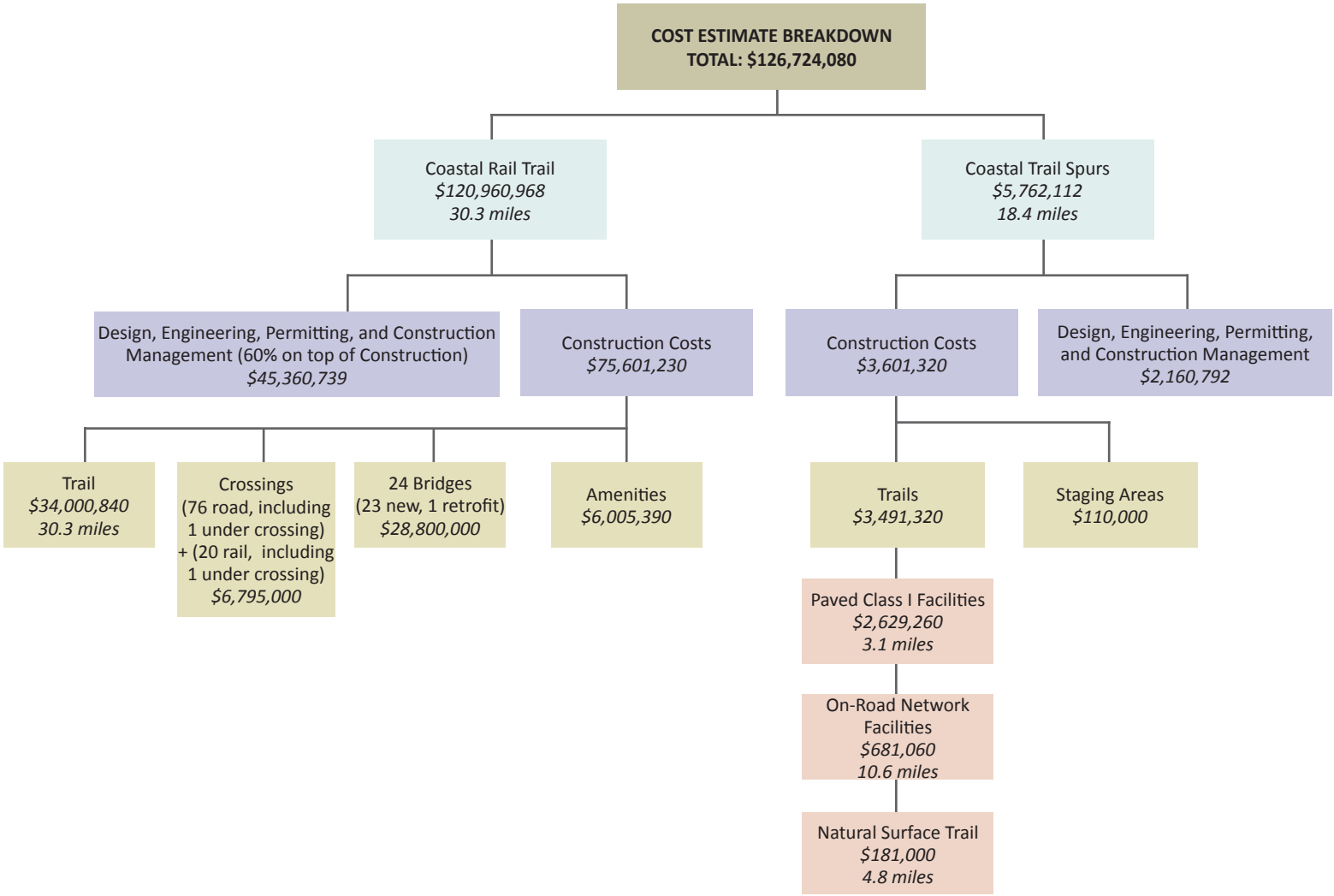


Figure A Summary of cost by trail facility type

I.VIII PROJECT IMPLEMENTATION

In regard to MBSST Network improvements, the main role of the RTC is to provide ongoing coordination services and funding for implementation of the MBSST Network. The RTC will take the lead in preparing memoranda of understanding (MOUs) between itself and implementing entities to clarify roles, responsibilities for design, development, construction, monitoring, and maintenance of the MBSST Network. The RTC may itself act as the implementing entity and construction manager.

The following describes the RTC's implementation responsibilities in greater detail:

- Phasing - Taking many considerations into account, including the prioritization provided in Section 6.3, the RTC will coordinate with implementing entities to identify segments that are to be implemented.
- Funding - Upon identification of a segment, the RTC will organize a funding strategy to design, construct, and maintain the segment. RTC staff will assist implementing entities in developing fundable projects, matching projects with funding sources, and helping to complete competitive funding applications. In some cases, RTC may act as the project sponsor or co-sponsor.
- Progress - Through board presentations, website notifications, and other venues, the RTC will provide regular updates to the public regarding the status of the MBSST Network development.
- Oversight - The RTC will work closely with implementing entities, Planning, Parks, and Public Works staff to implement MBSST Network segments.
- Coordination - Finally, should the RTC incur additional operating expenses to coordinate implementation, maintenance, operation, and liability of the MBSST Network through agreements with implementing entities, funding will need to be identified.

The following describes implementing entities' responsibilities in greater detail:

- Once the segment as been identified and funded, the RTC and/or implementing entities may employ in-house staff or retain a qualified bicycle and pedestrian trail planning consultant to design the MBSST Network construction documents. After review by the RTC's advisory committees and implementing entities, boards, and committees, the RTC will review and approve of all MBSST Network designs submitted by the implementing entities.
- In conjunction with implementing entities and/or a trail planning consultant, a series of workshops should be conducted to introduce the project to the public and to identify any new information not included in this Master Plan.
- Implementing entities will be responsible for overseeing any necessary environmental clearance. The implementing entities will obtain the necessary planning, environmental, and development permits.
- The RTC may oversee project construction in consultation with the implementing entity and/or trail planning consultant.
- The RTC will also coordinate, or provide coordination assistance, between rail and agricultural operations to ensure minimal service disruptions.

I.IX NEXT STEPS

This Master Plan is a planning-level study of the location and configuration of the MBSST Network. Implementation of actual MBSST Network projects will require additional site-specific study, planning, and design. Each project will require thorough environmental study and documentation, review, and permitting consistent with the complexity of the improvements, sensitive resources, and regulatory and easement requirements. A primary objective of the Master Plan is to identify and, if possible, avoid significant constraints, and address the anticipated implementation criteria and requirements.