# Westport Area Integrated Multi-Use Coastal Trail Plan


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This plan is the result of a community and stakeholder visioning process that involved the contributions of many individuals, nonprofit organizations, and the staff of interested government entities. The core planning team included Louisa Morris and Rixanne Wehren from the Coastal Land Trust (CoLT), Thad Van Bueren from the Westport Municipal Advisory Council (WMAC), Loretta Ellard and Phil Dow from Mendocino Council of Governments (MCOG), and Jesse Robertson from California Department of Transportation (Caltrans). The CoLT and WMAC staff were responsible for the analysis and writing, while other members of the team supplied valuable advice and direction.

The planning team would first like to express special gratitude to the Technical Advisory Committee, which included Bob Merrill and Tamara Gedik of the North Coast Office of the California Coastal Commission; Matt Gerhart, Lisa Ames, and Karyn Gear of the State Coastal Conservancy; Win Bowen of the Mendocino Land Trust; and Teresa Spade of the Mendocino County Department of Planning and Building Services. They guided the formulation of a public outreach strategy and reviewed a draft version of this plan before it went public. Representatives of the Save the Redwoods League, California Department of Parks and Recreation, and Coastwalk also provided input, but were unable to join the TAC.

Many members of the local community and visiting bicyclists completed surveys, attended public meetings, and provided valuable insights that helped formulate the community vision reflected in this plan. The Westport Municipal Advisory Council (WMAC) facilitated community input through its regular monthly meetings and contributed the 10% volunteer match, which included planning the charrettes and conducting a bicycle survey. The Directors of the WMAC include Thad Van Bueren (Chair), Judy Vidaver (Vice-Chair), Bill Knapp (Treasurer), Chuck Eyerly (Secretary), Sally Grigg (Director), and Rob Scott (Alternate Director).

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# EXECUTIVE SUMMARY

This plan defines a preferred alignment and typical design cross sections for a non-motorized coastal trail along a 21-mile section of the Mendocino County coast between the intersection of State Route 1 and Usal Road and the south end of the Ten Mile highway bridge. The rural village of Westport lies near the center of the study area. The purpose of the trail is to provide non-motorized connectivity for transportation and recreational purposes. The plan was developed with community, public, and stakeholder input to ensure it addresses user needs, community principles, design requirements, and regulatory considerations. The recommended trail reflects a context-sensitive solution that considers existing opportunities and constraints and reflects a shared vision developed through input from all stakeholders.

The plan recommends a trail that will follow Route 1 for much of its length, separating from the roadway only where adjacent public or nonprofit lands or easements already exist, or where landowners have expressed a willingness to negotiate an easement. The study corridor was divided into 17 segments that recognize logical end points such as parcel boundaries and environmental features. The public provided input on geographic priorities that were factored into the recommendations in this plan. In addition, the terrain (e.g., gradient and cross slope), environmental resource issues, cost, and the complexity of the permitting process were analyzed to facilitate future selection of projects.

The three highest priorities identified in this plan are Sections 2c, 3, and 4a surrounding the most densely settled portion of the study corridor in and around the village of Westport. Those sections were stressed by the local community because they will serve the greatest number of people, provide critical transportation connections between the village and outlying resident and visiting populations, and address safety concerns. If those three sections are combined, the resulting trail project will be 3.0 miles long and is provisionally estimated to cost about $4.25 million dollars. That cost is higher than the average projected funding for other sections in the study corrdior due to the terrain, requirements for additional right of way, and the cost of anticipated structural improvements and special design features in that priority area.

# TABLE OF CONTENTS

## List of Figures

# List of Tables

# 1. GOALS AND OBJECTIVES

The goal of this project is to plan a continuous, non-motorized, context-sensitive transportation route along the unincorporated northern Mendocino coast that builds on past planning efforts and reflects the desires of the community and other interested stakeholders. Opportunities for input were provided during development of this plan to ensure broad stakeholder and public support for the concept. Views were also sought on specific priorities for incremental progress. This plan takes into consideration previous trail planning efforts by nonprofits and public agencies, building on those earlier studies in an effort to create a viable concept for a continuous multi-use trail that will best meet the needs of all non-motorized users. For convenience, sources are listed by author and date, with pages indicated after a colon if relevant. Complete citations are provided in the References at the end of the plan.

The 21-mile long study area extends from the intersection of Usal Road and State Route 1 to the south end of the Ten Mile River Bridge (Figure 1). The unincorporated rural village of Westport lies near the center of that study area. Providing transportation options that support a walkable community were an integral part of this planning process. The broad objectives of this plan are to define a project or projects that will provide a safe and viable alternative to motorized transportation, minimize harm to the environment, and attract funding for design, permitting, and construction projects that will eventually create a continuous trail route.

## 1.1. LEGISLATIVE CONTEXT AND MANDATE

The public strongly supports the creation of non-motorized trails, particularly along the scenic California coastline. Many federal, State, and local laws and policies also mandate public access to the coast and encourage development of a coastal trail system. The California Constitution (Article X, Section 4) specifically guarantees public access to all navigable waters, which include the coast, bays, tidal lands, and estuaries. These mandates are summarized here because they are directly relevant to the project proposed in this plan.

The California Coastal Act of 1972 created the California Coastal Commission (CCC) to implement protection of the natural and scenic qualities of the state's coastline, as well as to provide public access. Section 30210 specifies that:

> In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.

The California Coastal Act also specifies that development shall not interfere with public coastal access (Section 30211) and requires public access "from the nearest public roadway to the shoreline" when approving new development (Section 30212). It further provides that public access policies of the Act be "carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access" (Section 30214[b]). That includes regulating the time, place, and manner of public

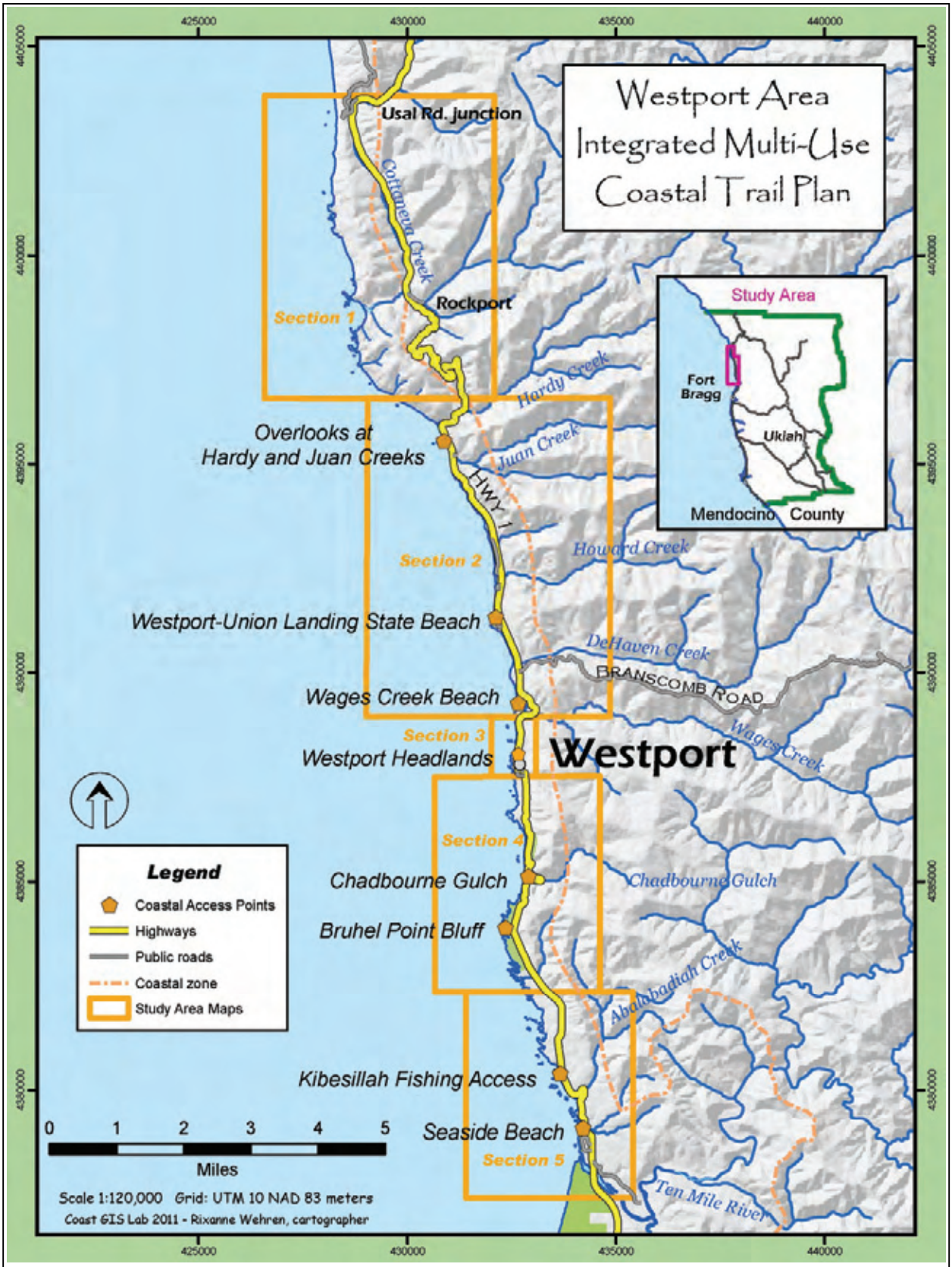



**Figure 1. Project Area Divided into Major Study Sections.**

access, taking into consideration matters such as topography, geology, intensity of use, fragility of the environment, aesthetics, and the privacy of adjacent property owners. Where a nexus exists, proposed development projects are typically required to dedicate access easements, which must be accepted by a public agency or land trust within 21 years.

The CCC delegated authority to manage development and Coastal Act implementation to Mendocino County by approving a Local Coastal Plan (LCP). Section 3.6 of that plan describes 30 specific policies for shoreline access and a trail/bikeway system to facilitate implementation of the California Coastal Act. The following policies have particular relevance for this plan:

> 3.6-6 Shoreline access points shall be at frequent rather than infrequent intervals for the convenience of both residents and visitors and to minimize impacts on marine resources at any one point.
> 3.6-16 Access to the beach and to blufftop viewpoints shall be provided for handicapped persons where parking areas can be close enough to beach or viewing level to be reachable by wheelchair ramp.
> 3.6-20 Paved 4 foot shoulders should be provided by Caltrans along the entire length of Highway 1 wherever construction is feasible without unacceptable environmental impacts.
> 3.6-21 The County of Mendocino Coastal trail shall be integrated with the coastal trails in the cities of Fort Bragg and Point Arena, and with Humboldt County to the north and Sonoma County to the south so as to provide a continuously identifiable trail along the Mendocino County coast.
> 3.6-24 The coastal access program shall be implemented in a manner that ensures coordination among and the most efficient use of limited fiscal resources of federal, state, county agencies, and private organizations responsible for acquisition, development, and maintenance of public coastal accessways.

Additional provisions in Chapter 3.6 of the LCP further the purposes of public coastal access by outlining policies for requiring new easements to be dedicated by landowners as conditions of the approval of proposed developments. To implement the general policies defined in the LCP, the Mendocino County Coastal Zoning Code establishes detailed regulations governing coastal access and open space easements in Chapter 20.528.

In addition to the LCP coastal access provisions, Policy 3.8-6 in the Transportation Element states "it shall be the goal of the Transportation Section to achieve, where possible and consistent with other objectives of the Coastal Act and plan policies for Highway 1, a road bed with a vehicle lane of 16 feet including the shoulder to achieve a 32-foot paved roadway (12-foot vehicle lane and 4-foot paved shoulder)."

The LCP notes "a continuous coastal trail through Mendocino County using little or no Highway 1 right of way would be costly and at some locations disruptive to existing development" (page 91). It also recognizes "the potential use of the entire length of an off-road coastal trail by hikers and equestrians is conjectural because no comparable experience exists in the western United States" (page 92). Specific trail recommendations for the area from Rockport to Little Valley Road are contained in Section 4.2 of the LCP, while access points are listed in Appendix 13.

The Subdivision Map Act was altered in 1974 to specifically require access to the coastline for all subdivisions in the coastal zone, as well as those bordering "navigable streams, public waterways, public lakes and reservoirs, unless public access is provided by fee or easement from a public highway."

In 1976 the Pacific Coast Bicentennial Bike Route was designated, incorporating State Route 1 within the study corridor. However, it was not until the passage of the Pacific Coast Bike Route Act in 1990 that Caltrans was given a mandate to "maintain appropriate signs for experienced bicyclists who may wish to use the route" according to the Redwood Community Action Agency (RCAA 2003:1). That law treats Route 1 as a shared use facility that allows non-motorists to use it for transportation.

The Coastal Trail Act of 2001 was passed as California Senate Bill 908. The legislative intent as stated in Section 1 of that act declares:

> (a) The Legislature finds and declares all of the following:
> (1) The California Coastal Trail, which has been designated a Millennium Trail by the Governor of California, should be completed in a timely manner.
> (2) The California Coastal Trail is a trail that, to the extent feasible, should be constructed along the state's coastline from the Oregon border to the border with Mexico.
> (3) The California Coastal Trail should be constructed in a manner that is consistent with the protection of coastal resources.
> (b) The California Coastal Trail shall be developed in a manner that demonstrates respect for property rights and the proximity of the trail to residential uses, and that evidences consideration for the protection of the privacy of adjacent property owners.

The State Coastal Conservancy (SCC) prepared a report on completing the Coastal Trail in 2003 with contributions by many stakeholders. Richard Nichols, the Executive Director of Coastwalk succinctly states the objectives for the trail:

> Respecting and protecting the terrain, the California Coastal Trail will vary widely, according to the character of the landscape and the built environment. In many areas it will be a path for hikers and equestrians through wilderness and along beaches; in other areas it will be a paved, urban pathway, accessible to bicyclists, skaters, wheelchair riders, and others using non-motorized transportation. It will be a braided trail in many places, designed as a cohesive system to accommodate many people and different uses (SCC 2003:12-13).

The trail is broadly conceived as serving both recreational and transportation purposes. Recreational uses are funded mainly from State and local sources such as the SCC and Proposition 40 funding distributed by DPR or Mendocino County, while non-motorized transportation for commuter purposes are primarily funded by federal, State, and local transportation funding. Much of this funding comes from the Federal Highway Administration (FHWA), which distributes money to Caltrans and Regional Transportation Planning Agencies (RTPAs). In Mendocino County, the RTPA is the Mendocino Council of Governments (MCOG). In keeping with federal DOT policies, Caltrans and MCOG determine priorities that include funding for non-motorized transportation modes.

Under Title 23, U.S.C. Section 135 (a) (3), the plans and programs administered by the U.S. Department of Transportation (DOT) for each State must be designed to provide for the development and integrated management and operation of transportation systems and facilities (including pedestrian walkways and bicycle transportation facilities) that will function as an intermodal transportation system for the State, as well as an integral part of an intermodal transportation system for the United States.

Federal Department of Transportation (DOT) policies have been developed to accommodate intermodal transportation needs, as a result of the passage of various laws and growing recognition of the importance and value of alternative (non-motorized) means of travel. The following provisions provide some of the key policies governing such matters:

> Title 23, CFR Sec §450.214 (b) (3) The State shall develop a statewide transportation plan for all areas of the State that shall contain, as an element, a plan for bicycle transportation, pedestrian walkways and trails which is appropriately interconnected with other modes.
>
> Title 23 U.S.C. 217(g) Planning and Design. Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and state, in accordance with sections 134 and 135, respectively. Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.

In keeping with those broad federal transportation policies and a Caltrans Deputy Directive issued in October 2008 (DD-64-R1), the Caltrans Highway Design Manual is currently being revised to reflect a "complete streets" policy. The Directive states:

> The California Department of Transportation (Department) provides for the needs of travelers of all ages and abilities in all planning, programming, design, construction, operations, and maintenance activities and products on the State highway system. The Department views all transportation improvements as opportunities to improve safety, access, and mobility for all travelers in California and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system. The Department develops integrated multimodal projects in balance with community goals, plans, and values. Addressing the safety and mobility needs of bicyclists, pedestrians, and transit users in all projects, regardless of funding, is implicit in these objectives.

The Non-motorized transportation goal from the draft 2010 Regional Transportation Plan (RTP) for Mendocino County (MCOG 2010:26) is to "provide a safe and useable network of bicycle and pedestrian facilities throughout the region as a means to lessen dependence on vehicular travel and improve the health of Mendocino County's residents." This goal is promoted through a number of specific objectives and policies, identified in Table 1. Those objectives highlight many of the benefits of non-motorized transportation, while specifying meaningful ways to achieve them.

## 1.2. Specific Plan Objectives

The key challenges to constructing a coastal trail in the project area involve the rugged terrain, accommodation of different non-motorized transportation modes (pedestrian, bicycle, equestrian, and wheelchairs), safety issues, a substantial amount of private property, and environmentally sensitive habitat areas. The absence of a comprehensive existing plan for all types of non-motorized trail development in the study area was the main incentive for preparing this plan. This plan is envisioned as an essential first step that identifies a trail alignment and general design. The plan can then be used to attract the funding needed to plan, design, construct, and maintain a non-motorized multi-use trail that will benefit residents and visitors of this under-served rural area.

**Table 1. Mendocino County Non-Motorized Transportation Objectives and Policies***

| | |
|---|---|
| Maximize funding opportunities for local agencies to develop and construct bicycle and pedestrian facilities | Update Regional Bikeway Plan on a timely basis to ensure local agency eligibility for Bicycle Transportation Account funds and other grant programs |
| | Provide support to local agencies in pursuing grant funding, such as Safe Routes to Schools and Bicycle Transportation Account |
| | Continue to reserve and allocate 2% of Local Transportation Funds for bicycle and pedestrian projects |
| | Seek funding for needed improvements, and consider RTP funding and other state and federal grant sources |
| Provide a non-motorized transportation network that offers a feasible alternative to vehicular travel | Prioritize improvements providing access to schools, employment, and other critical services |
| | Prioritize projects that link to an existing facility or provide connectivity |
| | Fund planning activities in MCOG's Work Program to identify priority improvements for commute purposes, such as safe routes to school plans |
| | Consider the addition/improvement of bicycle and pedestrian facilities when planning and implementing local street and road improvements |
| Encourage healthier lifestyles through increased walking and biking | Coordinate with health organizations to promote alternative forms of transportation |
| | Support educational programs to promote increased walking and biking |
| | Encourage development adjacent to existing pedestrian and bicycle systems |
| Improve property value and strengthen local economies through more accessible commercial and residential areas | Encourage the addition of pedestrian and bicycle improvements in local business areas and existing residential areas |

*From draft Regional Transportation Plan (MCOG 2010:26).

Route 1 is the main transportation corridor in the study area, but lacks the width to safely accommodate non-motorized transportation in many sections, thus preventing connectivity. The area is also sparsely populated, making it difficult to compete with urban areas for transportation funding. Over 14.6% of the residents were below the poverty level in the 2000 federal census. To date, no integrated planning for a multi-use trail system has been attempted. Prior studies have instead focused on single modes (e.g., pedestrians), segments under a particular jurisdiction, or broad policies (Table 2). This plan establishes the purpose and need for a multi-use trail that provides connectivity for transportation and recreation throughout the study area.

This study used an approach designed to bring together major "stakeholders" and the local community to define a project that is sensitive to the environment and addresses safety and needs for alternative transportation modes. The main trail will serve a transportation function, while also providing connections to existing and planned branch trails that access recreational destinations. The trail system may also serve recreational purposes with features such as meandering branch trails that do not qualify for transportation funding. The "purpose and need" for the primary trail is defined explicitly in the following paragraph.

**Table 2: Summary of Previous Planning within the Study Area.**

| Plan Name, Date | Author (Funder) | Goals, Objectives, and Recommendations |
|---|---|---|
| (2010) Mendocino County draft RTP | MCOG | See Table 1 (above) |
| (2010) California Coastal Trail Strategic Plan | MLT (SCC) | • Trail easement negotiations with private landowners: Usal to Hardy Creek; Kibesillah;<br>• Widen Highway One shoulder between Cape Vizcaino and Hardy Creek;<br>• Cape Vizcaino trail construction;<br>• Chadbourne Gulch trail feasibility study;<br>• Construction of Kibesillah Vista Trail;<br>• Install Coastal trail signage at Westport Union Landing State Beach;<br>• Widen Highway One shoulder throughout study area to improve Pacific Coast Bicycle Route. |
| (2008) State Route 1 Corridor Study Update | W-Trans | • Report recommends low cost, incremental changes that can be completed with regular maintenance activities or as a component of reconstruction activities such as bridge replacements. Pages 28-29 outline specific recommended improvements. |
| (2006) Mendocino County Regional Bikeway Plan | MCOG | • Identified Goal: Provide an adequate, functional and safe system of pedestrian paths, trails and bikeways coordinated on a local and regional basis. Such a system should be coordinated with other transportation modes to meet both area and regional non-motorized transportation needs.<br>• Identified Need: Route 1 in Mendocino County is part of the Pacific Coast Bike Route, and therefore, considered high need. The prioritization of improvements to this bike route focus on bicycle access improvements at most needed locations. |
| (2003) Completing the California Coastal Trail | Coastwalk, SCC | • Work with private landowners to acquire public access rights and improve trail corridor connecting Usal Road and Westport Union Landing State Park.<br>• Policy Initiatives: Commit to completing the CCT (engaging all State programs); integrate the CCT into State Transportation Plans; use the CCT to increase accessibility to State Recreational Facilities; eliminate shoreline obstructions.<br>• Other goals found on pages 8-9 of this document |
| (2003) Pacific Coast Bike Route Study | Caltrans | • States Route 1 from Leggett to Little River Road is mostly a narrow, 2-lane highway with 0 to 8 ft paved shoulders and light to medium traffic. |

**Table 2: Summary of Previous Planning within the Study Area** (continued)**.**

| Plan Name, Date | Author (Funder) | Goals, Objectives, and Recommendations |
|---|---|---|
| (2003) Route Concept Report, Route 1 Corridor | Caltrans | • Reconstruction and rehabilitation strategies involving Route 1 are to incorporate provisions for accommodating the CCT where feasible.<br>• Safety improvements at spot locations will be considered as necessary. This is a primary concern.<br>• Caltrans supports Community Enhancement opportunities, including development of bicycle/pedestrian facilities to increase opportunities for non-motorized trips. |
| (2003) Mendocino County Coastal Conservation Plan | MLT, SCC | • Acquire trail easement from willing landowners from Usal Beach to Rockport Beach; acquire beach access, biological and timber easements surrounding Rockport Beach; open trails for public access; plan, design, and construct CCT between Chadbourne Gulch and Ten Mile River. |
| (2003) RCAA Bikeway Study for Humboldt and Mendocino Counties | RCAA | • To address safety concerns regarding bicycle use of Highway 1, shoulder widening, innovative traffic calming, and unique shoulder treatment are some of the treatment options identified by this report.<br>• Shoulder widening: to 32' wide (including 4' on both sides) roadway wherever possible. If impossible, the southbound shoulder is higher priority for widening. Acquisition of additional land to facilitate shoulder expansion should be considered.<br>• Traffic calming: use street and intersection design to reduce traffic speeds and increase awareness of non-motorized users. The town of Westport is specifically mentioned on page 64 of this report as a good candidate for traffic calming.<br>• Unique colored shoulder treatments to increase awareness of non-motorized users. |
| (1985) Mendocino County's Local Coastal Plan | County | • Establishes 30 policies related to public coastal access in Chapter 3.6 (see text discussion above).<br>• Policy 3.8-6 in the Transportation Element promotes 32 foot roadway width for Route 1, including two 12 foot lanes and 4 foot shoulders for bike traffic.<br>• The Coastal Zoning Code establishes specific regulations for use in implementing the LCP policies (Chapter 20.528) |

Purpose and Need

The purpose of this plan is to define a shared vision for a continuous non-motorized pathway that provides for the safe and efficient movement of people and non-motorized vehicles from one end of the study area to the other. The plan also assesses community priorities for incremental completion of that transportation system. The pathway recommended in this plan will overcome impediments to non-motorized transportation arising from missing and discontinuous roadway shoulders, substandard lane widths, and the limited availability of alternate paths for non-motorized modes within the study corridor. The preferred approach for safely accommodating all travel modes is to separate non-motorized uses from roadways, while maintaining critical intermodal connectivity to encourage the use of non-motorized transportation. The construction of the trail proposed in this plan will encourage non-motorized transportation, contribute to a walkable community, improve health and air quality, and foster a more robust local economy while providing for commuting functions to destinations including the village of Westport and the City of Fort Bragg.

Specific Objectives of this Project:

The specific objectives of this planning process were designed to:

- Engage and build a shared vision among the stakeholders.
- Conduct a preliminary analysis of the study corridor, identifying key issues and concerns.
- Create maps and narrative to summarize opportunities and constraints in the study area.
- Build public and stakeholder consensus for a preferred non-motorized trail concept and alignment that considers unmet transportation needs, livable communities, the economic benefits of green tourism, trail design preferences, and environmental issues.
- Define community and public priorities for future projects within the study corridor.

## 1.3. Project Time Frame

The grant for this project was selected by Caltrans and awarded on September 14, 2009. The project team was authorized to begin work on April 1, 2010. In April and May 2010, the first project team meetings and a meeting of a Technical Advisory Committee (TAC) were held. Stakeholder and landowner outreach then took place in the summer of 2010 and initial fieldwork, background research, and maps showing potential opportunities and constraints were completed. During that initial planning, the WMAC also conducted outreach to over 900 bicyclists with a voluntary survey. In addition, the project was discussed at several meetings of the WMAC and a web page was created by the WMAC to share information about the planning effort with the community, public, and other stakeholders.

On November 6, 2010 the first community charrette was held. Over 50 members of the public attended this Saturday event. It included a bus tour and public meeting to discuss the study area, consider opportunities and constraints, and gather input on priorities for non-motorized transportation. The planning team took community input from that charrette and integrated it into several drafts of this plan that were first shared with the project team, then the TAC, and finally with the public in June 2011. A second charrette was held on July 9, 2011 to gather input on the public draft. Further input on proposals for the village of Westport were obtained at a meeting held August 2, 2011 by the WMAC. All public input is reflected in this final plan.

## 1.4. STUDY METHODS

To understand the community and stakeholder vision for a non-motorized transportation system within the study area, research initially focused on mapping land ownerships, zoning, and existing trail facilities and easements. Previous planning for pedestrian and bicycle routes in the area were also investigated and planning requirements, environmental considerations, and design standards were reviewed. This initial work provided the foundation used to scope this study and identify stakeholders and interested persons and groups. The team then used several methods to survey the public and other stakeholders through meetings, opinion surveys, and direct contacts with letters, emails, telephone calls, and in-person meetings.

Mapping

Mapping began with compilation of existing data sets and their conversion into useable Geographic Information System (GIS) formats. CoLT cartographer Rixanne Wehren also conducted fieldwork to create new data sets with fieldwork observations and Global Positioning System (GPS) equipment. Collectively, these data were designed to facilitate analysis of existing conditions, opportunities, and constraints. Data were acquired from state and local sources for roads, streams, wetlands, parcels, public lands, land use, and highway mileage. Caltrans right-of-way (ROW) data was transferred from individual maps to a GIS data set with the ArcGIS program. Fieldwork was used to develop GIS data on local landmarks, parking, ADA parking, geographic constraints (terrain, environmentally sensitive habitats, forest, streams), private and public landowners, public access easements, shoulder and bridge widths, bicycle facilities, campgrounds, beach routes, informal trails, and other potential trail routes.

Working maps were produced for team reference, with other versions prepared to gather public input and illustrate this plan. Chapter 2 contains maps focusing on existing conditions, while the detailed maps in Chapter 4 illustrate recommended trail routes. A photo survey of the entire 21-mile study area was also completed in conjunction with the field mapping to illustrate typical site conditions along the route. Those photographs are included in Appendix C.

Agency Stakeholder Meetings

To facilitate input among key agency stakeholders, outreach was carefully orchestrated. The core planning team for the project included Louisa Morris and Rixanne Wehren from CoLT, Thad Van Bueren from the WMAC, Loretta Ellard from the MCOG, and Jesse Robertson from Caltrans. The core project team typically met every two months to guide development of this plan and the public input process.

A Technical Advisory Committee (TAC) was convened among government and nonprofit entities that either manage lands in the study area or have responsibility for funding and/or permitting development of non-motorized trails. The TAC included the core planning team as well as Bob Merrill and Tamara Gedik (North Coast Office, California Coastal Commission); Matt Gerhart, Lisa Ames, and Karyn Gear (State Coastal Conservancy), Win Bowen (Mendocino Land Trust), and Teresa Spade (Mendocino County Planning). Other stakeholders such as the California Department of Parks and Recreation (DPR) were also invited to join the TAC, but were unable to participate. The minutes of TAC meetings are provided in Appendix E.

Landowner Outreach

Outreach was conducted to all landowners west of Route 1, those bordering its east side, as well as owners or parcels in the area zoned "Rural Village" in Westport. Landowner outreach was first conducted by mail to solicit input and encourage collaboration (see Appendix E). This outreach included public agencies such as Caltrans, California Department of Parks and Recreation, California Department of Fish and Game, and Mendocino County. Four land trusts (CoLT, SRL, MLT, and the Westport Village Society) also own lands or manage easements within the study corridor and have indicated a strong commitment to facilitating public access. All landowners were invited to attend the public charrette meetings, and landowners in the village of Westport also were invited to the August 2, 2011 WMAC meeting.

Some private landowners called or emailed the project manager. Discussions with these landowners explored their willingness to consider easements and suggestions or concerns about a coastal trail on or near their property. CoLT and/or WMAC team members met with landowners who were willing to explore non-motorized transportation easements on their lands. Direct contacts also were made with some Westport landowners and residents adjacent to proposed boardwalk routes.

Bicycle Survey

Little is known about current levels of pedestrian, bicycle, and other non-motorized transportation within the 21-mile study corridor. Only one prior study by the Redwood Community Action Agency (RCAA 2003) counted pedestrians, bicyclists, and recreational vehicles along this route. The RCAA count took place at Seaside Beach (Post Mile 70.5) on a single day in 2002. Pedestrian circulation was also considered in the village of Westport by the Department of Landscape Architecture and Environmental Design at the University of California in Berkeley (DLAEP 2003). To address these shortcomings, a voluntary bicycle survey was conducted during this study between June 1 and September 30, 2010. The methods and results of that survey are discussed in Chapter 3.

Charrettes

Public opinion was sought through two charrette meetings and a WMAC meeting that focused more specifically on recommendations for the village of Westport. The first charrette was held on November 6, 2010 to gather initial input on route selection criteria, priorities, concerns, and desirable modes. A second charrette was held July 9, 2011 to gather input on a draft version of this plan. A meeting was held by the WMAC on August 2, 2011 to gather additional input on desirable non-motorized improvements in the village of Westport. The methods used to publicize those meetings and obtain community input are discussed in Chapter 3 and information about each meeting is provided in Appendix D.

Background Research

Environmental constraints were analyzed in a preliminary manner for this plan, using existing data and field inspections. While existing data sets are often incomplete or outdated, they nevertheless provide a tool for preliminary assessment of the patterns of sensitive environmental resources that may require protection or expensive mitigation. Potential wetlands were mapped from the National Wetlands Inventory map data. Recent landslides and unstable slopes were noted in the field.

A record search was carried out to identify previously recorded historical resources including archaeological sites, buildings, and structures. Historical research was also employed to evaluate areas likely to contain unrecorded historic resources. The California Natural Diversity Database was consulted to map known rare, threatened, and endangered species. Slopes were analyzed directly with mapping tools. Together, these preliminary assessment tools were used to map areas likely to contain various environmental resources and steep or unstable slopes.

Information was also sought in published transportation and planning literature, design guidelines, and other sources. Those sources facilitated identification of relevant studies, best practices, and guidelines for developing multi-use trails. The literature review included guidance on safe design alternatives for trail segments aligned next to motorized transportation routes. Highway Traffic Safety Accident Records (TSAR) for the study corridor over the past decade were examined to assess incidents involving pedestrians and bicyclists. Vehicular traffic counts collected by Caltrans were inspected, and Caltrans maps were used to verify the width of the existing ROW, roadway, and shoulders within the study area.

# 2. EXISTING CONDITIONS

Any effort to plan a trail necessarily entails an evaluation of current conditions. Those conditions determine where it is reasonable to locate a non-motorized multi-use trail and what is required to design, permit, and construct such a facility. From that universe of opportunities and constraints, the community and other interested stakeholders were then able to make informed recommendations about trail location and design. This chapter analyzes current conditions including land ownership, the Caltrans right of way (ROW), existing and planned trails and facilities, environmental considerations, political and regulatory factors, and design requirements.

## 2.1. LAND OWNERSHIP

Land ownership is a fundamental factor in selecting a viable alignment for a coastal trail. Lands owned in fee or managed as easements by public agencies and nonprofits provide opportunities for trails, if the organization supports public access and sufficient land is available to accommodate that use. In contrast, private lands may only be used for trails if the landowners are willing to donate or sell an easement. Lands under public and nonprofit control are distinguished from private lands in Figures 2 through 5.

Incentives for cooperation between private landowners and trail proponents exist and have been discussed with some landowners who responded to outreach efforts during this planning process. These incentives include direct acquisition for fair market value, purchase of public access easements, and the tax benefits or donations. Two landowners were willing to offer easements. Only those prospective easements and other existing easements and public lands were considered viable choices for the alignment proposed in this plan.

The study area includes 18,719 acres surrounding Route 1 between Post Miles 69.5 and 90.87 and extending west to the ocean. Of that total, there are 13,031 acres (70%) of forested lands owned by large corporations mainly for timber production, 2,640 acres (14%) of range land, 2,256 acres (12%) in smaller residential holdings (<40 acres), and 190 acres (1%) of agricultural land. A total of 548 acres (3%) are zoned for open space or public facilities, including lands held by state agencies, Mendocino County, and nonprofit organizations. The village of Westport has 51 acres (0.2%) in Rural Village zoning. A map of these land use categories is included in Appendix A. The greatest concentration of residents outside of Westport is in the Westport Beach subdivision north of the village. Other residential clusters are present near Hardy Creek (PM 82.5-84.0), Kibesillah (73.2-74.8), and Seaside (PM 70.0-71.8).

Westport-Union Landing State Beach stretches along roughly two miles of shoreline, while Caltrans owns another 1.25 miles to the north. Caltrans also owns 2.5 miles of coastline at Chadbourne Gulch and Bruhel Point Bluffs. Other public property exists at Kibesillah Fishing Access on adjacent parcels owned by DFG, Mendocino County, and Caltrans. The non-profit Westport Village Society (WVS) owns the Westport Headlands and the Coastal Land Trust (CoLT) owns Seaside Beach and Meadow, which are managed for public access and resource protection. The Mendocino Land Trust manages several public access easements along Route 1.


**Figure 2. Existing Conditions from Usal Road to Hardy Creek.**

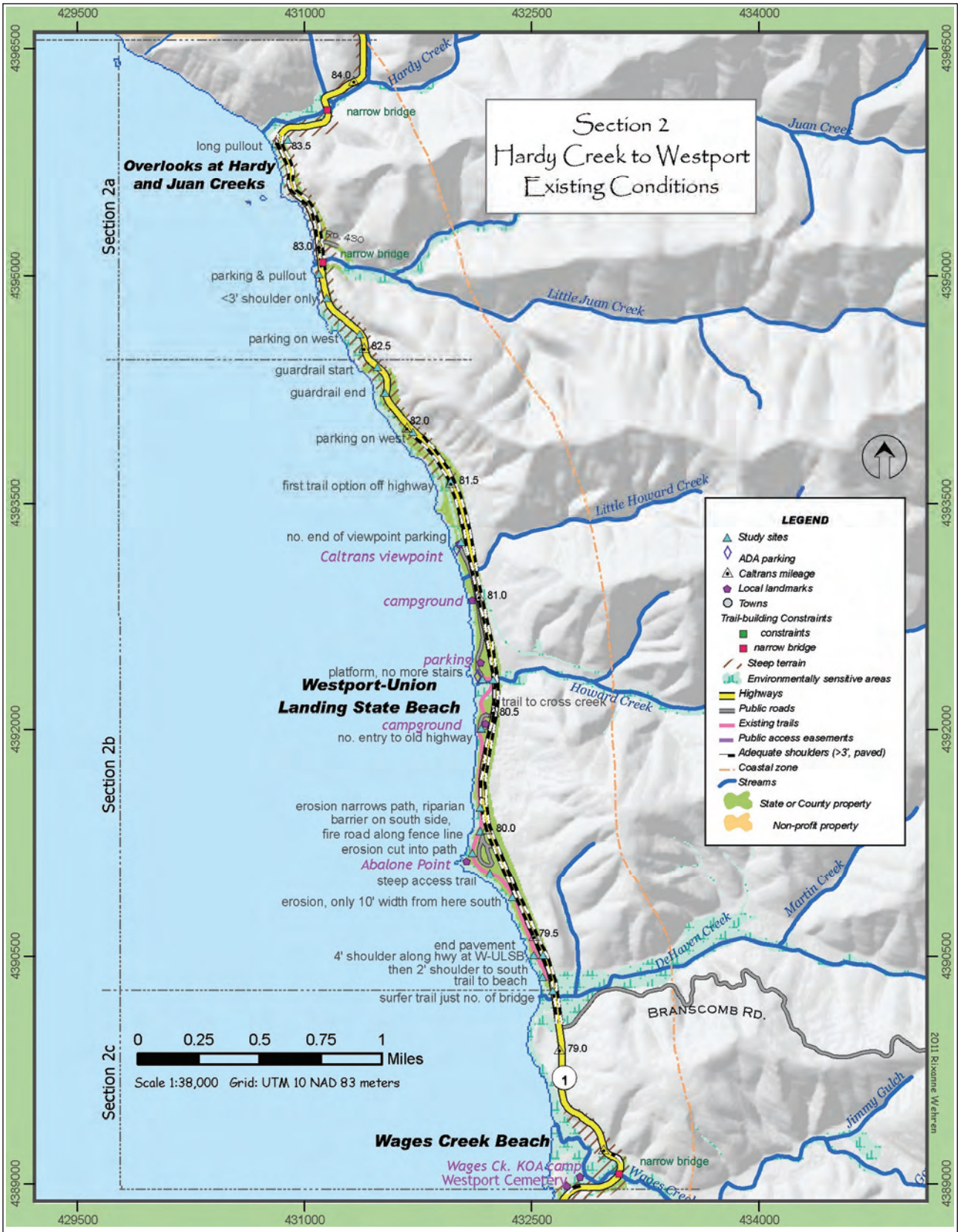



**Figure 3. Existing Conditions from Hardy Creek to Wages Creek.**


**Figure 4. Existing Conditions from Wages Creek through Westport.**

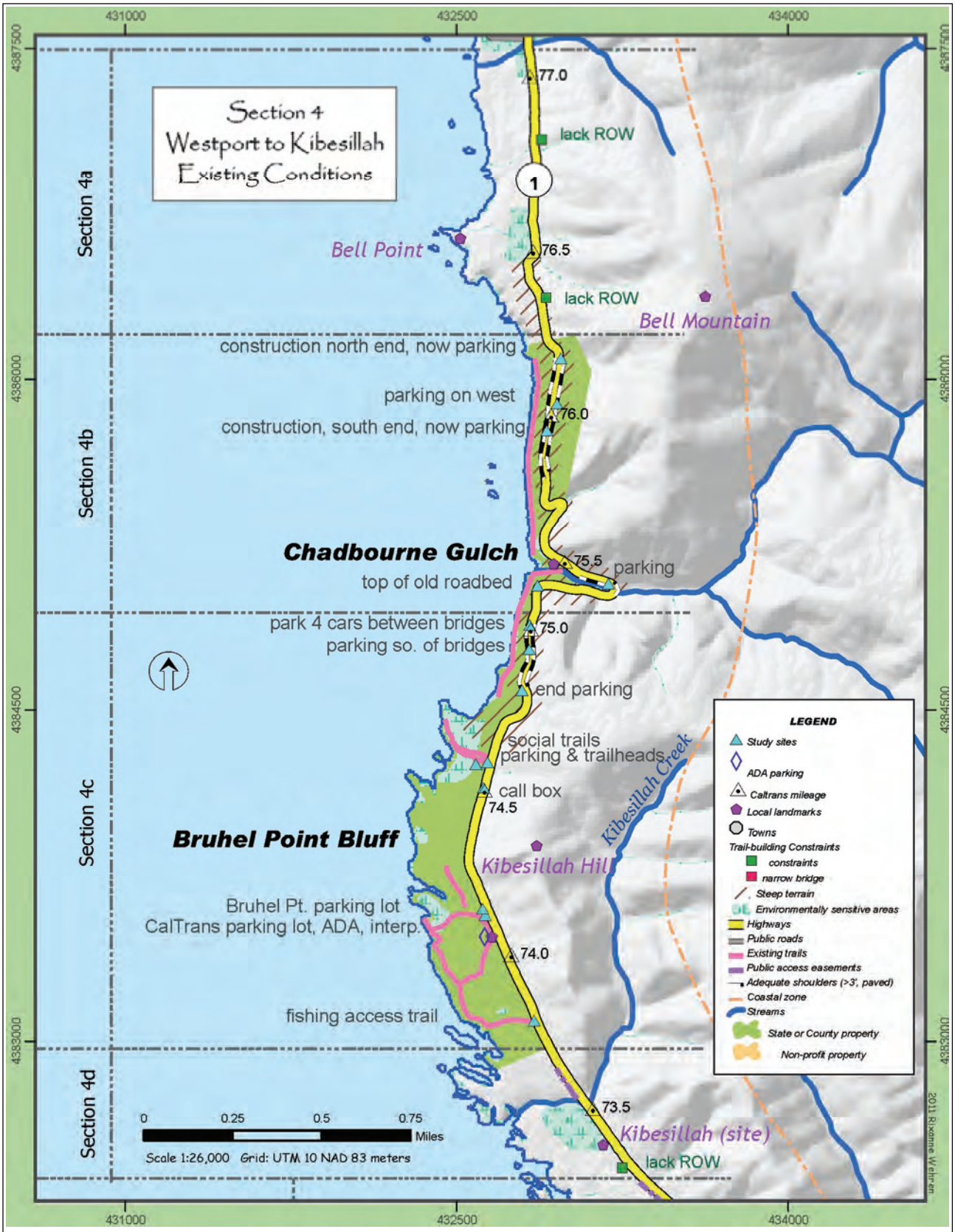



**Figure 5. Existing Conditions from Westport to Kibesillah.**

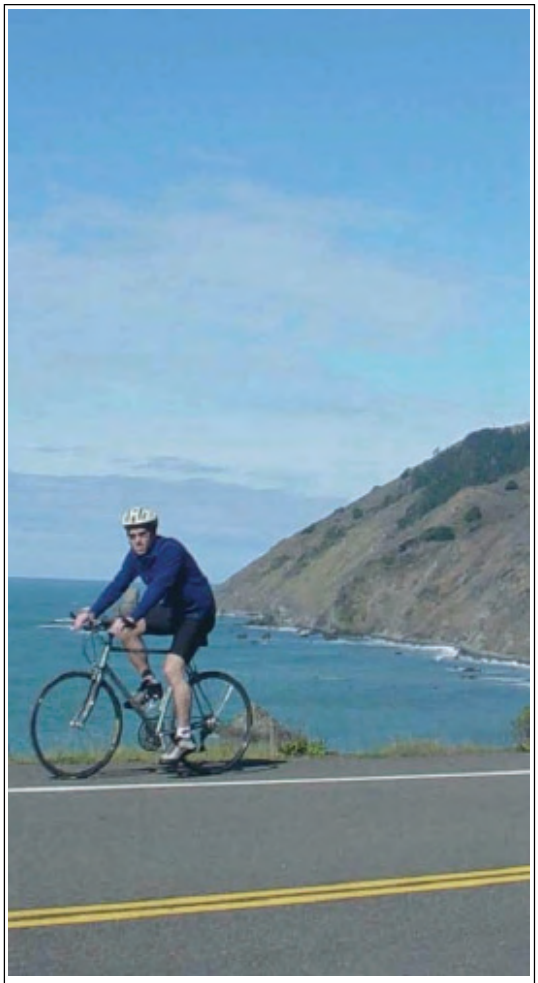

**Figure 6. Existing Conditions from Kibesillah to Ten Mile River.**

## 2.2. THE CALTRANS RIGHT OF WAY

State Route 1 provides essential connectivity through the study corridor for the movement of motorized and non-motorized vehicles, people, and goods. It links the study area with essential services in Fort Bragg, the nearest large town. In addition to local traffic, this conventional 2-lane highway carries a significant amount of inter-regional traffic, including a large proportion of trucks and recreational vehicles (RVs) associated with logging, commerce, and tourism.

Route 1 is part of the Pacific Coast Bike Route. In this capacity, it operates as a Class III bikeway and bicycles must share the roadway with motorists. A few bicycle signs mark the route, promoting awareness of this multi-modal use and offering information for bicyclists. The route attracts touring, commuting, and recreational bicyclists, mainly from April to October. Pedestrian use is presently constrained by narrow and unsafe conditions in many sections, preventing connectivity. Thus, walkers are concentrated in areas where there are already adequate shoulders, or public lands located west of the highway.

The 21-mile long study corridor extends west from Route 1 between the south end of the Ten Mile Bridge (Post Mile 69.75) north to Usal Road (Post Mile 90.87). This portion of Route 1 is classified as a rural minor arterial route and it is also eligible for scenic highway designation. Caltrans recommends in a Route Concept Report that it remain a two-lane facility consistent with the Coastal Zoning Act of 1976 (Caltrans 2003). Understanding the highway's present condition and the types and levels of use it receives is critical for developing a vision for a continuous non-motorized trail system that will of necessity include trail segments within the highway right of way (ROW).



**Bicyclist near Juan Creek.**

Caltrans (2003) recommended classifying Route 1 with a concept level of service of "E," a status assigned to highways with unstable traffic flow, rapidly fluctuating speeds, short headway, low maneuverability, and low driver comfort and convenience. It is expected to operate at or above that concept level through 2020 based on traffic and regional development forecasts. A 1994 study of the Route 1 corridor modeled traffic based on projected development to inform the creation of Mendocino County's Local Coastal Plan (TJKM 1994). A follow-up study found these traffic projections were not realized and created a new model based on analysis of 37 intersections (W-TRANS 2008:1).

Caltrans measures the Average Annual Daily Traffic (AADT) in vehicles per day passing north and south at two locations in the study corridor during peak use in July (Table 3). One is at Post Mile 77.66 at the north end of Westport and the other is at the junction of State Route 1 and Usal Road at PM 90.87 (County Road 221). AADT counts are also taken at PM 64.86, about 5 miles south of the project in Cleone. Those counts indicate a decrease in traffic between 1999 and 2009 in Cleone and Westport, while volumes at the Usal Road intersection remained fairly constant. The declining traffic may reflect a temporary anomaly, perhaps caused by the recent economic recession.

**Table 3. AADT on Route 1 in the Study Vicinity***

| | All Traffic | | | Trucks |
|---|---|---|---|---|
| | Cleone | Westport | Usal Rd | Usal Rd |
| **Year** | PM 64.86 | PM 77.66 | PM 90.87 | PM 90.87 |
| 1999 | 4,300 | 1,850 | 600 | 52 (8.7%) |
| 2004 | 2700 | 1100 | 780 | No Count |
| 2009 | 1,500 | 870 | 810 | 123 (15.2%) |

*Source:http://traffic-counts.dot.ca.gov/index.htm

Truck traffic is measured at only one location in the study corridor at Usal Road (PM 90.87) and includes trucks with two to five axles. Those counts include most of the RV traffic that is common along Route 1. Truck traffic increased from 8.7% of the total volume in 1999 to 15.2% in 2009 (Caltrans 2011). The number of RVs that passed Seaside Beach at PM 70.5 in a 12-hour daylight period in the first week of September 2002 was 111 (RCAA 2003). That count included motor homes, travel trailers, buses, and cab-over campers. This high use by large vehicles is problematic for non-motorized users, particularly when coupled with substandard lane width, poor sight distance on steep winding road sections, and other factors.

Caltrans (2003) has not evaluated the level of service for bicycles or the "bicycle friendliness" of this highway segment using methodologies such as the Bicycle Compatibility Index (BCI). To address this issue, a bicycle survey was conducted as part of this study and the results are analyzed in Section 3.2. Pedestrian use is presently concentrated around populated areas such as Westport and coastal access destinations. Non-motorized transportation modes are constrained by absent or discontinuous shoulders and the limited availability of any alternate non-motorized paths. Pedestrians either walk on the roadway or shoulders when they are present, or off the pavement alongside the highway.

Older bridges that offer the only existing routes across watercourses also present challenges that hinder the safe passage of pedestrians, bicyclists, and other non-motorized traffic. These exist in several locations in the study corridor including Hardy Creek (Bridge Number 10-0141, PM 83.78), Juan Creek (Bridge Number 10-0140, PM 82.91), and Wages Creek (Bridge Number 10-0137, PM 78.30). All three of those narrow bridges are Category 5 bridges, ineligible for the National Register of Historic Places. Guard rails present along sections of Route 1 with steep drop-offs provide a similar constraint, affording no safe refuge for non-motorized travelers.

Less than half of Route 1 in Mendocino County meets the minimum width criteria established in Caltrans Design Standards for resurfacing, restoration, and rehabilitation (3R). Many highway segments in the study corridor not only have substandard lane width, but also frequently lack any shoulders. The 3R standards permit rehabilitation at present width, as long as the traveled way and usable shoulder meets minimum requirements that range from 24 to 40 feet. The minimum design width for traffic lanes is 12 feet, and the minimum design width for shoulders is 4 feet

where AADT falls between 1001 and 3000, as is the case in the study corridor. Widening beyond 32 feet in Mendocino County is presently incompatible with the Local Coastal Plan (PBS 1983:107). The width specified in the LCP does not take into account safe accommodation of pedestrians, which may require additional width or alternative configurations that imply the need to consider design and/or permit exceptions. Upgrading substandard segments of Route 1 in the study corridor will be costly due to rugged terrain and other factors.

Route 1 in Mendocino County does not meet the threshold for a serious traffic safety concern, a status associated with a collision rate over one and a half times the Statewide average for similar facilities over a five year period (Caltrans 2003:12). According to Caltrans (2009:1), the total collision rate and accident severity for the study corridor are "near the statewide average when compared to similar facilities." Between 1999 and 2009, a total of 137 collisions were reported in the study corridor (Caltrans 2010). The highest collision rates were during daylight hours and summer months, when tourist visitation peaks. No pedestrians were hit, but five collisions involved bicycles. Few pedestrians risk walking Route 1 in areas lacking shoulders.

**Width constraints at PM 75.2.**

Collisions involving bicyclists occurred in the southern study area between PM 71.3 and 75.71. However, collisions with bicyclists are likely underreported. The bicycle survey discussed in Section 3.2 reveals four accidents over a four-month period in 2010, a rate that implies the real incidence of collisions may be as many as 6 to 10 per year. The reasons many bicycle collisions are not reported include motorists who fail to stop, long delays before the affected bicyclist can reach a telephone, and other factors. Over a dozen bicycle questionnaires also reported incidents involving aggressive motorists who ran them off the road, threw projectiles, and otherwise engaged in harassment.

In several parts of the study corridor, the existing Caltrans ROW is presently too narrow to allow the development of a nonmotorized shared use path adjacent to the roadway. That existing ROW is shown in detailed maps provided in Appendix B. Where it is depicted as a yellow line with no specified width, the roadway is held as a prescriptive easement at its current paved width. In all other areas the ROW is directly owned by Caltrans. Figure 7 depicts sections of the study corridor where the existing width of the Caltrans ROW is either too narrow, or is limited to a prescriptive easement that implies additional ROW acquisition will be needed to add shoulders, upgrade substandard lane widths, and accommodate a non-motorized trail.

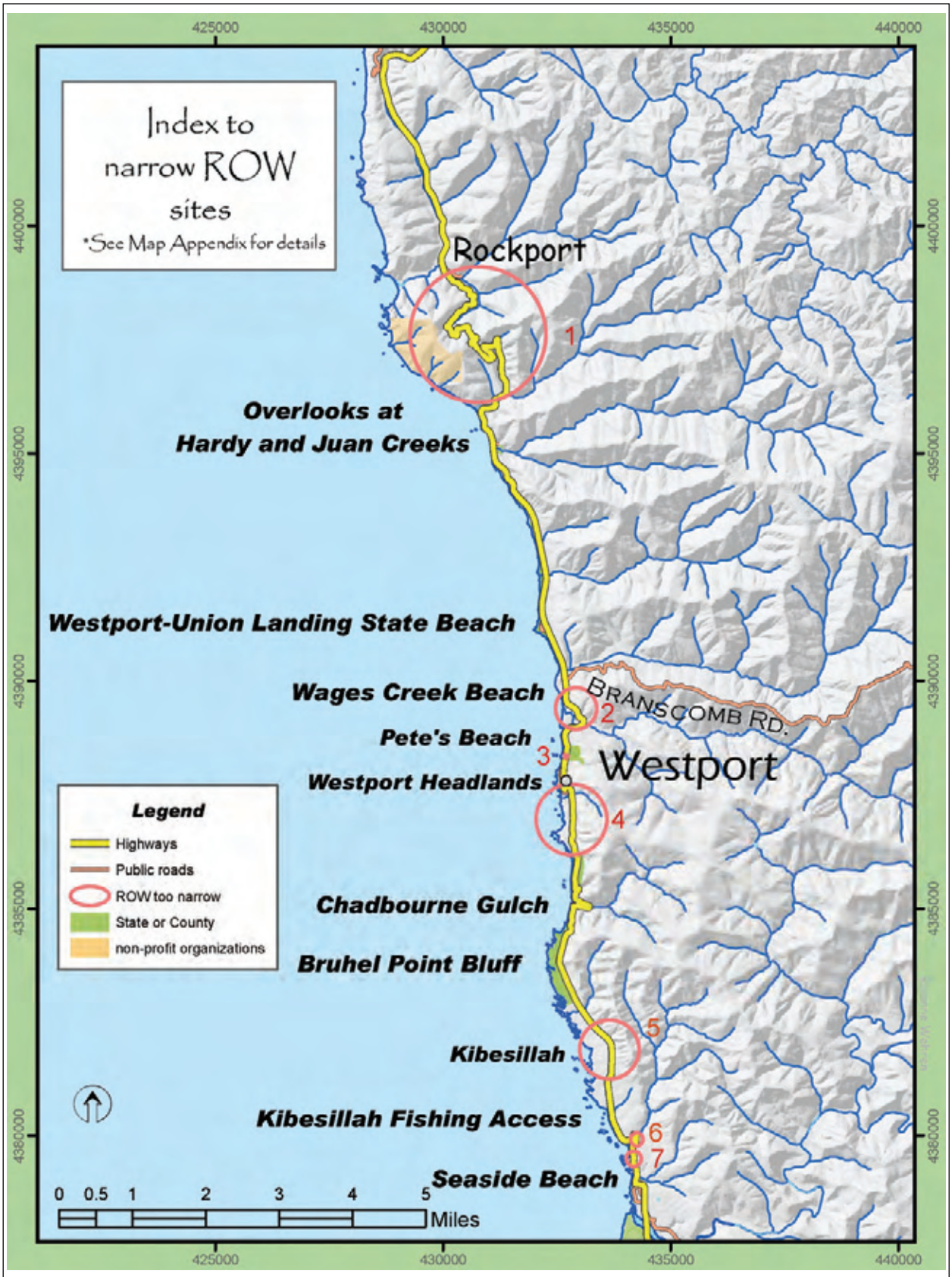



**Figure 7. Locations with Narrow Existing Right of Way or Easements.**

The nine locations with inadequate ROW width or prescriptive access imply some additional land may need to be acquired or obtained as public access easements in order to build a non-motorized coastal trail. These locations present critical issues for connecting the trail system proposed later in this plan. The Mendocino County PBS should exercise every opportunity to condition development permits with a requirement to grant a public access easement in locations where the Caltrans ROW width is inadequate or exists only as a narrow prescriptive easement in Figure 7 and the detailed maps of the Caltrans ROW provided in Appendix B.

Caltrans controls access onto Route 1 to ensure safe operations for all users. Encroachment permits are required for any new vehicular access points, allowing management of locations where motorized vehicles are allowed to access the highway. All proposed encroachments and turnouts also necessarily should consider the safety of non-motorized users. Caltrans owns specific rights to control points of access onto Route 1 from Dehaven Creek (PM 79.0) to a vista point at PM 81.1 north of Westport Union Landing State Park as an access controlled expressway (Caltrans 2003:13). That access control establishes specific points of entry onto the highway.

## 2.3. Existing Non-Motorized Facilities

Some non-motorized transportation facilities in the study area already exist or are in advanced stages of planning. They consist of developed facilities, as well as informal paths reflecting historical access routes that imply prescriptive public access rights. Safe all-season connectivity between these facilities does not presently exist and is the primary reason for the through trail proposed in this plan. Existing non-motorized paths are characterized here by the types of use they receive, which include bicycling, walking/hiking/jogging, disabled access, and equestrian use (Table 4). In addition to these existing and planned trail facilities, Table 3.6-1 in the Local Coastal Plan summarizes additional desirable vertical access locations.

Table 4 excludes locations listed in the LCP on private lands that lack dedicated ease-ments accepted by public agencies or land trusts. It also excludes land-locked easements that have been accepted, but can only be reached by water. Each type of use supported on the existing and planned trails in Table 4 are described below.

**Table 4. Existing and Planned Non-Motorized Paths.**

| Post Mile(s) | Description | Types of Access | | | |
|---|---|---|---|---|---|
| | | Bike Path | Foot Traffic | ADA | Horse Riding |
| 90.87 | Usal Road | Dirt | Yes | No | ? |
| 88.7 | MRC Demonstration Forest | Dirt | Yes | ? | No |
| 85.5 | SRL Cape Vizcaino Loop Trail (planned) | No | Yes | No | No |
| 82.9-83.5 | Hardy & Juan Creek Beach | No | Yes | No | No |
| 79.3-81.2 | Westport Union Landing State Beach | Yes | Yes | Yes | No |
| 77.8 | Pete's Beach | No | Stairs | No | No |
| 77.1-77.6 | Westport Village & Headlands | Dirt | Yes | Yes | No |
| 77.3 | Westport Beach | No | Stairs | No | No |
| 75.5 | Caltrans Chadbourne Gulch Beach | Dirt | Yes | ? | ? |
| 73.7-74.6 | Caltrans Bruhel Point Bluffs | No | Yes | Yes | ? |
| 72.1-73.4 | MLT Kibesillah Trail (2012) | Dirt | Yes | No | ? |
| 71.5-72.0 | Kibesillah Public Fishing Access | Dirt | Yes | Yes | No |
| 70.6-70.7 | Seaside Beach/Ten Mile River (2013?) | No | Yes | Yes? | No |
| 70.4-70.7 | Caltrans Seaside Storm Repair (2012) | Yes | ? | No | No |
| 69.6 | Caltrans Vista Point, Ten Mile Bridge | Dirt | Yes | Yes | ? |

Bicycle Facilities

Although Route 1 is designated as the Pacific Coast Bike Route, bicyclists must share the roadway for most of the route. Only 4.73 miles of the highway along the 21-mile study corridor has shoulders more than three feet in width on at least one side of the roadway. In many areas those shoulders consist of short, discontinuous segments. The remainder of the roadway is limited by narrow or non-existent shoulders that force bicyclists into the motorized traffic lanes. In those situations bicyclists face safety concerns, particularly on uphill climbs in curvy sections where sight distance is limited and motorists drive faster than they do. Rare paved turnouts provide refuges. Only one sign advising the need to share the road is present within the study route. Some advisory signs for bicyclists are also present, giving distances to destinations and services.

Bicyclists may detour off Route 1 along abandoned sections of the old highway within Westport-Union Landing State Beach and on County roads in the village of Westport. However, ingress and egress to the paths on the State Beach property are presently restricted by locked gates, limiting their utility as a through route for bicyclists. At the south end of the study area, the haul road may be used as an alternate route for non-motorized travel between the south end of the Ten Mile highway bridge and Fort Bragg.


**Touring bicyclists stopping at Westport Store.**

The Westport Store is the only retail source of food along the route, while prepared food can be purchased at two restaurants associated with lodging facilities in the village of Westport. Water is available at the State Beach and also can be purchased at the store. Bicyclists can presently camp at the State Beach or a private campground at Wages Creek Beach. However, bike riders have expressed strong interest in a camping area separated from camping motorists as reported in Section 3.2 below. The south end of the Westport Union Landing State Beach would be well suited for that purpose because several pit toilets and a water supply already exist there.

Two projects that will improve facilities for non-motorized travel are nearing construction or are in the planning process. A 1.3-mile unpaved shared use trail west of Highway One between PM 72.1 and 73.4 will be completed in 2012 by the Mendocino Land Trust within a public access easement known as the Kibesillah Trail. An emergency highway repair project at Seaside will include four foot wide shoulders suitable for bicyclists from Seaside Beach south to the Ocean Meadows subdivision.

Pedestrian Facilities

While foot traffic is allowed on Route 1, design standards recognize that pedestrian traffic is more appropriately confined to a dedicated space separated from motorists by a curb, landscape buffer, or other physical barrier for safety reasons. Route 1 is not presently designed to accommodate pedestrians, but wide shoulders in some areas are used. Existing pedestrian facilities are distinguished here from bicycle and shared-use paths by their surface and gradient. They are mostly sloping dirt paths subject to historic use and are unsuitable for ADA access.

A dirt path is available at Mendocino Redwood Company's (MRC) Demonstration Forest at PM 88.7. Planning is in the final stages for a 3.5-mile pedestrian loop trail at Cape Vizcaino with 8-10 parking spaces on property owned by Save the Redwoods League (SRL) west of Route 1 at PM 85.5. This trail may be connected to the trail system proposed in this plan as a recreational destination. Informal paths also access the beach between Hardy Creek and Juan Creek from a long, unpaved turnout, as well as a path under the Juan Creek highway bridge.

**Informal trail on bluff face at Abalone Point.**

Farther south, informal footpaths access the shoreline at many points in the Westport-Union Landing State Beach. The most heavily used paths are located at the south side of Howard Creek and the north side of Dehaven Creek. Steeper trails are utilized in other places such as Abalone Point. Another steep foot trail is used by local surfers to access the north end of Wages Creek Beach. Pete's Beach, operated by DPR, offers a staircase down to an expansive beach at PM 77.75. The Westport headlands, owned by WVS, features dirt trails, a foot bridge, and a staircase to a beach. Pedestrians commonly walk on the shoulders of Route 1 and County roads in the village of Westport, where a single crosswalk is present on Route 1 at the store.

The Bruhel Point Bluffs, a Caltrans-owned property extending south from Chadbourne Beach (PM 75.5) as far as PM 73.7, features several informal trails and a developed hiking trail on the west side of Route 1. Informal parking is present at Chadbourne Gulch (Blues Beach) and an unpaved pullout at PM 74.6, while a paved Vista Point parking lot is present at PM 74.2. The mile-long beach is frequently used by trucks and all-terrain vehicles (ATV), deterring access by other visitors and contributing to the degradation of this sensitive environment.

A short distance south between PM 72.1 and 73.4, the 1.3-mile unpaved Kibesillah Trail will be completed in 2012 by MLT for hiking and dirt bicycling. This multi-use trail will not be suitable for disabled access. A coastal development permit recently approved by the CCC requires dedication of an easement for a parking lot and spur trail extending west to the bluff edge near PM 73.3. This will be connected to the north end of the Kibesillah Trail.

Just one tenth of mile south of this planned trail is the Kibesillah Fishing Access, consisting of three contiguous public parcels owned by the California Department of Fish and Game (DFG), Mendocino County, and Caltrans between PM 71.5 and PM 72.0. The DFG parcel provides access to an steep pedestrian path to the ocean. The central County parcel has paved parking, a picnic table, and an informal pedestrian trail that extends south onto the Caltrans parcel where a dirt road is present. Pedestrians can also access Seaside Beach where informal parking is available. The Caltrans Vista Point parking at the south end of the Ten Mile Bridge (PM 69.7) provides access to a viewpoint and foot path connected to the old haul road at MacKerricher State Park. The haul road provides a through route south to Fort Bragg for pedestrians.

Shared-Use Facilities

Existing trails averaging at least three feet wide with fairly level grades and smooth surfaces are considered suitable for shared use by pedestrians, disabled persons, and other non-motorized travelers. Most existing paths that meet these criteria in the study area are paved. Four paved paths accessible by disabled individuals and featuring designated handicapped parking are currently available. Another path also appears suitable for this type of shared use. Some of these shared use paths may be adapted for equestrian use. However, the existing trails and their associated staging areas (parking facilities) would require modification to reasonably accommodate horse riders. As discussed below, some equestrians have historically used the Caltrans property extending from Chadbourne (Blues) Beach to the Bruhel Point Bluffs.

Near Rockport (PM 88.65) the Mendocino Redwood Company offers public access at a Demonstration Forest that features parking, a picnic site, historic exhibits, and a 0.3-mile long walking trail through the redwood forest west of Route 1. Although not paved or formally designated, this facility may be suitable for wheelchair access since it has a path with a relatively smooth surface and fairly level gradient that averages three feet wide. The level, unpaved parking lot also has ample room for handicapped parking.

Westport-Union Landing State Beach has paved trails along most of its length that consist of abandoned portions of old highway alignment. A continuous segment starts at the Caltrans Vista Point at PM 81.25 and ends at a parking lot overlooking Howard Creek (PM 80.7), with handicapped parking available at both ends. Another segment extends from the park headquarters at PM 80.5 on the south bank of Howard Creek to Dehaven Creek at PM 79.25, but it is not continuous due to bluff erosion. No handicapped parking is available for this southern segment, and gaps in the paved path will require repair. Locked gates on both segments presently impair connectivity and through traffic.

**Bluff erosion on old highway near Abalone Point.**

The village of Westport features the Headlands Coastal Access, owned and managed by the WVS. The Headlands property is managed as a public park, with handicapped parking linked to a viewing platform with a short cemented gravel path that is accessible by wheelchair. There are also several unpaved footpaths across the property that could be suitable for non-motorized modes of travel. The shoulders of Route 1 and County-owned and maintained streets are subject to some of the most intensive shared uses anywhere in the study area, although improvements are needed to provide accessibility for disabled individuals. All of the County roads in the rural village of Westport are used by residents to walk to the Headlands, Pete's Beach, the Westport Post Office, the church/community center, the school, and local businesses including the store and two lodging facilities with associated restaurants. As previously noted, one crosswalk is striped on Route 1 in front of the store, providing access west to Omega Drive.

Shared use paths are present at several locations already mentioned within a large Caltrans-owned property extending from PM 75.5 at Chadbourne (Blues) Beach to the paved Vista Point Parking at PM 74.2. Two handicapped parking spaces are present at the Vista Point lot and a cemented earth trail with benches are accessible by wheelchair. The formal and informal trails present on this large property also have been accessed by some equestrians and bicyclists.

Seaside Beach, owned by CoLT, has an unpaved parking lot and beach access for most users. The wide beach serves as a trail south along the foot of the bluffs to the Ten Mile River. Congestion and parking parallel to the highway pose potential safety issues for bicyclists. Adventurous pedestrians may cross the Ten Mile River to enter MacKerricher State Park at low tides when the river has limited flow in the summer. A proposed Caltrans project at Seaside Beach will add four feet shoulders, allowing safe connectivity from Seaside Beach south across the recently completed Ten Mile Bridge. CoLT has completed planning for public access improvements, but is waiting for the Caltrans project to be completed before implementing those development plans.

**Seaside Beach access showing congested parking.**

The Ten Mile Bridge on Route 1 has a walkway on the west side designed specifically for pedestrians, while six feet shoulders are also present next to the roadway for bicyclists. The walkway is five feet wide and separated from the traffic lanes by a railing, although the gradient is not suitable for disabled access. A short trail and viewpoint accessible by disabled individuals is located at the Vista Point at the south end of the bridge at PM 69.6, where handicapped parking is also available.

Other Trail Facilities

Parking is available off the highway in many locations within the study area, in addition to informal and paved turnouts along Route 1. Off-highway parking exists at the MRC Demonstration Forest (PM 88.7), Caltrans Vista Points at post miles 69.7, 74.2, and 81.25, several locations within Westport-Union Landing State Beach, in the village of Westport, at Chadbourne Beach, the Kibesillah Fishing Access, and Seaside Beach. Wages Creek KOA Campground offers day use parking for a fee. A parking lot may be built at the north end of the new Kibesillah Trail once this easement has been dedicated in compliance with a recently approved Coastal Development Permit. A parking lot is also planned at the trailhead for the Cape Vizcaino pedestrian loop trail that will be accessed at PM 85.5.

ADA Parking is available at Caltrans Vista Points at post miles 69.7, 74.2, and 81.25; the day use parking on the north side of Howard Creek in Westport-Union State Beach; and on Omega Street at the northern entrance to the Westport Headlands. An additional ADA parking space is planned at Seaside Beach, and a bike rack will also be installed there. Informal parking is also feasible at unpaved pullouts and, less frequently, at paved turnouts. Adequate shoulder parking presently exists at Hardy Creek, Juan Creek, Pete's Beach, Westport Village, Bruhel Point pullout (PM 74.6), Kibesillah Fishing Access, and along the west side of Route 1 next to the Ocean Meadows subdivision.

**Handicapped parking at Bruhel Bluffs Vista Point.**

State Parks is considering opening a camping area at the south end of Westport-Union Landing State Beach designated for hikers and bicyclists. Camping was formerly allowed in this area, and pit toilets and piped water are available to serve this proposed use. Bicyclists have indicated a strong desire for a camping area separate from motor vehicle camping, as discussed in Section 3.2 below. Consideration should be given to lockers, showers, and sheltered picnic tables if this facility is improved and reopened for that purpose.

## 2.4. Environmental Constraints

The construction of any public trail necessarily involves careful consideration of the environment. From an engineering perspective, it is essential to consider issues such as slope, trail gradient, hydrology, and ground stability in order to design a trail that will endure and require minimal maintenance. The steep terrain and active erosion of coastal bluffs in the study area pose particular challenges. When these factors are coupled with anticipated sea level rise and susceptibility to seismic and tsunami events, the physical environment is a fundamental consideration for selecting a durable trail alignment.

In many locations within the study area, the terrain limits where it is feasible to route a non-motorized trail. Steep slopes also imply significantly higher construction costs because they often require costly retaining structures, greater ROW width, and elaborate systems to control runoff. Unstable soils and landslides are common in this region, necessitating costly engineering solutions. For those reasons, steep terrain is a primary constraint in determining where it is feasible to align a trail. This constraint is shown in Figure 8 and depicted with a hatched pattern on Figures 2 through 6. It is also analyzed with slope maps in Appendix A. Steep terrain is a landscape feature that cannot be avoided. It also has important implications for the reasonable accommodation of individuals with disabilities.

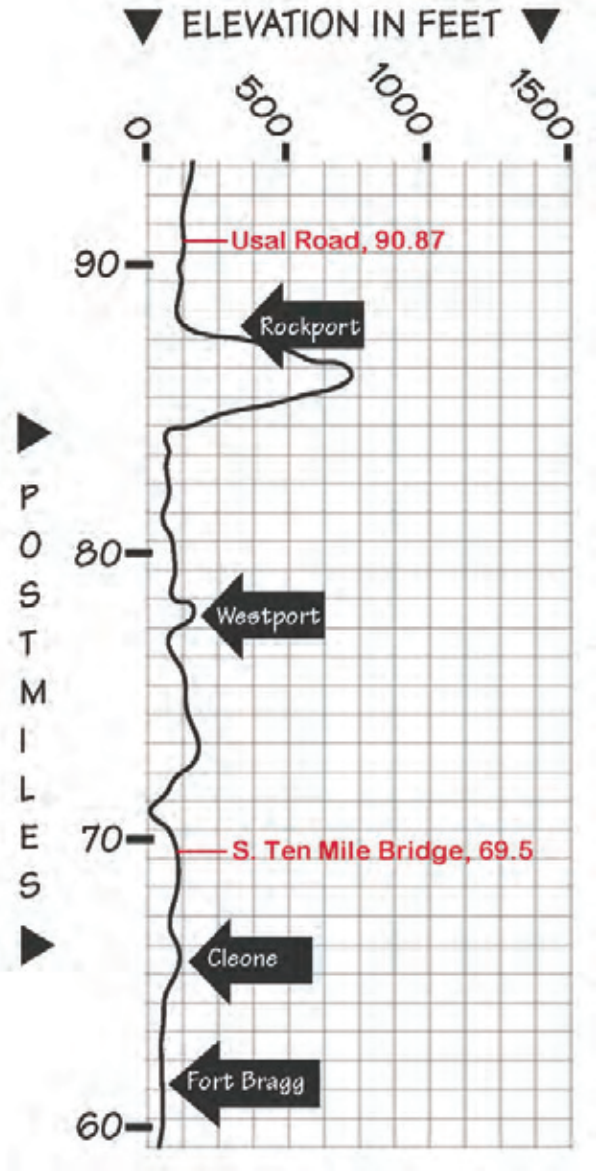



**Figure 8. Route 1 Elevation Profile.**

Certain environmental resources such as wetlands, rare animals and plants, historical resources, and archaeological sites are protected by law. Avoiding or limiting impacts to those resources is not only legally mandated and necessary to obtain permits for trail construction; it is also the best way to ensure valued aspects of the local environment are protected and costs for compensatory mitigation are minimized. Knowing where these resources are located within the study corridor can thus help select specific trail alignments that cause the least harm and are also less costly to build.

Detailed resource identification studies are not normally undertaken until a specific project is proposed within a preferred trail alignment. However, some preliminary investigation was pursued for this plan to help guide the selection of alternatives and avoid locations where resource issues are already known or can be reasonably anticipated.

Cultural resources were identified with a record search at the Northwest Information Center of the California Historical Resources Information System at Sonoma State University and historical research identified places likely to contain as yet unrecorded historical and archaeological resources. The historical research included inspection of maps older than 50 years that depict the locations of settlements, homes, and businesses. Published histories and ethnographies describing those places were also reviewed for evidence of their geographic extent.

The California Natural Diversity Database was used to identify known rare and endangered plant communities. Potential wetlands were observed during windshield and pedestrian inspections of the corridor. The locations of known and suspected environmental resources were then mapped as undifferentiated environmentally sensitive areas (ESAs) and used to inform the selection of the preferred trail alignments discussed below in Chapter 4. While it is a priority to limit impacts to those ESAs whenever feasible, complete avoidance may not be possible. In those situations, mitigation will be designed and incorporated into the trail projects to minimize harm to any affected resources.

## 2.5. Political and Regulatory Context

There are a number of regulatory and political factors that merit careful consideration as trail alternatives are deliberated. Non-motorized trails can be constructed only after designs are completed, necessary environmental and building permit approval processes are finished, and funding is obtained. It may be impractical to construct certain segments without acquiring additional easements or right of way (ROW). The regulations that govern the approval of trail projects are generally known, and those processes are first briefly summarized below. Other political considerations are then discussed, such as how priorities for trail funding are determined, how public agencies interpret and balance conflicting mandates, and the role of willing private landowners in the creation of this public benefit trail.

There are two planning "tracks" that determine agency stakeholders, the applicability of specific laws and design requirements, and the general cost of a trail. Projects with federal funding or permits are overseen by a lead federal agency that cooperates with other federal, state, and local agencies. Undertakings without federal involvement are planned under state laws and local ordinances. The lead agency for these non-federal undertakings is either the state agency that owns the land or, where no state lands are involved, the Mendocino County Department of Planning and Building Services (PBS). PBS also must be consulted by state agencies planning projects in Mendocino County.

The trail system recommended in this plan will likely be built in segments, requiring permits approved under one or both of the processes outlined above. Federal projects are generally more costly, while those built on nonprofit lands or within public access easements are usually less expensive. State lands provide significant opportunities, but the compliance process depends on whether or not federal funding or permits are involved. Trail segments in the Caltrans ROW and segments involving federal permits are typically subject to the federal process. Those federal and state approval processes are briefly summarized below.

Projects that involve federal funding or permits require compliance with National Environmental Policy Act of 1969 (NEPA) and other laws that protect specific types of environmental resources (Figure 9). NEPA compliance is a public process that mandates consideration of significant effects on the environment. This process incorporates the results of compliance with other laws, which may include the National Historic Preservation Act of 1966 (NHPA) if historic properties are present (e.g., buildings, structures, sites, objects, and districts), the Clean Water Act (CWA) of 1972 if wetlands and watercourses are affected, and the Endangered Species Act (ESA) of 1973, if threatened species may be impacted.

Federal funding for non-motorized trails is available primarily through FHWA. That agency has delegated most of its regulatory compliance authority to Caltrans, in accordance with the *Memorandum of Understanding (MOU) between the Federal Highway Administration and the California Department of Transportation Concerning the State of California's Participation in the Surface Transportation Project Delivery Pilot Program*, which became effective on July 1, 2007. Thus, Caltrans acts as the lead federal agency for the NEPA compliance process. Caltrans also acts as the Federal Agency for purposes of NHPA compliance. The U.S. Army Corps of Engineers is the federal agency tasked with oversight of wetlands and watercourse issues, while the U.S. Fish and Wildlife Service oversees terrestrial and freshwater species. National Marine Fisheries Service oversees marine fish including salmon under the ESA. Various other federal agencies may need to be consulted, depending on the kinds of resources affected by a particular project.

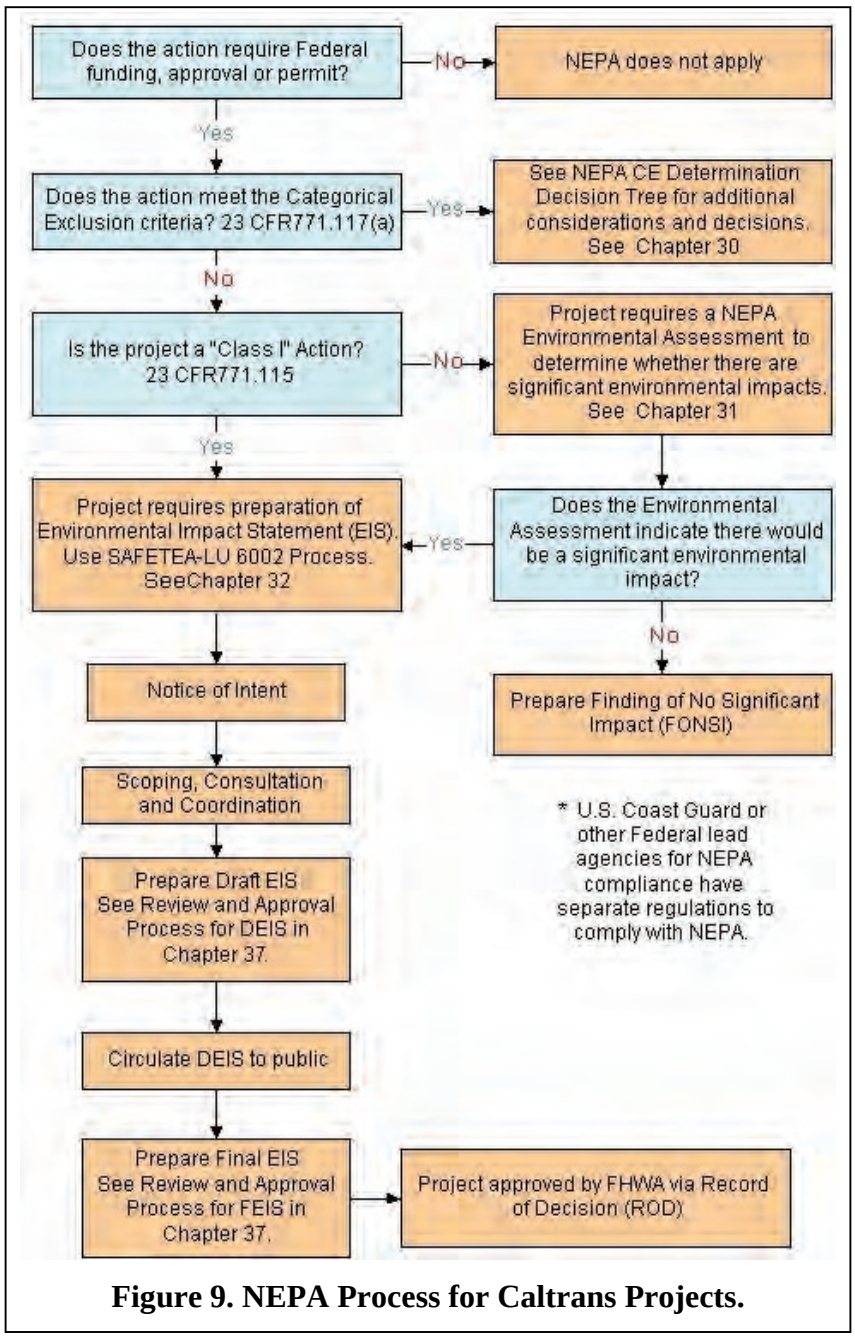



**Figure 9. NEPA Process for Caltrans Projects.**

State and local projects are both approved under a counterpart to NEPA known as the California Environmental Quality Act (CEQA) (Figure 10). Since most of the study corridor is in the coastal zone, coastal permits are also required under the California Coastal Act of 1970. The California Coastal Commission (CCC) delegated its permitting authority to Mendocino County by approving a Local Coastal Plan. Thus, the County's PBS oversees the implementation of both laws for all local projects. Environmental documents and coastal permit applications are prepared by State agencies or other project sponsors for the approval of PBS. The CCC is involved only if the local coastal development permit approval process is appealed.

Funding for trails is available from various federal, state, local, and private sources. Those potential sources are described in Chapter 5. Most funding sources target specific types of trail improvements and have specific design and regulatory requirements. For example, some grant programs are intended solely for transportation and not recreation. Granting agencies may in some cases favor certain trail priorities, such as urban trails over rural trails. It will therefore be necessary to carefully match funding sources to appropriate trail projects within this study corridor.

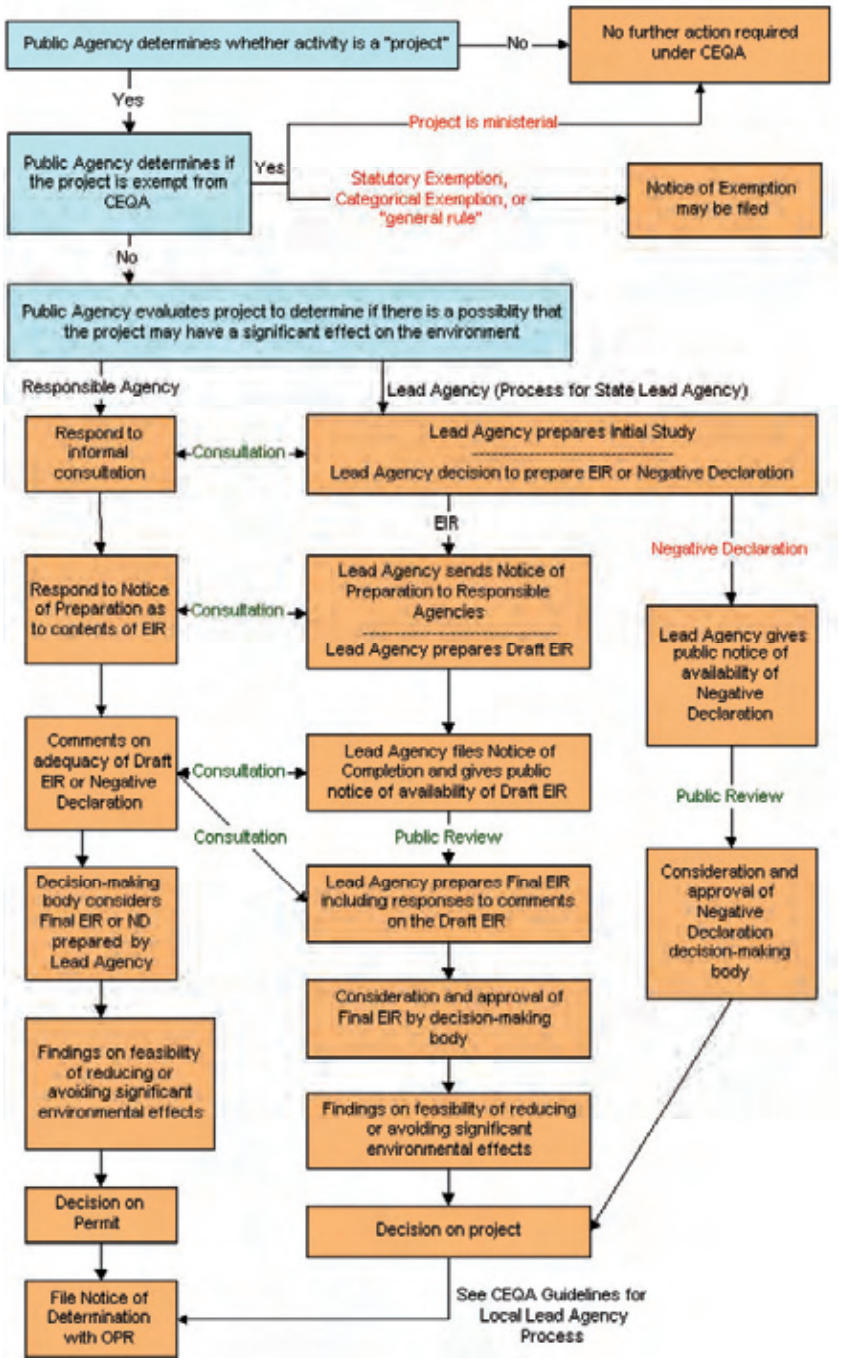



**Figure 10. Overview of CEQA Compliance Process.**

In some cases, competing agency mandates create challenges for the creation of a non-motorized coastal trail. For example, it is necessary to balance preservation of the environment and scenic beauty of the coast with the value of public access. In a landmark study entitled *Completing the California Coastal Trail*, Otter and Locklin (2003) of the California Coastal Commission (CCC) suggest balancing several key trail design principles including: proximity to the ocean; a continuous pathway separated where feasible from roadways to connect users with nature; respect for the environment and private property rights; and feasibility. The input process for this plan incorporated those principles. It was also developed with recognition of the importance of context-sensitive designs that take into consideration the unique character and challenges of particular places, as well as the desires of the local community.

A fundamental consideration for the creation of a continuous coastal trail through the study corridor is the attitude of private landowners toward the project concept and vision. In some locations there is no safe way to create a trail without acquiring additional land or easements. For that reason, outreach to landowners was a significant component of this planning effort. The aim was to encourage voluntary cooperation by pointing out how the trail can provide direct benefits to owners. Those benefits include non-motorized connectivity for transportation and recreational purposes, potential income and/or tax deductions from the sale of land or easements, and positive visibility, participation, and leadership in the local community.

## 2.6. DESIGN CONSIDERATIONS

Several factors must be evaluated when designing a non-motorized trail system. The first is the intended uses of the trail system and how those can be safely and effectively accommodated. The public has expressed interest in bicycling on paved surfaces, pedestrian and equestrian use on paths made of packed earth or fines, and disabled access where practical. Those choices are considered in more detail in Chapter 3. Where the trail parallels Route 1, it will also need to be designed for safe shared use adjacent to motor vehicle traffic.

Design requirements for trail systems largely depend upon their purpose, land ownership, and the type of funding that is used. While trails often serve diverse purposes, a key distinction can be made between those serving transportation versus recreational functions. Transportation trips fulfill a commuting function that involves travel along an efficient path to access work places, services, shopping, and other tasks. In contrast, recreational trips may not involve the most direct route and generally focus on health, recreation, or visits to scenic places. This distinction affects the sources of funding available for construction.

Section 217(i) of Title 23, United States Code states that no bicycle project may be carried out under this section unless the Secretary of the DOT has determined that the bicycle project will be principally for transportation, rather than recreational purposes. No transportation purpose is required for federal aid transportation projects involving pedestrian, equestrian, or any other trail uses. That distinction is made because bicycles are considered vehicles. National design guidelines for bicycle facilities were developed by the American Association of State Highway and Transportation Officials (AASHTO 1999). Those guidelines recognize three primary approaches to bikeway design: Class I, II, and III bikeways.

Class I bicycle paths are defined by AASHTO (1999) as facilities on exclusive right-of-way with minimal cross flow by motor vehicles. The broader term "Shared Use Path" (SUP) is used by FHWA (2011) to refer to “a multi-use trail or other path, physically separated from motorized vehicular traffic by an open space or barrier, either within a highway right-of-way or within an independent right-of-way, and usable for transportation purposes.” SUPs may be used by pedestrians, bicyclists, equestrians, and other non-motorized users and are eligible for Federal-aid transportation funds (Figure 11). There are no Federal laws or regulations that require a SUP to be paved, but it is appropriate to give careful consideration to the intended use(s), the need to minimize conflicts among different uses, trail longevity, and maintenance. Some areas of the study corridor may afford opportunities for development of SUP segments that are separate from Route 1.

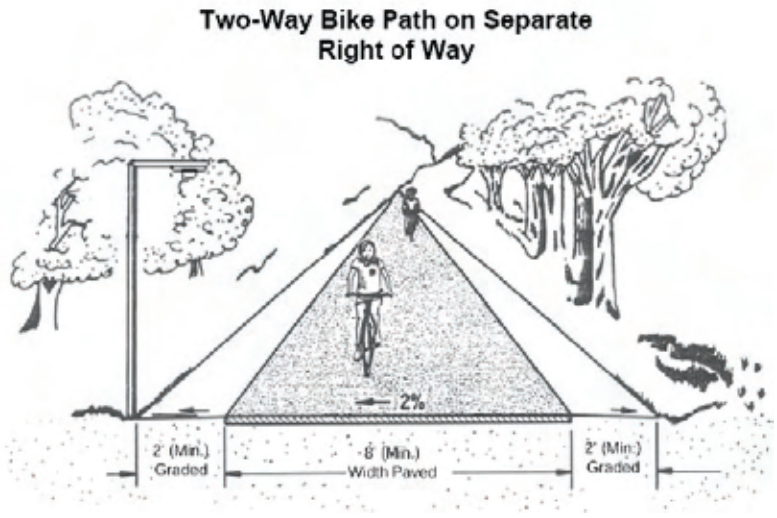



**Figure 11. Typical Class I Bike Path** (Caltrans 2006:6).

Class II bikeways are located adjacent to roadways and referred to as "bike lanes" in the AASHTO (1999) terminology. They typically provide a restricted ROW on the road shoulder that is dedicated for the exclusive or semi-exclusive use of bicycles (Figure 12). They are typically less costly to construct than Class I bike paths because ROW acquisition costs are often minimal, but environmental and engineering costs still may be substantial. MCOG (2010) suggests a cost of $400,000 to $800,000 per mile for Class II bike lanes on comparable rural highways. While widened shoulders along Route 1 may effectively serve as paved bicycle lanes, additional structural width will be needed beyond these paved shoulders to safely accommodate pedestrians and other non-motorized traffic to avoid conflicts among users and ensure safe operations for all modes.

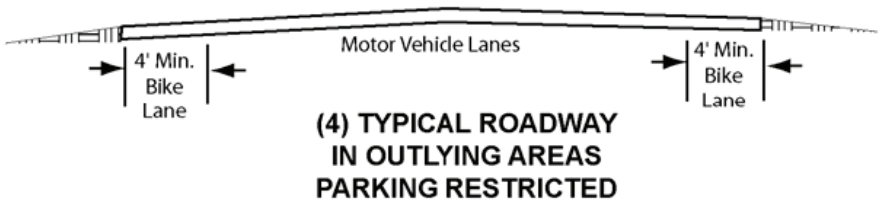



**Figure 12. Typical Class II Rural Bike Lane** (Caltrans 2006:17).

Class III bikeways are called "bike routes" because bicyclists share the roadway with motorists. The study corridor presently functions in this capacity with signs used to advise travelers to share the road. However, shared use of the roadway is problematic for a number of reasons introduced in Section 2.2. Particular problems stem from substandard lane width, lack of shoulders, and obstructions such as guard rails and narrow bridges that leave little or no room for motorists to pass slower non-motorized traffic. Poor sight distance on steep, winding sections of this route exacerbate the safety hazard, particularly on uphill grades where bicyclists move more slowly than motor vehicles.

The trail network envisioned for the study corridor will be used both for transportation and recreational purposes. The primary multi-use trail is envisioned as a transportation facility for bicyclists, pedestrians, and other non-motorized users. It will link residential areas to the Westport village and more distant destinations such as Fort Bragg, while offering connectivity north and south for distance travelers such as touring bicyclists, commuters, and backpackers. The main trail will be a shared use path that may travel outside of the Route 1 ROW where feasible. This main trail will offer an alternative to motorized transportation for the local population, which is clustered around the village of Westport.

Although there is no practical way to avoid locating some segments of the main trail adjacent to the roadway (Class II), potential cross flow problems can be minimized where the shared use path transitions to a Class I facility separated from the road. One solution is to design the main trail with separate lanes for bicycles and other non-motorized users. The locations of branch trail intersections can also be carefully selected to maximize sight distance. Where the main trail is located along the roadway, the desirable solution may be a Class II bike path with an adjacent earth or fines path that will serve other non-motorized users. Adherence to Chapter 1000 of the Highway Design Manual is required for bikeway design on or off the State Highway System (Caltrans 2006). A draft revision of that manual addressing the "complete streets" policy outlined in Departmental Deputy Directive 64-R-1 was released in May 2011. That policy, promotes safe, multimodal transportation, as discussed earlier in Chapter 1.1.

The main trail will also likely be linked to branch trails that provide access to scenic vistas along meandering routes that primarily serve recreational purposes. Anticipated use of these branch trails will be mainly by joggers, hikers, tourists, and fishing enthusiasts. Greater flexibility is allowed in the design of this type of trails. Recreational trails can be built with a variety of surfaces on lands owned or controlled by State agencies, Mendocino County, and lands owned or managed by nonprofits.

A number of excellent manuals outline the principles and specific considerations involved in constructing durable recreational trails. General guidance for pedestrian and bicycle facilities was developed for Caltrans by Alta Planning and Design (APD 2005). Birkby (2006) offers a practical guide to the work involved in building recreational trails, and Parker (2004) describes design principles that will result in the most durable natural surface trails. Flink and others (2001) and the Minnesota Department of Natural Resources (MDNR 2007) offer detailed guidance for the design and construction of a full array of multi-use trails. Guidance for multi-use trails that incorporate equestrians has been created by Hancock and others (2011) and Wood (2007). Mountain biking trail design and construction are covered in a publication developed by the International Mountain Biking Association (IMBA 2004).

Trails also must meet accessibility guidelines pursuant to the Americans with Disabilities Act (ADA) of 1990. The U.S. Department of Justice (DOJ) has responsibility for access standards for buildings, public facilities, and developed outdoor areas, while the U.S. Department of Transportation (DOT) is responsible for transportation facilities. Both agencies worked with the Regulatory Negotiation Committee to develop guidelines for trails, outdoor recreation access routes, beach access routes, and picnic and camping facilities.

The DOT (2007) published its regulations for ADA access for transportation facilities in 49 CFR Part 37. Those regulations offer standards for sidewalks, roads, and trails, while the recently

finalized regulations of the DOJ (2010) pertain to urban parks and paths that link public facilities to parking areas, restrooms, water fountains, and other facilities. Rural shared use and pedestrian paths must have firm and stable surfaces, but they do not have to be paved according to those regulations and other design guidelines.

The DOT's policy on accessibility states "Accessibility is a civil right. The key function of transportation, at its most fundamental level, is to provide basic mobility to society. It is our responsibility to strive to ensure that transportation systems are not only safe and efficient, but also usable by all-including persons with disabilities." The DOJ's (2010) Standards grant an exceptions to compliance under various circumstances. For example, Section 35.151(a)(2)(i) specifies:

> Full compliance with the requirements of this section is not required where a public entity can demonstrate that it is structurally impracticable to meet the requirements. Full compliance will be considered structurally impracticable only in those rare circumstances when the unique characteristics of terrain prevent the incorporation of accessibility features.

The trail system proposed in the study corridor should be made accessible for persons with disabilities where it is practical to do so. That will be possible where the trail traverses relatively level terrain, but relatively impractical along steeper grades present in gulches, stream crossings, and the mountainous terrain between Hardy Creek and Rockport. The Federal DOT (2008) Policy on Integrating Bicycling and Walking into Transportation Infrastructure recognizes the principle of limiting transportation project costs that are "excessively disproportionate to the need or probable use." This limitation is defined as exceeding twenty percent of the larger transportation project.

Massive, costly structures would be needed to make paths on steep grades accessible using DOJ and DOT accessibility standards. Those structures would conflict with mandates to limit environmental and scenic impacts and are judged unlikely to be used by disabled individuals. Priority is instead directed to promoting ADA accessibility between parking areas and scenic destinations, particularly where such access is proposed along branch trails that afford access across level or modestly sloping terrain.

# 3. COMMUNITY VISION

Assessing the interest of the community and other stakeholders in a continuous non-motorized coastal trail through the study corridor was a fundamental objective of this planning process. That input also was essential for creating a shared vision of safe connectivity for both transportation and recreational purposes. Because present conditions hinder many desirable pedestrian, bicycle, and other non-motorized uses, current utilization of the study area has only limited value for estimating future demand for alternative means of transportation. This chapter explores the community input process used to investigate the desirable alignment, characteristics, and priorities for a continuous non-motorized coastal trail.

The importance of involving communities and regional stakeholders in the development of a context-sensitive coastal trail plan is expressly recognized in the Caltrans Route Concept Report for State Route 1. This plan builds on the following idea expressed in that report:

> Caltrans supports Community Enhancement opportunities and is open to working in partnership with Regional Transportation Planning partners in Counties, Cities, and communities where Route 1 is the Main Street of the community (e.g. Gualala) to achieve livable community goals. Community Enhancements, including the development of traffic calming improvements to reduce traffic speed and noise, and development of bicycle/pedestrian facilities to increase opportunities for non-motorized trips can improve the quality of life in our communities. The recreational opportunities along the Mendocino Coast have been enjoyed for generations and the revitalization efforts of the towns and communities along Route 1 will be considered in the design of facilities and reinforced by context sensitive transportation decisions resulting in pedestrian friendly, small town environments desired by the residents. Safety will continue to be our primary concern in the consideration of the entire transportation network, of which Community Enhancements are a part (Caltrans 2003:5-6).

## 3.1. THE VISIONING PROCESS

The development of this plan included a comprehensive effort to involve stakeholders and citizens with an interest in non-motorized transportation within the study corridor. Government agencies and nonprofits with missions including creation of non-motorized trails, as well as agencies that have regulatory oversight authority were involved in the visioning process from the outset as members of the Technical Advisory Committee (TAC), described in Section 2.2. The TAC offered helpful guidance on how to approach the planning process and identified issues that needed evaluation and strategies for public involvement. Contacts were also made early in the planning process with owners of private lands within the study corridor.

Advice and input received from the TAC and private landowners informed the public input process discussed in this section. That process sought input from all stakeholders, local residents, and members of the public likely to have an interest in the outcome of the project. News articles about the project were initially published in local newspapers and a monthly community newsletter published by the WVS, to advise the public of this planning process and invite their participation.

To assess current levels of bicycle use within the study corridor, the survey described below in Section 3.2 was conducted. No comparable pedestrian survey was attempted because through

travel by hikers is rare due to the limiting conditions that presently exist. Following early coordination with the TAC and landowners, an initial public meeting (charrette) was held November 6, 2010 to obtain input from the community, public, and other stakeholders. The publicity for this meeting targeted the TAC, landowners, members of the local community including minorities and low income populations, as well as user groups such as bicyclists, hikers, and equestrians, as described in Section 3.3.

Three public meetings were publicized to gather input from the general public, property owners, and agency stakeholders. An initial charrette held November 6, 2010 included a bus tour and public meeting. Input was gathered using questionnaires, maps, and notes summarizing small group discussions. A second charrette occurred July 9, 2011 to obtain input on a draft version of this plan, documented with notes and another questionnaire. A special meeting on August 2, 2011 focused on further input concerning the village of Westport.

Table 5 summarizes the types of public input gathered in 2010 and 2011 to inform the preparation of this plan. Those diverse responses consistently identified certain themes. Those themes are summarized in this chapter using data derived from the combined public and stakeholder input. Certain kinds of input are analyzed separately to illustrate particular issues. In other cases, they are combined to characterize broader patterns.

**Table 5. Summary of Public Input.**

| Type of Input | Favor Trail | No Opinion | Oppose Trail | Total Number |
|---|---|---|---|---|
| Charrette Surveys | 61 | 0 | 1 | 62 |
| Bicycle Surveys | 364 | 29 | 14 | 407 |
| Map Input | | | | 15 people |
| Small Group Input | | | | 4 groups |
| Written Comments | | | | 3 |

## 3.2. Bicycle Survey

The only bicycle survey conducted in the study corridor prior to this planning effort was completed for the Pacific Coast Bike Route Study by the Redwood Community Action Agency (RCAA 2003). Counts were made on a single day in the first week of September 2002 at Seaside Beach (PM 70.5). During daylight hours the survey recorded no pedestrians, eight touring bicycles, and 111 RVs, presumed to reflect seasonal peak use. No annual non-motorized traffic estimates were offered (RCAA 2003:22). However, the Oregon DOT estimated 4,000 to 6,000 touring bicyclists on Route 101 per year in that neighboring state (RCAA 2003:21), and the LCP estimates 50 bicyclists per day along Route 1 in Mendocino County.

**Bicyclists stopping at Westport Headlands Overlook to complete bicycle surveys.**

To improve upon those estimates, a voluntary bicycle survey was conducted as part of this study between June 1 and September 30, 2010. A questionnaire was used to obtain input from passing bicyclists (Appendix D). The primary survey location was a self-service kiosk on the Westport Headlands, immediately adjacent to Route 1 and clearly visible from both directions. Survey forms were also made available at the Westport Store and Fort Bragg Cyclery.

A total of 407 survey forms were returned, documenting the passage of 902 bicyclists over a four month period (Table 6). While this voluntary sample likely captured less than half of the actual bicycle traffic, the Westport Store is a common stop and the staff there actively encouraged survey participation. The majority of respondents were touring bicyclists travelling south, but 52 local bicyclists also responded, indicating trips for both commuting and recreational purposes within Mendocino County. Touring bicyclists also pass through the study corridor in lower numbers throughout the year, but no counts were made to establish volumes in off-peak months. Bicyclists passing Westport are estimated at 2,500 per year.

**Table 6. Bicycle Travel Direction and Type.**

| Travel Direction & Type | Heading South | Heading North | Both Ways | Un-known | Totals |
|---|---|---|---|---|---|
| Distance Travelers | 779 | 56 | 0 | | 835 |
| Local Round Trip | 0 | 0 | 52 | | 52 |
| Unknown | | | | 15 | 15 |
| Totals | 783 | 56 | 52 | 15 | 902 |

**Table 7. Bicyclist Destinations.**

| Distance Travel | # | % |
|---|---|---|
| Foreign | 148 | 16.4% |
| Interstate | 490 | 54.3% |
| California | 38 | 4.2% |
| Regional | 108 | 12.0% |
| Local (within County) | 102 | 11.3% |
| Unknown | 16 | 1.8% |
| Total Bicyclists | 902 | 100.0% |

The destinations of cyclists responding to the survey are characterized in Table 7. Over 70% of the bicycle traffic involved trips with origins or destinations outside of the state or country. Regional travel, which accounts for 12% of the total trips, occurred between the Bay Area and Oregon Border. Trips between Mendocino County destinations account for another 11% of the sample. A few respondents failed to supply destination information.

An important aspect of the bicycle survey involved input on safety. Over 73% of those surveyed expressed concerns about safety, and 61% indicated the road and shoulders were too narrow in many locations. Four reported accidents involving motorists that forced them off the road and another five reported that motorists threw objects at them or engaged in harassment. Other sources of concern included large truck and RV traffic (18%), poor road and shoulder conditions (6%), vehicles going too fast (6%), poor signage (5%), and blind curves (4%).

Several other questions in the bicycle survey sought input on trail design preferences. The preferred bicycle lane surface was overwhelmingly asphalt (92%). The preferred lane width was four feet (44%) or six feet (36%). Table 8 summarizes feedback requested in the form of yes or no responses. Other input was provided in the form of detailed commentaries that are not readily amenable to statistical analysis. However, some trends in those survey comments can be summarized. Bicyclists strongly support separating bike lanes from motorized traffic, but were generally willing to share lanes with other non-motorized users. Most felt improved bicycle camping facilities were desirable and favored placing them away from motorized campers. The key improvements desired by bicyclists at camping sites were bike racks and lockers,

showers, tables with all-weather shelters, places to wash dishes, and advisory signage. They also wanted camping areas separated from camping motorists.

**Table 8. Indicated Bicycle Survey Preferences.**

| Bicycle Survey Question | Yes | No Opinion | No |
|---|---|---|---|
| Support Non-motorized Trail? | 364 | 29 | 14 |
| Separate path from motorized traffic? | 344 | 32 | 31 |
| Separate path from non-motorized traffic? | 192 | 148 | 67 |
| Staging areas (long term parking)? | 104 | 238 | 65 |
| More/improved bicycle camping facilities? | 281 | 84 | 42 |
| Secure back racks/lockers at camping sites? | 266 | 103 | 38 |

## 3.3. CHARRETTES

The planning process was designed to facilitate community and stakeholder input through two charrette meetings. The first charrette was held on Saturday, November 6, 2010 at the Westport Community Church on Abalone Street in Westport. The second took place in the same location on Saturday, July 9, 2011 following release of a draft plan. The objectives of the first public meeting were to familiarize all stakeholders with the scope and purpose of this planning effort, present data on challenges and opportunities present in the study corridor, and gather input on trail selection criteria, concerns, and priorities. The second meeting focused on input concerning the draft plan, with the aim of refining the trail alignment, design, and segment priorities.

Public notices for the charrettes consisted of direct mailings, broadcast emails, newspaper advertising, posters placed at various locations within the study area, and a press release distributed to local print and radio media outlets. Mailings were sent to all landowners in the study corridor, the TAC, tribes with an interest in the local area, and bicyclists who supplied mailing addresses. A broadcast email was sent to members of the local community on the email lists of the WVS and WMAC, as well as to bicycle survey respondents who supplied email addresses. A press release was distributed to local radio stations and print media outlets. Paid advertisements also appeared in local newspapers. Those publicity materials, agendas, handouts, questionnaires, bus tour notes, and notes summarizing key points from the small group breakouts can be found in Appendix D.

More than a dozen local tribes were contacted in an effort to encourage their participation and input. These tribes included the Intertribal Sinkyone Wilderness Council (ISWC), Noyo River Indian Community, Sherwood Valley Rancheria, Potter Valley Tribe, Pinoleville Rancheria, Yokayo Tribe, Guidiville Tribe, Redwood Valley Rancheria, Coyote Valley Rancheria, Manchester Band, Laytonville Rancheria, Round Valley Reservation, She Bel Na Band, and Hopland Band. Hawk Rosales of the ISWC attended the bus tour and provided input on

**Bus tour November 6, 2010.**

protecting cultural and natural resources and facilitating ongoing indigenous access to the coast. The ISWC manages the Sinkyone Wilderness, accessed by Usal Road at the northern end of the study area. Many local tribes access the coast there and at Westport Union Landing State Beach.

The first charrette began with a guided bus tour of the study corridor from 10:00 AM to 12:30 PM, followed by a lunch provided for all attendees. About 40 people attended the bus tour, riding in two rented Mendocino Transit Authority vehicles or following in their own private vehicles. The guided tour included stops at seven locations within the corridor that illustrated the variability of the terrain and provided an opportunity to review trail possibilities as well as constraints. Stops included Usal Road, the Mendocino Redwood Company's Demonstration Forest, Westport-Union Landing State Park, Westport Headlands, Chadbourne ("Blues") Beach, Seaside Beach, and the south end of the highway bridge over the Ten Mile River. Passengers disembarked at most of the stops, where key issues were summarized and questions about the planning process were answered.

The public meeting began at 1:00 PM and followed an agenda. Over 40 people participated in the meeting, although only 31 of the participants signed in. The meeting began with a brief slide show presenting the goals and objectives of this community-based planning process. Moderators then guided four small group breakout discussions organized into stakeholder groups includingd pedestrians; bicyclists; equestrians and hikers; and landowners. A recorder for each group took notes on the main points made in the discussions.

**Small group breakout session.**

The meeting concluded with a large group session. A spokesperson for each breakout group summarized the input from the four focus groups. The moderators then explained how the planning process would unfold, inviting participants to attend a second charrette to discuss this draft plan. Participants were asked to complete a questionnaire, which was also made available on the WMAC Coastal Trail web page (http://www.westportmac.org/trail.jsp). These surveys were accepted until November 15, 2011. Participants were also asked to indicate their priorities by placing three color-coded stickers on large maps at the conclusion of the first charrette. Fifteen participants indicated their priorities on these maps.

The second charrette took place on July 9, 2011 between 10:00 AM and 2:00 PM with a lunch provided at noon for about 25 participants. This meeting was designed to gather input on a draft version of this plan in a large group format. A slide show was given to present key concepts in the plan and notes were taken on public input. A questionnaire was provided to gather key input on segment priorities, proposed trail width preferences, and desirable pedestrian improvements in the village of Westport. Only 12 participants returned questionnaires.

The participants in the second charrette were divided in their opinions about proposed improvements in the village of Wesport. For that reason, additional input was sought from residents and owners of land within the village at the August 2, 2011 meeting of the WMAC. The meeting was publicized with mailings to each landowner, email notifications to the WMAC list, and notices placed on the community bulletin board at the Westport Store and the coastal trail page on the WMAC web site. Nine people attended that meeting and two owners supplied written input on the revised proposal. Appendix D includes the publicity for that special meeting and notes concerning the input that was received.

## 3.4. Creating a Walkable Community

The village of Westport is the only notable population cluster along the predominantly rural study corridor. The community contains over 50 houses and has a permanent population of less than 100 people. Over 200 other residents live mainly north of town in the Westport Beach Subdivision and adjacent areas. Visitors at the private Wages Creek KOA Campground, Westport-Union Landing State Beach, and several lodging establishments in and near the village contribute to the local economy, adding to local trips made into the village. Establishing connectivity between outlying areas and the village was identified as the highest priority in small group breakouts at the first charrette and was also ranked high by those responding to charrette surveys and indicating priorities on large poster maps.

The town offers two lodging establishments with dining facilities, a general store, a post office, an elementary school, a church that serves as a community center, a volunteer fire department, a refuse disposal station, and a community services district that supplies water and sewer services within the town. Local residents in and near Westport make regular trips into the village to access services there. Given the small size of the community, most residents also make trips to Fort Bragg for work, provisions, school, and other activities. The 2000 census indicated 56% of local workers commuted alone in a car, 23% worked at home, 18% walked to work, and 3% carpooled. Detailed census data from 2010 were not yet readily available when this plan was written to compare more recent motorized transportation patterns.

There are no studies analyzing the ratio of local trips to those destined for Fort Bragg. However, townspeople and residents from the surrounding area generally commute into the village daily to retrieve mail, purchase supplies, dine, attend meetings and events, visit neighbors, respond to emergencies, or work at local businesses. The village is defined in by its Rural Village zoning designation, but the area served by the Westport Municipal Water District includes a larger area (Figure 13). The area of influence includes the surrounding rural population that depends upon the village for services.

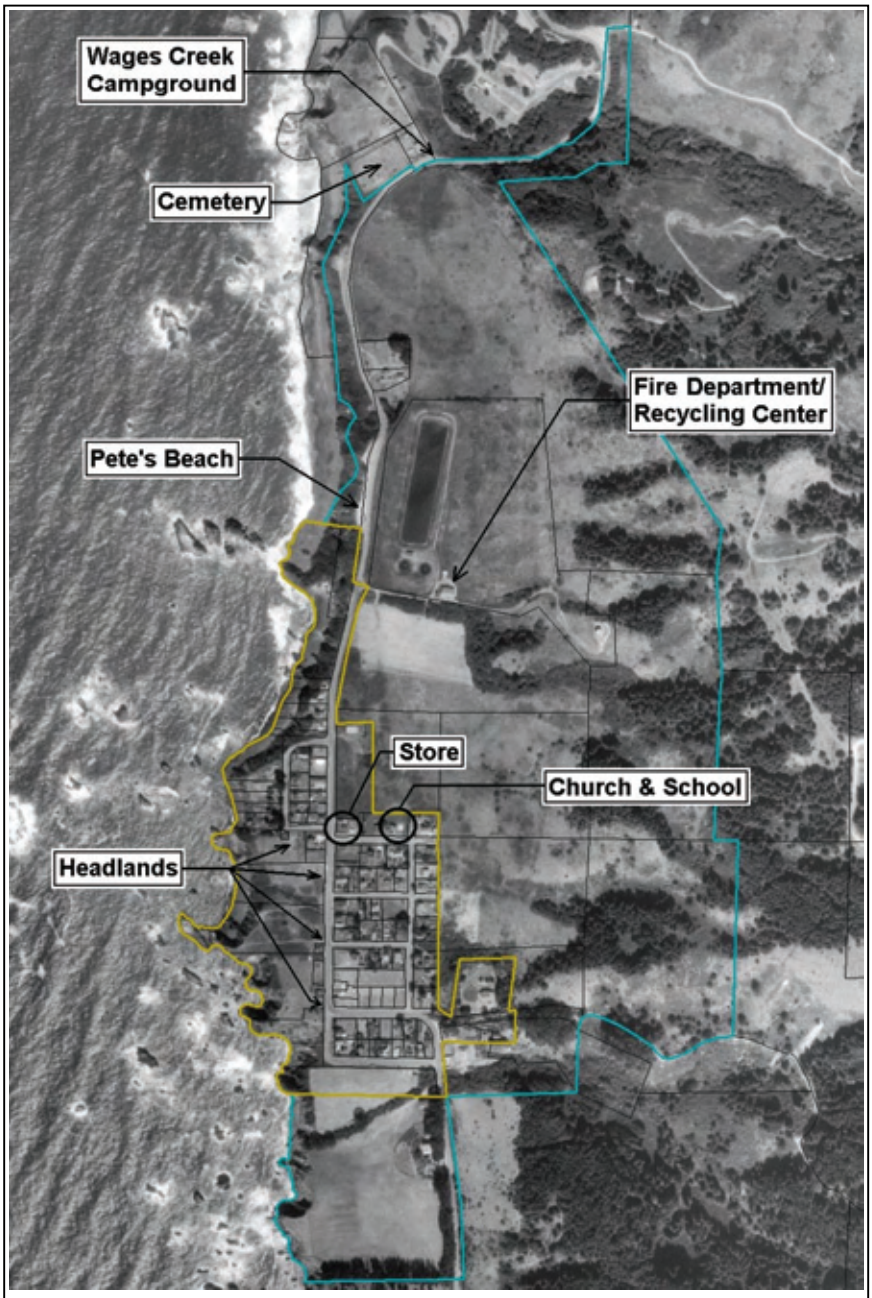



**Figure 13. Westport Village Walking Destinations**
(Rural Village zoning in tan; Water District boundary in blue).

Before the temporary closure of the Westport Elementary School in June 2010, it was regularly visited by students, parents, volunteers, and employees who accounted for regular pedestrian, bicycle, and motor vehicle trips to that local destination. The playground is still actively used and many residents regularly visit the Westport Community Church for meetings, exercise classes, and other events. Other major walking destinations in town include the Headlands (managed by the nonprofit WVS), Pete's Beach (managed by DPR), the private Wages Creek Campground, and the Westport Cemetery.

Pedestrian circulation in the village was studied in 2002 by Professor Randy Hester and his students from the Department of Landscape Architecture and Environmental Design (DLAEP) at the University of California in Berkeley. They held a series of well-attended local meetings, interviewed local people, and sought input on desirable improvements. The DLAEP (2003:11-5) study identified some potential pedestrian improvements to enhance the "walkability" of the town, as shown in Figure 14.

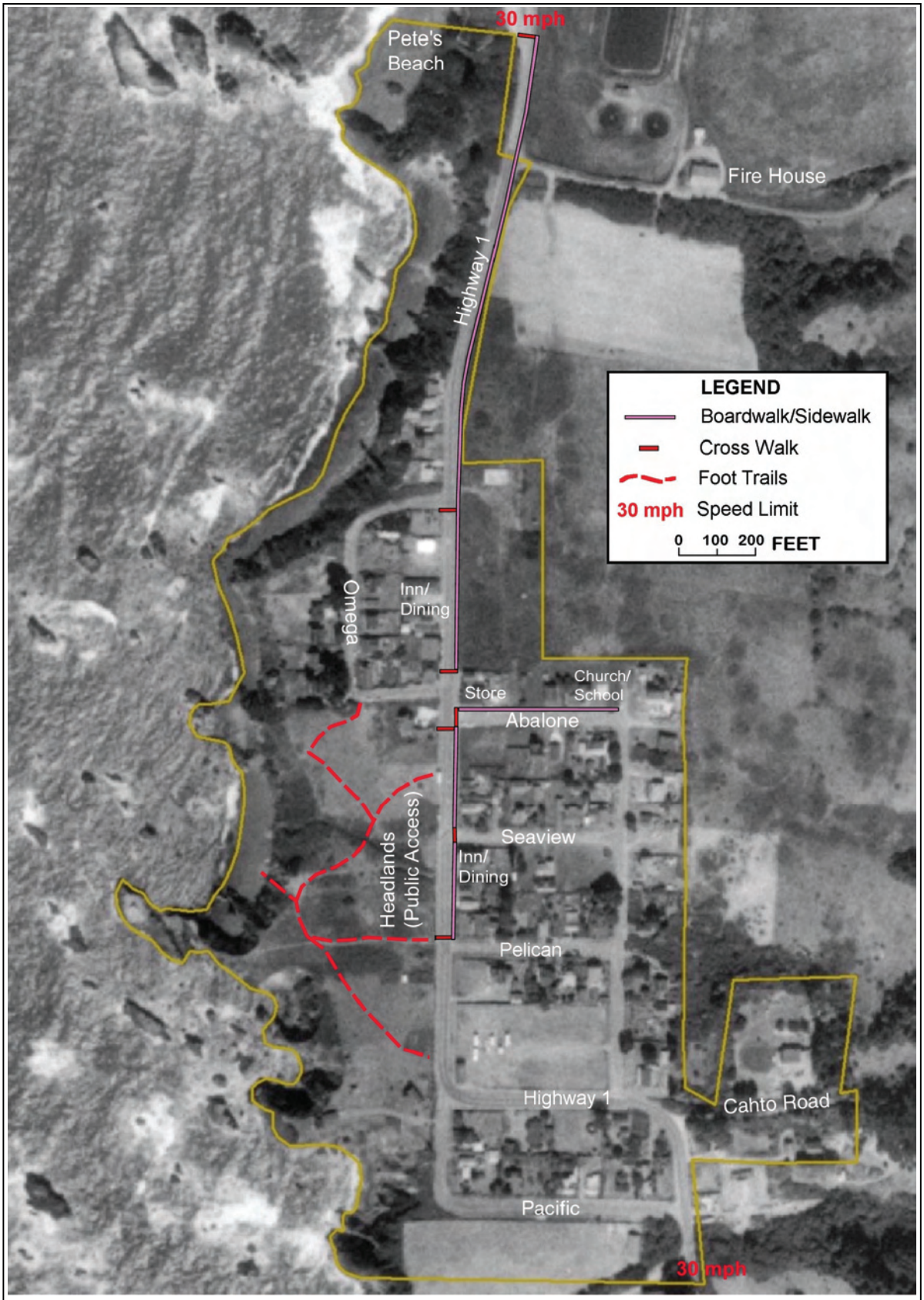



**Figure 14. Pedestrian Improvements Suggested by DLAEP** (2003).

The DLAEP (2003:7-14) study identified the store and post office as the focal point of much community interaction, with many other nearby places visited regularly on foot or by bicycle. The DLAEP study noted walking "encourages a sense of community in Westport, making the whole town the domain of pedestrians. Ritual daily walks lead to destinations, exchanges with friends and neighbors, and connection to the larger landscape." Abalone Street supplies a critical path between the store and the school/church, while the Main Street (Highway 1) offers important access to the main businesses, Westport Headlands, Fire Station and recycling center, Pete's Beach, the cemetery, and Wages Creek Campground at the far north end of the town.

The FHWA's 2010 livability guidelines support the kind of walkability improvements communicated to the DLAEP team by local residents at public meetings in 2002. As noted by Ray LaHood, the U.S. Secretary of Transportation, "livability means being able to take your kids to school, go to work, see a doctor, drop by the grocery or post office, go out to dinner and a movie, and play with your kids at the park—all without having to get in your car" (ICF 2010:1). The same principle applies to the larger community of permanent residents and transient tourists that occupy the region north of Westport. Community events are held regularly at the Headlands, Church, School, and Fire Station. The speed limit along Highway 1 through these parts of the town ranges from 35 to 55 miles per hour, with offset signage for north and southbound traffic through the center of the village. No sidewalks and only one marked crosswalk presently exist.

**Easter Parade on Route 1 in 2004.**

Many local residents and visitors would like to walk or bicycle to the village if the narrow section of Highway 1 between Branscomb Road and the north end of the town is improved to allow safe passage. Public input received during the preparation of this plan also suggests there is consistent interest in traffic calming measures between Pete's Beach and the south end of the village. Those measures may desirably include additional striped crosswalks, gateway signage at both ends of town, and other limited improvements.

Public opinion is divided, however, on the question of adding defined walking paths along the highway and County roads within the village. Public input for the DLAEP (2003) study favored a boardwalk connecting key walking destinations near the center of town. Some input received on the draft version of this plan supported the boardwalk concept and suggested posting signs indicating County roads as alternate bike routes. One property owner in the town does not favor the formality of defined boardwalks and several oppose signing the County roads as alternate bike routes. They prefer to limit improvements in town and focus non-motorized improvements on establishing safe connectivity in other areas, such as Sections 2c and 4a.

## 3.5. Identified Benefits

Long-distance trails offer far-reaching benefits to local communities. Residents of the local community and other participants in this public planning process have pointed out many of these benefits in testimonials offered during the bus tour and charrettes, notes taken during the small breakout groups at the first charrette, and comments offered on the bicycle and charrette surveys. Some of the key reasons people support the project are summarized in a technical reference prepared for Pedestrian and Bicycle Facilities in California:

> Many California residents are interested in walking and bicycling as a means of transportation. As modes of travel, walking and bicycling are healthy, efficient, low cost, and available to nearly everyone. They help communities achieve the larger goals of developing and maintaining "livable communities;" making neighborhoods safer and friendlier; reducing transportation-related environmental impacts, mobile emissions, and noise; and preserving land for open space, agriculture, and wildlife habitat. Perhaps most importantly, they provide transportation system flexibility by giving people alternatives in congested conditions and by providing improved multimodal access, particularly in combination with transit systems. There is also growing interest in encouraging walking and bicycling as a means for improving public health. Increasingly, public health organizations are looking to urban and state transportation planners to create more walkable and bikeable communities to encourage healthier lifestyles in the United States (APD 2005:VII-2)

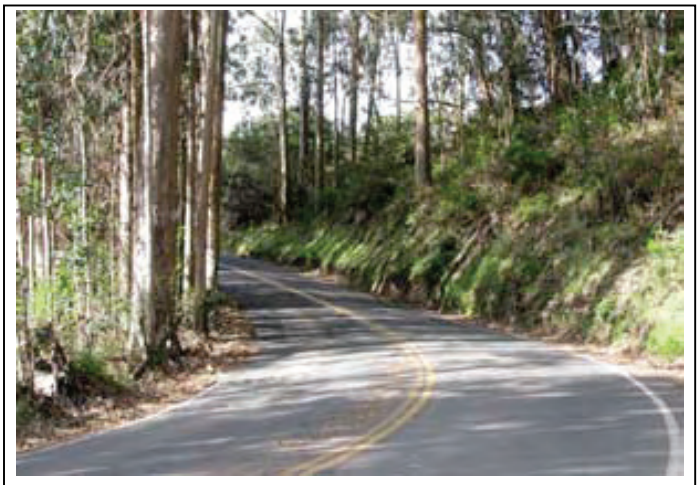
Trails provide a viable alternative to motor vehicle use, allowing access to the village of Westport, natural areas, and more distant destinations such as Fort Bragg. They can serve both transportation and recreational purposes, allowing local residents and visitors to access the village and other destinations without cars. Many participants who live a short distance north of Westport indicate a trail would allow them to walk or bicycle to town for jobs, supplies, visits to the post office, and community events. It would also foster social interactions that enhance a shared sense of community.

The health and environmental benefits of trails were specifically mentioned during public input for this plan. Physical activities like bicycling, jogging, and walking provide exercise that is a necessary component of a healthy lifestyle. Those activities improve air quality and conserve resources by reducing dependence on motor vehicles. Participants in this planning process also consistently valued the scenic beauty of the area and feel a well-designed trail will contribute to public appreciation of the environment, fostering stewardship. Small group discussions indicate local users often play an essential role in maintaining and reporting conditions on non-motorized paths, contributing to their safe operation and maintenance.

It is well known that trails attract tourists who spend money at local businesses. Trails can thus be expected to contribute to the growth of the local economy. The local community appreciates green tourism, because it not only contributes to the economy, but also supports the wise conservation of the environment. An Oregon DOT study estimated bicyclists riding the Oregon Coast every year generate income "in the range of $800,000 to $1,200,000 per year" (RCAA 2003:21). A variety of local businesses benefit from the presence of tourists who will likely visit more frequently if a continuous trail exists. Stores, eating and lodging establishments, and campgrounds currently present and derive benefits from tourism. Additional businesses will likely arise as demand for services increases.

## 3.6. Guiding Principles

There is strong public support for a non-motorized trail system that is constructed in a manner that takes into account user needs, community values, and the special character of the local setting. Public input consistently identified several guiding principles favored by the community for the design of the coastal trail proposed in this plan. These key concepts include safety, connectivity, environmental protection, practical and cost-effective design, respect for neighboring landowners, and the need to incorporate plans for associated facilities and long term maintenance.



**Narrow section of Route 1 at PM 71.35.**

Safety

Safety is consistently listed as the most important issue by the community and public. The proposed trail must provide a dedicated path that offers safe passage for non-motorized users. Few are presently willing to risk traveling along Route 1 in areas that lack shoulders, adequate lane width, or that contain constrictions such as guard rails, narrow bridges, or steep drop offs along the edge of the highway. Public input stressed the importance of separating non-motorized traffic from motorists. Those who responded favor a path separated from the road where feasible, or located on the shoulder with enough width to allow safe separation from motor vehicles.

The public feels a variety of non-motorized uses can be safely accommodated on a shared use path. This type of trail will also limit costs and environmental impacts. Few conflicts are anticipated among non-motorized users because of anticipated moderate levels of use within the study corridor. The public favors an all-season coastal trail over one that is periodically inaccessible (e.g., at high tide, due to bluff retreat, etc.) or poses access hazards like crossing the mouth of the Ten Mile River. Landowners also raised safety concerns connected with homeless encampments. However, creation of a coastal trail is not expected to exacerbate this issue because there are few places for homeless people to obtain provisions in this rural corridor.

Connectivity

A key idea raised by many participants is the need to establish safe connectivity between destinations. This concept is closely linked to safety and was cited by many as the most important consideration for prioritizing selection of future projects. While existing conditions in many areas allow for relatively safe passage by pedestrians and bicyclists, there are several dangerous segments that effectively preclude connectivity due to steep terrain and nonexistent shoulders. This is a particular problem for pedestrians. Public input identified the most crucial links are connections between Westport and Westport Union Landing State Park, between Westport and Bruhel Point, and between the Ten Mile Bridge and Kibesillah Fishing Access. The area between Hardy Creek and Rockport is also dangerous, but is considered a lower priority because it will likely receive limited use. Without these critical links, use of the trail for non-motorized transportation purposes will remain impaired.

Environmental Protection

Public and agency stakeholders agree that impacts to environmental resources should be minimized and the scenic beauty of the area maintained. The preferred way to achieve these objectives is a shared-use path located adjacent to and, where possible, west of Route 1. A shared-use path is considered best for the environment because it provides access for the largest number of users within a narrow footprint that costs less to build than multiple lanes or several separated paths. Establishing a well-designed trail will also help limit the propagation of informal social trails that can have major impacts on sensitive environmental resources and cause erosion problems. Some responses suggest that trails should be designed to control access in ways that will protect environmental resources.

**Beach near mouth of Dehaven Creek.**

Branch trails may be desirable in some locations, but many responses stress the importance of selecting the main trail alignment with an eye toward longevity. The longevity of a trail depends not only on careful design addressing problems such as drainage; it also means aligning the trail in a manner that considers sea level rise, bluff retreat, and the difficulties presented by landslide-prone slopes. Where steep terrain cannot be avoided, the public favors practical and cost-effective approaches over large and costly structural solutions with significant footprints that detract from the environment and scenic beauty. In other words, trails should blend into their settings, rather than dominating them.

Practical and Cost-Effective Design

Practical and cost-effective approaches are favored to stretch limited funding, reduce environmental impacts, and open access to long sections of multi-use trail as quickly as possible. The community favors giving relatively high priority to building segments that have the fewest design and environmental issues and the lowest cost, while keeping in mind the critical importance of the connecting links discussed earlier.

The most practical and cost-effective trail segments will likely be those on existing public lands and easements with level to moderate slopes. The public supports making the trail accessible to disabled individuals only on level to moderately sloping terrain that is connected to handicapped parking. They consider it impractical to make steep sections accessible. A trail gradient that follows an incline similar to that of Highway 1 is considered desirable to avoid massive structures that overwhelm the aesthetics of setting and entail disproportionate costs.

Steep segments, narrow bridges, and other locations with complex design and environmental issues often coincide with areas that pose the biggest problems for establishing safe connectivity. While they should be considered the highest priority, those sections will take more time to design, permit, and build. The design of those sections should give consideration to practical solutions that avoid massive structures. Disabled access is not as desirable in these steep locations because few handicapped users are expected to want to make strenuous climbs.

Respecting Private Lands

The landowner breakout group at the first charrette focused on issues affecting private property adjacent to the trail, while charrette surveys asked for input on ways to respect private lands. Adjacent landowners generally favor a trail aligned on public lands. The landowner breakout group raised concerns involving proximity impacts from trespassing, trash disposal, and sensitive selection of trail-serving facility locations like parking, restrooms, and other improvements that could create nuisances for neighbors. While fencing is recognized as a strategy to deter trespassers, concerns exist about illegal entry, camping, and the presence of homeless people. The trespassing issue is perceived as posing security, trash, and personal safety problems. Trail monitoring and maintenance afford ways to address these issues.

Planning for Associated Facilities


Increasing numbers of non-motorized visitors will require support facilities. The key requirements consistently mentioned in a large number of comments are access to potable water, restrooms, staging areas (parking), signage, and camping facilities with bike racks and lockers. Major facilities such as water and restrooms may be desirable at roughly five mile increments. Installing more signs is considered desirable to increase traffic safety, indicate the locations of amenities, define trail use restrictions, and interpret scenic locations. Some comments also suggest providing non-motorized users with refuges from motorized traffic on uphill grades, especially where the trail is aligned adjacent to the roadway. Trash receptacles and call boxes were also mentioned as desirable amenities at the most heavily-used staging locations.

Maintenance

Most input has pointed out the need to take a long term view and plan for monitoring and maintenance of the trail after it is constructed. The question of ongoing trail operation and maintenance has been raised by private, nonprofit, and public landowners alike. A key approach that may be used to contain future trail maintenance costs is careful design and construction of a trail facility. This can reduce the need for major repairs and costly upkeep over the long term.

**California Conservation Corps trail maintenance crew.**

Consideration also should be given to the need for maintenance and emergency vehicle access to trail sections separated from the roadway. Public agencies and nonprofits often turn to local communities for voluntary assistance with trail monitoring and maintenance. Formal agreements and budgets should be considered to ensure investments in trail construction are maintained.

## 3.7. Community and Stakeholder Priorities

Community priorities were determined from charrette questionnaires, priority dots placed on maps at the first charrette, and written notes on the comments offered by participants at all three of the public meetings. There is general recognition that the 21-mile trail planned in this study is likely to be built incrementally. While the public favors taking advantage of existing opportunities and building the least costly segments first to maximize the amount of trail completed, connectivity is also viewed as a critical issue that must be addressed.

The initial broad geographic priorities for trail projects from the first charrette are ranked by their relative merits in Table 9. A combined rank was assigned taking into account all three scores. The Usal Road to Hardy Creek segment received lower scores than any other segment, in part because less local travel is expected to occur in that section. The highest relative priority was given to the Westport to Abalobadiah segment, followed by the section north of Westport and the southernmost segment.

**Table 9. The Community's Initial Geographic Priorities.**

| Segment | Type of Input | | | Combined Ranking |
|---|---|---|---|---|
| | Mapping | Charrette Surveys | Small Groups | |
| Usal Road to Hardy Creek | 4 | 4 | 4 | Low |
| Hardy Creek to Westport | 2 | 3 | 1 | High |
| Westport to Abalobadiah Creek | 1 | 1 | 3 | Highest |
| Abalobadiah Creek to Ten Mile River | 3 | 2 | 2 | Medium |

A critical factor not accounted for in this relative geographic ranking is the stated desire conveyed by some members of the public to prioritize the critical connectivity discussed earlier. They identified the highest priority as a connection between the village of Westport and residences and visitor-serving facilities clustered north of the town. Other crucial links needed to allow safe passage by pedestrians and bicyclists have already been described.

## 3.8. MEETING COMMUNITY GOALS

The goals of the community and other interested users are to create a continuous trail that facilitates safe non-motorized travel for both transportation and recreational purposes. The desired trail will provide connectivity along a main trail that follows a relatively direct route, with connections to branch trails that afford access to coastal destinations such as beaches and scenic vistas. The main trail will preferably separate from the Route 1 roadway where possible, or have sufficient width on the shoulder to ensure the safety of non-motorized traffic. It will be aligned through existing public lands, highway right of way, and easements controlled by public and nonprofit entities.

The community envisions northbound bicyclists remaining on the east side of Route 1, while southbound bicyclists and other non-motorized traffic will share a path on the west side of highway. That shared use path (SUP) will feature a paved surface for bicycles next to an adjacent lane suitable for other planned non-motorized uses. The primary uses desired for the SUP include walking, hiking, jogging, and both road and mountain bicycling. Disabled access also is considered desirable along segments that have a relatively level gradient. The trail should be aligned to create a durable facility that minimizes maintenance requirements and will not be quickly lost when predictable bluff retreat occurs. It should fit into the aesthetics of the landscape with a footprint that is minimized to limit costs and environmental impacts, but still safely accommodates planned uses for specific sections.

Within the village of Westport, a number of pedestrian improvements are considered desirable to improve the walkability of the town. A 2003 DLAEP study recommended boardwalks along Route 1 from Pacific Avenue north to Pete's Beach, as well as striped and signed crosswalks at key intersections. The public input received on this plan underscored the desire of the community for improvements in the village that are modest and in keeping with existing aesthetics. Most respondents favor traffic calming measures and pedestrian facilities that maintain the rural character of the village and are scaled in keeping with anticipated moderate levels of use. It is considered desirable to reduced speed limits through the village as far north as Pete's Beach with methods in keeping with the rural character of the town.

Equestrians did not express much interest in trails associated with the highway, citing safety as well as aesthetics. They are mainly interested in long trail rides east of Route 1, perhaps connecting to inland valleys and towns. Those areas are not part of the study area and do not satisfy the purpose and need for this project, nor do they meet other important criteria such as proximity to the coast. Inland equestrian trail routes are also impractical because they require acquiring extensive easements. Horse riding may nevertheless be feasible on proposed trail segments that are separated from the highway.

# 4. RECOMMENDATIONS

Preliminary concepts for the design and alignment of a non-motorized shared use path (SUP) in the study corridor were proposed in a draft version of this plan released to the public June 30, 2011. That draft also proposed additional non-motorized facilities the community and public mentioned as desirable at the initial planning charrette held on November 8, 2010. This plan presents recommendations that have been revised to reflect input received after the release of the draft plan. Most of the initial concepts were supported by public input received in July and August, 2011. The most noteworthy revisions in this final plan involve recommendations specific to the village of Westport and public priorities for pursuing projects within the study corridor.

To facilitate discussions of priorities, the 21.12-mile route between Usal Road (PM 90.87) and the vista point parking at the south end of the Ten Mile Bridge (PM 69.75) is divided into 17 sections based on parcel ownership, land use, and terrain. These sections, listed in Table 10 with post mile limits, comprise divisions that may be useful for pursuing specific projects. Priorities for constructing improvements are identified at the end of this chapter for each section of the trail. The overarching objective, however, is the creation of a continuous trail that will fulfill a transportation purpose when it is completed. The recommendations offered in this plan take into account public input on initial concepts. Those opinions are summarized later in tables that capture input derived from questionnaires, notes taken at public two public meetings held July 9 and August 2, 2011; as well as meetings and phone conversations with Westport village landowners. Summaries of that public input are provided in Appendix D.

**Table 10. Study Area Sections Shown in Detailed Maps.**

| Section | Begin PM | Reference Location | End PM | Reference Location | Description |
|---|---|---|---|---|---|
| **1a** | 90.87 | Usal Road | 90.00 | Soper-Wheeler | Soper-Wheeler Prairie |
| **1b** | 90.00 | Soper-Wheeler | 89.20 | Soper-Wheeler/MRC line | Soper-Wheeler Riparian |
| **1c** | 89.20 | Soper-Wheeler/MRC line | 87.84 | Cottoneva Bridge, Rockport | MRC Riparian |
| **1d** | 87.84 | Cottoneva Bridge, Rockport | 84.25 | S. MRC line | Tin Can Ridge |
| **2a** | 84.25 | S. MRC line | 82.50 | N. end Vista Point | Hardy Residential |
| **2b** | 82.50 | N. end Vista Point | 79.25 | Branscomb Road | Westport-Union Landing |
| **2c** | 79.25 | Branscomb Road | 78.35 | Wages Creek Bridge | Dehaven to Wages Creek |
| **3** | 78.35 | Wages Creek Bridge | 77.00 | S. end Westport | Westport Village |
| **4a** | 77.00 | S. end Westport | 76.25 | N. end Caltrans Lands | Siamex Prairie |
| **4b** | 76.25 | N. end Caltrans Lands | 75.10 | Blue Slide Bridge | Chadbourne Gulch |
| **4c** | 75.10 | Blue Slide Bridge | 73.72 | S. end Caltrans Lands | Bruhel Point Bluffs |
| **4d** | 73.72 | S. end Caltrans Lands | 73.25 | N. end Kibesillah Trail | Kibesillah Residential |
| **5a** | 73.25 | N. end Kibesillah Trail | 72.00 | N. end Kibesillah Fishing | Kibesillah Trail |
| **5b** | 72.00 | N. end Kibesillah Fishing | 71.50 | N. end Abalobadiah Gulch | Kibesillah Fishing Access |
| **5c** | 71.50 | N. end Abalobadiah Gulch | 70.70 | Seaside Creek | North Seaside Residential |
| **5d** | 70.70 | Seaside Creek | 70.50 | S. end Seaside Beach | Seaside Beach |
| **5e** | 70.50 | S. end Seaside Beach | 69.75 | S. end Ten Mile Bridge | Ocean Meadows Residential |

# 4.1. Proposed Trail Design Concept

Two primary configurations are recommended for the primary SUP to provide connectivity for transportation purposes along the 21.12-mile study corridor. Continuity of design is essential to facilitate through travel, since commuters and touring bicyclists are unlikely to detour off the highway unless the path offers a fairly direct route with unimpeded flow and a suitable surface. The two SUP variations consist of a path on or near the highway shoulder (Figure 15) and a separated alignment. The Separated SUP will function as a Class I shared use path (Figure 16). This plan recommends paving the bike lanes in both configurations, while surfacing the adjacent pedestrian lane with other materials such as packed earth, fines, gravel or other materials. Over 90% of surveyed bicyclists desire a paved surface, while virtually all of the public input favored an unpaved pedestrian path surface. Other types of pedestrian improvements for the village of Westport are discussed later.

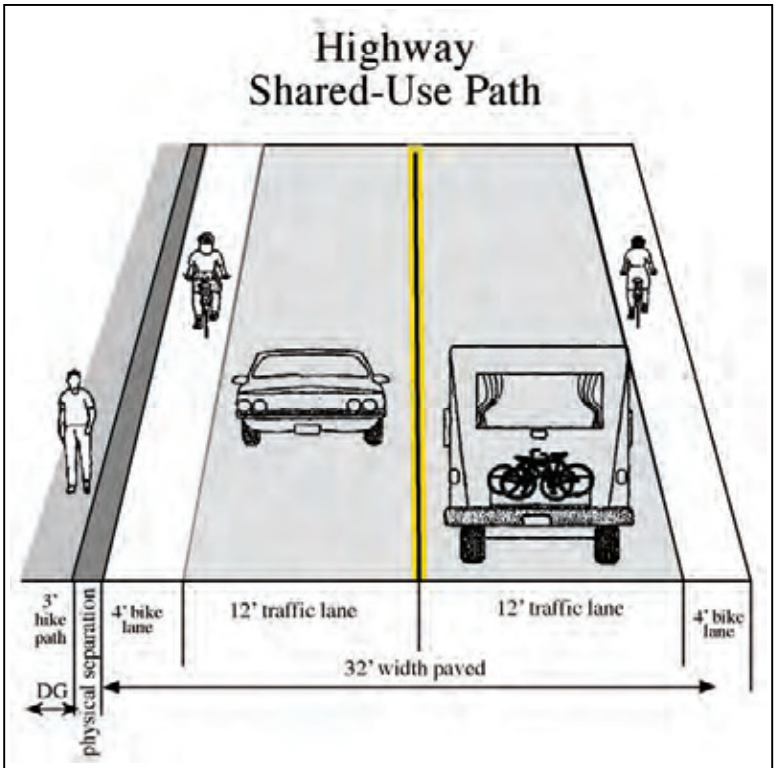



**Figure 15. Shoulder SUP Design** (facing north**).**

The two proposed trail configurations intentionally minimize the footprint of the path, in keeping with the principles identified by the community and other stakeholders. The Shoulder SUP design conforms with existing Local Coastal Plan guidelines and Caltrans (2006) Bikeway Planning and Design standards, which stipulate as a minimum standard symmetrical 4-foot shoulders. In addition, a 3-foot hiking path will be located along the west edge of the highway to provide connectivity for other non-motorized travelers. For pedestrian safety, this footpath will need to be separated from the west (southbound) shoulder. The physical separation of this pedestrian lane may be a hard barrier (e.g., guard rail, AC dike, or anchored cable barrier system), grade change (e.g., curb with elevated path surface), vegetation, or an alignment outside of the clear recovery zone (CRZ), which is defined as 20 feet for conventional highways like Route 1.

A total of 15.53 miles of Shoulder SUP is proposed on the west edge of Route 1 where no separated alignment is currently practical. A 24-foot roadway is recommended due to the high truck and RV traffic. The Shoulder SUP design will feature paved 4-foot wide shoulders on both sides for use by bicyclists, as well as a 3-foot pedestrian lane west of the highway. The pedestrian path may be aligned wherever it is most practical to ensure safety within the Caltrans right of way. Considerations such as terrain, geological stability, and environmental constraints

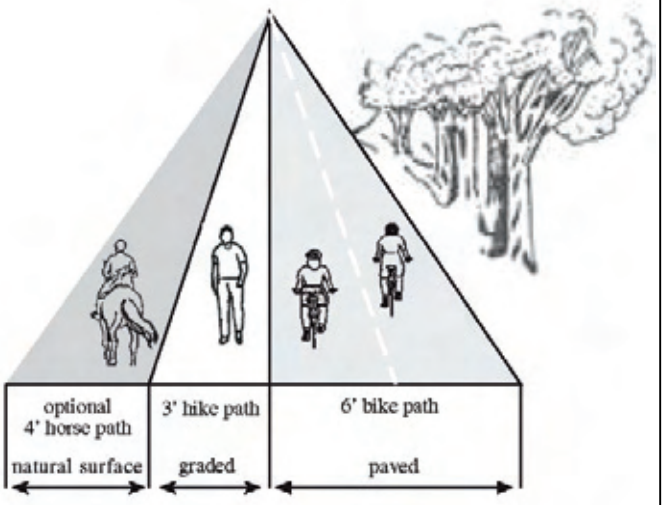



**Figure 16. Separated SUP Design** (view north).

will need to be factored into decisions about the pedestrian path route in specific locations. Innovative design solutions may be necessary where the shoulder SUP traverses steep terrain.

Where adjoining public lands or access easements exist, this plan proposes a Separated SUP diverging from the edge of Route 1. These separated routes will converge with the highway shoulder at both ends to allow through travel, for a total of 5.59 miles of trail. Removable bollards will exclude motorists, while allowing access by maintenance vehicles. Because northbound bicyclists may also choose to detour onto these Separated SUP segments, a 9-foot tread width is recommended to accommodate two-way bicycle traffic and other non-motorized users. That width will allow two 3-foot paved bike lanes, as well as a 3-foot unpaved pedestrian lane on the west side.

The Separated SUP segments should be set back from the bluff edge to avoid trail loss from bluff retreat, as well as to create more direct routes. They will generally be suitable for disabled persons and may optionally accommodate equestrians with additional trail width. Bicyclists may remain on the highway or detour onto the Separated SUP. Signs are recommended to advise that the separated trail is a through route. A paved northbound highway shoulder would still be required parallel to the Separated SUP sections, but no southbound shoulder would be needed.

The two proposed trail design configurations address most scenarios in the study corridor, but flexibility will be required in steep terrain where highway widening poses significant challenges. For example, it would be worth considering routing only southbound bicycle traffic and pedestrians onto a Separated SUP in locations like Chadbourne Gulch in Section 4b. This SUP design variation is proposed in Figure 17, with a width of 7 feet. At Chadbourne Gulch the SUP could possibly follow the old coast road, or may be integrated into a stepped slope stabilization structure that creates a narrower highway footprint, thereby reducing environmental and aesthetic impacts.

Input on these basic design concepts

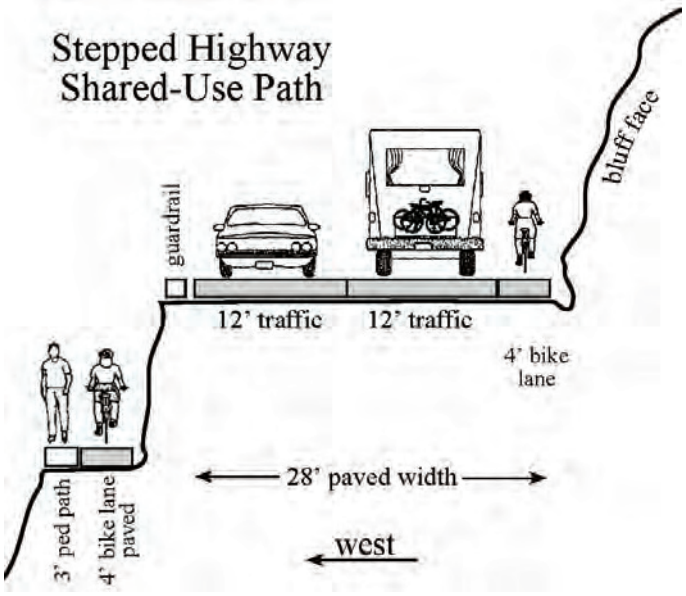



**Figure 17. Stepped Shoulder SUP Variation.**

generally support the widths recommended in the draft plan, although some feel a narrower configuration would be more desirable for aesthetic and environmental reasons (Table 11). Ultimately, safety considerations and design standards must be given priority and for that reason, the recommended width was not altered from the initial proposal in the draft plan. However, it may be worth considering other design concepts that reduce the width of the trail. One possibility, given anticipated moderate levels use, is it to route southbound bicyclists and pedestrians onto a single shared use path that is not separated into two distinct lanes. That approach could reduce the width of the path in all three variations.

**Table 11. Charrette #2 Trail Width Input***

| Trail Width | Separated SUP | Shoulder SUP | Shoulder Variant |
|---|---|---|---|
| Width Acceptable | 8 | 8 | 5 |
| Prefer Reduced Width | 1 | 0 | 2 |
| Prefer Wider Width | 0 | 1 | 0 |
| No Opinion | 3 | 3 | 5 |
| Total Responses | 12 | 12 | 12 |

*Surveys from Charrette July 9, 2011.

This plan recommends an unpaved pedestrian lane surfaced with packed earth, fines, gravel, turf blocks, or other materials. Use of local materials is recommended to reduce the carbon footprint required to truck materials from distant sources. The pedestrian lane should have a durable surface crowned and outsloped to minimize erosion. Care should be taken to design the trail for proper drainage and wear to minimize future maintenance requirements. Compacted earth or fines may be suitable for level sections, while embedded turf blocks, cemented earth, or gravel should be considered for steeper grades where erosion and drainage issues will need to be addressed.

The continuous SUP trail should connect with existing and planned branch trails that provide recreational access to coastal destinations described earlier in Section 2.3. Those branch trails may include spur trails, loop trails, and through non-motorized routes of travel that merge at both ends with the main SUP trail. All branch trails should intersect the main SUP at right angles in locations with good sight distance, to ensure the safety of pedestrians and faster moving bicycle traffic.

## 4.2. Detailed Trail Recommendations

A total of 15.53 miles of Shoulder SUP and 5.59 miles of Separated SUP are recommended. The locations of those proposed trail segments are summarized in Table 12 and described below. The separated segments typically occur within a specified section, while Shoulder SUP trails often span sections. Other improvements are recommended in Section 4.3 below to support increased non-motorized use of the study corridor.

<u>Sections 1a-1b, Soper-Wheeler Lands</u>
In these sections there is a 100-foot wide ROW surrounded by lands owned by a private timber company (Figure 18). This stretch is level, but some steep cross slopes and constrictions from stream and tree proximity exist in Section 1b. Sections 1a and 1b are surrounded by Soper-Wheeler Company property and there is currently no potential for a separated alignment. The proposed trail through these sections thus follows the west shoulder of Route 1.

**Table 12. Primary Shared-Use Path Recommendations by Path Type**

| Section(s) | Begin PM | End PM | Distance (miles) | Coastal Zone? | Reference Locations | Type of Path (SUP) | Likely Project Sponsor(s)* | Comment |
|---|---|---|---|---|---|---|---|---|
| 1a-1b | 90.87 | 89.72 | 1.15 | In | Usal Road to exit from coastal zone | Shoulder | Caltrans | Level grade and variable cross slope |
| 1b-1c | 89.72 | 89.17 | 0.55 | Out | Coastal Zone line to N. end separated trail | Shoulder | Caltrans | Level grade and variable cross slope |
| 1c | 89.17 | 88.52 | 0.65 | Out | N. end separated trail to N. end stream proximity | Separated | Caltrans, Nonprofit | Level grade and variable cross slope |
| 1c | 88.52 | 88.48 | 0.04 | Out | N. to S. end stream proximity | Shoulder | Caltrans | Level grade and variable cross slope |
| 1c | 88.48 | 88.03 | 0.45 | Out | S. end stream proximity--Rockport School | Separated | Caltrans, Nonprofit | Level grade and cross slope |
| 1c-1d | 88.03 | 84.25 | 3.78 | Out | Rockport School to Hardy Creek residential area | Shoulder | Caltrans | Steep grade and cross slope; winding alignment |
| 2a-2b | 84.25 | 81.50 | 2.30 | In | N. end coastal zone to N. end separated trail | Shoulder | Caltrans | Level with steep cross slope; Juan & Hardy Creek Bridge upgrades needed |
| 2b | 81.50 | 80.68 | 0.82 | In | N. end separated trail to N. end Howard Creek Bridge | Separated | Caltrans, DPR | Adequate shoulders already present |
| 2b | 80.68 | 80.53 | 0.15 | In | Howard Creek Bridge | Shoulder | Caltrans | Adequate shoulders already present |
| 2b | 80.53 | 79.30 | 1.23 | In | Westport-UL Park office to N. end Dehaven Cr Bridge | Separated | DPR | Adequate shoulders exist; bikes may bypass Separated SUP |
| 2b-2c | 79.30 | 78.15 | 1.15 | In | N. end Dehaven Cr Bridge to Westport Cemetery | Shoulder | Caltrans | Steep cross slope and road gradient; Wages Creek Bridge upgrade needed |
| 3 | 78.15 | 77.00 | 1.15 | In | Westport Cemetery to S. end Westport | Shoulder | Caltrans, Nonprofit | Level; boardwalk on east side of Route 1 between Pete's Beach and Pelican Street |
| 4a-4c | 77.00 | 74.62 | 2.38 | In | S. end Westport to Bruhel Bluffs pullout | Shoulder | Caltrans | Steep cross slope and moderate to steep grade |
| 4c | 74.62 | 73.72 | 0.90 | In | Bruhel Bluffs pullout to S. end Caltrans Lands | Separated | Caltrans | Undulating grade, moderate to steep cross slope |
| 4d | 73.72 | 73.26 | 0.46 | In | S. end Caltrans lands to N. end Kibesillah Trail | Shoulder | Caltrans | Undulating grade, moderate cross slope |
| 4d | 73.26 | 72.15 | 1.11 | In | N. to S. end Kibesillah Trail | Separated | Caltrans, Nonprofit | Moderate grade/cross slope; MLT to build trail by 2012 |
| 5a-5b | 72.15 | 71.93 | 0.22 | In | S. end Kibesillah Trail to N. end County lands | Shoulder | Caltrans | Undulating grade, moderate cross slope |
| 5b | 71.93 | 71.50 | 0.43 | In | N. end County lands to S. end Caltrans lands | Separated | Caltrans, County | Level with separated dirt road already present |
| 5c | 71.50 | 70.70 | 0.80 | In | S. end Caltrans lands to Seaside Creek | Shoulder | Caltrans | Steep cross slope and road gradient; tree rows limit width |
| 5d | 70.70 | 70.50 | 0.20 | In | Seaside Creek to S. end Seaside Beach | Shoulder | Caltrans, Nonprofit | Congested area; traffic calming measures needed southbound |
| 5e | 70.50 | 69.75 | 0.75 | In | S. end Seaside Beach to Ten Mile Bridge parking | Shoulder | Caltrans | Caltrans project will upgrade most of this section in 2012 |

*Abbreviations: DPR=California Department of Parks & Recreation; SUP=Shared Use Path (see text).

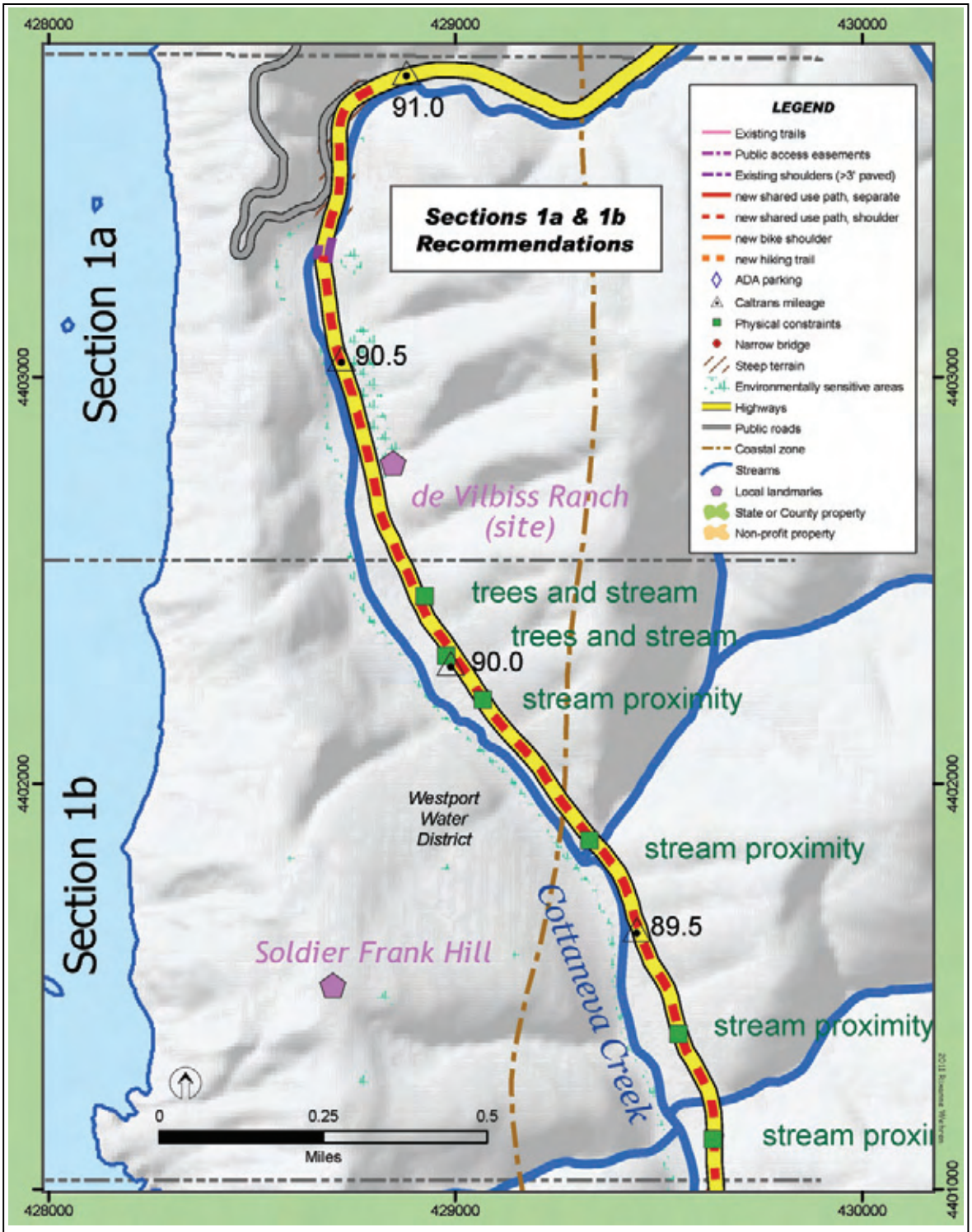



**Figure 18. Recommendations for Sections 1a and 1b.**

Section 1a traverses open coastal prairie consisting of level land with negligible cross slope that should facilitate design and permitting. The Cottoneva Creek Bridge at PM 90.6 is already adequate in width at 32 feet. However, Section 1a is in the Coastal Zone and will therefore require additional permits. A number of environmental and design issues will need to be addressed when planning Section 1b, but it is for the most part located outside of the Coastal

Zone, allowing greater design flexibility. Modifications of culverts will likely be needed to accommodate the trail.

Section 1c, Mendocino Redwood Company Lands

Section 1c is bordered by lands owned by the Mendocino Redwood Company, with a picnic area and trail open to the public near PM 88.7 (Figure 19). Discussions with senior management at MRC indicate a willingness to allow a separated SUP trail between Cottoneva Creek and Route 1 through this section. The proposed trail could therefore separate from the highway where it is practical to do so. Because the highway is quite close to Cottoneva Creek in several locations, the separated sections will need to rejoin the highway shoulder at a "pinch" point between PM 88.45 and 88.52 and again rejoin the highway north of the South Fork Cottoneva Creek Bridge at PM 87.82.

Environmental and design issues will need to be addressed when planning this stretch of the proposed trail corridor. Although outside of the Coastal Zone, the riparian proximity and steep cross slopes for portions that will follow the Route 1 shoulder will present challenges. A 4-foot wide eastern shoulder is recommended for northbound bikes. At least one trail bridge will be required, and some causeways may be needed in the riparian zone to span and protect wetlands.

Section 1d, Rockport to Hardy Creek Residential Area

The terrain from Rockport to the north end of a residential area near the mouth of Hardy Creek is mountainous, with surrounding lands primarily owned by MRC (Figure 20). The highway is very steep and winding in this section with a narrow shoulder and little Caltrans ROW. The large differential in speed between motorists and bicyclists causes unsafe conditions. A shoulder SUP is recommended, although MRC may eventually be willing to negotiate a separated SUP easement on their adjacent lands. A SUP will be costly to build in this section, due to the steep terrain and cross slopes, and new ROW or an easement will be required. This section is outside of the Coastal Zone and appears to have few known environmental issues. A side road to SRL's Cape Vizcaino property may connect the SUP to a loop trail planned there.

Section 2a, Hardy Creek to Union Landing Residential Area

This section is surrounded by a group of private parcels with no current potential for a separated trail, so a Shoulder SUP is recommended (Figure 21). The narrow Hardy Creek Bridge (PM 83.78) and Juan Creek Bridge (PM 82.91) feature split 2-foot shoulders and 2-foot raised pedestrian walkways that will require an upgrade to provide adequate width for non-motorized users. From the Hardy Creek viewpoint to Juan Creek, Caltrans owns the roadbed and ROW all the way to the ocean. ROW acquisition may be necessary elsewhere.

Just south of Juan Creek, the bluff on the ocean side forms a large flat that is used as a parking site by many travelers. The private landowner has expressed interest in letting this property be developed into a formal viewpoint, probably by acquisition. The ROW here is currently 30 feet on the west and 130 feet on the east. The rest of the distance south to the Westport-Union Landing State Beach features a narrow roadway with very steep cross slope and significant bluff erosion issues. A viaduct has been used to address a slide near the south end of Section 2a, where adequate 4-foot shoulders now exist. Another viaduct is presently being built to address additional bluff loss in the southern portion of this section.

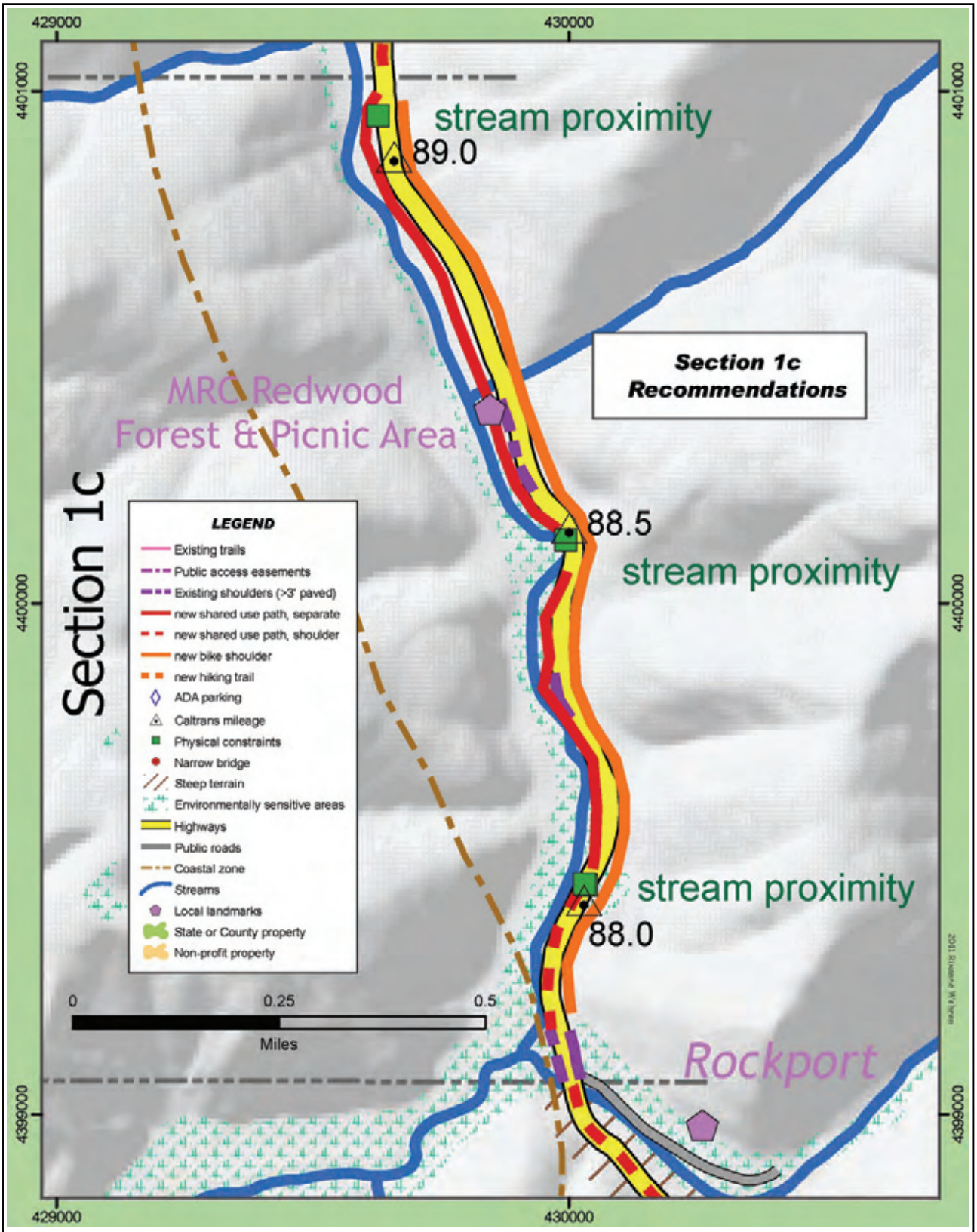



**Figure 19. Recommendations for Section 1c.**

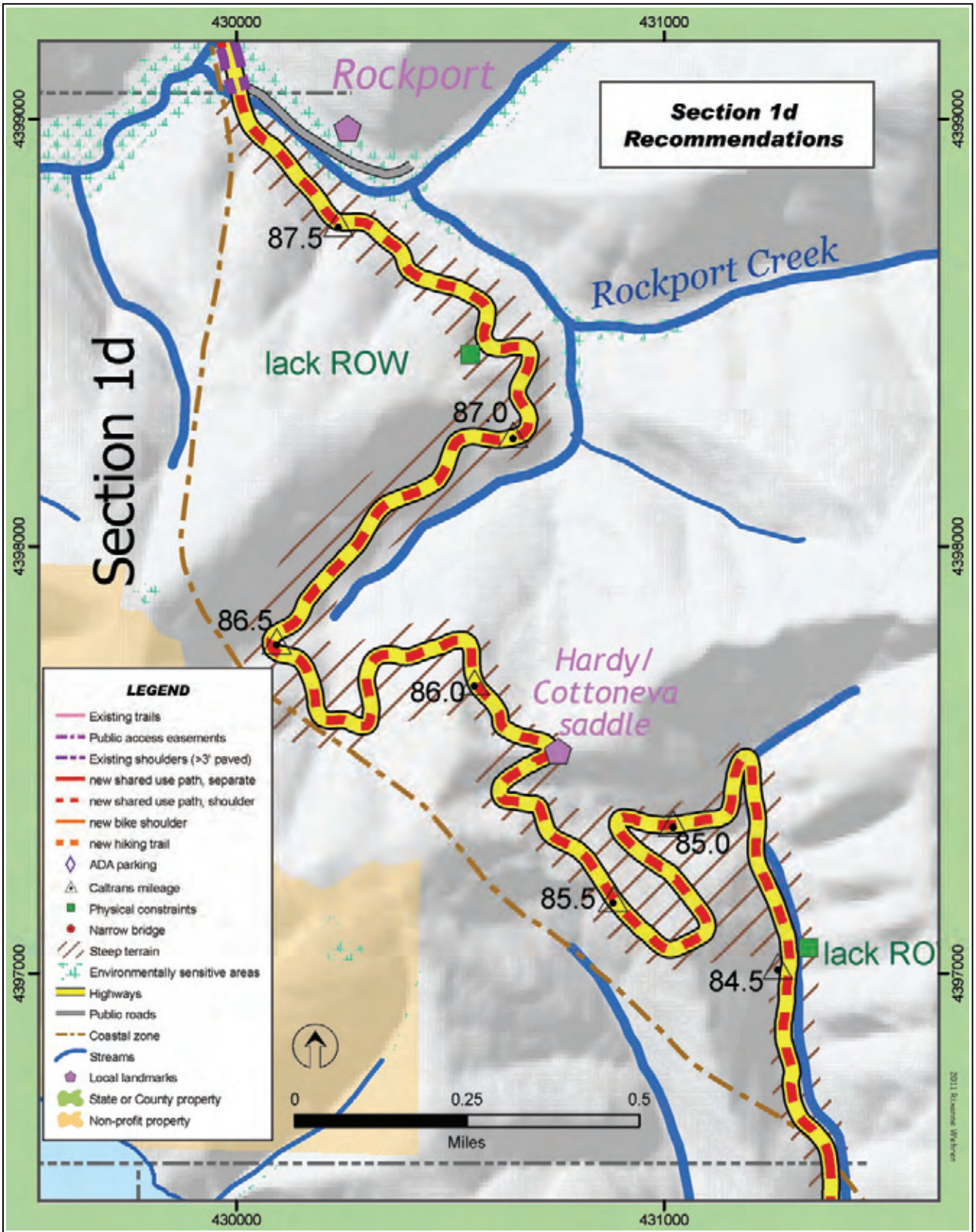



**Figure 20. Recommendations for Section 1d.**

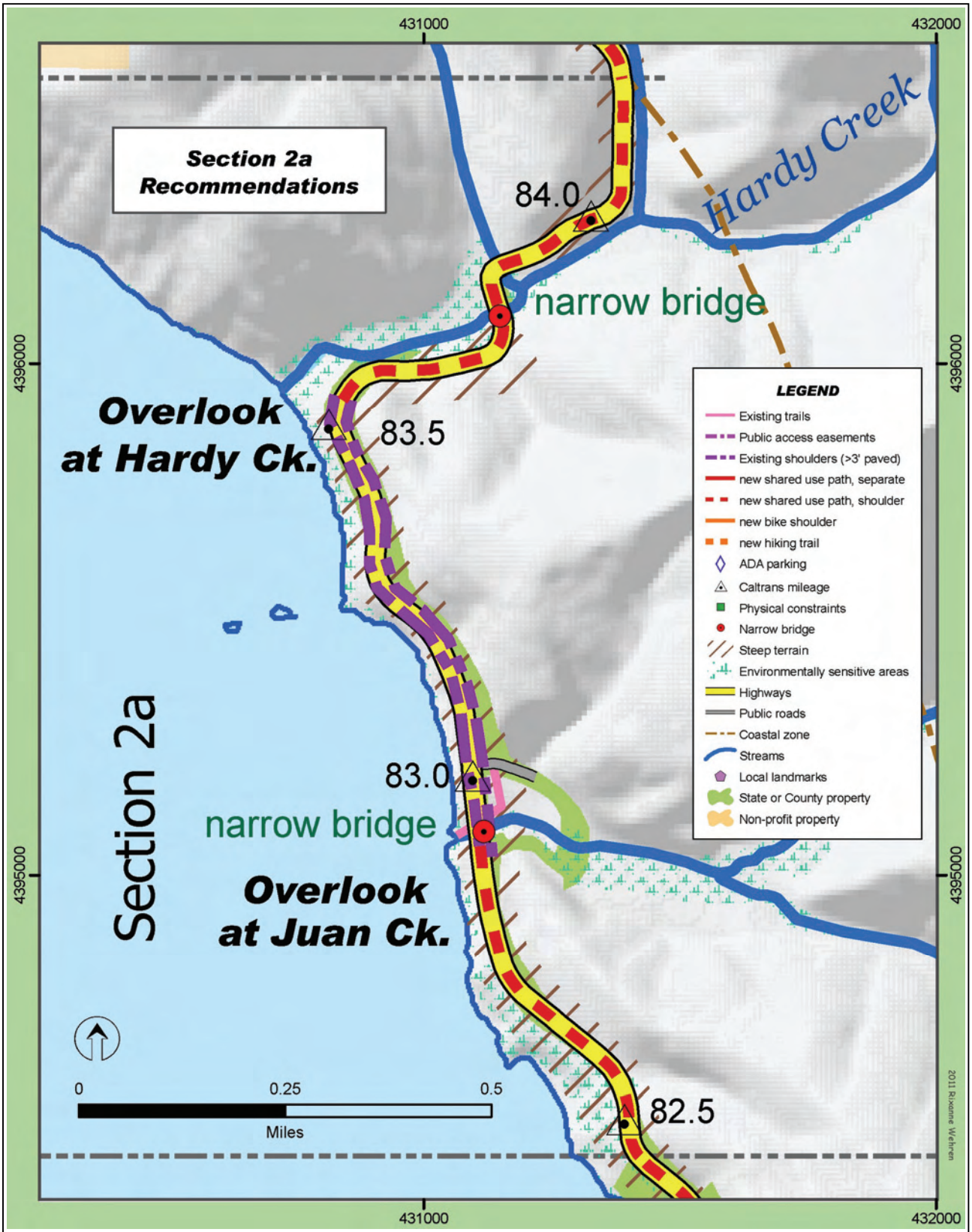



**Figure 21. Recommendations for Section 2a.**

Section 2b, Westport-Union Landing State Beach

Public lands lie west of Section 2b throughout its length, providing an opportunity for a separated SUP route that will rejoin the highway to cross the adequately-sized Howard Creek and Dehaven Creek highway bridges (Figure 22). The northern part of this section is owned by Caltrans and features a Vista Point near PM 81.0. The remaining coastline to the south is part of Westport-Union Landing State Beach and features long stretches of the old abandoned highway that effectively serve as a trail. Route 1 has 4-foot shoulders on both sides throughout Section 2b, allowing bicyclists to choose between the separated SUP and the existing highway shoulders.

It is recommended that the SUP separate from the highway shoulder at PM 81.5 (one quarter mile north of the Caltrans Vista Point), rejoin the highway to cross Howard Creek on the highway bridge, and then follow a route inland from the old highway to again rejoin Route 1 a short distance north of the Dehaven Creek Bridge near PM 79.25. This would provide over two miles of separated SUP suitable for hikers, bicyclists, and wheelchairs. The separated SUP trail could circumvent most existing camping sites, although some reconfiguration of the camping areas may be desirable to maintain privacy at those sites. This route could be suitable for equestrians if it is widened to accommodate that use.

Any effort to design this separated SUP trail system would need to be approved by DPR and Caltrans, who own and manage these lands. The separated SUP would also need to connect to desirable vertical coastal access trails descending the bluffs to the popular beaches present in this section. It will be critical to provide continuous ingress and egress from the highway and along the separated SUP route, where gates now block through travel by non-motorized users. Motorized traffic could be effectively restricted from entry onto the separated SUP with removable bollards that allow access by maintenance and emergency vehicles. Placement of the bollards would be outside of the CRZ. Signs would indicate that the separated SUP is a through trail for distance non-motorized travelers. Other desirable trail features recommended for this trail segment are outlined in Section 4.3 below.

Sections 2c and 3, Branscomb Road through the South End of Westport

These sections are a very high priority to connect residential areas, as well as visitor-serving campgrounds and lodgings, with the village of Westport where services are available. A SUP on the highway shoulder is recommended because the area is surrounded by private property and limited public lands west of the highway offer few opportunities for a separated route due to proximity to the bluff edge (Figure 23). Route 1 has a steep grade and cross slope with a sharp curve that limits sight distance near the narrow bridge crossing Wages Creek at PM 78.3. A bridge upgrade will be required. Special recommendations for boardwalks, cross walks, and traffic calming measures near the center of the village are detailed below.

The recommended SUP will follow the shoulders of Route 1 through the village, connecting to existing branch trails on the Westport Headlands and Pete's Beach. Public input was split on signing the County Roads as alternate bicycle routes and that proposal is thus not recommend in this plan. Past public input reported in the 2003 DLAEP study and input received during this planning process both show considerable support for boardwalks, additional striped crosswalks, and other traffic calming measures in the heavily-used core area of the village. That input is the basis for the additional recommendations described below.

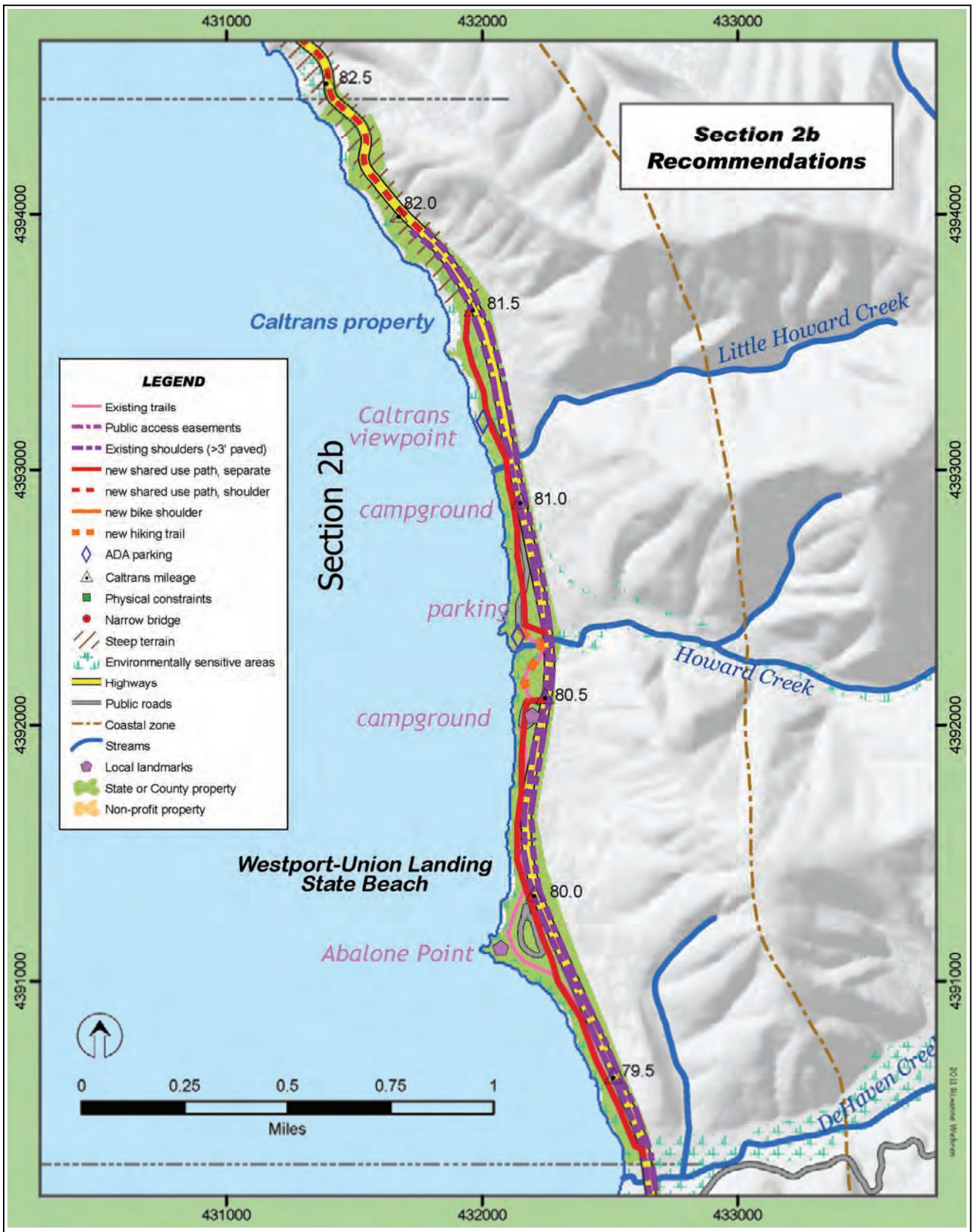



**Figure 22. Recommendations for Section 2b.**

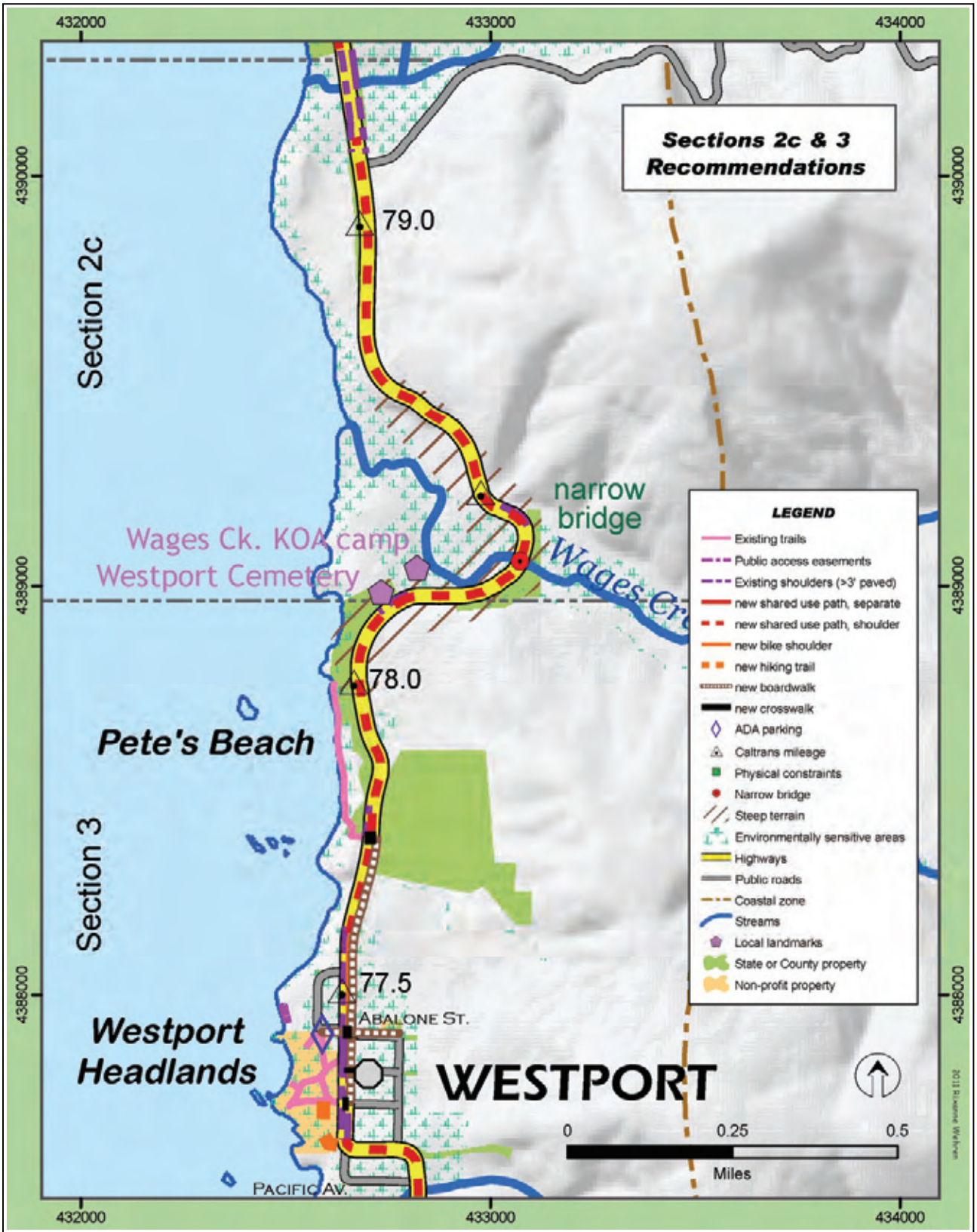



**Figure 23. Recommendations for Sections 2c and 3.**

There is broad community and landowner support for boardwalks connecting key pedestrian destinations in the village. One owner did not favor this proposal, but all others felt it would be beneficial and in keeping with the character of the town. Boardwalks are thus recommended on the east side of Route 1 between Pelican Street and the Water District property opposite Pete's Beach; on the north side of Abalone Street; and on the south side of Omega Drive from Route 1 to the northern entrance to the Headlands park (Figure 24). Landowners along Route 1 in the block between Abalone and Seaview want the boardwalk immediately next to the proposed 4-foot paved northbound bike shoulder, where a drainage ditch is presently located. That will move foot traffic as far as possible from the existing structures and lower the elevation of the pedestrian route to the street level, improving privacy and making the boardwalk more accessible for disabled individuals. A ramp would be desirable to connect the boardwalk to one residence.

A boardwalk could be created next to the shoulder with a grated ditch at the interface between the structures to ensure access for maintenance. A sloped lining under the boardwalk could be used to direct flow into the channel. It may be practical to use the same approach to address drainage issues and boardwalks along Abalone Street and Omega Drive. The design width for Omega Drive should allow parallel parking along the south side of the road next to the boardwalk, while parallel parking would be desirable along both sides of Abalone Street. Paved parallel parking also would be desirable along the west side of Route 1 between Abalone and Pelican along the Headlands park frontage.

**Table 13. Opinions on Traffic Calming***

| Village Improvements | Yes | No | No Opinion |
|---|---|---|---|
| Crosswalks | 7 | 3 | 2 |
| Signs/Other Calming | 9 | 3 | 0 |
| Lower the Speed Limit | 9 | 2 | 1 |

*Surveys from Charrette July 9, 2011.

Traffic calming measures in the village of Westport are widely supported by the public, based on input received at the regular meetings of the WMAC, although only a dozen surveys were returned following the second charrette (Table 13). This plan recommends moving the only existing striped crosswalk on Route 1 south to connect the Omega and Abalone boardwalks. New striped crosswalks are also proposed across Abalone and Seaview at their intersections with Route 1, as well as across Route 1 at Pelican Street and Pete's Beach. Signs are recommended to warn drivers to slow for pedestrians/ congestion when approaching the northern and southern crosswalks along Route 1. Gateway signage at both ends of town has also been proposed by some residents. The community favors posting a uniform speed limit at Pete's Beach and the south end of town to slow traffic to 30 or 35 mph. Most feel signage should be minimal and in keeping with the character of the town.

Sections 4a and 4b, Westport through Chadbourne Gulch

A SUP along the highway shoulder is recommended for Sections 4a and 4b. Route 1 south of Westport goes through private property with narrow ROW holdings for about one mile through Section 4a, until it reaches a large Caltrans property that extends south beyond the Section 4b (Figure 25). Section 4b has a steep grade and cross slope descending into Chadbourne Gulch, with major bluff erosion issues on both sides of that gulch. Although some recent highway improvements north of Chadbourne Gulch have created paved shoulders, ongoing subsidence there continues to threaten the integrity of the roadway. Future repairs should be planned to incorporate the recommended SUP trail on the highway shoulders.


**Figure 24. Details of Recommendations for Westport Village.**

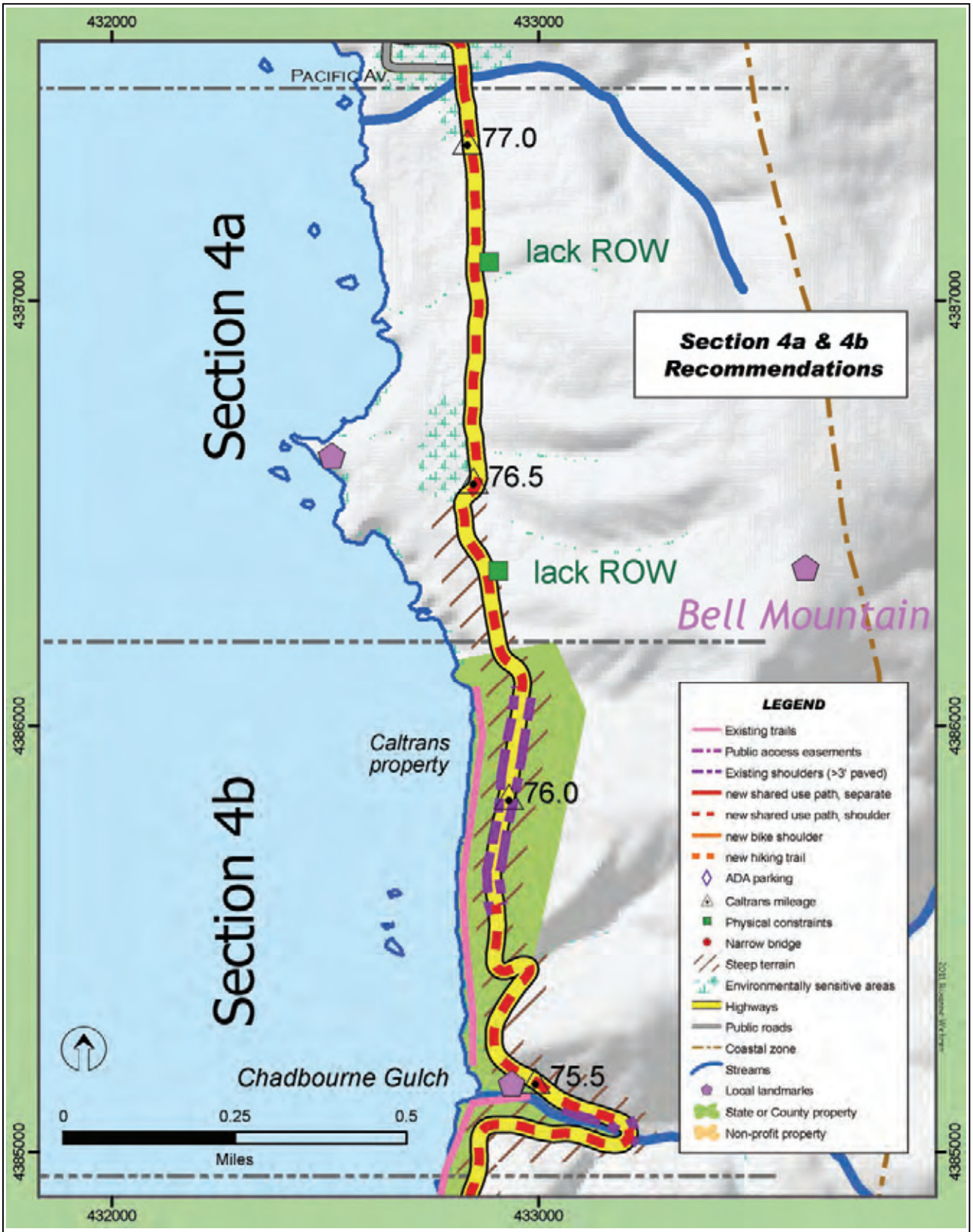



**Figure 25. Recommendations for Sections 4a and 4b.**

The shoulder SUP trail elsewhere in Sections 4a and 4b also will be costly, due to the terrain and need for additional ROW. However, this segment is priority from the standpoint of connectivity between Westport and destinations to the south because it is very unsafe for non-motorized travelers. Given the challenges posed here by extreme cross slopes, consideration could be given to narrowing the southbound SUP bike lane on the downhill grade into Chadbourne Gulch to limit the required roadway width, since bicycles can match the speed of motorists during their descent. However, the full 4-foot wide SUP shoulder should be present on the uphill grade along the south side of Chadbourne Gulch.

Another possibility for the SUP on the south side of Chadbourne Gulch is a separated route following the old coast road cut that is still observable there, with that path rejoining the highway shoulder at the first small pullout north of Blue Slide Viaduct, near PM 75.15. This path has been described above as the Shoulder Variant (see Figure 17). The old roadbed is steep, but using that route could eliminate the need for a costly upgrade of the highway width. If this separated SUP alternative is pursued, a new non-motorized bridge would be needed to cross Chadbourne Creek. Some environmental constraints would need to be addressed to select a suitable alignment for a separated path north of Chadbourne Creek. Other improvements are also recommended in this chapter for Chadbourne Beach, which receives a high level of use.

Section 4c and 4d, Bruhel Bluffs and Kibesillah Residential Area

Section 4c provides an opportunity for a separated SUP route on the large Caltrans Bruhel Bluffs property, a route recommended in this plan (Figure 26). Section 4d is surrounded by private lands, although a trail easement parallel to the west side of Route 1 is present along the Pacific Star Winery property. The Caltrans ROW is quite wide for most of Section 4d, but a gap of 280 feet with narrow ROW necessitates acquisition of an easement or purchase of additional width along the highway shoulder to create the recommended shoulder SUP. A short passing lane is present southbound in Section 4d and motorists typically travel up to the speed limit of 55 mph, underscoring the need to separate motorists from other travelers in this section.

The separated SUP route on the Caltrans Bruhel Bluff property will diverge from the shoulder of Route 1 at a large gravel pullout around PM 74.62 and rejoin the highway shoulder at the south end of the property near PM 73.72. This separated SUP route will connect to existing spur trails and an existing developed trail and parking facilities in the south. The recommended alignment avoids sensitive environmental areas and can be designed to follow the slope with minimal grade change, allowing access for persons with disabilities. This trail segment may also be suitable for equestrians if additional width is added to accommodate that type of use. One bridge would be required to span a small watercourse.

The separated SUP in Section 4c will access the existing parking facility with two ADA spaces, a an ADA trail, and a cemented earth hiking path accessing the bluff. No highway improvements other than a northbound shoulder four feet in width are recommended along this stretch of Route 1, since the separated SUP will be available for southbound bicyclists. Signs advising that it is a through route should be posted. Removable bollards installed outside of the CRZ would need to be installed to keep vehicles off the trail, while allowing entry by maintenance vehicles. Other recommended facility improvements along these trail sections are discussed in Section 4.3.

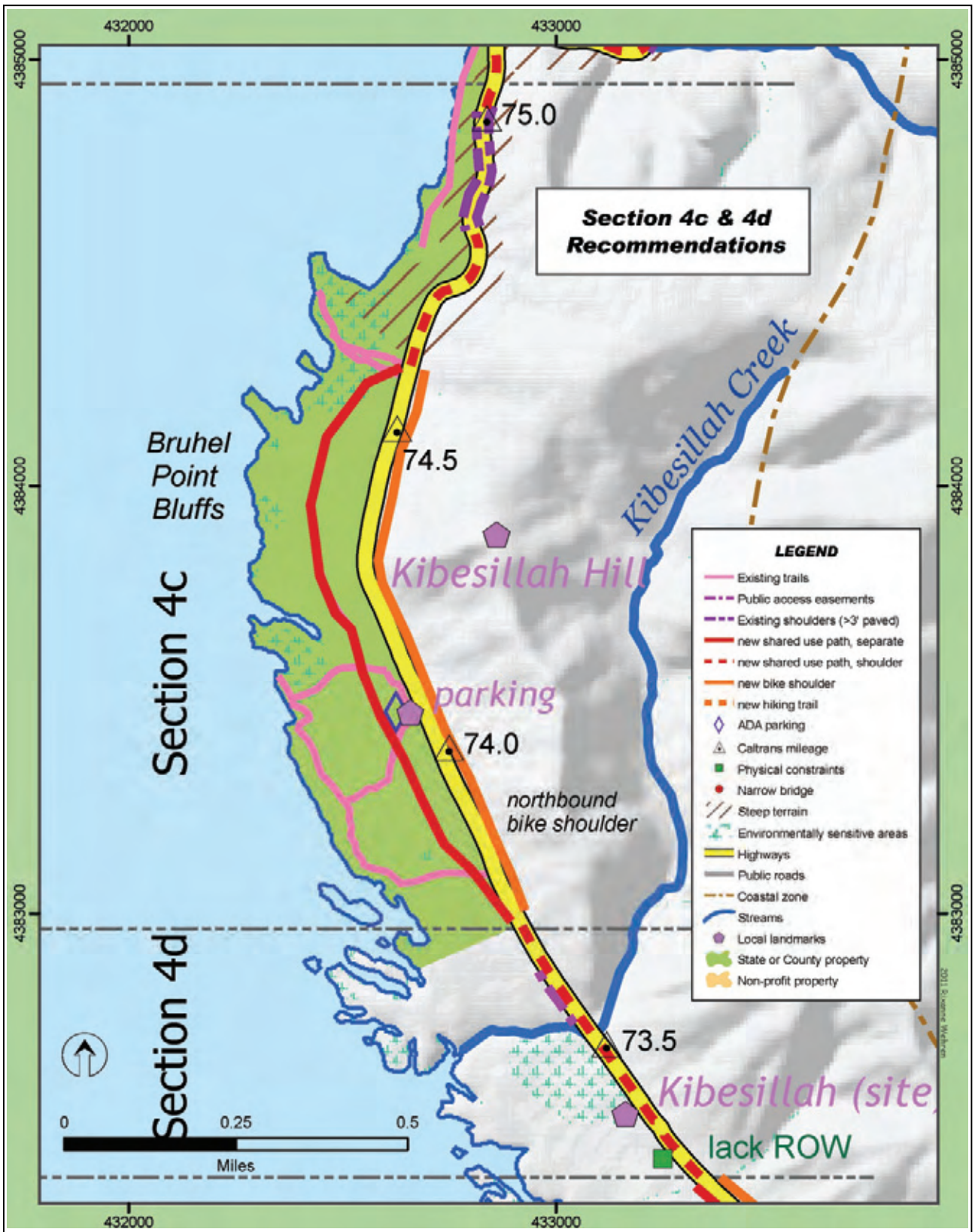



**Figure 26. Recommendations for Sections 4c and 4d.**

Section 5a to 5b, Kibesillah Trail and Fishing Access

MLT will complete a 1.2-mile multi-use trail immediately west of Route 1 within a 15-foot wide easement it manages between PM 72.15 and PM 73.26 in 2012 (Figure 27). This Kibesillah Trail will feature two bridges and several boardwalks spanning wetland areas. The trail will be separated from the highway and suitable for mountain bicycles and pedestrians. The gradient will conform to the existing terrain and thus, will not be suitable for disabled access.

A trail upgrade will be needed to conform with the Separated SUP design recommended in this plan. The Kibesillah Trail upgrade will involve expanding its width and paving a portion of that trail tread for use by street bicyclists. The non-motorized bridges may also need to be upgraded. A parking area and spur trail are also proposed at the north end of Section 5a on an easement that is a condition of a recently approved coastal development permit.

The Kibesillah Fishing Access in Section 5b consists of three adjacent parcels owned by public entities as described in Chapter 2.3. This plan proposes keeping the SUP on the highway shoulder until it crosses over a stream onto a parcel owned by Mendocino County. A separated SUP will then diverge at PM 71.93 and rejoin Route 1 at about PM 71.50. This separated trail provides dramatic views south and could be made wheelchair accessible.

It will be necessary to control motor vehicle use that would conflict with the non-motorized trail. That could be accomplished with removable bollards installed outside of the CRZ to control access to the trail, along with boulders placed to keep motorists off the Separated SUP trail. Dedicated parking is already available. Other improvements may also be desirable, as discussed in Section 4.3.

Section 5c-5e, Abalobadiah Gulch to South End of Ten Mile Bridge

A SUP on the highway shoulder is recommended throughout these sections, which are shown in Figure 28. This portion of the study corridor is surrounded by residential properties, with the exception of the Seaside Beach property owned by the CoLT. Connecting the cluster of residences in this area with the Kibesillah Fishing Access and destinations to the north is considered a high priority by the community and public.

Abalobadiah Creek gulch has extremely steep bluffs, a narrow roadway, and very little ROW. The roadbed takes a sharp hairpin turn at the bottom, limiting sight distance in both directions. The lack of shoulders compromises safety for bicycles and walkers. It is unclear if widening the road will be cheaper than bridging this dangerous gulch with a structure wide enough to accommodate the SUP in a manner similar to the new Ten Mile Bridge. Creating an SUP on the existing shoulder will require acquisition of ROW. It is also relevant to note that the existing Route 1 crossing over Abalobadiah Creek is very susceptible to tsunamis and sea level rise. All of those factors should be carefully weighed before choosing a trail alignment.

After the roadway returns to the top of the marine terrace south of Abalobadiah Gulch, the route is constrained by large old cypress tree rows on both sides of the highway that are considered aesthetically pleasing by residents and visitors alike. It will be difficult to design a road-widening project that does not affect those trees and possibly other environmental resources. Improvements to the highway shoulders will be necessary to make this section safer for non-motorized travelers, however.

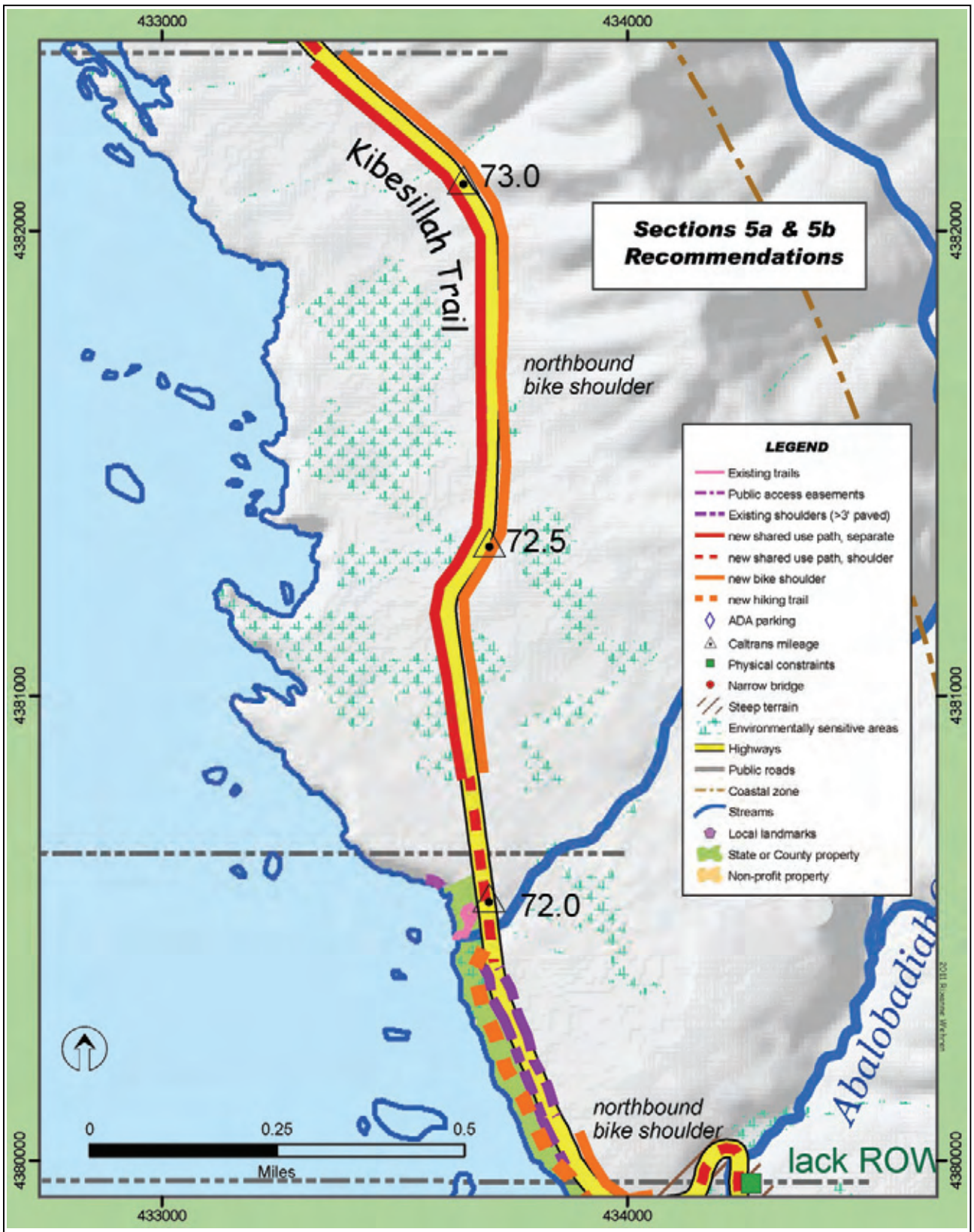



**Figure 27. Recommendations for Sections 5a and 5b.**

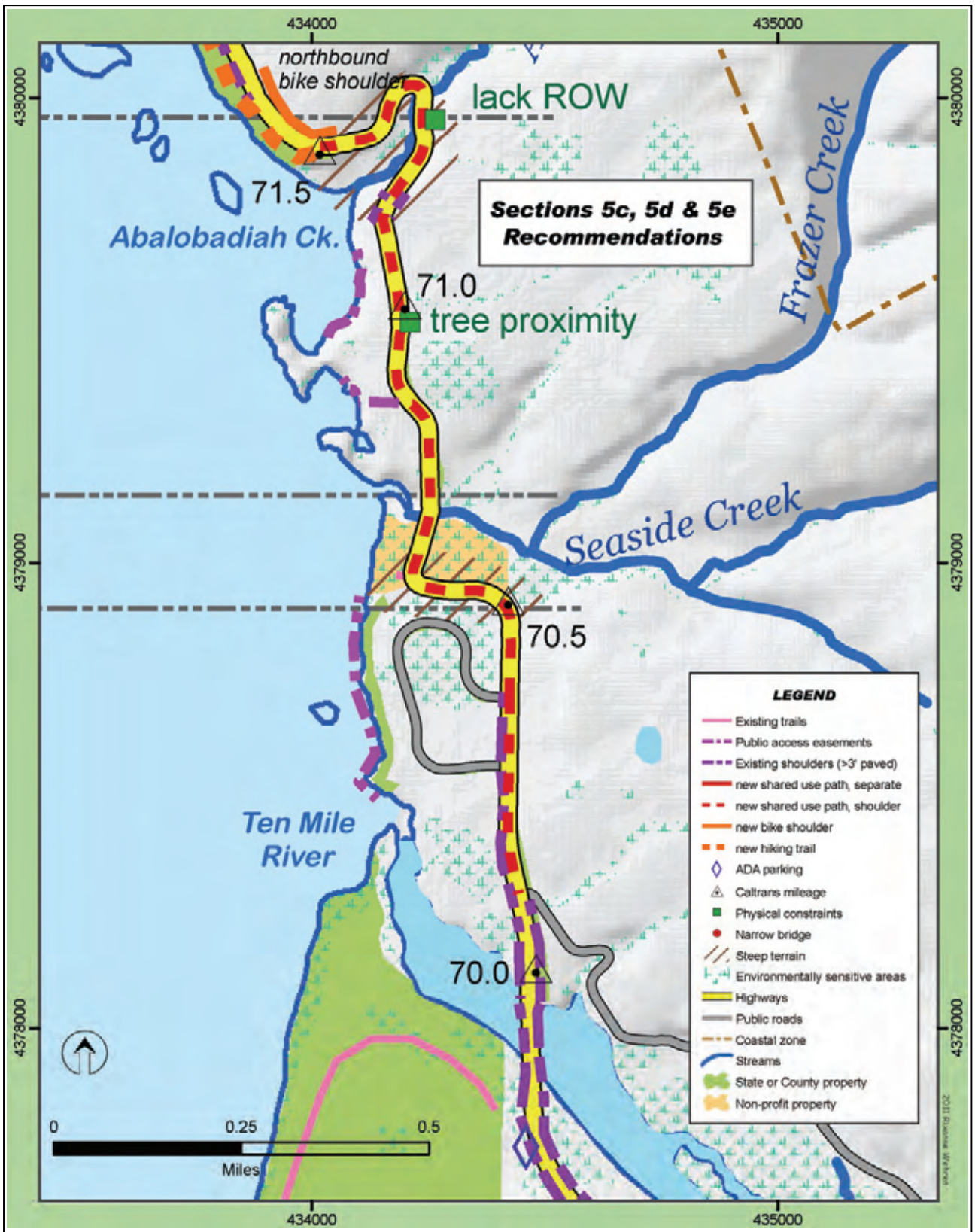



**Figure 28. Recommendations for Sections 5c, 5d, and 5e.**

Seaside Beach is currently the subject of a Caltrans storm repair project between post miles 70.3 and 70.7. Work will be completed in 2013, widening the roadway to 12-foot lanes and adding 4-foot shoulders that are adequate for bicycles. While this 32-foot wide design is consistent with the overall width recommended in this plan for a SUP on the highway shoulder, no provision has been made in that new design to accommodate pedestrians. Thus, an upgrade of this section is recommended to improve pedestrian connectivity from the south end of the study corridor to Seaside Beach.

Due to heavy congestion and informal motor vehicle parking at Seaside Beach, traffic calming measures and other improvements are desirable at this location. The CoLT has plans to improve parking at this location, but is waiting for Caltrans to complete the storm repair project before initiating any improvements. Colored pavement or striping may be desirable to raise awareness of bicycle lanes through this area. Signage on the curves north and south of this beach access may be useful to slow traffic and ensure the safety of non-motorists at Seaside Beach.

Recent improvements on the west side of Route 1 at the Ocean Meadows subdivision have established four feet wide shoulders from the intersection with Ocean Meadows Road to the Ten Mile Bridge. Similar shoulder improvements on the east side, with connectivity to the new Seaside Beach improvements, would bring the whole section up to current standards. Ten Mile Bridge has recently been replaced and has 6-foot wide shoulders and a separated 5-foot wide walkway. A parking lot is present at the south end and pedestrian trails connect to an vista point with a bench accessible by wheelchair. An ADA parking space is available in this parking lot. A non-ADA pedestrian trail provides access to MacKerricher State Park to the west.

## 4.3. Other Recommended Facilities

The following recommendations relate to facilities other than the main SUP trail that the community, surveyed bicyclists, and other interested members of the public favor. These additional improvements support the transportation function of the trail by providing needed services at regular intervals. The trail recommended in this plan also will provide critical connectivity to numerous vertical branch trails to the shoreline that already exist or may later be planned and constructed as new easements are acquired through offers to dedicate (OTD). OTDs may be required as permit conditions for future development projects approved by the County or Coastal Commission to address policies outlined in the LCP and Coastal Zoning Code.

Hikers require facilities at more closely spaced intervals than bikers. Primary support facilities are recommended at roughly five-mile intervals on public lands, located away from residences to avoid potential conflicts with private land uses. Some of the principal needs are restrooms, potable water sources, parking, picnic tables, non-motorized camping facilities, directional signage, interpretive panels, and bike racks and/or bike lockers to provide secure options for bicyclists that want to visit scenic destinations. Some facilities already exist, but completion of the trail system will predictably increase the need for more services along the route. It is therefore necessary to plan for this increased visitation. Upgrades of existing facilities and the creation of some new facilities are proposed to accommodate higher levels of non-motorized traffic. The following recommendations are listed from north to south:

1) The MRC Picnic Area and Trail (Section 1c): This location currently has parking, a restroom, interpretive exhibits, and a short pedestrian trail. A developed water source, bike rack, and additional signage are recommended. It could be useful to add signage after the separated SUP is built, giving distances to destinations, posting restrictions, and providing other relevant information. Designated parking for disabled use and signage indicating the trail is suitable for wheelchairs are recommended once the Separated SUP is built along this trail segment.

2) Westport Union-Landing State Beach and Caltrans Vista Point Parking (Section 2b): As the only existing public campground in the study corridor, these recommendations focus on desirable upgrades to the existing facilities. The gates between the Caltrans Vista Point and State Beach and the one at the south end of the State Beach should be replaced with removable bollards located outside of the CRZ to allow through passage for non-motorized traffic, maintenance vehicles, and emergency vehicles. A formal off-highway parking area is recommended at the south end of the park, since the informal parking that now occurs there may interfere with the planned Separated SUP route. This parking lot should have a designated handicapped space to facilitate access for disabled persons to the Separated SUP. Signs are recommended to deter vehicles from parking across the SUP trail route and to indicate it is accessible by wheelchairs. The south end of the park is a desirable place for a bike and hike campground. There are already pit toilets and a water supply system at this location. A shower facility, sheltered picnic tables, and bike lockers are recommended as improvements.

3) Westport Village (Section 3): This is the primary location within the study corridor to obtain services including water, food, and lodgings. Just north of Westport, the private Wages Creek KOA Campground offers a commercial camping alternative to the State Beach, with showers and electricity. At the Westport Headlands, public input indicates interest in installing picnic tables, trash and recycling receptacles, bike racks and/or lockers, a public restroom, and a public water fountain.

4) Caltrans Chadbourne "Blues" Beach (Section 4b): This is a heavily used beach access that needs more active management. Boulders are recommended to prevent vehicular access onto the beach. Motorists on the beach pose serious safety problems for non-motorized visitors and also cause pollution, contribute to informal camping, and exacerbate littering. Signs advising of no camping, please remove trash, and distances to services would also be useful. This location is heavily visited and may be one of the most suitable places to install a pit toilet and develop a water supply from the creek because it will not pose a nuisance to neighbors. The parking lot should have a paved approach from Route 1 and a dedicated handicapped parking space, since this location is also one of the few places where direct handicapped beach access is potentially feasible. A ramp to the beach is recommended to facilitate wheelchair access. If adequate parking is developed, this beach could possibly be used by equestrians.

5) The Caltrans Vista Point Parking at Bruhel Bluffs (Section 4c): This is a public access area that is distant from residences and other services. The high level of use at this site makes it a possible alternate location for a pit toilet when compared to the nearby Chadbourne Beach. However, the ability to develop a water supply is limited in this location. Bike racks and/or lockers, picnic tables, and directional signage are recommended here at a minimum. A sign should remind visitors to pack out their trash.

6.) Kibesillah Fishing Access (Section 5b): This features parking and one picnic table. Boulders

should be used to restrict off highway vehicular traffic on the recommended separated SUP route. Directional signage, ADA parking, bike racks, and more picnic tables are desirable. A sign should remind visitors to pack out their trash. A stairway down the bluff should be considered at this location, as the public currently uses a steep informal trail.

7.) Seaside Beach (Section 5d): Parking should be formalized in this congested area, with the shoulder SUP lane clearly marked to avoid conflicts between motorists and bicyclists. Traffic calming such as warning signs would be desirable around the curves to the north and south that block sight distance. A reduction in the speed limit should be considered if appropriate. ADA parking, bike racks, and directional signage are recommended.

8.) Ten Mile Bridge Vista Point (Section 5e): This is the principle northern access to MacKerricher State Park and consideration should be given to providing a restroom and water fountain. A sign should remind visitors to pack out their trash. The location of this facility is distant from residences, so it should not create a nuisance factor. It is already heavily used.

Signage is also recommended throughout the entire study corridor warning "Share the Road / Watch for Bicycles and Pedestrians" in curving sections with limited sight distance. These warning signs are especially desirable before uphill grades where bicycles are moving slower than motorists, as well as along the stretches approaching the narrow bridges at Hardy, Juan, and Wages creeks. These warnings are proposed in Sections 1d, 2c, 4b, 4g, and 4h at the following approximate locations: northbound at PM 70.4, 74.6, 78.0, and 82.5; and southbound at PM 71.5, 77.2, 79.0, and 88.0.

## 4.4. PRIORITIES

This plan proposes a continuous 21-mile coastal trail. However, important goal of the community outreach and analysis documented here includes the identification of priorities for incremental completion of trail segments. Geographic priorities are influenced by a wide range of factors introduced in Chapter 3. Table 14 lists the most important considerations for ranking segment priorities. They include terrain, the availability of existing public lands and easements, environmental resource constraints, public input, anticipated demand for the trail segment as a connecting link, and cost. To facilitate comparison, per mile costs are estimated using provisional figures in Appendix F. Each factor is briefly explained below.

At the broadest level, a composite priority has been assigned to each trail segment based primarily on public input and anticipated user demand for that trail section. Public input strongly favors prioritizing projects that will address dangerous sections that presently preclude safe passage, giving lower priority to other sections that are presently passable. In other words, the highest priority was assigned to developing connectivity where safe access does not presently exist. Recognizing that these critical connections are also some of the most costly to build, the public also supports constructing sections that can be rapidly completed at lower cost. More complicated and expensive projects will take more time to plan and will have to compete for funding. Projects that do not create priority connections and are costly to build were assigned medium or low priorities depending on anticipated user demand for those segments.

**Table 14. Relative Priority of Trail Segments.**

| Miles of Trail | Section | Description | Criteria | | | | | | | Responsible Agency | Combined Priority |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Terrain | ROW | Resource Issues | Charrette #1 Public Priority | Charrette #2 Public Priority | Usage (Value of Link) | Cost per mile* | | |
| 0.87 | 1a | Soper Prairie | Level | OK | Some | Low | 17 | Low | $360k | Caltrans | Low |
| 0.80 | 1b | Soper Riparian | Level | OK | Many | | 16 | Low | $475k | Caltrans | Low |
| 1.36 | 1c | MRC Riparian | Level | OK | Some | | 15 | Low | $613k | Caltrans/ Nonprofit | Low |
| 3.59 | 1d | Cape Vizcaino | Steep | Narrow | Few | | 14 | Low | $1,210k | Caltrans | Low |
| 1.75 | 2a | Hardy Residential | Steep | Narrow | Many | | 12 | Medium | $1,222k | Caltrans | Medium |
| 3.25 | 2b | Westport-Union Landing | Level | OK | Some | High | 8 | High | $225k | DPR/ Caltrans | Medium |
| 0.90 | 2c | Dehaven to Wages Creek | Steep | Narrow | Some | | 1 | Highest | $2,441k | Caltrans | Highest |
| 1.35 | 3 | Westport Village | Level | Narrow | Some | | 2 | High | $1,033k | Caltrans/ County | Highest |
| 0.75 | 4a | Siamex Prairie | Sloping | Narrow | Few | Highest | 3 | Medium | $871k | Caltrans | Highest |
| 1.15 | 4b | Chadbourne Gulch | Steep | OK | Some | | 4 | Medium | $1,763k | Caltrans | High |
| 1.38 | 4c | Bruhel Point Bluffs | Level | OK | Some | | 7 | Medium | $1,075k | Caltrans | High |
| 0.50 | 4d | Kibesillah Residential | Level | Narrow | Some | | 6 | Medium | $886k | Caltrans | High |
| 1.22 | 5a | Kibesillah Trail | Level | OK | Few | | 5 | Low | $195k | Nonprofit | High |
| 0.50 | 5b | Kibesillah Fishing Access | Level | OK | Few | | 9 | Low | $610k | County/ Caltrans | Medium |
| 0.80 | 5c | N. Seaside Residential | Steep | Narrow | Some | Middle | 11 | High | $1,683k | Caltrans | Medium |
| 0.20 | 5d | Seaside Beach | Level | OK | Many | | 10 | High | $2,140k | Caltrans | Medium |
| 0.75 | 5e | Ocean Meadows Residential | Sloping | OK | Few | | 13 | High | $245k | Caltrans | Low |

*In thousands of 2011 dollars, based on provisional cost estimates in Appendix F.

Terrain

Terrain is a fundamental variable listed as either steep, sloping, or level. Steeper grades require more complex designs, while trails on level terrain may be more affordable to build. Retaining structures may be necessary in some steep locations, with geological investigations required to engineer them and much higher construction costs to them. Appendix B provides maps that show changes in gradient through the study area.

ROW

This factor is expressed as either adequate ("OK") or narrow. Adequate existing public lands and easements offer an opportunity to construct trails without considering the constraint of acquiring new ROW from private landowners. Where ROW must be purchased, project costs will be significantly higher and these sections will also consequently take longer to build.

Environmental Resources

Sensitive environmental resources will lead to higher trail development costs in some sections. Table 14 grossly characterizes the level of environmental concern anticipated for each section and Appendix F offers provisional cost estimates for technical studies and possible environmental mitigation costs. This consideration remains poorly known at this early stage of planning, since detailed inventories are not conducted until the project development phase.

Public Interest

Community and stakeholder interests were assessed with a questionnaire and map input at the first charrette, as discussed above in Chapter 3. Table 14 summarizes that preliminary input in relative terms for four broad geographic sections of the study corridor. Questionnaires from the second charrette on July 9, 2011 asked participants to rank each of the 17 sections in priority order. The cumulative scores from 11 survey responses were used to rank the sections with 1 representing the highest priority and 17 the lowest. The highest priorities are concentrated near the center of the study corridor, where the largest populations are expected to derive transportation-related benefits.

Connectivity

The column in Table 14 labeled "Usage" captures the importance of establishing safe non-motorized connectivity between residential areas and travel destinations. The overarching purpose of the proposed trail is to provide a through route that affords safe non-motorized connections to destinations north and south of the study area. However, each segment can also analyzed for its ability to connect populated areas to key destinations. This factor captures the importance of trail sections as connecting links that are anticipated to receive the highest levels of use by the community and visiting public. This factor was emphasized by many participants in the second charrette, as well as earlier public input and areas with inadequate ROW and easements are depicted in Figure 7 above.

The highest priority connection within the study corridor is in Sections 2c and 3. Large resident and transient visitor populations are located north of this area and visit the village of Westport for services, entertainment, social events, and other purposes. Permanent residences are concentrated in the Westport Beach subdivision and adjacent areas, while lodging facilities, the Westport Union Landing State Beach, and a private campground at Wages Creek Beach host a sizable visiting population that varies by season. These surrounding areas are located within reasonable walking or bicycling distance of the village, but the public does not consider the route safe due to the lack of shoulders, the narrow bridge at Wages Creek, and steep slopes bordering the Route 1 where it climbs the sides of Wages Creek Gulch.

A second public priority for connectivity is present in Sections 4a and 4b between Westport and Chadbourne Gulch. There is modest cluster of residences around the former town of Kibesillah near PM 73.5 and several others up Hilltop Road, which intersects Route 1 at about PM 74.73. These populations rely on Westport for services, but the narrow winding road, guard rails, and steep slopes bordering the edge of the pavement along Route 1 discourage non-motorized trips to the village.

A third connectivity issue exists from the south end of Sections 5a through the north end of Section 5d between the the Kibesillah Fishing Access and Seaside Beach. There is a concentration of permanent residences and vacation homes along this stretch, with residents and visitors in Section 5c most severely restricted by the narrow and winding highway both north and south. Connectivity through these narrow sections could enable residents and visitors to make trips to Cleone and Fort Bragg for services, as well as to the Kibesillah Fishing Access and points north. Building this connecting trail will offer residents of Inglenook and visitors to MacKerricher Park a non-motorized route north.

Table 15 provides details on all eight areas with inadequate ROW and/or public access easements needed to build the trail system recommended in this plan. Appendix B provides detailed mapping of some of the connecting links shown in Figure 7, particularly ROW Sites 3, 5 and 6. Locations with inadequate ROW or easements have been factored into the provisional cost estimates in Appendix F.

**Table 15. Details Regarding Needed Connecting Links**

| ROW Site # | Area Description | start PM | end PM | length (mi) | Notes on ROW Needs |
|---|---|---|---|---|---|
| 1 | Rockport to Hardy Creek | 83.91 | 87.65 | 3.74 | Very steep terrain; 50 ft ROW addition assumed |
| 2 | Branscomb Road to Westport Cemetery | 78.2 | 78.9 | 0.7 | Steep terrain at Wages Creek; 25 ft ROW addition assumed |
| 3 | Pete's Beach | 77.7 | 77.75 | 0.05 | Sliver of private land needed between Water District and State Park lands |
| 4 | South Westport to Chadbourne | 76.2 | 77.3 | 1.1 | Moderate terrain; 25 ft ROW addition assumed |
| 5 | Kibesillah to Newport | 72.4 | 73.3 | 0.9 | Small easement needed at north to connect Kibesillah Trail to wider Caltrans fee land on west side of highway; 10 ft ROW needed elsewhere for northbound bike lane |
| 6 | Abalobadiah Gulch | 71.2 | 71.4 | 0.2 | Steep terrain; 25 ft ROW addition assumed; existing fee width uncertain |
| 7 | Seaside Residential | 70.85 | 71.1 | 0.25 | Cypress trees on both sides; at least 10 ft ROW addition assumed |

*See Figure 7 for Site locations.

Cost

As discussed in Chapter 3, the most important factors affecting cost included terrain, the need to acquire additional ROW, and the complexity of the environmental approval process. Steeper terrain requires more ROW and elaborate engineering, while studying, avoiding, and mitigating impacts to environmental resources can be quite costly. These considerations are discussed in more detail later (see Chapter 5 below). The provisional cost estimate used to derive the relative per mile costs in Table 14 is presented in Appendix F.

Responsibility

The entity most likely to take responsibility for the planning, design, and construction of each segment is identified in Table 14. This is based in large part on land ownership, sources of funding, and permit approval processes that require a lead agency to implement them. Non-profit land trusts may play a leading role in project development and construction when the trail follows easements. Long term maintenance of the trail also must be factored into the decision to construct each segment, and that issue is taken up later in Chapter 5. Given public agency funding constraints, partnerships with non-profits will likely be instrumental to the success of the Coastal Trail recommended in this plan.

Summary of Priorities

The highest short term priorities are separated SUP routes on public lands and within trail easements held by nonprofits. These routes are less expensive to build because no ROW is required and more design flexibility exists. The Kibesillah Trail is already permitted and under construction, while routes at Westport Union Landing State Beach and the Caltrans Bruhel Point property are also reasonable prospects for rapid and relatively inexpensive development, if suitable sources of funding can be identified. These trails can likely avoid most environmental issues, facilitating the planning and permit approval process and limiting costs.

Although it is useful to identify priorities, the overarching objective is a continuous SUP trail

system that will facilitate through travel. Thus, the priorities identified here merely suggest the relative importance of the trail sections and do not necessarily imply the order in which they should be planned, designed, and constructed. Planning should be initiated early for the most expensive and complex sections because they will require the most time and resources to complete. The public strongly favors projects that will establish critical connectivity where it is presently dangerous for non-motorized travelers to pass. At the same time, trail sections that can be easily accomplished with less cost and fewer design and permitting challenges may offer good short-term projects that can be ranked and completed sooner.

# 5. IMPLEMENTATION

This plan defines a multi-use coastal trail concept with broad public and community support and significant input from agency, land trust, and other stakeholders. That shared vision for a coastal trail is the first important step needed before detailed planning is undertaken for specific projects within the study corridor. The larger process required to develop the trail involves planning, construction, and ongoing maintenance. Section 5.1 revisits the planning process introduced in Chapter 2 and discusses current study costs. Construction costs, including the purchase of new ROW or easements, are considered in Section 5.2. Section 5.3 then covers maintenance tasks, while suitable funding sources for this type of project are covered in Section 5.4.

The relative costs of planning and constructing the trail are estimated in a very provisional manner in Appendix F based on the general assumptions outlined in this chapter. Those estimates provide a way to compare the relative costs of each section of the study corridor, as well as a foundation for initial budget forecasts. Absent detailed design and planning studies, the estimates are subject to change. However, they are generally consistent with the $500k-$1m per mile costs of similar types of trails discussed in the Mendocino County RTP (MCOG 2010:57).

## 5.1. PLANNING COSTS

The planning process and design standards required to build a trail of the type proposed in this plan was introduced in Chapter 2. The costs of planning non-motorized trails depends upon the types of uses that will be accommodated, the terrain, the presence or absence of environmentally sensitive areas, and other factors. Planning costs are taken here to include design, environmental and technical studies, and obtaining necessary permits. If a section of trail has many constraints and design challenges, the planning costs are typically higher and the time needed to approve the project consequently will be longer. Accessible trails, designed to ADA standards, have special requirements. ADA trail segments are proposed only for level stretches of separated SUP where such use is most likely to be desired and adjacent disabled parking is available or can be developed.

Table 16 offers provisional estimates for the cost of environmental and technical studies that are often needed before project-specific designs and environmental documents can be developed. Those kinds of initial investigations are typically required to prepare the environmental document that supports a preferred design and serves as the basis for acquiring necessary permits. These can include sensitive or rare plant and habitat surveys, threatened or endangered species (TES) surveys, wetlands delineations, and archaeological and historical resources surveys.

Sometimes a geotechnical investigation and other related studies are needed to help design a facility that will stand the test of time. Those studies help determine soil stability, rates of bluff retreat, and the best specific location for the trail alignment. Once the resource constraints have been identified, the proposed trail alignment can be selected and designed. An environmental evaluation must then be completed and necessary permits acquired. Table 17 lists estimated costs for those tasks.

**Table 16. Average Costs of Environmental and Other Initial Studies.**

| Type of Study | Estimated Cost | Notes |
|---|---|---|
| Rare plant survey | $10,000/acre | Depends upon # rare plants found |
| TES wildlife surveys | $5000/acre | Depends upon density of TES habitat |
| Wetlands delineation | $4000/acre | Depends upon density of wetlands habitat |
| Geotechnical Investigation | $10,000 minimum | Usually quite expensive |
| Land Survey per Parcel | $5000 minimum | Usually expensive |
| Archaeological Survey | $3000/mile | Identification only |

**Table 17. Estimated Costs of Trail Design and Permitting.**

| Type of Cost | Cost Range | Time Frame |
|---|---|---|
| Trail Design Specialist | $5,000/mile | 6 months-years |
| Geotechnical Investigation | $10,000 minimum | 6 months-years |
| Engineering per Structure | $10,000 minimum | 6 months-years |
| Coastal development permit | $3,000-$5,000 | 6-18 months |
| Coastal development use permit | $5,000-$10,000 | 9-24 months |
| Building permit | Depends on cost of project | 3-6 months |
| Flood Hazard Zone permit | $400 | 3-6 months |
| Caltrans encroachment permit | $1,000 | 6 months-years |
| Fish and Game permit | $3,000 | 3-6 months |
| Army Corps wetlands permit | Unknown | 6 months-years |
| Environmental Document | $10,000 minimum | 6 months-years |

## 5.2. Construction Costs

Construction costs are highly variable and difficult to accurately predict before project-specific technical and environmental studies are completed. The primary factors increasing construction costs include ROW purchases, steep terrain, engineered structures, and environmental mitigation. Trails built on the highway shoulder are usually more expensive, because separated sections can more easily avoid environmental resources. Table 18 offers gross assumptions for the cost of trails built on different types of terrain, structures, and support facilities such as parking and restrooms. The need for additional ROW is specified above in Table 15 and will add to the cost of constructing the project. More time must be allowed to negotiate those purchases at fair market value, which is determined through appraisals involving comparisons with comparable properties. The cost a upgrading bridge widths may be significantly higher than the figure provided in Table 18, depending on structural requirements.

**Table 18. Provisional Construction Cost Estimates**

| Description | Unit | Cost per Mile |
|---|---|---|
| Shoulder SUP Configuration – Steep Terrain | mile | $750,000 |
| Shoulder SUP Configuration – Moderate Terrain | mile | $500,000 |
| Shoulder SUP Configuration – Level Terrain | mile | $250,000 |
| Separated Trail – Level Terrain | mile | $100,000 |
| Boardwalk/Sidewalk – 6 ft wide | mile | $1,000,000 |
| Highway Bridge Upgrade (Hardy, Juan, Wages Creeks) | each | $500,000 |
| Bridge for Separated SUP (9 ft wide) | each | $50,000 |
| 8-car parking lot and paved approach | each | $100,000 |
| Vault Restroom-ADA, 2 stalls | each | $50,000 |

## 5.3. MAINTENANCE

Table 19 offers some cost estimates for various types of trail maintenance activities. Well-built trails will require the least maintenance and priority should therefore be given to careful design. It is also easier to identify funding sources for trail planning, design, and construction than for ongoing trail maintenance. Trails and other improvements built on public and nonprofit lands raise issues for the agencies and organizations that must maintain them in perpetuity for the benefit of the public. All agencies, nonprofits, and private landowners involved in this planning process have raised this legitimate concern, and it will be important to develop strategies and identify funding sources to address this predictable need.

Generally, to determine the amount of endowment needed to steward a trail or beach, the land manager needs to calculate the total annual maintenance budget (using a stewardship coordinator and volunteer work crews wherever possible), then assume a 4% return on investment to calculate the amount of endowment needed to yield the necessary annual return. For example, if it costs $1,000/year to maintain a given trail, the estimated endowment needed to pay for annual maintenance activities would be $1,000 divided by 0.04, or $25,000. If every 20 years there is a $10,000 expense to maintain structural components of the trail system, this expense needs to be amortized over time and included in endowment calculations, or included in annual agency budgets.

**Table 19. National Average Trail Maintenance Costs***

| Annual Average per Mile | |
|---|---|
| Government-run trails | $2000/mile |
| Average trail | $1500/mile |
| Volunteer-run trails | $500/mile |
| **Specific Maintenance Costs** | |
| Drainage and storm channel maintenance | $500.00 |
| Sweeping/blowing debris off trail | $1,200.00 |
| Pickup/removal of trash | $1,200.00 |
| Weed control/vegetation management | $1,000.00 |
| Mowing | $1,200.00 |
| Minor repairs | $500.00 |
| Maintenance supplies for crews | $300.00 |
| Rest room | $350/month |
| Parking lot | $250/month |
| Equipment fuel, repairs | $600.00 |
| **Resurfacing Trails** | |
| Asphalt | $10.00/lineal foot |
| Concrete | $25.00/lineal foot |
| Crushed stone | $5.00/lineal foot |

*Data derived from Flink et al (2001). If this work is completed by volunteers, the costs will be lower.

## 5.4. SOURCES OF FUNDING

Several sources of funding are available to design, obtain permits, purchase easements or right of way, and build multi-use non-motorized trails within and outside of the existing highway right of way. Major funding for trails include federal DOT funds, state and local transportation and recreation funds, grants from the SCC, and the internal funds of agencies such as Caltrans and DPR. Private foundations and nonprofits generally do not directly fund trail development, although nonprofits have been instrumental in developing most of the existing trails on the Mendocino County coast with grants from the SCC and other sources.

Pedestrian and bicycle projects are eligible for funding from almost all major federal-aid highway, transit, safety, and other Department of Transportation programs. The matrix provided in Table 20 denotes federal DOT funding programs that are most likely to be relevant when pursuing funding for the multi-use trail proposed in this plan. These types of funding are most applicable to the main trail that will serve a transportation purpose, particularly portions of the route that adjacent to Route 1. State and local funding sources are discussed separately below and may provide match for grants from federal funding sources.

**Table 20. Summary of Federal Transportation Funding for Non-Motorized Trails.**

| Activity | BRI | BYW | FLH | FTA | HEP | NHS | RTP | STP | TE | TEA |
|---|---|---|---|---|---|---|---|---|---|---|
| Bicycle and pedestrian plan | | | | | | | | X | | |
| Bicycle lanes on roadway | X | X | X | X | X | X | | X | X | X |
| Paved shoulders | X | X | X | | X | X | | X | | X |
| Signed bike route | | X | X | | | X | | X | | X |
| Shared-use path/trail | X | X | X | | | X | X | X | | X |
| Single track hike/bike trail | | | | | | | X | | | |
| Spot improvement program | | | | | X | | | X | | X |
| Bicycle parking facilities | | X | | X | | | | X | X | X |
| Trail/highway intersection | | X | X | | X | X | X | X | | X |
| Bicycle storage/service center | | | | X | | | | X | X | X |
| Sidewalks, new or retrofit | X | X | X | X | X | X | | X | X | X |
| Crosswalks, new or retrofit | | X | X | X | X | X | | X | X | X |
| Signal improvements | | | | | X | X | | X | | X |
| Curb cuts and ramps | | | | | X | X | | X | | X |
| Traffic calming | | | | | X | | | X | | |

**KEY:** BRI=Bridge Program; BYW=Scenic Byways; FLH=Federal Lands Highways Program Preservation Pilot Program; FTA=Federal Transit Capital, Urban & Rural Funds; HEP=Hazard Elimination Program; NHS=National Highway System; RTP=Recreational Trails Program; STP=Surface Transportation Program; TE=Transit Enhancements; TEA Transportation Enhancement Act.

## Federal-Aid Highway Programs

National Highway System funds may be used to construct pedestrian walkways and facilities on land adjacent to any highway on the National Highway System, including Interstate highways. Surface Transportation Program (STP) funds may be used for either the construction of pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safety. TEA 21 adds "the modification of public sidewalks to comply with the Americans with Disabilities Act" as an activity that is specifically eligible for the use of these funds. Ten percent of each state's annual STP funds are set aside for Transportation Enhancement Activities. The law provides a specific list of activities that are eligible, including "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists." Another 10% of each state's STP funds is set aside for the Hazard Elimination Program, which addresses pedestrian safety issues. Each state is required to implement a Hazard Elimination Program to identify and correct locations that may constitute a danger to motorists, bicyclists, and pedestrians. Funds may be used for activities including a survey of hazardous locations and for projects on any publicly owned, shared use path, pedestrian pathway or trail, or any safety-related traffic calming measure.

Recreational Trails Program

Recreational Trails Program funds may be used for all kinds of trail projects. Of the funds apportioned to a state, 30% must be used for motorized trail uses, 30% for non-motorized trail uses and 40% for diverse trail uses (any combination). Provisions for pedestrians and equestrians are eligible under the various categories of the Federal Lands Highway Program in conjunction with roads, highways, and parkways. Priority for funding projects is determined by the appropriate Federal Land Agency or Tribal government. The National Scenic Byways Program funds "construction along a scenic byway of a facility for pedestrians."

Highway Safety Programs

Pedestrian and bicyclist safety remain priority areas for State and Community Highway Safety Grants funded by the Section 402 formula grant program. A state is eligible for these federal grants by submitting a performance plan establishing goals and performance measures for improving highway safety and a highway safety plan describing activities to achieve those goals.

Transportation Enhancement Activities

The Transportation Enhancement (TE, formerly TEA) Program is a federal funding source that provides for projects that creatively and sensitively integrate surface transportation facilities into their surrounding communities. TE projects may protect the environment and provide a more aesthetic, pleasant and improved interface between the transportation system for the communities and people adjacent to transportation facilities. Projects must be over and above required mitigation and normal transportation projects, and the project must be directly related to the transportation system. The projects should have a quality-of-life benefit while providing the greatest benefit to the greatest number of people. Projects must fall within the following twelve categories:

1. Provision of facilities for pedestrians and bicycles.
2. Provision of safety and educational activities for pedestrians and bicyclists.
3. Acquisition of scenic easements and scenic or historic sites.
4. Scenic or historic highway programs (including the provision of tourist and welcome center facilities).
5. Landscaping and other scenic beautification.
6. Historic preservation.
7. Rehabilitation and operation of historic transportation buildings, structures or facilities (including historic railroad facilities and canals).
8. Preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian or bicycle trails).
9. Control and removal of outdoor advertising.
10. Archaeological planning and research.
11. Mitigation of water pollution due to highway runoff or reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.
12. Establishment of transportation museums.

Highway Bridge Program (HBP)

The Highway Bridge Program (HBP) is authorized by the federal transportation bill—Safe, Accountable, Flexible and Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU). The purpose of the program is to replace or rehabilitate public highway bridges

over waterways, other topographical barriers, other highways, or railroads when the State and the Federal Highway Administration determine that a bridge is significantly important and is unsafe because of structural deficiencies, physical deterioration, or functional obsolescence. Eligible work for this program includes replacement, rehabilitation, painting, scour countermeasure, bridge approach barrier and railing replacement, and seismic retrofit.

## State Transportation Program

Bicycle Transportation Account

The State Bicycle Transportation Account (BTA) Program enables an agency to apply for funding through a bicycle transportation plan prepared pursuant to the California Bicycle Transportation Act. AB 1020, which was passed by the Legislature in 1997, raised the historical $360,000 funding amount to $1 million in 1998, with incremental increases to the amount of $5 million in 2004. In 2000, SB 1772 increased the annual BTA funding to $7.2 million for fiscal years 2001/2002 through 2005/2006. After FY 2005/2006, the amount was reduced to approximately $5 million annually. Caltrans (2001) has developed specific Guidelines for BTA funding.

State Transportation Improvement Program (STIP)

The STIP is the source of the majority of transportation funding for large scale projects within the Mendocino County region. At the State level, these funds are divided into two programs—the Regional Improvement Program (RIP) funded from 75% of new funding, and the Interregional Improvement Program (IIP), funded from 25% of new STIP funding. Regional Transportation Planning Agencies (RTPAs) are given the authority to decide how to program the county share of RIP funds, subject to STIP eligibility guidelines.

While RIP funds can be used for projects on local roads, as well as transit, bicycle, and pedestrian projects, in order to implement desired improvements to the State highway system, RIP funds must also be used for State highway improvement. In light of the current statewide fiscal crisis, it is unknown if the region will receive any new RIP funding over the next several years.

State Highway Operations Protection Program (SHOPP)

The State Highway Operations Protection Program (SHOPP) is the main source for rehabilitation, restoration and repair projects (3R projects). It is used to maintain the road surface, repair storm damage, complete periodic striping, and replace culverts, signs, and other facilities. This program may incorporate some activities that upgrade substandard facilities or address safety problems.

Safe Routes to School

Caltrans awards grant funding through both a State and Federal Safe Routes to School Program. Grants are awarded through a competitive application process. These funds are used for construction of bicycle and pedestrian safety and traffic calming projects along routes to schools. The required local match for the State program is 10 percent, while the Federal program does not require a match.

### Other Trail Funding Sources

The State Coastal Conservancy has historically provided substantial support for land acquisition and trail improvement projects along the California Coast. The SCC funded the Westport Headlands acquisition and public access trail developments, planning and construction of the Kibesillah Trail, and acquisition and public access planning and improvements at Seaside Beach. The Conservancy also funded development of the California Coastal Trail (CCT) Strategic Plan for Mendocino County (2010). Construction of the 7000-foot long Kibesillah Trail is now in progress by MLT using an SCC Phase II Coastal Trail Development grant.

Proposition 40 funds are distributed through a variety of sources, including Mendocino County, State Parks, and the State Coastal Conservancy. These funds also could be used to construct public access facilities on publicly owned and managed lands. These will be most useful for separated sections of the trail and the negotiation of new trail easements that may allow greater flexibility in the routing of the main trail and branching coastal trails linked to it. Although private foundations have not traditionally been approached for trail construction funding support in Mendocino County, it may be worth exploring this avenue for targeted grants that focus on walkable communities and establishing connectivity for under-served rural populations.

Local funding for bicycle projects typically comes from Transportation Development Act (TDA) funding. The Mendocino Council of Governments (MCOG) awards 2% of TDA revenues for approved bicycle or pedestrian projects. Funds are typically awarded every two years. Although a comparatively small source, these funds may be used to provide a local match to leverage larger grants.

## 5.5. Conclusions and Next Steps

This plan provides a concept and general alignment for a multi-use non-motorized coastal trail that will facilitate transportation and recreation along a 21.12-mile stretch of State Route 1 between Usal Road and the Ten Mile River. The plan includes an explicit statement of purpose and need, careful analysis of existing conditions, and a comprehensive effort to build consensus among the local community, public, landowners, and interested agency stakeholders for a preferred route and geographic priorities. As such, this document is intended to initiate the process of identifying specific projects and ensuring any routine Caltrans restoration, repair, and rehabilitation projects (3R) are planned in a manner that is consistent with the incremental development of the proposed trail.

The study corridor was divided into 17 segments that recognize logical end points such as parcel boundaries and environmental features. The public provided input on geographic priorities that were factored into the recommendations in this plan. In addition, the terrain (e.g., gradient and cross slope), environmental resource issues, cost, and the complexity of the permitting process were analyzed to facilitate future selection of projects. About three quarters of the recommended trail is envisioned on the highway shoulder, while the remainder is proposed on a separated path built to comparable standards. The trail will serve a transportation function, while also providing connections to branch trails used for hiking, recreational fishing, and other purposes.

Transportation funding will play a major role in the completion of this proposed coastal trail. The 3R projects funded by the SHOPP program are not typically designed to include major improvements, so other transportation funding will need to be pursued. Major improvements are typically programmed with STIP funds, but some of the special funding sources described above also should be explored. A blend of grant funding sources should be considered to provide match and interface with other roadway improvement or repair objectives. Targeted funding buckets such as Safe Routes to School funds should be explored for the Westport village to address walkability issues such as boardwalks, crosswalks, and traffic calming. SCC grants may be most effectively used to supplement funding for separated sections of the recommended path, acquisitions of easements for needed connecting links, and branch trails.

The section priorities discussed in Chapter 4 should be carefully evaluated for their suitability for various funding sources and combined or divided into a series of projects that make sense from a design, permitting, and funding perspective. The three highest priorities identified in this plan are Sections 2c, 3, and 4a surrounding the most densely settled portion of the study corridor in and around the village of Westport. Those sections were stressed by the local community because they will serve the greatest number of people, provide critical transportation connections between the village and outlying resident and visiting populations, and address safety concerns.

If those three contiguous priority sections are combined, the resulting trail project will be 3.0 miles long and is provisionally estimated to cost about $4.25 million dollars as detailed in Appendix F, using assumptions developed above in Chapter 5. That cost is higher than the average projected funding for other sections of comparable length within the study corridor because of the terrain surrounding the village of Westport, requirements for additional right of way, and the cost of anticipated structural improvements and special design features including boardwalks.

A State Planning and Research (SPR) grant will be used by Caltrans to study a bike route along Route 1 throughout Mendocino County soon after this plan is finalized. That grant includes several pilot projects to conduct preliminary engineering as a basis for more accurately forecasting costs of planning and constructing specific segments. Consideration should be given in that SPR study to using the three top priority Sections (Sections 2c, 3, and 4a) identified in this plan as one of those pilot projects.

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# APPENDIX A: ACRONYMS & GLOSSARY

ADA – Americans with Disabilities Act of 1990 enforced by the U.S. Department of Justice (DOJ) and Department of Transportation (DOT) through their respective regulations.

ADT – Average Daily Traffic (the mean number of motor vehicles passing a given point in a 24 hour period)

BTA – Bicycle Transportation Account (State transportation fund set aside for bicycle lane improvements)

Caltrans – California Department of Transportation

CCC – California Coastal Commission (responsible for implementing the California Coastal Act of 1970); this authority is largely delegated to Mendocino County under the terms of an approved Local Coastal Plan

CDP – Coastal Development Permits are required for development in the Coastal Zone and most of the proposed is in that zone. These are granted by Mendocino County PBS under its approved LCP. Appeals of CDPs go to the CCC for decision.

CoLT – Coastal Land Trust (a land trust that owns/manages lands in the study area).

CRZ – Clear Recovery Zone, defined in the Highway Design Manual as 20 feet beyond the edge of pavement on conventional highways like Route 1. Pedestrian paths located within the CRZ generally require a barrier such as a curb, guard rail, or vegetation to ensure safety.

CTC – California Transportation Commission (approves expenditures of State transportation funds, as well as funds passed along by the federal DOT).

DFG – California Department of Fish and Game (a landowner in the study area)

DPR – California Department of Parks and Recreation (a landowner in the study area)

FHWA – Federal Highway Administration (responsible for oversight of federal transportation expenditures passed through to Caltrans and RTPAs)

LCP – Local Coastal Plan, a document approved by the CCC for use by a local government as a tool to guide development and land use, as well as the granting of CDPs.

LOS – Level of Service (a qualitative letter grade, rating from "A" to "F" (good to poor) traffic conditions along a road or at an intersection.

PBS – Mendocino County Planning and Building Services Department (responsible for implementing State and local policies for unincorporated parts of the County).

MCOG – Mendocino Council of Governments (the RTPA for Mendocino Countyas well as four incorporated Cities that lie therein).

MLT – Mendocino Land Trust (a land trust that owns/manages lands in the study area)

MRC – Mendocino Redwood Company (a major landowner in the study area)

PCBR – Pacific Coast Bike Route (originally the "Pacific Coast Bicentennial Bike Route" of 1976) created under the California Bikeways Act of 1990 which mandates standards in the California Streets and Highway Code, Division III, Chapter 8, Section 2373.

RTP – Regional Transportation Plan (A long range (20 year) transportation planning document that considers the transportation planning needs of the region. Updates are required every 5 years in rural areas.).

RTPA – Regional Transportation Planning Agency (established under Government Code Section 29532 pursuant to Senate Bill 45). This is MCOG in Mendocino County.

SCC – State Coastal Conservancy (responsible for oversight and funding of coastal conservation

projects including those that facilitate coastal access).
SPR – State Planning Research grants are us by Caltrans to study various transportation issues.
SRL – Save the Redwoods League (a land trust that owns/manages lands in the study area).
SUP –Shared-Use Path, a term used in this study to refer to the primary trail designed for joint use by pedestrians, bicyclists, and in some areas by other non-motorized travelers.
TE – Transportation Enhancement funds made available for comprehensive transportation system planning including multi-modal elements and environmental enhancement activities through the Transportation Efficiency Act and successor legislation.
Traffic Calming – Techniques and design elements intended to slow the movement of motor vehicles in order to accommodate other modes and increase safety for all users.
TRB – Transportation Research Board (a national organization that funds, promotes, and published transportation research)
WVS – Westport Village Society (a land trust that owns/manages lands in the study area)

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