



February 2026

# Planning Study to Extend the Humboldt Bay Trail (part of the Great Redwood Trail) from Eureka to College of the Redwoods

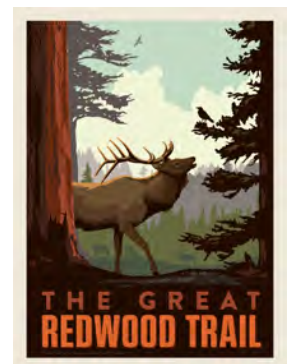
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## With Contributions By:

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- GHD, Inc.
- Alta Planning + Design
- Northern Hydrology and Engineering
- SHN Consulting Engineers & Geologists
- William Rich & Associates
- California Department of Transportation



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- 2 Natural Resource Reconnaissance Assessment
- 3 Community Engagement Materials
- 4 30% Design Plans
- 5 Opinion of Probable Construction Cost

# 1 INTRODUCTION

## 1.1 Overview

This Planning Study describes a proposed project for extending the Humboldt Bay Trail, which is part of the Great Redwood Trail, approximately 4.1 miles from the south end of Eureka to College of the Redwoods (Figure 1). The project would expand the regional trail network and create opportunities for non-motorized travel for the communities of Humboldt Hill, King Salmon, and Fields Landing (Figure 2). The intent is to develop a paved, multi-modal trail (shared-use path) that is consistent with the community context, avoids impacts to sensitive resources, and complies with applicable design standards and guidelines. The trail would be used for transportation and recreation by pedestrians, bicyclists, people with wheelchairs, and users with other wheeled forms of mobility.

Most of the trail would be comprised of a ten-foot-wide paved path placed directly on the railroad bed located near or along the Humboldt Bay shoreline. The railroad corridor on the North Coast has been re-purposed through state legislation to provide the underlying infrastructure for the Great Redwood Trail, which is envisioned as a trail connecting San Francisco Bay and Humboldt Bay. In addition to expanding the Humboldt Bay Trail and Great Redwood Trail, the project would expand the California Coastal Trail.

In 2025, the trail connection between Eureka and Arcata was completed, creating over 15 miles of the Humboldt Bay Trail. The trail connection between Eureka and College of the Redwoods has been identified as the next regional priority for enhancing active transportation and recreation opportunities around Humboldt Bay. Significant benefits of this project will include the following:

- Enabling residents in the communities of Humboldt Hill, King Salmon, and Fields Landing to travel to Eureka without the need for a motorized vehicle.
- Enabling students and staff at College of the Redwoods to commute to school or work without the need for a motorized vehicle.
- Connecting Cal Poly Humboldt and College of the Redwoods with continuous trail facilities.
- Enhancing opportunities for people to observe the diverse natural landscapes, dynamic wildlife, and outstanding scenery of the Humboldt Bay area.
- Creating opportunities to enhance and restore natural habitat and improve resiliency to sea level rise.

This Planning Study is intended to ensure that the trail meets community needs and interests, is compatible with adjacent land use, and enhances the stewardship of the planning area. The Planning Study provides background information, describes existing conditions, summarizes feedback from community engagement, analyzes opportunities and constraints, and presents preliminary design plans. This Planning Study demonstrates that the proposed project is feasible, has broad community support, and would be an excellent investment for advancing the Humboldt Bay Trail, Great Redwood Trail, and California Coastal Trail. An important finding of this Planning Study is that improvements to county roads and the state highway will be needed to make the new trail readily accessible for communities in Humboldt Hill and King Salmon. In addition, sustainable funding will be needed to support ongoing trail maintenance.



Figure 1 – Site Location Map



**Figure 2 – Study Area Map**

The next phase of project development is to prepare preliminary engineering and environmental studies and acquire permits and approvals for the trail project. Key next steps include determining the lead agency for the engineering and permitting phase and securing the necessary funding. Once funding is secured, the engineering and permitting phase will likely require approximately two to three years. The final design phase and right-of-way phase will likely require one to two years. When these phases are complete and funding is secured for construction, construction will likely require two years.

Development of the Planning Study was co-managed by the Humboldt County Public Works Department and Redwood Community Action Agency (RCAA). RCAA led the community engagement portion of the project. Humboldt County led the technical analysis and preliminary engineering with support from GHD, Inc., Alta Planning + Design (Alta), Northern Hydrology and Engineering (NHE), SHN Consulting Engineers & Geologists (SHN), and William Rich and Associates. GHD's role included developing the environmental assessment and engineering design, with support from Alta. NHE evaluated the vulnerability of the study area to flooding, sea level rise, and tsunami and provided recommendations for measures to reduce flood damage risks. SHN acquired photographs of the study area using an unmanned aerial system. William Rich & Associates prepared the cultural resources investigation.

An advisory committee<sup>1</sup> was convened with representatives from the following agencies and organizations:

- California Department of Fish and Wildlife
- California Department of Transportation
- City of Eureka
- Coalition for Responsible Transportation Priorities
- College of the Redwoods
- Great Redwood Trail Agency
- Humboldt Bay Harbor, Recreation and Conservation District
- Humboldt County Association of Governments
- Humboldt Trails Council
- Pacific Gas and Electric
- South Bay Union School District
- U.S. Fish and Wildlife Service
- Wiyot Tribe

Funding for this Planning Study was provided through the Sustainable Transportation Planning grant program administered by Caltrans and by the Humboldt County Association of Governments (HCAOG), the regional transportation planning agency for Humboldt County.

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<sup>1</sup> Participation on the advisory committee does not imply that an agency or organization agrees with all the statements and findings in this report.

## 1.2 Location

The planning area for this study is situated along the shoreline of Humboldt Bay south of the City of Eureka, near the communities of Humboldt Hill, King Salmon, and Fields Landing and the main campus of College of the Redwoods (Figure 2). The planning area is adjacent to the Entrance Bay and South Bay portions of Humboldt Bay. At the north end, the trail will connect to the City of Eureka's Elk River estuary trail near the parking area and trailhead on Tooby Road. The Tooby Road trailhead connects to Humboldt Hill near Spruce Point with an overcrossing of Highway 101 managed by Caltrans. The trail will follow the railroad corridor except at the southern end, where it will diverge from the corridor to connect with College of the Redwoods. Future projects can look at continuing the trail along the railroad corridor south of College of the Redwoods toward Loleta, Fernbridge, Fortuna, and the Eel River Valley.

The planning area was divided into five trail segments, progressing from north to south, based on geographic and landscape considerations. Figure 3 shows the entire planning area and Figure 4 provides a series of maps showing key features for each of the segments, which include the following:

1. **Trail segment 1** is a 0.25-mile-long segment situated across from the mouth of Humboldt Bay, where the railroad corridor is protected by a large shoreline rock revetment<sup>2</sup>.
2. **Trail segment 2** is a 2.2-mile-long segment where the railroad corridor is situated inland from the shoreline that passes between King Salmon and Humboldt Hill and through Fields Landing. Trail segment 2 is further subdivided into three subsegments. Segment 2a passes near the PG&E Humboldt Bay Generating Station, intersecting with an existing public trail that passes around the power plant, and extends to King Salmon Avenue. Segment 2b extends from King Salmon Avenue to the north end of Fields Landing at C Street. Both Segments 2a and 2b have extensive wetlands on both sides. Segment 2c extends southward from C Street through the developed portion of Fields Landing and contains multiple road crossings, including Railroad Avenue and South Depot Road. Segment 2c ends where the railroad corridor transitions from being inland from the shoreline to serving as the shoreline.
3. **Trail segment 3** is a 0.78-mile segment where the railroad corridor forms the shoreline of Humboldt Bay, from south of Fields Landing to the Highway 101 offramp for Tompkins Hill Road.
4. **Trail segment 4** is a 0.66-mile-long segment where the railroad corridor is situated inland from the shoreline, from the Tompkins Hill Road offramp to a point near the College of the Redwoods wastewater treatment facility.
5. **Trail segment 5** is a 0.27-mile-long segment that departs from the railroad corridor to provide the connection between the corridor and the middle entrance to College of the Redwoods along Tompkins Hill Road.

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<sup>2</sup> A revetment is a protective structure, typically composed of rocks, with a sloped surface (also known as rock-slope protection or rip-rap).



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Data source: Tiled service layer. © OpenStreetMap (and) contributors, CC-BY-SA Created by ctuck

**Figure 3 – Trail segments within the planning area**



Figure 4-a – Trail segment maps



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Figure 4B

Data source: 2023 Aerial Mosaic, Humboldt County Transit, CalTrans  
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Figure 4-b – Trail segment maps



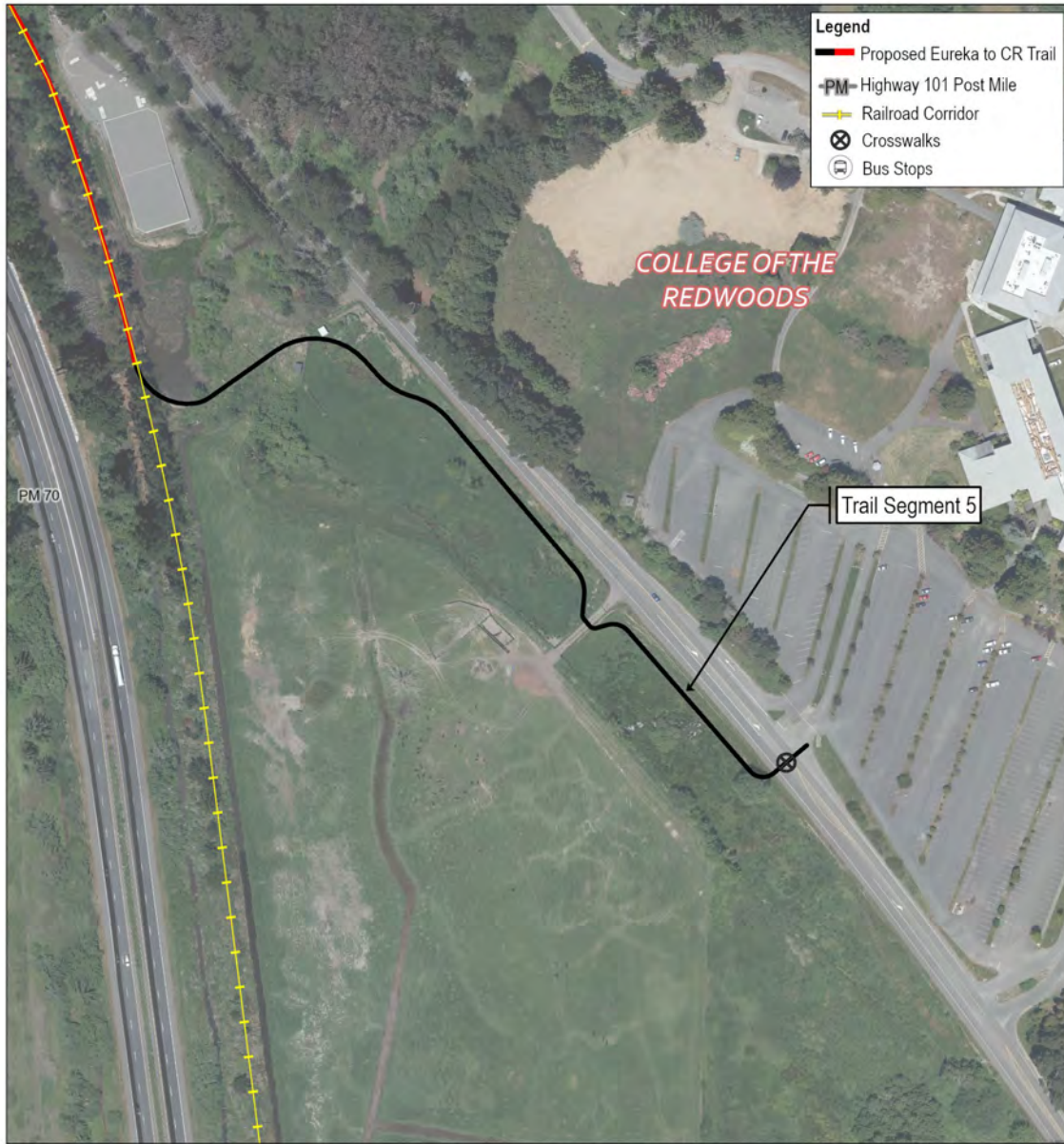
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Figure 4C

Data source: 2023 Aerial Mosaic, Humboldt County Transit, CalTrans.  
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**Figure 4-c – Trail segment maps**



Figure 4-d – Trail segment maps



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Figure 4E

Data source: 2023 Aerial Mosaic, Humboldt County Transit, CalTrans.  
Created by: cluck

Figure 4-e – Trail segment maps

## **1.3 Background**

### **1.3.1 Humboldt Bay Trail**

The Humboldt Bay Trail is a network of multi-use trails<sup>3</sup> providing non-motorized access for transportation and recreational use throughout the Humboldt Bay region (Figure 1). The Humboldt Bay Trail is intended to link communities with multi-modal transportation facilities and connect people to the bay by enabling people of all ages and abilities to access the bay and experience the bay's resources up-close. Trails improve quality of life by providing opportunities for inspiration, education, and social connection in addition to transportation and recreation.

The City of Eureka provides nearly seven miles of trail along its Eureka Waterfront Trail, including the one-mile extension along the Elk River estuary completed in 2022. The City of Arcata provides four miles of trail along the northern portion of Humboldt Bay and through the city to Larson Park at Foster Avenue. The County of Humboldt recently constructed a 4.3-mile trail segment connecting Eureka and Arcata. These past projects developed by Eureka, Arcata, and Humboldt County were designed and built with a "rail-with-trail" approach, in which the embankment of the railroad corridor was widened to create space for the trail surface to be placed parallel to and offset from the railroad tracks.

### **1.3.2 Great Redwood Trail**

The North Coast has a long history of railroad development, initially to bring logs in to mills and ports from the forested watersheds and then later for regional freight service with some passenger service. In 1914, the railroad connection between the San Francisco Bay and Humboldt Bay regions was completed. Within Humboldt County, the railroad line runs along the Eel River from Alderpoint to Loleta and around Humboldt Bay through Fields Landing, Eureka, and Arcata to its terminus in Samoa (Figure 5). By the 1920s, railroad operations consolidated into the Northwestern Pacific Railroad. Railroad operators continually struggled with keeping the railroad corridor open due to the inherent challenges with the topography and unstable geologic conditions on the North Coast. The economic viability of the railroad was heavily impacted by flood damage in the 1950s and 1960s and the concurrent development of the state highway system.

In 1989, the State of California formed the North Coast Railroad Authority (NCRA), following several years of economic struggles by private operators, in an attempt to preserve the railroad for freight service. Over the next few years, NCRA acquired ownership of the railroad line from Healdsburg to Humboldt Bay. Trains operated intermittently until 1998, when heavy rains and landslides caused significant damage to the rail corridor within the Eel River canyon and the Federal Railroad Administration issued an emergency embargo barring operations of trains on the northern portion of NCRA's line. Between 1990 and 2011, a total of \$124 million of state and federal funds were invested in the NCRA corridor to restore freight rail service<sup>4</sup>. However, after nearly 20 years of investment and effort, the prospects for resuming freight rail service on the North Coast remained low due to economic challenges, environmental liabilities, and changes in public needs and priorities.

In September 2018, Governor Brown signed Senate Bill SB 1029, sponsored by State Senator Mike McGuire, known as the North Coast Railroad Authority Closure and Transition to Trails Act, which called for the preparation of a feasibility study for the Great Redwood Trail. In 2020,

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<sup>3</sup> Also known as shared-use paths or stand-alone paths.

<sup>4</sup> Assessment of the North Coast Railroad Authority and Viability of a Great Redwood Trail (California State Transportation Agency, 2020).



Figure 5 – Railroad corridor in Humboldt County

the California State Transportation Agency published a set of assessment reports regarding the dissolution of NCRA and management of the agency’s assets and liabilities. In 2021, Senate Bill SB 69, sponsored by State Senator Mike McGuire and known as the Great Redwood Trail Act, reorganized the NCRA into a successor agency and transferred the rights-of-way and other properties for the purpose of creating the Great Redwood Trail for hiking, biking, and riding.

In May 2021, prior to its reorganization, NCRA submitted a filing to the federal Surface Transportation Board (STB) to initiate the railbanking process for its rail line from Willits to Samoa. STB has exclusive authority over the construction, operation, and abandonment of rail lines that are part of the interstate rail network. In 1983, Congress created provisions in the National Trails System Act to preserve established railroad rights-of-way for future reactivation of rail service and to encourage interim use with appropriate trails. The STB subsequently developed rules and procedures to “railbank” unused rail lines as an alternative to abandonment. The continuation of STB’s exclusive jurisdiction over a railbanked line results in federal preemption of state and local laws, which means that any easement providing railroad right-of-way remains intact (i.e., the easement interest does not revert back to the underlying landowner).

On March 1, 2022, the Great Redwood Trail Agency (GRTA) formally succeeded the NCRA with administrative and financial support from the State Coastal Conservancy. The Great Redwood Trail Act also called for the transfer of the rights-of-way and other properties located south of the Sonoma-Mendocino County line to the Sonoma-Marín Area Rail Transit (SMART) District and directed that the planned non-motorized, commuter pathway next to the SMART line be known as the Southern Segment of the Great Redwood Trail. GRTA has a board of directors with representatives from the counties of Humboldt, Marin, Mendocino, and Sonoma and a representative selected by the cities along the trail corridor.

In October 2022, STB approved railbanking of the railroad line from Willits to Samoa<sup>5</sup>. This action means that the ownership and any easement deeds which define the railroad right-of-way within Humboldt County (except for the Arcata and Mad River Railroad branch line that was determined to be previously abandoned) remain intact and the railroad corridor can be used for trail purposes.

One of GRTA’s first priorities was to develop a master plan to serve as a high-level roadmap for planning, constructing, and managing the Great Redwood Trail within its jurisdiction. The public draft Master Plan was released in April 2024 and the final Master Plan is expected to be adopted in spring 2026. The Great Redwood Trail Master Plan includes the following elements:

- Vision and goals
- Ideas and concerns from tribal and community engagement
- Inventory of existing conditions
- Discussion of trail types, amenities, and design guidelines
- Concepts for trail governance, operations and management
- Priorities and concept designs
- Implementation strategy
- Appendix describing steps for environmental protection and compliance review

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<sup>5</sup> Decision and Notice of Interim Trail Use or Abandonment (Surface Transportation Board, October 24, 2022, Docket No. AB 1305X)

Approval of railbanking and formation of the GRTA provided a major transformation for trail development along the historic railroad corridor on the North Coast. Future trail projects can be built with the trail placed directly on the railroad embankment rather than widening the embankment to accommodate both railroad use and trail use. In contrast with “rail-with-trail” projects, future trail projects will have lower costs, less right-of-way requirements, less environmental impacts, and shorter delivery times.

## **1.4 Purpose and Need**

### **Purpose**

This Planning Study has multiple purposes:

1. Improve safety and connectivity for non-motorized and motorized travelers between the City of Eureka, the communities in unincorporated areas immediately south of the city (Humboldt Hill, King Salmon, Fields Landing), and College of the Redwoods.
2. Expand opportunities for transportation and recreation in the Humboldt Bay area.
3. Advance the development of the Humboldt Bay Trail, Great Redwood Trail, and California Coastal Trail.

### **Need**

Currently the only continuous transportation facility between Eureka and College of the Redwoods is U.S. Highway 101, managed by Caltrans. Improvements to the transportation network are needed because Highway 101 between Eureka and College of the Redwoods is designed primarily to support motorized vehicles and does not provide safe mobility for all users. Under existing conditions, people seeking to walk or bike between Eureka and College of the Redwoods must travel in the shoulder along a four-lane expressway and cross at uncontrolled locations. People without access to a vehicle have no choice for transportation other than transit or walking or biking along the freeway. Portions of the study area have an elevated rate of bike and pedestrian collisions (see Section 2.1.5 and Section 4.3). For most cyclists and pedestrians, the absence of trail facilities separated from Highway 101 is a deterrent and severely limits the number of non-motorized trips along the highway corridor due to safety concerns.

The Planning Study is intended to identify a feasible project or set of projects that will increase mobility options between the communities south of Eureka and reduce the potential for conflicts between bicyclists, pedestrians, and vehicles within the Highway 101 corridor.

## **1.5 Project Objectives**

The specific objectives of the project include the following:

1. Identify a preferred location and design for an active transportation route between Eureka and College of the Redwoods that integrates utilization of the railroad corridor for a multi-use trail.
2. Identify concepts for “Complete Streets”<sup>6</sup> improvements on connecting roadways.

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<sup>6</sup> The term “Complete Streets” refers to streets that are safe, comfortable, and convenient for everyone who uses them (HCAOG Regional Transportation Plan, 2022). The Complete Streets Act of 2008 sets a vision of achieving a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation.

3. Create opportunities to replace vehicle trips with active modes of transportation and reduce vehicle miles traveled, fuel consumption, and combustion emissions.
4. Enhance safety for all modes of travel between Eureka and College of the Redwoods.
5. Serve the needs of diverse south Humboldt Bay residents, College of the Redwoods students, and K-12 students within the study area.
6. Identify trail facilities and road improvements that are compatible with adjacent landowners' interests. Also, identify opportunities, if any, where trail-related improvements can be integrated with other development projects.
7. Avoid or minimize impacts to sensitive natural resources, identify needs and opportunities for habitat restoration, and address risks associated with sea level rise and tsunamis.
8. Explore needs and opportunities for bike-share programs and bike parking.
9. Ensure consistency with the Great Redwood Trail Master Plan and create a priority project for implementation of the Great Redwood Trail.

## 2 EXISTING CONDITIONS

This section describes the existing conditions within the study area.

### 2.1 Community Context

The study area extends along the Humboldt Bay shoreline and railroad corridor from the southern end of Eureka through three unincorporated communities to the College of the Redwoods main campus.

#### 2.1.1 Eureka

The City of Eureka is the largest city in Humboldt County and the central hub for commercial businesses, health care, and social services. In 2022, the City of Eureka had a population of 26,129. The population of the greater Eureka area, including the unincorporated areas of Myrtle town, Cutten, Ridgewood Heights, King Salmon, Humboldt Hill, and Fields Landing is approximately 48,000.

The City of Eureka's Eureka Waterfront Trail (a portion of the Humboldt Bay Trail) was developed in phases and now extends a total of seven continuous miles, from Myrtle town at the north end to the Tooby Road trailhead at the south end. The Eureka Waterfront Trail enables travelers to bypass Highway 101 (which includes Broadway and 4<sup>th</sup> and 5<sup>th</sup> Streets) through the city. A large park-and-ride area managed by Caltrans is located at the west end of Herrick Avenue and provides direct access to the Eureka Waterfront Trail. The most recent one-mile extension of the Eureka Waterfront Trail was built in conjunction with a large restoration project to expand the Elk River estuary and included a parking area on Tooby Road.



*Image 1: The City of Eureka's Elk River estuary trail extension and Tooby Road parking area.*



**Figure 6 – Humboldt Hill, King Salmon, and Fields Landing**

### 2.1.2 Humboldt Hill

Humboldt Hill is an unincorporated community located south of Eureka and directly east of King Salmon and Fields Landing. Humboldt Hill consists mainly of residential parcels interspersed with agricultural land and a small number of commercial businesses. The population of Humboldt Hill is approximately 3,500. Humboldt Hill is a topographically high area along the

margin of Humboldt Bay that is separated from Eureka by the broad Elk River valley. Access between Humboldt Hill and Eureka is currently dependent on vehicle trips on Highway 101.

South Broadway Street and Humboldt Hill Road are the two major collector roads for Humboldt Hill. Humboldt Hill Road connects to Tooby Road at the Highway 101 interchange located at the north end of Humboldt Hill. The area at the north end of Humboldt Hill Road is known as Spruce Point and includes the Harold Larson Vista Point which is managed by Caltrans. South Broadway Street connects to King Salmon Avenue at the Highway 101 interchange located at the south end of Humboldt Hill. The Highway 101 interchange at Spruce Point provides vehicular access between Humboldt Hill and the Tooby Road trailhead for the Eureka Waterfront Trail. However, few cyclists and pedestrians feel comfortable traveling from Humboldt Hill to Tooby Road on the Highway 101 overpass due to the narrow lanes and limited shoulders.

The South Bay Elementary and Middle School is located at the east end of King Salmon Avenue on the east side of Highway 101, near the transition between Humboldt Hill and King Salmon. This school has an enrollment of approximately 225 and receives students from Humboldt Hill, King Salmon, and Fields Landing.



*Image 2: Humboldt Hill and PG&E's Humboldt Bay Generating Station*

### 2.1.3 King Salmon

#### **Residential Community**

King Salmon is an unincorporated community located south of Eureka and directly west of Humboldt Hill. King Salmon consists of residential and commercial parcels with a population of approximately 400 people. King Salmon Avenue provides the single public road for accessing King Salmon from Highway 101. King Salmon has a very unique landscape history. The

residential portion of King Salmon was formed in the 1940s by placement of material dredged from the Fields Landing federal navigation channel by the U.S. Army Corps of Engineers onto intertidal wetlands. The residential area includes a network of canals providing access to the bay. The Humboldt Bay Harbor, Recreation and Conservation District (Harbor District) manages King Salmon Beach and the adjacent dunes and rock breakwater structures, which were established by the U.S. Army Corps of Engineers in the 1980s.



*Image 3: View facing southeast of King Salmon and Fields Landing*

### **Humboldt Bay Generating Station and Humboldt Bay Power Plant**

Pacific Gas & Electric Company (PG&E) operates the Humboldt Bay Generating Station to generate electricity from natural gas on a 75-acre site located on the north side of King Salmon. The facility is situated on a topographically high area known as Buhne Point or Buhne Hill.

Historically, PG&E operated the Humboldt Bay Power Plant at the site which included two fuel oil units and one nuclear generator. In 2005, PG&E received a coastal development permit from the Coastal Commission to construct and operate a radioactive waste storage facility (Independent Spend Fuel Storage Installation) at the facility. The Commission included special condition no. 5 for PG&E to improve the existing pathway (Shoreline Coastal Trail) adjacent to the facility along the Humboldt Bay shoreline. In 2014, PG&E received a coastal development permit to remediate formerly used canals. In conjunction with this work, PG&E improved public access at the existing Buhne Point Vista Trail as mitigation for short-term loss of access along the shoreline trail. The Vista Trail is located on Harbor District property and leads from King Salmon Boulevard to a scenic overlook. The fuel oil and nuclear generator units and associated facilities were decommissioned and removed by 2019.

#### **2.1.4 Fields Landing**

Fields Landing is an unincorporated community located south of King Salmon and southwest of Humboldt Hill. Fields Landing consists of residential, commercial, and industrial parcels with a population of 287 according to the 2020 census. Fields Landing was established in the 1860s as a place to dock ships and has gone through several phases of industrial development including whaling and timber. Fields Landing had a railroad depot when railroad operations were at their peak. Fields Landing continues to have an industrial waterfront with the residential and commercial properties situated inland, east of the railroad corridor. The waterfront includes the Jimmy Smith Fields Landing Boat Launch Facility, Fields Landing Boat Dock and marine fabrication facility, two private docks, and vacant parcels. Railroad Avenue and South Depot Road cross the railroad corridor. The Harbor District owns various parcels in this area that remain under consideration for future development, including uses related to the offshore wind industry.



*Image 4: View facing north of Fields Landing and King Salmon*



Image 5: Fields Landing

### 2.1.5 U.S. Highway 101

Highway 101 is the most heavily used highway in Humboldt County<sup>7</sup>, passing through the county generally in a north-south direction between Mendocino and Del Norte counties. The segment of Highway 101 between Eureka and College of the Redwoods (Figure 2) extends from approximately Postmile (PM) 74.1, near the on-ramp and off-ramp connecting to South Broadway Street on the north side of Humboldt Hill, to PM 70.6, situated near White Slough and the Tompkins Hill Road Overhead bridge.

Highway 101 through the study area has an average annual daily traffic of approximately 27,000<sup>(8)</sup>. In this area, Highway 101 is a four-lane freeway with two travel lanes in each direction (south-bound and north-bound) separated by a vegetated median or concrete barrier. The roadway generally includes 12-foot-wide travel lanes and ten-foot-wide shoulders. The posted speed limit is 65 miles per hour. Section 5.1 provides information on projects currently in development by Caltrans in or near the study area.

The study area includes four interchanges along Highway 101:

- The interchange connecting to South Broadway Street and Humboldt Hill Road on the north side of Humboldt Hill.
- The interchange connecting to South Broadway Street and King Salmon Avenue on the south side of Humboldt Hill.

<sup>7</sup> Within Humboldt County, Highway 101 is classified as a Principal Arterial and an Interregional Road System route.

<sup>8</sup> 2021 Caltrans Traffic Volumes Census Data.

- The interchange connecting to Fields Landing Drive and Orchard Avenue in Fields Landing.
- The interchange connecting to Tompkins Hill Road, which leads to College of the Redwoods.

For the ten-year period from January 1, 2014, through December 31, 2023, there were a total of 174 vehicle crashes reported for the segment of Highway 101 from PM 70.575 to PM 74.086 and 37 crashes on the four on-ramps and off-ramps in the study area.<sup>9</sup> These crashes included one fatal crash and 43 injury crashes on the mainline highway and one fatal crash and seven injury crashes on the on-ramps/off-ramps.

According to Caltrans staff, a fatal pedestrian collision occurred on the Highway 101 northbound lane within the study area in 2019 and a fatal pedestrian collision occurred on the King Salmon ramp in 2015.<sup>10</sup> Three minor injuries occurred on the southbound lane which included a pedestrian in 2018 and cyclists in 2015 and 2019.

#### *Street Story*

University of California Berkeley hosts an online platform called Street Story that allows people to upload comments about their transportation experiences. Four hazards and safe places were documented within the study area in Street Story<sup>11</sup>. One commenter noted that cycling on the 101 is required to access bike routes south of Eureka. The commentor also documented they have experienced car-conflicts frequently on the three sets of on- and off-ramps they are required to cross while cycling. Another commenter noted the northbound 101 on ramp near Tompkins Hill Road has no functional shoulder and bicyclists are forced to share a lane with accelerating cars. Both commenters expressed concern over the barriers and the lack of alternatives. Two additional comments note hazards for walking, biking, riding and e-scooter along King Salmon Avenue and South Broadway Road. They note these roads are traveled by children to get to the South Bay School campus and are dangerous due to the lack of sidewalk, roadway conditions, and speed of vehicles.

### 2.1.6 College of the Redwoods

The main campus of College of the Redwoods is located at the southern end of the study area along Tompkins Hill Road (Figure 7). College of the Redwoods is a public community college providing associate degrees and advanced classes for high school students through Academy of the Redwoods. In recent years, the College of the Redwoods has had an enrollment of approximately 1,200 full-time students and 2,500 part-time students. One of the College's focus areas is providing a gateway for students to continue on to Cal Poly Humboldt. Program specialties include nursing, administrative justice, forestry and horticulture, and career technical education.

The College of the Redwoods 2023-2033 Facilities Master Plan provides a roadmap for facilities development for the next 5-10 years. The overall goals of the Facilities Master Plan include:

- Create nimble and agile learning environments
- Enable technology everywhere

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<sup>9</sup> Traffic Accident Surveillance and Analysis System report generated on September 19, 2024.

<sup>10</sup> Personal communication, GHD and Caltrans, September 2024.

<sup>11</sup> 2024 Street Story Reports – Humboldt County. Data generated 9/5/2024.

- Embrace diversity, equity, and inclusion
- Encourage active student life
- Enhance open spaces
- Offer community access to campus
- Support faculty and staff
- Facilitate partnership opportunities
- Role model sustainability

College of the Redwoods has three entrances along Tompkins Hill Road. Tompkins Hill Road is comprised of two lanes separated by a center stripe with standard shoulders. The north entrance is primarily used for access to the Humboldt Botanical Gardens. The access road at the north entrance runs up a hill and Tompkins Hill Road has a curve at the intersection. The middle and south entrances provide access to the main parking lot for the campus.

The Facilities Master Plan envisions the south entrance as the main vehicle entrance and a gateway that directs users to the “front door” at President’s Circle and the Central Quad near the center of campus (Page 2-42). The “front door” functions as the transition from vehicle use to pedestrian use. The middle entrance serves as a secondary entrance.

The Facilities Master Plan describes an intent to increase separation between vehicular roads and parking from pedestrian pathways (Page 2-44).



*Image 6: College of the Redwoods with the middle and south entrances.*



Figure 7 – College of the Redwoods

### 2.1.7 Transit Service

Humboldt Transit Authority operates three transit systems providing services within the study area:

The Redwood Transit System provides regional bus service along the Highway 101 corridor between Scotia and Trinidad. The northbound route stops at College of the Redwoods, Fields Landing (Highway 101 off-ramp at Orchard Avenue), King Salmon (Highway 101 off-ramp at King Salmon Avenue), and Humboldt Hill (Spruce Point). The southbound route stops at Humboldt Hill (Spruce Point), King Salmon (South Broadway Street at King Salmon Avenue), Fields Landing (Fields Landing Drive at Central Avenue), and College of the Redwoods.

The Southern Humboldt Transit System provides an intercity route between Benbow and Eureka. The Southern Humboldt intercity route stops at College of the Redwoods.

The Dial-a-ride Service provides ride-sharing transportation for individuals with disabilities.

### 2.1.8 Humboldt Bay National Wildlife Refuge

The Humboldt Bay National Wildlife Refuge is composed of 11 units distributed around the Humboldt Bay region.<sup>12</sup> The refuge is managed by the U.S. Fish and Wildlife Service. Nine refuge units are located within Humboldt Bay (five units in South Bay and four units in North Bay) and two units are located within the dunes west of Mad River Slough. The South Bay units include Table Bluff, South Bay, Hookton Slough, Salmon Creek, and White Slough. The refuge was established in 1971 to conserve coastal habitats for a diversity of animals and plants, especially migratory birds. According to the 2009 Comprehensive Conservation Plan, “Refuge habitats link with other public and private lands to support threatened and endangered species in addition to hundreds of species of migratory wildlife within the Pacific Flyway. The refuge provides migration and wintering habitats of sufficient size and quality to assist in maintaining migrating bird populations on the Pacific Flyway, especially Pacific brant, Aleutian cackling geese, and shorebirds (pg. 3).”

The White Slough unit extends along the east side of South Bay between Fields Landing and the Tompkins Hill Road overpass, with a total size of approximately 70 acres (Figure 2). When acquired by the U.S. Fish and Wildlife Service, the unit was primarily diked former tidal marsh used for pasture. Levees divided the unit into four cells. The levees were in poor condition when the land was acquired, and the intent was to allow the land to revert back to salt marsh. A perennial spring contributes a small source of fresh water through the main cell.

The White Slough Tidal Wetlands Restoration Project was constructed from 2014 to 2021. By raising the land elevation to support marsh vegetation and removing portions of dikes to allow for natural sedimentation, the project created roosting areas for shorebirds and restored salt marsh habitat in a 41-acre area adjacent to Highway 101. The railroad corridor traverses the northeastern border of the project near the Tompkins Hill Road interchange.

### 2.1.9 Wiyot Ancestral Territory

The study area is situated within the ancestral territory of the Wiyot People, which encompasses the areas around Humboldt Bay, the lower Eel River, and the lower Mad River. Wiyot descendants live within the Wiyot Tribes’ Table Bluff Reservation, the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria, and other communities. Based on consultation with the Wiyot Tribe’s tribal historic preservation officer (THPO), the study area contains sensitive cultural sites<sup>13</sup>. The Wiyot Tribe THPO requested that the Planning Study include a cultural resources investigation so that specific information regarding cultural resources can be obtained and specific protective measures can be incorporated. Based on this request, the scope of work and budget for the study was adjusted to include a cultural resources investigation. The Wiyot Tribe has expressed a strong interest in preserving and expanding cultural practices around Humboldt Bay and leading ecocultural restoration projects.

In 2022, the Wiyot Tribe acquired a 46-acre property connected with the Mouralherwaqh village site in the King Salmon/Humboldt Hill area, near the railroad crossing with King Salmon Avenue.

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<sup>12</sup> Humboldt Bay National Wildlife Refuge Complex – Comprehensive Conservation Plan and Environmental Assessment. U.S. Fish & Wildlife Service, September 2009.

<sup>13</sup> Meeting on January 10, 2024 with Ted Hernandez (Wiyot Tribe THPO) and Hank Seemann (Humboldt County).

### 2.1.10 Bike Parking

The Herrick Avenue park-and-ride and the Tooby Road trailhead for the Eureka Waterfront Trail do not have bike parking. College of the Redwoods has a limited number of bike racks dispersed across the campus.

### 2.1.11 Utilities

This Planning Study did not perform a comprehensive review of utilities. However, it was identified that Humboldt Community Services District has a sewer line situated parallel to the railroad corridor in Segment 1. The sewer line is a force main which pumps wastewater to the City of Eureka wastewater treatment plant. One document that was reviewed indicated that a fiber optic line may be situated within the railroad right-of-way; however, the presumptive owner confirmed that they do not own a fiber optic line within the study area<sup>14</sup>.

### 2.1.12 Right-of-Way and Land Ownership

As described in Section 1.3.2, the railroad line within the study area has been railbanked, which means the railroad right-of-way<sup>15</sup> is preserved for trail use. Within the study area, the railroad right-of-way is a mixture of fee-title ownerships and easements with variable widths. In some locations, property boundaries are uncertain and will require confirmation during the next project development phases. The Humboldt County Assessor Office publishes maps of Assessor Parcels which are commonly used for visualizing the extent of property parcels. However, Assessor Parcel maps are not intended to depict precise property boundaries, which are determined by the legal description in a deed. Property boundaries are shown on records of survey prepared by a professional land surveyor. If there are locations where the trail project cannot be built within the existing railroad right-of-way, then the implementing agency would need to acquire additional right-of-way, either through land acquisition or easement.

No proposed subdivisions, housing developments, or major development projects were identified adjacent to the railroad corridor within the study area.

### 2.1.13 Demographics

Humboldt Hill is a census-designated place<sup>16</sup> with a population of 3,498 in the 2020 census. The median age is 46. According to the 2022 American Community Survey (ACS), the median household income is \$80,938 (85% of the state average) and the poverty rate is 12.2% (equivalent to the state average).

Fields Landing is a census-designated place with a population of 287 in the 2020 census. The median age is 27. According to the 2022 ACS, the median household income is \$71,310 (75% of the state average) and the poverty rate is 45.5% (3.8 times the state average).

King Salmon is not a census-designated place and, thus, demographic information is not readily available. King Salmon has a population of approximately 400.

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<sup>14</sup> Letter (dated October 16, 2024) from Nancy Venturelli, Harmoni Towers to County of Humboldt.

<sup>15</sup> The term “**right-of-way**” refers to the areas where there are legal rights (either through property ownership, easement, or other instrument) for building, accessing, and maintaining infrastructure.

<sup>16</sup> The term “**census-designated place**” refers to a geographic area identified by the U.S. Census Bureau as representing an unincorporated community that is well-settled and locally recognized.

## 2.2 Natural Setting

### 2.2.1 Geomorphic Context<sup>17</sup>

Humboldt Bay is a large, sheltered water body that continually expands and contracts with the tides (Figure 1). Humboldt Bay and its surrounding area contain a diverse set of coastal habitats including deep-water channels, subtidal<sup>18</sup> channel and sloughs, intertidal<sup>19</sup> mudflats and salt marsh, gravel beaches, brackish marshes, freshwater marshes, coastal prairies, and agricultural pastures. The majority of Humboldt Bay is sheltered from the open coast by two large sand spits, with the Entrance Bay portion of Humboldt Bay directly connected to the ocean. The entire Humboldt Bay is subject to ocean tides, storm surge, and locally generated wind waves, with the Entrance Bay portion also subject to large waves associated with ocean swells.

The railroad corridor within the study area is a linear landform that was built primarily on former tidelands in the late 19<sup>th</sup> and early 20<sup>th</sup> century. Land inland of the railroad would receive tidal inundation in the absence of the railroad corridor embankment and other landscape features such as levees and revetments. The trail will be constructed on the railroad embankment to the greatest extent feasible to minimize cost, environmental impacts, and right-of-way acquisition. This location is also important for providing connectivity with the existing Eureka Waterfront Trail to the north and maintaining proximity with Humboldt Bay for optimal quality of experience.

### 2.2.2 Flood Hazards and Sea Level Rise

The trail project will need to be carefully planned and designed to account for flooding hazards, both under current conditions and with future sea level rise. The study area has inherent vulnerability to flooding hazards due to its proximity to the Humboldt Bay shoreline and the geomorphic setting. One of the primary design objectives is to design the project so that it has durable resilience to flood hazards and extreme weather events. For this Planning Study, the planning life of the trail project is assumed to be 75 years (through 2100).

The Federal Emergency Management Agency's (FEMA's) Flood Insurance Rate Maps are a source of baseline information regarding flood hazards. FEMA flood maps identify Special Flood Hazard Areas which are areas at risk of inundation by a flood event that has at least a 1% chance of occurring during any given year<sup>20</sup>. Two basic types of flooding are riverine flooding (from streams and rivers) and coastal flooding (from water bodies subject to tides). The term "**base flood elevation**" refers to the water surface elevation during a 1-percent-annual-chance flood event. For coastal flooding, the base flood elevation is associated with the **still water elevation**, which accounts for tides, storm surge, wind setup<sup>21</sup>, and seasonal effects, but does not include the additional height of waves. Most of the railroad corridor in the study area is situated within a Special Flood Hazard Area with a base flood elevation of 10.2 feet (NAVD88 datum). This means a water surface elevation of 10.2 feet has a 1% chance of occurring in any given year under current conditions, according to the FEMA flood maps.

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<sup>17</sup> The term "**geomorphic context**" refers to the natural landforms and human-made landscape features within an area and the physical processes that affect their evolution over time. Geomorphic context is important for understanding a location's exposure to flooding and erosion.

<sup>18</sup> The term "**subtidal**" refers to features that retain water at all times because the bed elevation is below the lowest tides.

<sup>19</sup> The term "**intertidal**" refers to features such as mudflat and salt marsh that alternate between being submerged and exposed during the tide cycles.

<sup>20</sup> The **1-percent-annual-chance flood event** is also known as the **base flood** or **100-year flood event**.

<sup>21</sup> The term "**wind setup**" refers to the net rise in water levels caused by winds at the leeward (downwind) side of a large body of water.

NHE (2024) provided a more detailed analysis of flood hazards within the study area associated with tidal flooding, wind effects, storm surge, sea level rise, and tsunami (Attachment 1). This analysis includes a history of how the shoreline has evolved and been altered through natural processes and human intervention. NHE (2024) used the most current hydraulic model of Humboldt Bay to estimate still water elevations for current conditions and various sea level rise scenarios. NHE (2024) also calculated wave heights, wind setup, wave runup, and wave overtopping rates where the railroad corridor is situated on or near the shoreline. Using these results, NHE (2024) assessed the project area's vulnerability for two types of erosion: (1) direct wave attack and/or tidal/wind-driven currents, and (2) still water flooding or wave overtopping. Findings and recommendations are provided in Section 4.3.11.

In August 2024, Humboldt County and Cal Poly Humboldt initiated a planning project entitled "Coastal Resilience Planning for Frontline Communities on Humboldt Bay (King Salmon and Fields Landing)" with funding from the State Coastal Conservancy. This project will develop a sea level rise adaptation plan for the communities of King Salmon and Fields Landing, including a detailed vulnerability analysis of flood hazards and evaluation of potential adaptation options for the two communities. The project is expected to be completed in early 2027. The results of this work will be helpful for informing the future design phase of the trail project.

### **2.2.3 Natural Habitats**

The study area is situated along the shoreline of Humboldt Bay which is an extraordinary natural asset on the North Coast. The deep-water channels and subtidal channels and sloughs of Humboldt Bay are surrounded by a diverse set of intertidal habitats and low-elevation upland habitats. The diverse natural habitats around the bay provide a wide variety of ecosystem services including habitat for natural organisms, biodiversity, food production, and coastal protection. Intertidal features, especially salt marsh, can provide coastal protection by reducing wave height and energy during storm surges and reduce erosion by stabilizing the shoreline.

Within the study area, the railroad crosses small, unnamed freshwater tributaries and tidal channels with culverts and one small bridge, but no major rivers or sloughs. The project will likely need to replace several culverts and one small bridge, but no major new bridges will be required. GHD (2023) evaluated the wetlands adjacent to the railroad within the study area (Attachment 2). Three-parameter wetland types mapped in the study area by the National Wetland Inventory include freshwater forested shrub wetland, palustrine freshwater emergent wetland, and estuarine and marine wetland. One-parameter wetlands in the study area include any vegetation stands dominated by hydrophytes ranked on the National Wetland Plant List. Placement of the trail directly on the railroad corridor will significantly reduce the amount of wetland impacts compared to previous rail-with-trail projects. In some areas, widening may be required which could impact adjacent wetlands. Permanent impacts to wetlands will require mitigation to offset the impacts and meet permitting requirements.

## **2.3 Archeological Resources and Sensitive Cultural Sites**

In January 2024, the chair and tribal historic preservation officer (THPO) of the Wiyot Tribe notified Humboldt County during a consultation meeting that sensitive cultural resources are located within the planning area. The Wiyot Tribe chair/THPO requested that Humboldt County complete a cultural resources investigation so that specific information regarding cultural resources can be obtained and specific protective measures can be incorporated into the Planning Study as appropriate. The scope of work for the grant was amended to include a cultural resources investigation, which will have a separate report that is maintained confidential.

## 2.4 Observations During Field Visits

This section summarizes observations made during various field visits in 2023 and 2024.

### Trail Segment 1

- Near the connection point with the Eureka Waterfront Trail, the railroad corridor is protected from ocean swells coming into Humboldt Bay by a revetment structure composed of large boulders. The structure generally appears in good condition. However, the boulders are permeable to water from wave action and can be overtopped by wave overwash, which has caused erosion of the railroad ballast<sup>22</sup> behind the revetment at multiple locations. In some locations, significant amounts of ballast have washed out, leaving the steel rails and wood ties hanging in air. The trail cannot be located directly on the alignment of the former railroad because the wave action would likely cause damage to the trail and present hazardous conditions for trail users.
- At the southern end of the revetment, there is a junction with the gravel pathway which extends along the shoreline around the PG&E's Humboldt Bay Generating Station and connects to Buhne Point and King Salmon Beach.



Image 7: View facing south of Segments 1 and 2.

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<sup>22</sup> The term “**ballast**” refers to the gravel material that serves as the bed for the railroad tracks.



*Images 8-10: Views of Segment 1*

## **Trail Segment 2**

- Segment 2a is situated adjacent to the Humboldt Bay Generating Station. The railroad corridor is largely overgrown with pampas grass and difficult to access. Wetlands are present on both sides of the railroad corridor.
- The railroad corridor crosses King Salmon Avenue near the off-ramp and on-ramp for Highway 101. King Salmon Avenue has narrow shoulders and is not comfortable for pedestrian and bicycle use. The undercrossing of Highway 101 does not have sidewalks or other facilities for non-motorized users. Together, King Salmon Avenue and the Highway 101 undercrossing present a barrier for traveling between King Salmon (west of Highway 101) and the South Bay Elementary and Middle School (east side of Highway 101).
- Within Fields Landing, the railroad separates the industrial parcels along the shoreline with the more inland residential area.
- In Fields Landing near South Depot Road, the railroad corridor includes a main line and a siding track. The main line is most suitable for the trail, as the siding track bisects an industrial parcel.
- Evidence of recent encampments was observed in the southern portion of Segment 2, which is heavily vegetated and isolated.



*Image 11: Railroad corridor northeast of King Salmon (Segment 2a)*



*Image 12: Railroad corridor north of Fields Landing (Segment 2b)*



*Image 13: Railroad corridor through Fields Landing (Segment 2c)*



*Image 14: South Depot Road in Fields Landing (Segment 2c).*

### **Trail Segment 3**

- The embankment of the railroad corridor functions as the shoreline of Humboldt Bay. At several locations, the embankment is eroded and the rails and ties are undermined. Erosion appears to be active and ongoing. According to NHE (2024), the erosion rate has accelerated during the period 2019-2023. Large slabs of concrete with protruding steel rebar are present at multiple locations along the shoreline.
- Views of Humboldt Bay and Table Bluff from the railroad corridor are outstanding.
- Coastal wetlands are present along the east side of the railroad corridor.
- Several small culverts convey water under the railroad corridor into Humboldt Bay. A small slough channel is present on the north side of Segment 3.
- Portions of the railroad corridor are overgrown with vegetation and trees. Trees growing in the railroad corridor include alder, willow, and a hybrid conifer of Monterey pine and knobcone pine.



*Image 15: View of Segment 3 between Fields Landing and College of the Redwoods.*



*Image 16: Concrete rubble with steel rebar along the shoreline (Segment 3).*



*Image 17: Shoreline erosion and concrete rubble (Segment 3).*



*Image 18: Shoreline erosion (Segment 3).*

#### **Trail Segment 4**

- Portions of the railroad corridor are overgrown with vegetation and trees and difficult to access. Trees include alder, willow, and the Monterey pine/knobcone pine hybrid.
- The railroad corridor extends adjacent to the College of the Redwoods wastewater treatment facility.



*Image 19: Railroad corridor between Highway 101 and Tompkins Hill Road (Segment 4).*

### **Trail Segment 5**

- The railroad corridor has a small (approximately 20-foot-long) bridge over a slough channel.
- A small levee and tidegate are located adjacent to the railroad corridor.
- A large, privately owned agricultural parcel is located between the railroad corridor and Tompkins Hill Road, across from the middle and southern entrances to College of the Redwoods. College of the Redwoods owns parcels between the privately owned agricultural land and Tompkins Hill Road.
- Tompkins Hill Road has no bicycle lanes or pedestrian walkway on the road shoulders.



*Image 20: View of the railroad corridor parallel to Highway 101 and the agricultural land across from the entrance to College of the Redwoods.*



*Image 21: View of the middle entrance to College of the Redwoods and the area where a trail (Segment 5) will connect the railroad corridor with the campus.*

## 2.5 Regional and Local Planning

This section reviews relevant policies, priorities, and outcomes from previous planning documents.

### **Humboldt Bay Trails Feasibility Study (RCAA, 2001)**

The Humboldt Bay Trails Feasibility Study was the first study to evaluate opportunities for improving non-motorized access to and around Humboldt Bay by expanding or creating trails. The study identified the Humboldt Bay segment of the California Coastal Trail as the backbone of a regional trail system that provides coastal access to the bay.

### **Humboldt Bay Management Plan (Harbor District, 2007)**

The Humboldt Bay Management Plan is the primary planning document for the Humboldt Bay Harbor District. The plan contains Policy RFA-1 which states that the Harbor District shall endeavor to support the development of new access points that propose safe and appropriate public recreational access to Humboldt Bay. Following the adoption of this plan, the Harbor District's economic development committee convened a series of meetings in 2009 to discuss prioritization of potential policies and actions. The committee identified the need to improve recreational infrastructure and opportunities that promote community health and boost economic development related to tourism as a priority. More recently, the Harbor District has been working on plans to develop its port in support of offshore wind. The Harbor District property along Trail Segment 2, south of Fields Landing, has been identified as a potential area for future development in support of off-shore wind.

### **Humboldt County Regional Pedestrian Plan (HCAOG, 2008)**

The Humboldt County Regional Pedestrian Plan provides a guide for development of infrastructure for pedestrian use. The goals of the plan include creating a pedestrian-safe environment and improving pedestrian access to important destinations. The Humboldt Bay Trail is identified as a regional trail project that will fulfill the goals of the 2008 Pedestrian Plan.

### **Humboldt County Regional Trails Master Plan (HCAOG, 2010)**

The Humboldt County Regional Trails Master Plan provides a framework for promoting the development of a regional active transportation system that ensures safe and equitable access for non-motorized users. The plan was developed to address the limited options for active travel between north coast communities. The Humboldt Bay Trail is identified as a priority project that will connect local residential, commercial, and recreational destinations; link to concurrent trail projects in Arcata and Eureka; and add a significant segment to the California Coastal Trail.

### **Humboldt County Coastal Trail Implementation Strategy (RCAA, 2011)**

The California Coastal Trail (CCT) is intended to be a continuous network of public trails along the coastline that provides non-motorized recreation and transportation opportunities for the widest possible range of potential users. RCAA initiated a coordinated planning effort in 2009 with funding from the California State Coastal Conservancy to develop an implementation strategy for completing the CCT within Humboldt County. Fifty partner organizations participated in and contributed to the planning effort. Public involvement was achieved through surveys, workshops, and comments on the draft report. The Humboldt CCT Implementation Strategy report (RCAA 2011) includes alignment evaluation and prioritization and trail demand projections for the approximately 158-mile-long segment within Humboldt County. Trail alignments were evaluated based on the goals of providing a scenic experience; maximum access for a variety of non-motorized uses; connectivity to destinations and amenities along the coast and local communities; separation from motorized traffic; minimum impacts to natural habitats and cultural and archeological resources; and respect for private property.

**Eureka to Scotia Trail Corridor Assessment (Alta and RCAA, 2016)**

This assessment was commissioned by HCAOG to support regional trail system efforts. The report provides a preliminary evaluation and conceptual alignments for trail connections from the Eureka Waterfront Trail southward along the east side of Humboldt Bay into the Eel River Valley. The Eureka-to-Scotia proposed trail route is approximately 32-miles long and consists of nine planning areas.

**Humboldt Regional Bicycle Plan Update 2018 (HCAOG 2018)**

The Humboldt Regional Bicycle Plan supports the development of convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities. The plan is intended to facilitate projects that link adjoining jurisdictions' bicycle routes and serve to build a regional bicycle network. The goal of the plan is to create the safest conditions for bicyclists by providing bikeways and improving roadways to eliminate barriers to bicycle travel. The Humboldt Bay Trail is identified as one of the five priority regional programs/projects to support and enhance bicyclist safety and encourage more people to utilize bicycles for transportation.

**Caltrans Active Transportation Plan District 1 (Caltrans 2021)**

Caltrans developed this plan to identify location-based pedestrian and bicycle needs on and across the state highway system in District 1 and to prioritize highway segments and crossings to inform future investments. Highway segments and freeway crossings were scored based on measures related to mobility, safety, equity, and preservation. Then they were ranked and sorted into three tiers based on their relative intensity of need. Within and adjacent to the study area, the Highway 101 segment from Eureka to Fernbridge is considered a Tier 1 (highest need) priority.

**Regional Transportation Plan – Variety in Rural Options of Mobility (HCAOG, 2022)**

The Regional Transportation Plan (“RTP”) is a long-range planning document (planning horizon of 20 years, updated every five years) for future transportation investment in the Humboldt County region. The RTP presents overall goals, objectives, policies, and performance criteria and includes a list of identified priority projects. The six priority objectives of the RTP are:

- Active transportation mode share/complete streets
- Economic vitality
- Efficient and viable transportation system
- Environmental stewardship and climate protection
- Equitable and sustainable use of resources
- Safety and health

The RTP is composed of several elements focusing on specific topics, including Complete Streets & Connected Communities and Commuter Trails. The goal of the Complete Streets & Connected Communities element is for the streets, roads, and highway system throughout Humboldt County to meet the transportation and safety needs of all users, including pedestrians, transit users, bicyclists, motorists, the elderly, youth, and the disabled. The goal of the Commuter Trails element is for Humboldt County's regional trail network to be a complete and seamlessly connected system that gives people options for safe, active transportation within and between communities. In addition, the Commuter Trails element contains a goal for the California Coastal Trail within Humboldt County to be a continuous public right-of-way along the coastline and a contiguous trail for non-motorized travel, fostering appreciation and stewardship of the scenic and natural resources of the North Coast.

The RTP includes the following policies relevant to the proposed Humboldt Bay Trail extension between Eureka and College of the Redwoods:

Policy Streets-1 (Multi-modal safety & functionality): HCAOG shall encourage and facilitate local jurisdictions, local Native American Tribes, Caltrans, and non-profits to individually and collaboratively plan, design, install, and maintain roads in Humboldt County to build a transportation system that emphasizes safety over speed and emphasizes multi-modal functionality over convenience for single-occupancy automobiles.

Policy Streets-2 (Humboldt Bay Trail): HCAOG recognizes the Humboldt Bay Trail, and planned connections and envisioned extensions, as a regional priority multi-use trail, and supports multi-jurisdictional, public, and private efforts to develop and maintain it.

Policy Streets-3 (Complete Streets improvements): HCAOG shall include Complete Streets improvements in regionally-funded transportation system projects to the extent feasible, as consistent with California Complete Streets Act of 2008 (AB 1358) and Caltrans Deputy Directive 64-R2.

Policy Streets-8 (Land and natural resources): HCAOG shall pursue a multi-modal transportation system that follows a less exhaustive, less polluting, and more sustainable use of natural resources than the land-intensive car-centered transportation system.

Policy Streets-9 (Equity programming for roads and trails): HCAOG shall promote equity, cost effectiveness, safety and active transportation in programming and allocating funds to regionally significant roadway and trail projects.

Policy Streets-10 (Safe routes to school and transit): To advance Safe Routes to School and Safe Routes to Transit initiatives, HCAOG shall support jurisdictions to establish and maintain safe pedestrian paths and designated bikeways within one mile of all public schools and public transit connections.

Policy Streets-11 (Vision Zero): HCAOG adopts the Vision Zero commitment to support policy, strategies, and roadway design standards that have been shown to be most effective in improving safety, with the goal of eliminating all traffic fatalities and severe injuries in Humboldt, while increasing safe, healthy, equitable mobility for all users.

Policy Trails-1 (Pursue funding for planned trails): HCAOG shall pursue active transportation system funding to implement priority trail projects identified in the Commuter Trails Element and the *Humboldt County Regional Trails Master Plan*.

Policy Trails-2 (Trails in public right of way): HCOAG shall pursue and support using existing public right-of-way for trails to the maximum extent feasible in order to preserve land, assets, and financial resources.

Public Trails-3 (Minimize impacts to natural resources): HCAOG shall support entities to design and locate regional trails to minimize impacts to environmentally sensitive habitat areas and prime agricultural lands to the maximum extent feasible.

Policy Trails-5 (Plan for sea level rise): HCAOG supports collaborative, multi-jurisdictional projects that consider adaptation to sea-level rise in trail planning and development.

Policy Trails-6 (CA Coastal Trail principles): HCAOG supports and encourages the design principles, as applicable, that the Coastal Conservancy outlines in “Completing the California Coastal Trail” (2003), which are: proximity to the sea, connectivity, integrity, respect, and feasibility.

Policy Trails-7 (Equitable travel access): The regional trails network shall provide travel options for residents and visitors, with equitable access for transportation-disadvantaged populations.

Policy Trails-8 (Prioritize trail safety): HCAOG will prioritize planning, design, construction, adequate maintenance, education, enforcement, and other actions to improve the safety and the perception of safety, for the intended uses of the regional trails system.

The table of Complete Streets Projects in the RTP lists three projects for the study area:

- Humboldt Bay Trail: Elk River to King Salmon
- Humboldt Bay Trail: King Salmon to Fields Landing
- Humboldt Bay Trail: Fields Landing to Humboldt Bay National Wildlife Refuge/College of the Redwoods.

The description for each project is to construct a Class I multi-use trail. Each project is designated as helping to achieve objectives related to mode shift; lowering vehicle miles traveled; enabling access to essential destinations by walking, biking, and/or public transportation; and Vision Zero.

**Humboldt County Strategic Plan 2024-2028 (Humboldt County Board of Supervisors, 2024)**

The Strategic Plan adopted by the Humboldt County Board of Supervisors includes a goal to “achieve community connectivity with bicycle/pedestrian trails” with the following action items:

- Identify priority connections and pursue funding for feasibility studies.
- Support the Great Redwood Trail Agency use of the railroad corridor for regional and local trails.

**Humboldt Regional Climate Action Plan (Humboldt County and Local Agencies, 2025)**

Humboldt County and the local cities and joint powers authorities<sup>23</sup> developed a Regional Climate Action Plan (RCAP) for reducing greenhouse gas emissions. An inventory of sources of greenhouse gas emissions prepared in 2022 determined that 73% of emissions within Humboldt County are generated by on-road transportation. The primary strategies to reduce transportation emissions include shifting away from single-occupancy vehicle trips toward public transit options, shifting from vehicle trips to active transportation (walking and biking), and reducing carbon emissions from vehicle travel. Increasing the mode shift to active transportation options is largely dependent on bike and pedestrian infrastructure and the RCAP identifies a variety of measures to advance this strategy.

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<sup>23</sup> The cities are Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, and Trinidad. The joint powers authorities are Humboldt County Association of Governments, Humboldt Transit Authority, Humboldt Waste Management Authority, and Redwood Coast Energy Authority.

## 3 COMMUNITY ENGAGEMENT

### 3.1 Community Outreach Strategy

RCAA created a Community Outreach Plan to provide opportunities for tribal and community members to provide input on the Planning Study and specifically to identify locations where connectivity between neighborhoods and the proposed trail would be especially beneficial. The Community Outreach Plan had the following goals:

1. Engage community members, including vulnerable populations, adjacent landowners, students, and Tribes, in understanding the purpose and scope of the project to extend the Humboldt Bay Trail to College of the Redwoods.
2. Provide a range of opportunities for community and tribal input to ensure that the trail facilities and road improvements serve the needs and interests of Tribes, landowners, south Humboldt Bay residents, College of the redwood students and K-12 students.
3. Solicit community and tribal input that supports the design of trail facilities and road improvements that are compatible with adjacent properties and could be integrated with concurrent development projects (if any).

A variety of outreach strategies were used to fulfill Community Outreach Plan goals including tabling events at various locations, convening meetings of a Technical Advisory Committee, public meetings, listening sessions, one-on-one conversations, surveys, and a pop-up demonstration event. Attachment 3 contains documentation and notes from the community engagement activities.

### 3.2 Advisory Committee

An Advisory Committee was established at the beginning of the project to support the County and RCAA on this Planning Study. The role of the Advisory Committee was for members to represent the interests of their organization or community by sharing information, ideas, questions, and concerns. Committee members provided input on public outreach strategies and helped review public feedback. Committee members helped the County of Humboldt and RCAA to understand the various interests and to identify feasible measures for addressing those interests in the Planning Study, in order to try to optimize the public benefits of the proposed trail and road improvements. Committee members also helped the County and RCAA develop strategies for implementing the proposed improvements.

Committee meetings were held quarterly at the Humboldt County Association of Governments office, with an option to meet virtually via Zoom. The Committee is made up of agency staff, community-based organizations, school staff and tribal members who are directly affected by the development of the trail and who could provide expertise and comments during the development of the plan. The charter, list of participants, and notes from the Advisory Committee meetings are included in Attachment 4.

### 3.3 College of the Redwoods

Working closely with College of the Redwoods staff and students was key to determining the best approach for connecting the southern terminus of the trail with the campus. Staff and faculty served on the Advisory Committee including the Senior Vice President for Strategic Initiatives, Director of Facilities and Planning, and an Assistant professor from Forestry and Natural Resources. Engagement activities focused on involving staff and students in identifying improvements that would enhance walking and biking facilities.

On October 18, 2023, a presentation and interactive listening session was held on campus with more than 35 students and staff from the Forestry and Environmental Studies Department. Key takeaways from this meeting included the following:

- A trail connection between the railroad corridor and the campus entrance that maximizes time off Tompkins Hill Road is highly preferred.
- Vehicle speeds on Tompkins Hill Road are perceived as often being dangerous. Developing a clear, safe crossing of Tompkins Hill Road will be essential and traffic calming measures for Tompkins Hill Road should be considered.
- The preferred entrance for connecting the trail is the central entrance of campus.
- Some concerns were raised about nighttime use of the trail and whether lighting would be incorporated.
- An interest in call boxes was expressed because areas in and around the campus have poor cell phone reception.

A complete list of comments from the October 18, 2023 meeting is included in Attachment 3. Comments on suggested trail amenities will be an important reference for the next phase of design and engineering.

On November 13, 2023, County and RCAA staff met with the Agricultural Lands Manager to discuss potential impacts to the College's agricultural land. His perspective was that the trail would likely not be a major disruption to agricultural uses if it was located along the margins of the agricultural land. The Agricultural Lands Manager also identified several corral structures which were no longer in use and could be removed to make space for the trail. On February 6, 2024, County and RCAA staff met with the Agricultural Lands Manager and the rancher who leases the College's agricultural lands along with the adjacent privately owned agricultural land. The rancher agreed with the proposed location of the trail along the edge of the agricultural land rather than bisecting it. The current trail alignment in Segment 5 reflects the input gathered from this meeting.

On February 12, 2024, the project team met with the College of the Redwoods executive cabinet to review the scope of the planning study and to seek specific input about the trail connection to College of the Redwoods. In addition, one-on-one meetings were held with the campus facilities manager, agricultural properties manager, lessee of agricultural lands, and Advisory Committee members. College of the Redwoods faculty and staff are generally supportive of the trail and expressed an interest in updating their facility plan to include plans for developing campus pathways to accommodate bicycle commuters, bike racks and potential trail head improvements for recreational trail users. They also view the trail's development as supporting their Master Facility Plan by providing an opportunity to connect students to more outdoor spaces and tie into their campus trail plan.

### **3.4 South Bay School**

On November 1, 2023, RCAA staff met with the Coordinator of Maintenance, Operations and Transportation at South Bay School. She reported that staff at the school are excited about the prospects of a new trail. However, improvements would be needed on King Salmon Avenue in order for students and families to be comfortable traveling between the trail and the school.

### **3.5 Native American Tribes**

On August 14, 2023, RCAA staff presented the project to the Wiyot Tribal Council. The Tribal Council appointed a representative to serve on the Advisory Committee and requested a government-to-government meeting with County staff.

On January 10, 2024, County staff met with the Chair of the Wiyot Tribe and the Tribal Council secretary. The Chair was also serving as the Tribal Historic Preservation Officer (THPO). As discussed in Section 2.1, the Wiyot representatives informed the County that sensitive cultural site are situated within the planning area and requested a cultural resources investigation.

On August 26, 2024, William Rich & Associates initiated communications with the Bear River Band of the Rohnerville Rancheria, the Blue Lake Rancheria, and the Wiyot Tribe regarding the cultural resources investigation. Site visits with tribal representatives were made in September and October 2024.

Humboldt County had further e-mail communications with the Wiyot Tribe in early 2025. In January 2026, staff from the Bear River Band of the Rohnerville Rancheria expressed a desire for engagement on this project. Engagement and consultation with interested tribes will continue in the next phase of project development.

### **3.6 Community Workshop**

On February 27, 2024, a community workshop was held at the Agricultural Center in Humboldt Hill. More than 45 people attended the community meeting which included a brief presentation about the project followed by interactive community feedback. Community members were asked to respond to question prompts and put their comments about specific areas on enlarged drone images of the trail posted around the room. Question included: How might you use a future trail? Where would you like to get on the trail and what destinations would you like to reach? What barriers, if any might there be to you using the trail? What concerns do you have and how might they be addressed? Key takeaways included the following:

- Most workshop attendees would use the trail for recreational purposes, including birdwatching, dog walking, roller skating workouts, and nature therapy. Some participants listed getting to school, errands, and commuting to work.
- When asked about desired destinations, the most frequent responses were: College of the Redwoods, Humboldt Botanical Garden, Gills by the Bay (restaurant in King Salmon), and various sites in Eureka. Some people expressed support for extending the trail to Loleta and Fortuna.
- Potential barriers for using the trail included: Need for restrooms, personal safety concerns, parking.
- Other concerns included: Maintenance, crime, the need for law enforcement, funding for clean ups (don't rely too heavily on volunteers), add a connection to Humboldt Hill, King Salmon needs a bike path or sidewalk, and residents from Fields Landing were especially concerned about potential increased trash and maintenance.
- Additional recommendations included: Add a connection to Humboldt Bay National Wildlife Refuge and include trailhead parking at College of the Redwoods for people coming from the south to park and access the trail.



Images 22-23: Community workshop (February 27, 2024) at the County Agricultural Center

### 3.7 Survey

A survey was made available in Spanish and English to gauge current trail use, future trail use with safety improvements, concerns, and comments about the trail. A total of 87 respondents to the survey with results in Attachment 3. Most comments were positive and supportive of the trail. For example, one respondent commented:

*“I just want to say that a protected bike way between Eureka and CR would be a HUGE quality of life increase for me. Currently I regularly take the bus to campus and back, but it*

*would be tremendous to have the freedom to commute to and from work without having to worry about the bus schedule.”*

When asked how often they currently bike between Eureka and College of the Redwoods, 67% said never. When asked, “If there was a trail, how often would you use it?”, the results were: 4 or more times/month: 24%, 1-3 times/month: 42%, rarely: 29%, and never: 3%. Key concerns expressed in the survey included safety and the potential for increased trash and houselessness along the trail, especially in the Fields Landing area.

### 3.8 Fields Landing Pop-up Trail Demonstration

On June 29, 2024, RCAA staff conducted a pop-up trail demonstration on Railroad Avenue in Fields Landing at a proposed trail crossing for the trail. The purpose of the pop-up demonstration was to help residents visualize a trail crossing and to invite the community to provide feedback. RCAA staff temporarily created a 10-foot-wide model crosswalk with bulb-outs at each end along with a pedestrian crossing sign at the location where the trail would cross Railroad Avenue. In addition, RCAA staff set up an information table to answer questions about the project and collect comments.

Key takeaways from the June 29, 2024 pop-up demonstration include the following:

- Railroad Avenue is wide and straight which leads to many motorists speeding along this stretch of road. Traffic calming improvements are strongly desired by residents who attended the demonstration.
- Railroad Avenue receives truck traffic accessing the industrial parcels. If the bulb-outs and crosswalk became permanent, truck drivers could reduce their speeds and navigate the reduced-width crosswalk.
- Many residents commented that just having a crosswalk marked out and a temporary pedestrian crossing sign really helped slow traffic. Several visitors suggested traffic calming devices such as flashing beacons, speed humps, and signs.
- One individual stated that they travel the road often and cited trucks coming in and campers and boats leaving quickly.
- One individual requested that law enforcement patrol the area more frequently to prevent houseless encampments along the western portion of Railroad Avenue.
- Many residents were irritated by the current level of trash and hopeful that positive use of the trail would help curb illegal dumping.
- Two sets of tracks are present through portions of the railroad corridor within Fields Landing. One resident expressed concern about impacts to wildlife along a slough located adjacent to the tracks. He also acknowledged that education about the slough habitat could minimize an off-trail impacts.

### 3.9 Caltrans

On September 29, 2023, County staff met with Caltrans staff in the field to discuss trail connectivity needs and issues at South Bay school west to King Salmon Avenue and connectivity South Broadway and adjacent neighborhoods (see notes in Attachment 4). Making safety and bicycle and pedestrian improvements along King Salmon Avenue and the under Highway 101 will provide safe access to the trail for South Bay School, dog walkers at the Sequoia Humane

Society, and public transit users. These discussions helped inform the Humboldt Hill Safety Project which is described in Section 4.3.

On November 3, 2023, County staff met virtually with the Caltrans project team working on the Tompkins Hill Road Overhead (Bridge) Replacement described in Section 4.3. On September 19 and October 10, 2024, County staff met virtually with Caltrans staff to further discuss the Humboldt Hill Safety Project.

### 3.10 Additional Community Outreach

#### **One-on-one Meetings and Communication**

- December 21, 2023, Phone conversation with owner of an RV park in King Salmon about the project. They were enthusiastic about the development of the project and see it as an asset for tourism in the area.
- February 23, 2024, County and RCAA staff met with the owner of several industrial parcels situated adjacent to the railroad corridor in Fields Landing and an owner of a local countertop business. The adjacent landowners generally supported the trail but indicated there may be a need to add new fencing or enhance existing fencing to prevent trespassing.
- February 27, 2024, Email communication with owner of a trucking company along South Broadway about a future access improvement project at the King Salmon Avenue intersection. While an enthusiastic trail supporter, the owner provided important information on the businesses needs that would need to be considered for any proposed changes in that intersection. This information was shared with the appropriate Caltrans staff.
- May 31, 2024, RCAA staff talked with Humboldt County Undersheriff Justin Braud to solicit any suggestions he may have for enhancing safety on the trail. His suggestions included: crime prevention through environmental design, including providing visibility and lighting where necessary and encouraging people to report suspicious behavior.

#### **Tabling and Presentations at Special Events**

- September 16, 2023: Festenjando Neustra Comunidad, at College of the Redwoods.
- October 14, 2023: Great Redwood Trail Celebration at Dyerville.
- October 26, 2023: Pine Hill Elementary School, outreach to families attending “Touch a Truck” event.
- June 1, 2024: Table at the Humboldt Trail Summit in Eureka.
- September 14, 2024: Humboldt Grange, speaker event sponsored by Friends of the Elk River.

### 3.11 Comments on Draft Report

In November 2024, the Coalition for Responsible Transportation Priorities provided comments via e-mail on the draft report. Their comments included the following:

- Lighting is important, especially where the trail crosses streets.
- Additional bike parking, including secure, weather-protected long-term parking at College of the Redwoods, is important.
- Expanding the existing bike share system being implemented in Arcata is encouraged.
- At the intersection of Humboldt Hill Road and South Broadway, a roundabout would provide traffic calming but would not necessarily lower traffic stress unless specific features such as separate sidepaths are incorporated.
- At the south end of South Broadway, a Class IV bike facility is supported for safety and comfort in the high-speed setting.
- At the crossing with Tompkins Hill Road, a pedestrian hybrid beacon (PHB) may be warranted rather than a rectangular rapid flashing beacon (RRFB) due to the potentially high speeds of vehicles.
- At road crossings with relatively low traffic volumes, adding stop signs for vehicles is requested to improve trail user safety.
- At the crossing with King Salmon Avenue, further design consideration for trail user safety and comfort is warranted due to the proximity of the on-and off-ramps with Highway 101 and the potential for higher traffic volumes.
- Directional/wayfinding signs and focused lighting would be helpful at the trail junction on the north end of the project.

In July 2025, Coastal Commission staff provided initial comments on the draft report. In September 2025, representatives from Humboldt County and the Great Redwood Trail Agency conducted a field visit of Segment 3 with representatives from the Coastal Commission. In October 2025, Coastal Commission staff provided amended initial comments, which included the following:

- Consider expanding the project objectives to include improving the resiliency of the surrounding coastal resources and not just trail infrastructure. It is important that the trail not become a network relying on shoreline armoring that will limit future sea level rise adaptation options inland of the trail network. The project should consider alternatives that would set the trail back some distance from the bay shoreline to reduce or avoid the need for reliance on shoreline armoring and provide room for natural shoreline habitat migration. Setting the trail back from the shoreline could be both an immediate term and long-term objective.
- Consider developing a phased adaptation plan and identify future adaptation strategies with clear triggers that could be used to improve the project's sea level rise resilience in the long term. Be aware of the precedent for having conditions within coastal development permits limiting the term of project authorization and requiring removal of the development under certain circumstances (e.g., a determination that the development is unsafe, or that new shoreline protective devices are required which conflict with Coastal Act policies).

- Consider alternatives to armoring, mitigation for any proposed armoring, maintenance requirements, and triggers for long-term adaptation.
- The project presents a significant opportunity for incorporating habitat restoration into the trail development, including the replacement of existing culverts with larger box culverts or bridges to improve tidal connectivity and configurations of the rail prism that enhance tidal marsh habitat.
- For Segment 3, the coastal development permit application will require a conceptual analysis of the option of setting the trail back from the shoreline and current rail prism, rather than placing the trail on the existing rail prism, to identify the least environmentally damaging feasible alternative. During the field visit, it was observed that the retreat option would have its own environmental disturbance and impacts to coastal resources, and that using and improving the existing railroad grade for the trail may improve tidal connectivity and drainage to the habitat located east of the grade and may provide opportunity for restoration to the west along the bay shoreline. The existing grade may also be more pleasant from a public access and recreational user perspective, providing a higher quality trail experience compared to being closer to Highway 101. The alternatives analysis should consider both short-term, intermediate-term, and long-term impacts and benefits, including maintenance. Commission staff believe that retreat may need to be considered as part of longer-term planning, and the conceptual analysis will provide the groundwork to start outlining that adaptation planning work.
- Further evaluation will be needed to consider whether narrower trail widths or alternative alignments are feasible to reduce wetland fill impacts.
- For Segment 1, work with Humboldt Community Services District to understand whether there are needed upgrades to the adjacent sewer line or opportunities to combine construction of the trail project with a sea level rise adaptation project for the District's sewer line infrastructure.
- For Segment 3, living shoreline concepts that avoid hard armoring should be considered. Mitigation will likely be required for any proposed rock slope protection.

### **3.12 Synthesis**

Feedback from the community, tribes, and regulatory agencies showed that the trail is generally supported. No strong opposition was encountered during the stakeholder engagement activities. Identified concerns include the potential for increased trespassing on adjacent property, unauthorized or inappropriate trail use, and impacts on cultural resources.

Input from the community and tribal outreach has been incorporated in the plan in several ways:

- The alignment of the trail segment to connect the railroad corridor to College of the Redwoods was adjusted based on input and feedback from College of the Redwoods students, faculty, and staff.
- A cultural resources investigation was added to the scope of work for the Planning Study to help ensure that the trail does not adversely impact Wiyot cultural sites.
- Needs for neighborhood connectivity have been identified (Section 4.4).

Additional findings include:

- Maintaining on-going communication with the Wiyot Tribe, Bear River Band of Rohnerville Rancheria, and Blue Lake Rancheria will be important to ensure that impacts to cultural sites are avoided.
- The communities of Humboldt Hill, King Salmon, and Fields Landing have been under-invested for bike and pedestrian infrastructure. Implementing the proposed trail project and other projects to improve connectivity from adjacent communities would be a significant step toward better equity in infrastructure investments.
- The College of the Redwoods executive committee expressed interest in developing bike-friendly trails and amenities for students, and also developing facilities on campus that will serve as a trail head for community members accessing the trail. Ongoing partnership with College of the Redwoods will help ensure a successful project.
- The Great Redwood Trail Master Plan contains recommendations regarding houselessness and can be a resource for developing strategies to prevent unauthorized uses along the trail.
- Continuing to keep the community informed as the project progresses and provide opportunities for feedback on final plans will help ensure community buy-in and support.

## 4 PROPOSED TRAIL PROJECT

This section discusses opportunities, constraints, and potential challenges and presents the preliminary design for extending the Humboldt Bay Trail between Eureka and College of the Redwoods using the railroad corridor as the primary route.

### 4.1 Opportunities

This Planning Study identified several opportunities that help create positive conditions and provide leverage for completing a successful trail construction project in the near future:

#### **No. 1: Transformation of the railroad corridor to support regional trails**

Railbanking of the railroad corridor between Willits and Samoa and creation of the Great Redwood Trail Agency provided a major transformation and paradigm shift for developing regional trails in Humboldt County. The proposed project would have state-wide significance by extending not only the Humboldt Bay Trail but also the Great Redwood Trail and California Coastal Trail. Using the “rail-to-trail” approach will enable the trail to be developed at a lower cost with less environmental impacts and on a shorter timeframe compared to “rail-with-trail.” The recent formation of the Great Redwood Trail Agency and pending completion of the master plan may help stimulate an allocation of funding to jump-start trail projects. This Planning Study improves the readiness of the proposed trail between Eureka and College of the Redwoods for further project development and implementation.

#### **No. 2: Opportunities for partnership and collaboration**

The proposed trail project has strong alignment with the priorities of the Great Redwood Trail Agency, Humboldt County, Caltrans, and HCAOG. In addition, Humboldt Community Services District may consider adding recreation to its authorized services in the future. And as described below, the project provides opportunities to collaborate with other agencies and organizations on multi-benefit projects.

#### **No. 3: Strong community support and no identified significant opposition**

The trail is supported by the community and no significant opposition was discovered during the community outreach phase of the project. The majority of people contacted through outreach activities see the project as a positive addition to the current trail system and recognize the benefits of trails. College of the Redwoods students were enthusiastic about having a safe option for non-motorized transportation between campus and Eureka.

#### **No. 4: Strong support from College of the Redwoods**

The proposed trail project has strong alignment with the College of the Redwoods 2023-2033 Facilities Master Plan. In particular, the project would help enhance facilities for enjoyment of the natural beauty on campus and in the vicinity. The project would help encourage active student life and enhance access to outdoor learning environments. In addition, the project would help provide welcoming access to campus resources for the community.

### **No. 5: Relatively simple designs**

Overall, the designs for the trail improvements will be relatively simple. The project will not require major bridges or retaining walls and the railroad embankment will not require significant widening. Segments 1 and 5 will require new embankments separate from the railroad corridor. The design for these embankments will require geotechnical information to ensure that the sub-grade foundations are stable and appropriate for the wet, fine-grained soils. Segment 3 will require appropriate context-sensitive design for repairing erosion and stabilizing the shoreline.

### **No. 6: Consistency with regional planning**

The proposed trail project has strong alignment with regional plans, especially the Regional Transportation Plan and The Regional Climate Action Plan. The project described in this Planning Study would help shift from driving to walking and biking by implementing an infrastructure project that would greatly enhance regional connectivity, by connecting the largest city in the county with three outlying communities and a major employment and educational destination. In addition, this project would bring improvements to historically under-invested and transportation-disadvantaged communities.

### **No. 7: Opportunity for environmental benefits**

Environmental conditions will be improved by removing the concrete blocks with protruding steel rebar that are situated along the shoreline in Segment 3 and replacing them with a nature-based design (mixture of rock, vegetation, and beach material). Similarly, areas of active erosion along the railroad corridor in Segment 3 could be repaired with nature-based methods.

### **No. 8: Multi-benefit projects**

Habitat restoration and sea level rise adaptation could be incorporated into the trail project or planned and implemented as independent projects. The City of Eureka demonstrated the viability of this multi-benefit approach with their project to restore portions of the Elk River estuary and extend the Hikshari' trail portion of the Eureka Waterfront Trail by approximately one mile. Similarly, the County of Humboldt incorporated sea level rise adaptation objectives into the design for the Humboldt Bay Trail South project between Eureka and Arcata.

Tidal connectivity could be enhanced to the National Wildlife Refuge parcel situated between the railroad corridor and Highway 101 in Segment 3. This area currently exhibits muted tidal exchange due to existing deteriorated culverts under the railroad prism. Replacement of existing culverts with a large box culvert(s) and/or bridges sized to accommodate the tidal prism would restore tidal connectivity to the inland side of the corridor. Additionally, the design provides opportunities to integrate and ecotone slope into the grading of the inland backslope of the rail prism by transitioning the rail prism down to the tidal marsh plain. This transition would provide opportunities to diversify the vegetation communities with plant pallets that are more resilient to sea level rise with ecotone gradients. These concepts will require additional analyses to assess the potential change in tidal circulation and drainage patterns on properties adjacent to the rail prism. The U.S. Fish & Wildlife Service may want to initiate this project because they own and manage the National Wildlife Refuge.

There may be opportunities to work with infrastructure managers to increase sea level rise resiliency by protecting and/or re-locating adjacent critical infrastructure (e.g., water, wastewater, natural gas) in the vicinity of the project area.

Raising the elevation of the railroad embankment through Fields Landing as part of the trail project could provide critical flood risk reduction and coastal resiliency benefits for that community. This concept will be further evaluated in the sea level rise adaptation plan for King Salmon and Fields Landing described in Section 2.2.2.

**No. 9: Opportunity to leverage investment in additional transportation needs**

The proposed trail project increases the priority for planning, designing, and constructing additional transportation improvement projects to address the needs within Humboldt Hill, King Salmon, and Fields Landing and enhance connectivity to the future trail (see Section 5.2).

## 4.2 Constraints and Potential Challenges

This Planning Study identified several constraints and potential challenges that will require careful consideration for implementing a successful project:

**No. 1: Need for setback from revetment located across from the Humboldt Bay entrance and additional right-of-way**

The revetment in Segment 1 across from the Humboldt Bay entrance is the first line of defense for flood protection from ocean swells and coastal storms. This location has a history of efforts to protect the inland area from flooding and erosion. In general, the existing revetment structure appears to be in good condition. However, water from ocean waves penetrates through and over the structure and contributes to erosion of the railroad corridor immediately behind the revetment. As a result, the trail will need to be set back from the historical alignment of the railroad, as the City of Eureka did for their extension of the Eureka Waterfront Trail along the Elk River estuary. The most logical setback alignment is outside the railroad corridor right-of-way and will require acquisition of new right-of-way. In addition, the revetment will need to be managed over time.

**No. 2: Need for consideration of potential impacts to adjacent properties**

The rail corridor is adjacent to residential, commercial, and industrial uses and open space. At times, these different use types may conflict or result in a perceived conflict. Further planning and design will need to consider how to avoid inadvertently contributing to inappropriate use on properties adjacent to the trail.

An important principle for trail planning is to avoid contributing to increased impacts of homelessness in a community. Placement of vegetation and fencing may be options in some locations to avoid creating access to flat ground that could be vulnerable to impacts. It's important to note that popular trails with regular use are often less appealing to encampments and inappropriate use because these activities are more likely to be visible, with a higher likelihood of being reported.

While concerns were raised about the potential for increased trash and encampments along the Fields Landing portion of the trail, these concerns can be ameliorated by using a multi-prong approach of good trail design and working with community members and partner agencies to promote positive uses along the trail. The Great Redwood Trail Master Plan includes tools and strategies for addressing homeless encampments along the trail which can be used as guiding principles as this proposed trail project is developed.

### **No. 3: Roadway crossings**

The railroad corridor intersects multiple roadways (King Salmon Avenue, C Street, Railroad Avenue, South Depot Road, Tompkins Hill Road). Trail crossings at these locations will need to consider pedestrian safety, vehicles, and vehicular turning movements, among other factors.

### **No. 4: Flood hazards**

The trail will be located in low-lying areas along the coast and thus has inherent flood risks. The trail will be situated within the tsunami zone and traverse some areas vulnerable to sea level rise. Trail design, height, and signage will be considered to minimize risks to trail users. However, where the trail is proximal to the shoreline, increased risks of erosion from wave and tidal actions are present. The areas at risk of shoreline erosion are likely to result in higher construction costs, greater potential for impacts to regulated resources, and higher long-term operation and maintenance costs.

### **No. 5: Sensitive natural resources**

The railroad corridor passes near wetlands and forms the Humboldt Bay shoreline in Segment 3. The trail design and construction activities will need to be carefully planned to avoid and/or minimize impacts to sensitive natural resources.

### **No. 6: Sensitive cultural resources**

The railroad corridor traverses areas that may have sensitive cultural resources. The trail design and construction activities will need to be carefully planned to effectively avoid impacts to sensitive cultural resources, and measures for monitoring and protection will need to be incorporated into the construction documents.

## **4.3 Preliminary Design**

### **4.3.1 Overview**

This Planning Study developed design plans for the trail project to a 30% level of completion. The intent of this preliminary design is to identify the preferred alignment and major elements of the project to support a stable project description and construction cost estimate. The preliminary design does not include design details or specifications that are needed for construction.

The majority of the trail project (Segments 2, 3, and 4) will be constructed using the “rail-to-trail” approach in which the steel rails and wooden ties will be removed and replaced with an asphalt-paved trail. Segment 1 at the north end is an exception, where a new embankment will be constructed parallel to, and set back from, the existing railroad corridor. Segment 5 at the south end is also an exception, where a trail will connect the railroad corridor with the entrance to College of the Redwoods. All segments include a ten-foot-wide paved path with two-foot gravel shoulders. The trail will have high-visibility crosswalks at King Salmon Avenue, Railroad Avenue, South Depot Road, and Tompkins Hill Road.

### 4.3.2 Design Standards and Guidelines

The preliminary plans are consistent with the standards in the Caltrans Highway Design Manual (2020) for a Class I Bikeway<sup>24</sup>. A Class I bikeway provides a paved path of travel for the exclusive use of bicycles and pedestrians, completely separated from any roadway and with minimal crossflow by motorists. Chapter 1000 provides design criteria for geometrics, separations between bike paths and highways, drainage, and signing and delineation (Table 1).

**Table 1: Key elements for Class I bikeways in the Caltrans Highway Design Manual (2020)**

Description	Standard	Reference
Traveled Way	The minimum paved width of travel way for a two-way bike path shall be 8 feet, 10-foot preferred.	1003.1(1)(a)
Shoulder	A minimum 2-foot wide shoulder, composed of the same pavement material as the bike path or all weather surface material that is free of vegetation, shall be provided adjacent to the traveled way of the bike path when not on a structure	1003.1(1)(b)
Clearance to Obstructions	A minimum 2-foot horizontal clearance from the paved edge of a bike path to obstructions shall be provided. <u>3 feet should be provided.</u>	1003.1(3)
Clearance to Obstructions	The clear width of a bicycle path on structures between railings shall be not less than 10 feet.	1003.1(3)
Clearance to Obstructions	The vertical clearance to obstructions across the width of a bike path shall be a minimum of 8 feet and 7 feet over shoulder.	1003.1(3)
Bike Paths Parallel and Adjacent to Streets and Highways	The minimum separation between the edge of travelled way of a one-way or a two-way bicycle path and the edge of travelled way of a parallel road or street shall be 5 feet plus the standard shoulder width. Bike paths within the clear recovery zone of freeways shall include a physical barrier separation.	1003.1(7)
Bicycle Path Design Speed	The minimum design speed shall be 20 MPH for a bike path with mopeds prohibited.	1003.1(9)
Stopping Sight Distance	The minimum stopping sight distance based on design speed shall be 125 feet for 20 miles per hour.	1003.1(11)
Grades	Bike path grades must meet DIB 82. The maximum grade rate recommended for bike paths should be 5 percent. Sustained grades should be limited to 2 percent.	1003.1(14)
Drainage	The bike path shoulder shall slope away from the travelled way at 2 percent to 5 percent to reduce ponding and minimize debris from flowing onto the bike path.	1003.1(16)
Entry Control for Bicycle Paths	Fold-down obstacle posts or fold-down bollards shall not be used within the paved area of bicycle paths.	1003.1(17)

<sup>24</sup> The term “bikeway” refers to facilities provided primarily for bicycle travel.

The preliminary plans are also consistent with the Pedestrian Accessibility Guidelines for Highway Projects (Design Information Bulletin #82-06) (2017). A summary of key standards for pedestrian accessibility is provided in Table 2.

**Table 2: Key elements of the Pedestrian Accessibility Guidelines (2017)**

<b>Description</b>	<b>Standard</b>	<b>Reference</b>
Grade	All walks with continuous gradients shall have resting areas, 5 feet in length, at intervals of 400 feet maximum.	4.3.4(1)
Grade	Where pedestrian access routes are not contained within a street or highway right-of-way (e.g., outside the sidewalk), the grade of pedestrian access routes shall be 5.0% maximum.	4.3.4(2)
Grade	When pedestrian access routes are contained within pedestrian street crossings, the grade of the pedestrian route shall be 5.0% maximum.	4.3.4 (3)
Cross Slope	Except as provided in Section 4.3.5(2) and (3), the cross slope of pedestrian access routes shall be 2.0% maximum.	4.3.5(1)
Cross Slope	Where pedestrian access routes are contained within pedestrian street crossings without yield or stop control, the cross slope of the pedestrian access route shall be 5.0% maximum.	4.3.5(2)
Cross Slope	Where pedestrian access routes are contained within midblock pedestrian street crossings, the cross slope of the pedestrian access route shall be permitted to equal the street or highway grade.	4.3.5(3)

Other standards and guidelines applicable to the Project include:

- American Association of State Highway and Transportation Officials (AASHTO) – Guide for Development of Bicycle Facilities (AASHTO, 2012).
- California Manual on Uniform Traffic Control Devices 2014 Revision 8 (Caltrans, 2024).
- Americans with Disabilities Act (ADA) Standards for Accessibility Design (2010).
- Chapter 11B of the 2022 California Building Code.
- Traffic Calming Guide: A Compendium of Strategies (Caltrans, 2023)

### 4.3.3 Design Criteria

The standards and guidelines described in Section 4.3.2 were used to inform the trail design in conjunction with the following criteria:

- Trail width – The presumed trail width will have ten feet of pavement (two five-foot lanes separated by a center stripe) with two-foot gravel shoulders on each side. The paved width may be reduced to eight feet for short segments (ideally no more than 20 feet) where conditions warrant.
- Pavement structural section – three inches of hot-mix asphalt over nine inches of Class 2 aggregate base for paved sections; 12 inches of Class 2 aggregate base for shoulders.

- Embankment side slopes<sup>25</sup> – 3:1 maximum preferred; 2:1 maximum where necessary (e.g., to avoid or minimize wetland impacts).
- Shoreline erosion repair approach – Where localized areas of shoreline erosion need to be repaired and stabilized, prioritize alternatives that highlight small-scale rock integrated with natural feature elements.
- Minimum trail finish-grade elevation<sup>26</sup> – consider three separate cases:
  - Segment 1: minimum elevation of 14 feet (comparable to the City of Eureka’s adjacent trail along the large revetment across from the Humboldt Bay entrance)
  - Segments 2, 4, 5: minimum elevation of 10.5 feet for inland segments
  - Segment 3: minimum elevation 11.5 feet along the Humboldt Bay shoreline<sup>27</sup>
- Sanitary sewer force main – maintain the edge of fill at least one foot away from the sewer line.
- Assume all ties and rails to be removed for the entire extent of the trail. Steel rails will be salvaged for scrap by GRTA. Wood ties will be disposed of as treated wood waste.

#### 4.3.4 Progressive Design Approach

The progressive design process began with a series of field visits which informed the development of alignment alternatives. Alignment alternatives were shared with the Advisory Committee and College of the Redwoods staff to inform the selected 10% alignment. Design criteria were developed for key trail attributes. The 10% design advanced the selected alternative and included typical cross sections for representative trail segments in addition to noting major project features. The 30% design was developed based on input from the Advisory Committee and specifically from College of the Redwoods staff for adjustments at the southern end near campus. The 30% design included more specific design elements along with an opinion of probable cost based on itemized materials, quantities, and anticipated unit construction costs.

#### 4.3.5 30% Design Plans

The 30% design plans are included in Attachment 4. The plans include typical cross-sections, planview drawings (looking down from above), and a longitudinal profile which depicts the vertical elevation of the trail from end to end. The design plans developed a stationing system that extend from south to north, beginning at the entrance to College of the Redwoods and ending at the connection to the City of Eureka’s trail near Tooby Road. This stationing system is opposite of the segment numbering that extends from north to south. The design plans distinguish three areas with a total length of 21,547 feet (4.1 miles):

- Southern Area: T-S 1+00 through T-S 49+47 (4,847 feet, or 0.92 miles)
- Middle Area: T-M 60+00 through T-M 142+00 (8,200 feet, or 1.55 miles)
- Northern Area: T-N 145+00 through T-N 230+00 (8,500 feet, or 1.61 miles)

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<sup>25</sup> Slopes are described as the ratio of horizontal to vertical distances.

<sup>26</sup> Elevations are based on the NAVD88 vertical datum.

<sup>27</sup> This elevation is equivalent to the design finish-grade elevation of the railroad corridor for the Humboldt Bay Trail South project between Eureka and Arcata, which was based on technical studies of still water elevations and wind waves.

#### 4.3.6 Opinion of Probable Construction Cost

A cost estimate for construction of the trail project based on the 30% design plans is included in Attachment 5. The estimate was based on a total of 32 work items using either lump-sum or unit costs. The lump-sum and unit costs were estimated based on recent construction bids for similar work items on local construction projects. Note that the actual construction cost will be based on competitive bidding in accordance with the Public Contract Code.

Key assumptions for the cost estimate include the following:

- The mobilization cost was estimated as 10% of the total of construction work items. The construction capital cost is the sum of the construction work items and mobilization cost.
- The construction contingency was estimated as 25% of the construction capital cost.
- Construction engineering was estimated as 15% of the sum total of construction capital cost and construction contingency.
- Environmental mitigation is not included in the construction capital cost.
- The salvage value of the removed railroad ties was not subtracted from the construction capital cost.

The total construction cost was estimated to be \$13,500,000 (2024 dollars). The cost estimate will be updated in the future design phase as the engineering plans are further developed. The cost estimate will increase due to inflation. On the other hand, the contingency estimate will be reduced to 10% after the design is further developed and there is less uncertainty.

The pre-construction project development phases will likely cost approximately \$2,000,000 to \$2,700,000 (15 to 20% of the total construction cost).

#### 4.3.7 Discussion of Trail Segment Designs

##### **Trail Segment 1**

The trail will be placed on a newly constructed fill prism approximately 75 feet east of the existing rail corridor, due to the highly degraded conditions of the corridor in this location. The new fill prism will need to account for the Humboldt Community Service District's sanitary sewer line. New right-of-way will need to be acquired for this segment.

##### **Trail Segment 2**

The trail will be situated directly on the rail corridor. The northern portion (2a) is east of the Humboldt Bay Generating Station and bordered by wetlands on each side. The middle portion (2b) passes through wetland areas. The southern portion (2c) passes through the community of Fields Landing. Fencing will be considered as needed to appropriately separate adjacent properties, impede unlawful trespass, and keep trail users on the trail. This segment includes a total of four roadway/driveway crossings.

##### **Trail Segment 3**

The trail would be situated directly on the rail corridor. Along the shoreward slope of the segment, living shoreline elements would provide increased resiliency to coastal erosion and sea level rise in addition to enhanced ecological function. Where the existing rail prism exhibits active erosion or where concrete rubble and/or poorly graded riprap exist, one of two living

shoreline approaches was applied and shown on the 30% design plans<sup>28</sup>. The 30% design approach includes a **shingle beach surface** approximately 20 to 25 feet long at a 15% slope comprised of sand with coarse to very coarse gravel. The shingle beach surface would provide a transition between the mudflat and alongshore transition to adjacent trail segments with similar shoreline geometry that would remain undisturbed. The second approach includes a **salt marsh plain** would extend from the railroad prism approximately 10 feet from elevation of 7.5 feet to 7.0 feet (NAVD 88). The salt marsh plain would be stabilized by rock slope protection keyed into the adjacent mudflat. Like the shingle beach approach, this approach is applied to segments where the adjacent undisturbed shoreline exhibits similar salt marsh plain geometry.

During construction of the White Slough Tidal Wetlands Restoration Project, the area under the Highway 101 overpass was used for construction staging and access via an Encroachment Permit from Caltrans. During trail construction, this location could again be used to support staging and construction for the trail under a new Encroachment Permit from Caltrans.

#### **Trail Segment 4**

The trail would be situated directly on the rail corridor. Fencing would be incorporated into the design as appropriate to impede unlawful trespass. Coordination with U.S. Fish & Wildlife Service and College of the Redwoods would occur to discuss fencing and other relevant design details.

#### **Trail Segment 5**

This segment connects the railroad corridor to College of the Redwoods using a route that extends along the margins of the agricultural lands and minimizes topographical grade changes. This route allows for a ten-foot-wide path with two-foot shoulders on each side and provides a scenic view for trail users. Ground survey information will be needed to verify whether the route would be situated entirely on College of the Redwoods property or would require any additional right-of-way. The trail would cross a ranch road across from the middle entrance to College of the Redwoods. A short segment of causeway (box culvert or boardwalk) may be needed to span a wet area north of the ranch road.

The trail would cross Tompkins Hill Road at the middle entrance to College of the Redwoods. The proposed design includes a median refuge island and rectangular rapid flashing beacons at the road crossing location to enhance user safety. The future design phase can consider additional elements to reduce vehicular speeds and the potential for conflicts at the crossing.

The concept of widening Tompkins Hill Road and placing the trail adjacent to the vehicular travel lanes, rather than along the margins of the agricultural lands, was considered. One option would create an eight-foot-wide Class I path on the west side of the road by reducing the width of the shoulders, narrowing the vehicular lanes, widening the road embankment approximately six feet (likely requiring a small retaining wall), and adding a vertical barrier between vehicular travel and the path. Another option would create a ten-foot-wide Class I path on the west side of the road, maintaining the existing shoulder and lane widths, widening the road embankment approximately 17 feet with a large retaining wall and railing. This concept of locating the trail connection adjacent to the road was not selected because the user experience of traveling adjacent to a roadway is not preferred and the cost of widening the road would be significant.

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<sup>28</sup> Locations of the two types of proposed living shoreline treatments and their respective stationing can be found in Sheet G-003 of the associated 30% design plan set.

As the design progresses, ongoing coordination with College of the Redwoods and the private landowner of the agricultural land west of campus would be necessary. College of the Redwoods may consider converting the middle entrance into a dedicated pedestrian and bicyclist entrance with a gate that would normally be closed to vehicles but could be opened for exceptional situations. College of the Redwoods may also want to implement on-campus improvements to enhance the routing of pedestrian bicyclists through the main parking area to key destinations.

#### **4.3.8 Considerations for Compatibility with Adjacent Land Uses**

Fencing and vegetation would be incorporated into the design as appropriate to impede unlawful trespass in discrete locations.

#### **4.3.9 Considerations for Avoiding and/or Minimizing Environmental Impacts**

Trail realignment is sometimes used as a strategy to avoid impacts to sensitive resources, such as wetlands. However, in this case, the trail alignment is currently the highest ground within the GRTA right-of-way and oftentimes the only upland environment. Therefore, realignment of the trail may provide little relief for avoiding or minimizing environmental impacts. Additional strategies to avoid or minimize environmental impacts could include:

- Narrowing the trail for a short distance while still maintaining minimum width requirements for a Class I bikeway.
- Steepening the side-slopes of the embankment to avoid and/or minimize grading or fill encroachments into wetland or other sensitive habitats on either side of the trail prism; in some locations over-steepened side-slopes may trigger safety railing requirements.
- Incorporation of bridges or elevated boardwalks into the design.
- Educational signage promoting awareness and encouraging respect for sensitive habitats.

#### **4.3.10 Considerations for Avoiding Impacts to Cultural Resources**

The design will incorporate localized alignment adjustments to avoid known sensitive environmental or cultural sites to the greatest extent feasible. If the trail must intersect a known cultural resource, the preferred approach would likely be to build up the embankment to cap and protect the resource. These design decisions will be made in consultation with local tribes. During construction, grading or ground disturbance will be minimized at or near known sites, cultural monitors will be present, and inadvertent discovery protocols will be implemented.

#### **4.3.11 Considerations for Reducing Vulnerability to Flood Hazards and Sea Level Rise**

The preliminary assessment of flood hazards, sea level rise, and tsunami vulnerability conducted by NHE (2024) was described in Section 2.2.2. In summary, NHE (2024) made the following findings:

Segment 1 includes the portion of the railroad corridor protected by a large revetment. As long as the existing rock revetment remains intact, this segment has low vulnerability. There may be a need to supplement localized areas of the revetment to maintain minimum elevations.

For Segment 2, the presumed minimum trail elevation was 10.5 feet. With this minimum trail elevation, the trail would have elevated vulnerability with 1.4 to 3.1 feet of sea level rise.

In Segment 3, the railroad serves as the hardened shoreline of Humboldt Bay and de facto levee. Where present, the existing fringe tidal wetland areas help attenuate wave energy and erosion of the railroad grade. Where the tidal wetland fringe has eroded or the revetments have been out-flanked, the railroad grade is actively eroding from direct wave attack. For Segment 3, the presumed minimum trail elevation was 11.5 feet. With this minimum trail elevation, the trail would have elevated vulnerability with 3.1 feet of sea level rise.

NHE (2024) evaluated the northern portion (1,400 feet) of Segment 4 where the presumed minimum trail elevation was 12 feet. With this minimum elevation, the northern portion of Segment 4 would have elevated vulnerability at more extreme flood events with 3.1 feet of sea level rise.

NHE (2024) did not evaluate Segment 5, which is inland from the bay.

NHE (2024) provided the following recommendations:

- Prioritize further geotechnical study of the current revetment in Segment 1.
- Utilize the best available data and analytical methods for determining extreme water levels and wind-wave conditions in future work.
- Utilize the flood hazard products produced by the U.S. Geological Survey's Coastal Storm Modeling System (CoSMoS) in future work.
- Consider the trade-offs of increasing the design elevation of the trail in certain areas, especially Segment 3 and portions of Segment 2, to reduce flood vulnerability. The flood resilience benefits of raising the trail elevation by various increments should be weighed against cost and wetland impacts to optimize the value of the project.
- Plan for increasing erosion along Segment 3 with living shoreline treatments to slow or prevent future erosion of the natural shorelines. Consider adding rock revetment to sections of Segment 3 where the existing fringe wetland is relatively narrow, in anticipation of ongoing shoreline erosion.
- Include the full Segment 4 in future assessment work.

#### 4.3.12 Other Potential Facilities

##### **Bike Parking**

This segment of the Humboldt Bay Trail and Great Redwood Trail will provide a route for bicyclists and pedestrians to travel between Eureka and College of the Redwoods resulting in an increase in bicycles being brought into the College of the Redwoods campus. Secure bike parking should be provided on campus so that students, faculty, and staff feel comfortable leaving their bicycles. Detailed planning for bike parking can be part of the next design phase. The proposed trail will pass near the Jimmy Smith Fields Landing Boat Launch Facility, which has public restrooms, and adding bike parking at this location may be desirable. HCAOG developed guidelines<sup>29</sup> to ensure consistent standards and bike facilities throughout the county. The guidelines aim to integrate cycling infrastructure and accommodate cyclists as much as possible, incorporating conveniently located and secure bike parking facilities into street designs.

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<sup>29</sup> Countywide Bicycle Parking Guidelines – Recommended Policies and Requirements (HCAOG, June 2015)

### **Lighting**

The 30% design plans propose lighting at the road crossings for South Depot Road, Railroad Avenue, and King Salmon Avenue. In the next design phase, consideration will be given to solar versus hard-wired electricity to support lighting needs. Caltrans may consider incorporating lighting on the underside of Highway 101 at the Tompkins Hill Road overpass when they replace that structure.

### **Access Control**

Traditionally, bollards have been incorporated into trail designs to provide access control and prevent vehicles from unlawfully entering trails. However, bollards can also present a safety hazard to cyclists. In the next design phase, the feasibility of controlling access by adjusting the trail alignment, separating the two lanes of travel with landscaping, or using other features as an alternative to bollards.

## **4.3.13 Other Potential Services**

### **Bike Share Program**

Bike share programs temporarily rent bicycles for short-distance trips. For example, the City of Arcata, Cal Poly Humboldt, and Tandem Mobility currently support a total of eight bike share stations in the Arcata area with five bikes at each station<sup>30</sup>. The City of Arcata and Cal Poly Humboldt have collaborated on funding the program which was initiated in 2021. The cost for each station is approximately \$9,000 per year which includes bike maintenance. Funding for the program from 2024 through 2026 is provided by Cal Poly Humboldt, a grant from HCAOG, and two grants from the Affordable Housing Sustainable Communities program. A similar program could be explored in the future in coordination with College of the Redwoods.

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<sup>30</sup> Staff report for Arcata City Council (June 5, 2024).

## 5 RELATED ROAD PROJECTS AND PROJECT CONCEPTS

### 5.1 Related Caltrans Projects

This section describes current Caltrans projects located within or near the study area (Figure 8). It's important to note that Caltrans has multiple funding programs to support projects on the state highway. Each program has its own funding amount, selection process, and eligibility criteria. Complete Streets projects are intended to support walking and bicycling and encourage mode shift from vehicular trips to active transportation. Safety projects are intended to prevent injuries and deaths. Retrofit and repair projects are intended to repair or replace facilities that have deteriorated conditions or have features that don't conform to current design standards.

#### **Tompkins Hill Road Overhead (Bridge) Replacement** (PM 70.3 – PM 71.0)

This project (01-0H380K) will replace the Highway 101 bridge structure for seismic restoration purposes<sup>31</sup>. This project will be developed with consideration for the railroad corridor and the future trail passing under the bridge. If the trail is built first, then Caltrans would need to manage temporary trail closures to accommodate construction. If the bridge structure is built first, then Caltrans would likely construct the portion of the trail that passes through state right-of-way.

#### **Humboldt Hill Safety Improvement** (PM 72.8 – PM 74.8)

This project (01-0P190) is intended to make safety improvements at multiple locations near Humboldt Hill. The project is focused on improving pedestrian and bicycle facilities between Humboldt Hill and Eureka and at the King Salmon undercrossing. The project was initiated by a collision concentration during a five-year period (April 1, 2018-March 31, 2023) between PM 73.719 and PM 74.62, which included a total of 66 collisions, 17 persons injured, and three fatalities (two pedestrians and one bicyclist). Caltrans is evaluating options for facilities to support pedestrian and bicyclist movement across Highway 101 from the east side to the west side and from Humboldt Hill to Eureka at the Herrick Avenue park-and-ride. The target funding source is the Highway Safety Improvement Program. A Major Project Initiation Proposal was signed on May 6, 2024, and a Project Initiation Document is expected in 2026.

#### **Herrick Mobility Hub** (PM 74.8)

This project will install improvements at the Herrick Avenue Park-and-Ride to enhance facilities for multi-modal transportation. Currently, the estimated construction year is 2029-2030.

#### **Broadway Shared Path** (PM 73.3 – 75.4)

Caltrans is considering a project (01-0L780) to construct a separated path from Pound Road near the Herrick Avenue Park-and-Ride to the signalized intersection of Highway 101 that connects to the former K-Mart store and Papa and Barkley business.

#### **South Broadway Complete Streets** (PM 73.3 – PM 76.1)

This project (01-0K940) will improve facilities for cyclists and pedestrians along the southern portion of Highway 101 within Eureka, also known as Broadway. The project is intended to increase comfort and safety for non-motorized users and to provide better connectivity between nearby neighborhoods and the Eureka Waterfront Trail. The project includes:

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<sup>31</sup> Supplemental Project Initiation Report (PIR) Memorandum (Caltrans, approved 6/21/2024)

- Creating a separated bikeway along Highway 101, which will provide a lane for cyclists and pedestrians that is separated from the vehicle travel lane by a curb or post.
- New pedestrian and bicycle crossings at Hilfiker Lane.
- Sidewalk and curb ramp improvements.
- Pedestrian and bicycle improvements at existing signalized intersections.
- New bus stops.
- Traffic calming measures.

This project was developed in coordination with the City of Eureka and HCAOG. Construction commenced in 2025.

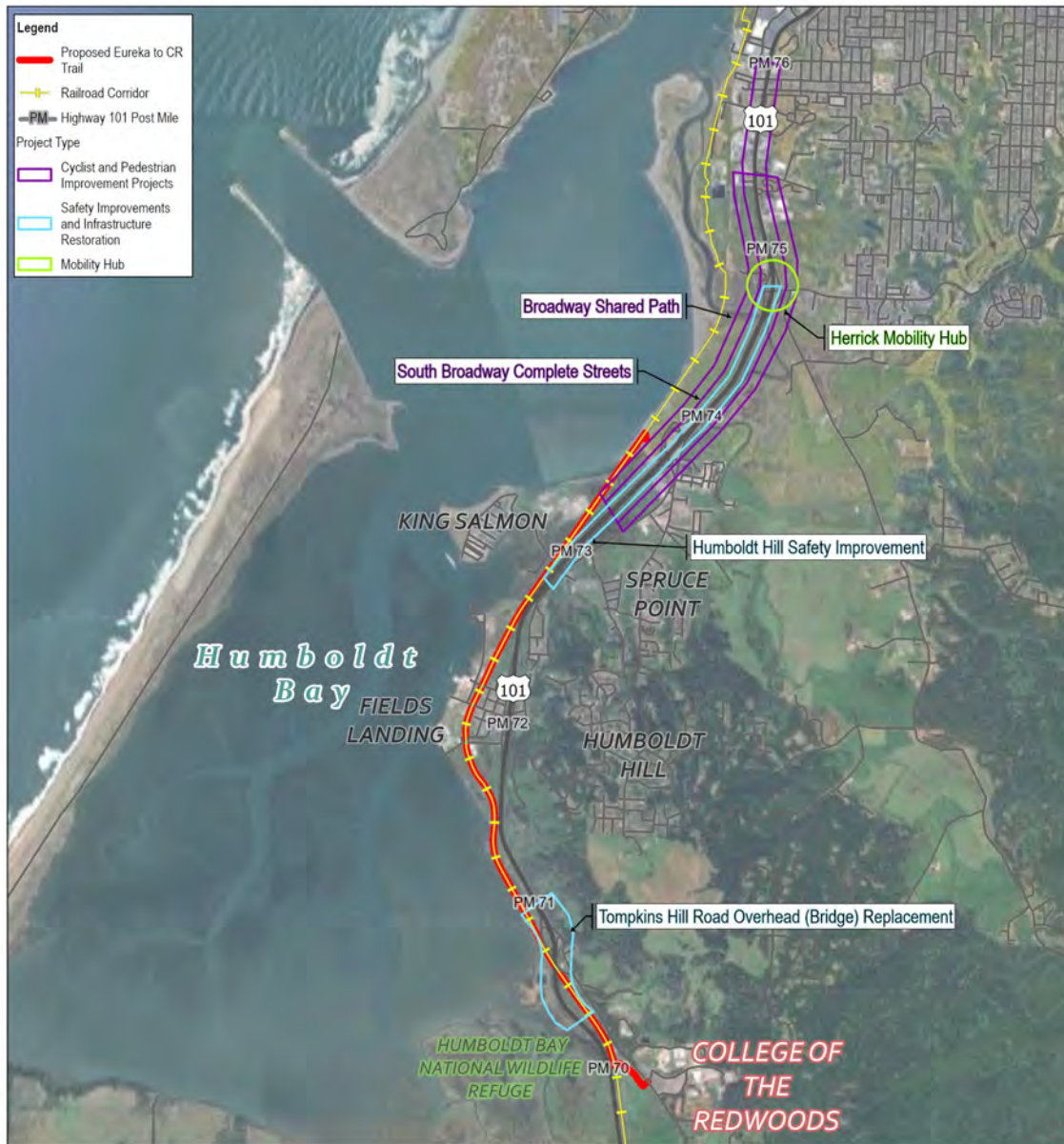


Figure 8 – Caltrans projects within the study area



Figure 9 – Project concepts to enhance connectivity to the future trail

## 5.2 Project Concepts to Enhance Connectivity between the Trail and Neighborhoods

The fundamental project for this Planning Study is construction of a trail along the railroad corridor between Eureka near the Tooby Road parking area and College of the Redwoods. This section describes additional needs and opportunities that were identified which would enhance connections between residential areas and the future trail (Figure 9).

### **Intersection of Humboldt Hill Road and South Broadway**

Humboldt Hill Road and South Broadway are the two major county roads through Humboldt Hill, and the northern intersection of these two roads serves as a gateway to the community. Both roads are managed by the County of Humboldt. The roads at the northern intersection converge at angles, which reduces visibility and creates distractions for motorists. Motorists are changing speeds rapidly, either accelerating to get onto Highway 101 or decelerating off of Highway 101. Abrupt changes of speeds reduce motorist attention to pedestrians and cyclists. The intersection has a high level of pedestrian and bicycle traffic stress. In addition, the network of sidewalks has gaps and is not continuous. A design study to identify sidewalk and intersection improvements is recommended.



*Image 24: Intersection of Humboldt Hill Road and South Broadway*

### **South Broadway between Humboldt Hill Road and King Salmon Avenue**

South Broadway runs through Humboldt Hill and has a total length of approximately 0.73 miles. The road is long and straight with a paved width ranging from approximately 32 to 36 feet, but no bike lanes and very limited sidewalks. Vehicle speeds are relatively high. This road would likely receive much more pedestrian and bicycle use if there were improvements. The middle and southern sections of this road are good candidates for a separated bikeway. One option would be a bicycle lane with a single white stripe or painted buffer (Class II bikeway). Another option would be a protected bicycle lane physically separated from the vehicular travel lane with grade separation, flexible bollards, or a permanent barrier (Class IV bikeway).

Ayers Distributing Company is a business located on South Broadway. Truck drivers prefer to use the King Salmon on- and off-ramps to access Highway 101 due to the high vehicular speeds on Humboldt Hill Road. Roadway improvements will need to account for these traffic patterns.



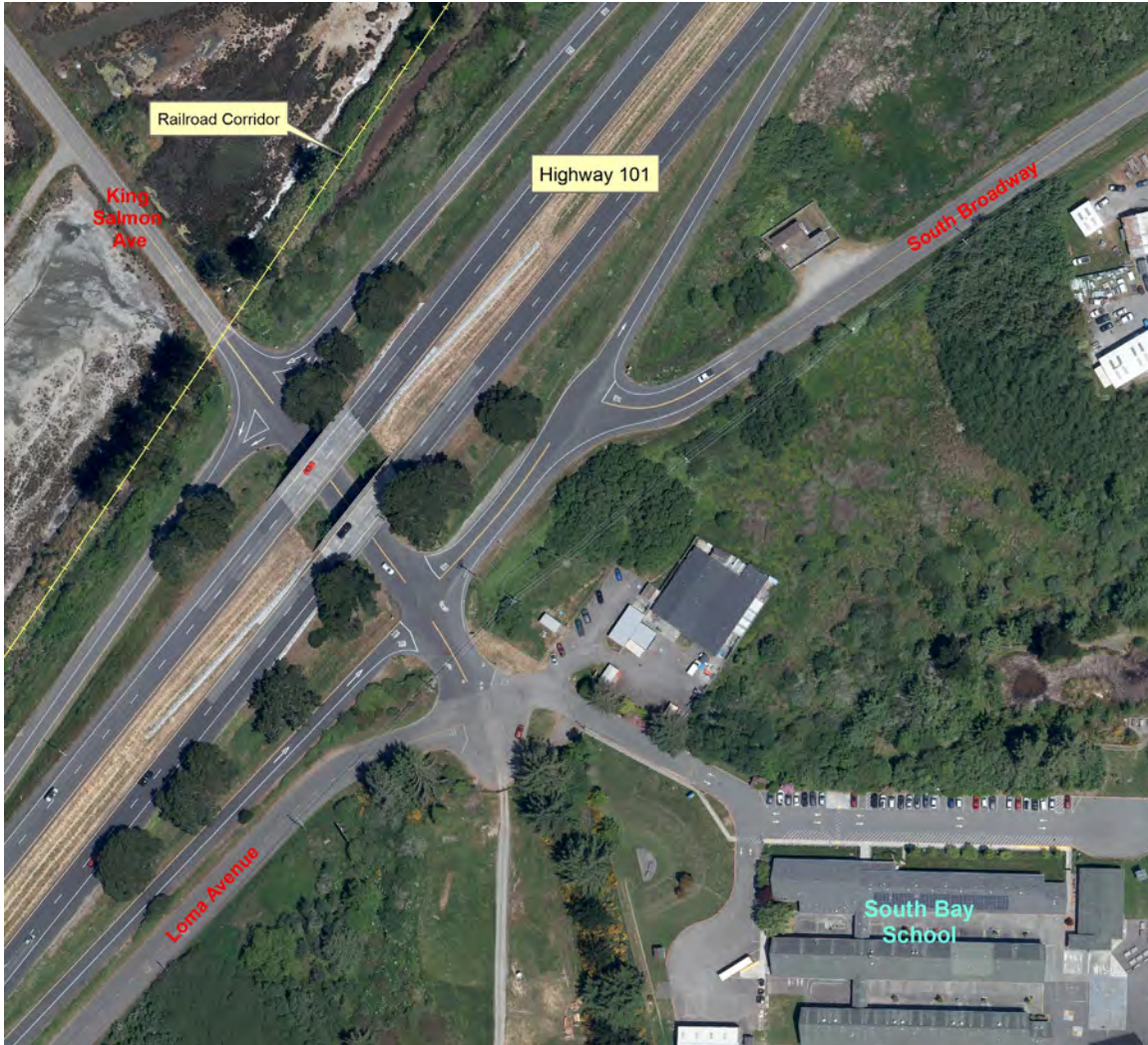
*Image 25: View of southern section of South Broadway (transition from state highway to county road).*

### **Intersection of South Broadway and King Salmon Avenue**

The intersection of South Broadway and King Salmon Avenue is a mix of Caltrans and County jurisdiction (Figure 10). Currently there are sidewalk gaps and outdated crosswalks.

Recommendations include:

- Fill the sidewalk gaps and construct crosswalk enhancements. Consider narrowing the crosswalks with bulb-outs to reduce the crossing distance.
- Improve the interchange at King Salmon to providing safe, non-motorized access to the trail. This would provide an opportunity for students at South Bay school to safely access the trail for field trips.
- Improve the public transit stop to encourage increased ridership.
- Re-design the intersection to safely accommodate non-motorized use, while also considering the needs of a nearby trucking company.



**Figure 10 – Intersection of South Broadway and King Salmon Avenue**

### **King Salmon Avenue**

The portion of King Salmon Avenue from the Highway 101 off-ramp/on-ramp to King Salmon is part of the County road system. King Salmon Avenue is the only route in and out of King Salmon. The roadway is narrow and the elevation is relatively low. King Salmon Avenue leads to the Highway 101 underpass which is part of the State highway system managed by Caltrans. Recommendations include:

- Widen King Salmon Avenue and develop a shared-use path (bikeway) parallel with the roadway to accommodate non-motorized travel between King Salmon and the future trail. These improvements would also facilitate a route to South Bay school for students living in King Salmon, as well as a route to connect the future trail with restaurants, beaches, and other visitor supporting services in nearby King Salmon.
- Raise the elevation of King Salmon Avenue to improve resiliency as an evacuation route.
- Caltrans and Humboldt County should consider opportunities to improve multi-modal connections between King Salmon, the future trail corridor, South Bay School, and the Wiyot Tribe’s Mouralherwaqh property.



*Image 26: Aerial view of King Salmon Avenue and the connection to Highway 101.*



*Image 27: Railroad crossing on King Salmon Avenue in King Salmon*

## **Railroad Avenue**

Railroad Avenue is a collector road within the community of Fields Landing. There are gaps in the sidewalk network and inadequate crosswalks. Some motorists take advantage of the wide lanes to drive at excessive speeds. Recommendations include:

- Railroad Avenue between the railroad corridor and the boat launch facility should be improved with sidewalks.
- The entire length of Railroad Avenue should be improved with crosswalk enhancements and traffic calming elements. Options to consider for include high-visibility crosswalks, curb extensions (bulb-outs), and chicanes.
- A design study to identify sidewalk, crosswalk, and traffic calming improvements is recommended as a next step.



*Image 28: Railroad crossing on Railroad Avenue in Fields Landing.*

## 6 NEXT STEPS

This section discusses next steps for advancing the core project of developing a trail within the railroad corridor between Eureka and College of the Redwoods.

### **1. Determine the lead agency for future phases: project development, construction, and operations and maintenance.**

Humboldt County and GRTA are two likely candidates to serve as lead agency for project development, construction, and operations and maintenance.

Project development for infrastructure of this nature involves pre-construction work including engineering, technical studies, environmental review and permitting, and right-of-way. Taking this role is a significant undertaking and requires a sustained commitment of staffing resources over a multi-year period. Construction is also a significant undertaking that requires expertise in construction management and compliance with the Public Contract Code. Operations and maintenance of a new trail facility is a major commitment. Certain tasks can be performed with volunteers, but regular staff are needed to plan, coordinate, and implement the majority of the maintenance work. Costs include staff time, materials, equipment, contractor services, and administrative support services (indirect costs).

### **2. Identify funding source(s) and capacity needs for long-term operations and maintenance.**

Currently, Humboldt County's budget for maintenance of county-managed parks and trails is funded by the Humboldt County General Fund, fee revenue, and the Regional Surface Transportation Program which is managed through HCAOG. Currently, the Public Works Department of Humboldt County does not have staffing or funding to expand its responsibilities for trail maintenance, so additional staffing capacity and funding would be needed. The Humboldt Bay Trail Fund could be used to support volunteer trails maintenance as well as provide a cost share for additional staffing capacity.

### **3. Secure funding for engineering, technical studies, environmental review and permitting, right-of-way, and construction.**

An infrastructure project of this scale is advanced in phases. Further engineering, technical studies, and environmental review are needed prior to having a project ready for right-of-way and construction. Funding will be needed to advance these pre-construction phases. Potential funding sources include the Active Transportation Program, the State Transportation Improvement Program, grants through the State Coastal Conservancy, and federal programs (e.g., Safe Streets and Roads for All). GRTA could receive a funding allocation through the state budget for advancing the Great Redwood Trail.

Separate funding applications may be needed for the pre-construction and construction portions of the project. Initial funding may be needed to support development of grant applications and commitment of cost-share funding. The Humboldt Bay Trail Fund could be a potential source for initial start-up funding.

### **4. Determine the project scope and consider a potential phasing plan.**

If funding for the complete project is not available, implementation of a series of smaller projects could be considered. Smaller projects with logical beginning and endpoints that would deliver immediately benefits could be identified (for example, starting in Eureka and extending to King Salmon or Fields Landing).

**5. Continue exploring opportunities for multi-objective projects.**

The primary benefits of the core trail project are for transportation, recreation, and coastal access. Potential opportunities to integrate additional objectives and benefits include repair of damaged infrastructure, habitat restoration, and sea level rise adaptation and climate change resilience.

**6. Further evaluate trail elevations and design features to reduce vulnerability to coastal flood hazards.**

The trade-offs of raising trail elevations to improve resilience to flooding impacts should be further evaluated in the next design phase.

**7. Develop an approach for sustaining engagement with stakeholders.**

Continued engagement with stakeholders during implementation will be important for the project's success. Key stakeholders include College of the Redwoods, Wiyot Tribe, Bear River Band of the Rohnerville Rancheria, Blue Lake Rancheria, City of Eureka, Humboldt Community Services District, PG&E, Humboldt Bay Harbor District, and adjacent landowners. Potential methods include one-on-one meetings, roundtable discussions, government-to-government conversations, walking tours, presentations at meetings, website updates, brochures, and updates through the Humboldt Trails Council e-newsletter.

GRTA is currently in the process of establishing a Tribal Advisory Committee and hiring a Tribal Liaison Consultant to ensure participation of interested Native American tribes and tribal-led organizations in the planning, design, and stewardship of the Great Redwood Trail.

**8. Ensure consistency with GRTA's Resolution No. 2025-09 (Environmental and Tribal Commitments).**

In September 2025, the GRTA Board of Directors adopted Resolution No. 2025-09 which contained policy direction for the agency and staff to:

- a. Protect, preserve, and restore sensitive natural and cultural resources along the trail corridor.
- b. Develop long-term relations and engage in robust dialog consistent with the goal of aligning protection and preservation of tribal and cultural resources with the implementation of the Great Redwood Trail corridor.
- c. Remove environmentally damaging railroad infrastructure and restore fish passage and other ecologically important features.
- d. Steward, honor, and care for the land.

GRTA is currently in the progress of developing programs to implement this policy direction. Future project development for the trail along the railroad corridor between Eureka and College of the Redwoods will need to fully conform with these programs.

**9. Develop an approach for complying with CEQA and NEPA, if applicable.**

The California Environmental Quality Act (CEQA) requires environmental review in the form of an Environmental Impact Report, Mitigated Negative Declaration, or Negative Declaration for projects that change the physical environment and are not otherwise exempt through a statutory or categorical exemption. The intent of CEQA is to avoid and/or minimize significant environmental impacts by analyzing alternatives and identifying appropriate mitigation measures.

Senate Bill 922, signed into law in 2022, amends Public Resources Code Sections 21080.20 and 21080.25 to exempt specific transportation plans and projects, such as pedestrian and bicycle plans and facilities, from full environmental review under CEQA. The exemption expires at the end of 2029. Public Resources Code Section 21080.25(b)(1) exempts “pedestrian and bicycle facilities that improve safety, access, or mobility, including new facilities, within the public right-of-way” if the following criteria are met:

1. A local agency is carrying out the project and is the lead agency for the project.
2. The project does not induce single-occupancy vehicle trips, add additional highway lanes, widen highways, or add physical infrastructure or striping to highways except for minor modifications needed for the efficient and safe movement of transit vehicles, bicycles, or high-occupancy vehicles, such as extended merging lanes, shoulder improvements, or improvements to the roadway within the existing right of way. The project shall not include the addition of any auxiliary lanes.
3. Construction of the project shall not require the demolition of affordable housing units.

In September 2024, the governor approved Assembly Bill No. 2091 which added Section 21080.28.5 to the Public Resources Code, specifying that a change in use by the GRTA to allow public access to a rail line converted to a trail segment of the Great Redwood Trail is exempt from CEQA. This exemption applies to changes in use only and not to actions that result in physical alteration of an affected area.

In June 2025, the governor approved Senate Bill 131 which added Section 21080.57 to the Public Resources Code, specifying a statutory exemption from CEQA review for any activity or approval necessary for or incidental to planning, design, site acquisition, construction, operation, or maintenance of public park or nonmotorized recreational trail facilities funded in whole or in part by the Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024 (Proposition 4). The lead agency for the trail project will need to evaluate whether the project meets the exemptions created by Senate Bill 922 or Senate Bill 131.

Federal funding or a federal permit will trigger the need to comply with the National Environmental Policy Act (NEPA). If funding is provided by the Federal Highways Administration, then Caltrans would administer NEPA compliance on behalf of the Federal Highways Administration. If no federal funding is used, then NEPA would likely be triggered by the requirement for a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers. Each lead agency has their own specific processes and procedures for NEPA compliance.

#### **10. Consult with permitting agencies and apply for permits.**

The Project likely requires the permits listed below:

- Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers. This permit would trigger the requirements for consultation with the State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act and consultation with NOAA-National Marine Fisheries Service and the U.S. Fish and Wildlife Service pursuant to Section 7 of the federal Endangered Species Act.
- Clean Water Act Section 401 Water Quality Certification from the North Coast Regional Water Quality Control Board.
- Coastal Development Permit from the California Coastal Commission.
- Development Permit from the Humboldt Bay Harbor District.

- Lake and Streambed Alteration Agreement from the California Department of Fish and Wildlife.
- GRTA Encroachment Permit. This approval to perform work within the GRTA right-of-way and any resulting agreements will be required if GRTA is not the lead implementing agency.

For the Coastal Development Permit application, there will be a need to evaluate potentially feasible alternatives and identify appropriate avoidance, minimization, and mitigation measures.

**11. Develop an approach for providing wetland mitigation, if needed.**

If impacts to wetlands or regulated waters are unavoidable, a mitigation strategy will be needed as a condition of receiving regulatory permits. The strategy will need to determine the approximate scale of mitigation needed based on estimated impact, apply ratios required by agencies, identify potential on- and off-site locations for mitigation, describe mitigation activities, and document expected outcomes. Salt marsh and tidal estuary enhancements in Segment 3 inland of the trail corridor could potentially serve as a source of on-site mitigation if acceptable to agencies.

**12. Look for opportunities to advance projects that address the identified connectivity needs between adjacent communities and the proposed trail.**

Next steps to advance these projects include:

- Add the identified connectivity projects to HCAOG's Regional Transportation Plan at the next update if they are not already listed.
- Secure funding to develop detailed conceptual plans or preliminary designs that identify the specific improvements and locations, for further community engagement.
- Secure funding to prepare preliminary engineering, environmental review, permitting, and construction.

Potential funding sources include the Active Transportation Program, State Transportation Improvement Program, and federal programs supporting Complete Streets and safety.