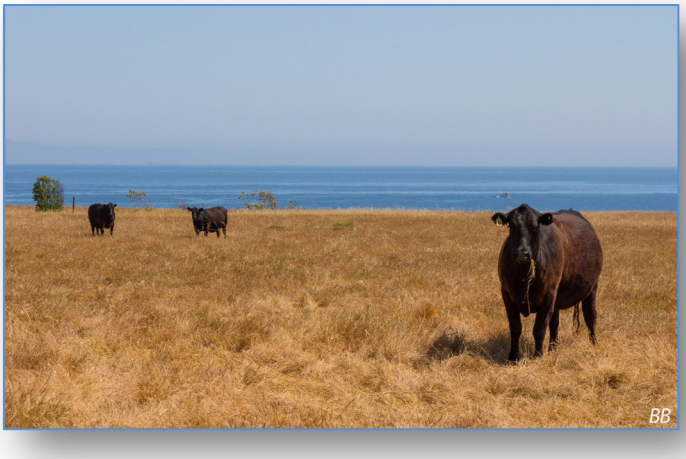
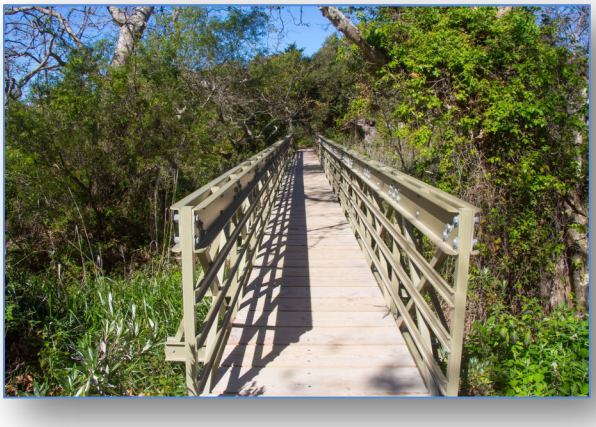
4.0 Constraints Overview

Construction of a proposed nearshore Coastal Trail and improved coastal access trails would require addressing known and potential environmental and physical constraints such as sensitive habitats, agricultural operations, cultural resources, steep and eroding coastal bluffs, railroad crossings and safe access from US 101 and frontage roads.





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4.0 Constraints Overview

Overview: Construction of a proposed nearshore Coastal Trail and improved coastal access trails would require addressing known and potential environmental and physical constraints such as sensitive habitats, agricultural operations, cultural resources, steep and eroding coastal bluffs, railroad crossings and safe access from US Highway 101 and frontage roads.

This section identifies potential major physical and environmental constraints on the Gaviota Coastal Trail and provides initial design principles to address such constraints and reduce impacts associated with trail construction. This analysis incorporates data from many sources (e.g., 2011 Las Varas Ranch Environmental Impact Report [EIR]), other Gaviota area studies and field surveys performed by the Trails Council. This analysis also draws upon the experience of jurisdictions that have successfully planned for and implemented segments of the Coastal Trail and access improvements in rural areas similar to the Gaviota Coast. The design principles within this section and the use of standard trail design practices would ensure that implementation of the Gaviota Coastal Trail alignment in this Trail Study would be consistent with the guidelines and policies of the California Coastal Conservancy, California Coastal Commission and County of Santa Barbara regarding provision of coastal access and resource protection.

The Trail must be located and designed with a healthy regard for the protection of natural habitats, cultural and archaeological features, private property rights, neighborhoods, and agricultural operations along the way.

- California Coastal Conservancy 2003 -

The route of the Coastal Trail would follow existing roads and trails for almost six miles along the eastern and central Gaviota Coast, such as this historic partially paved oil access road on Paradiso del Mare. Using existing roads and trails would help avoid environmental constraints along major segments of the proposed Gaviota Coastal Trail.

The western end of the proposed Coastal Trail would traverse scenic bluff top areas of Gaviota State Park and the Gaviota Marine Terminal for 2.5 miles. Much of this segment would also follow existing trails and roads, with avoidance of constraints found feasible by State Parks in previous environmental review.

Key Concerns

- Trail design across Environmentally Sensitive Habitats (ESH)
- Direct loss of ESH to trail construction
- Potential conflicts between trail users and protection of ESH and sensitive species

4.1 Environmentally Sensitive Habitats

Setting: The Gaviota Coast is the largest and healthiest remaining area of coastal habitats in southern California (National Park Service 2004). The rural coastal terrace and bluffs of the Gaviota Coast support a range of habitats dominated by non-native grassland and coastal bluff and sage scrub, with groves of non-native trees (e.g., eucalyptus), limited native grasslands (e.g., purple needle grass), and wetlands. Riparian and oak woodlands, monarch butterfly sites and small estuaries occur within creek drainages. While subject to two centuries of disturbance from cattle grazing, agricultural and oil development, these habitats support a number of sensitive species, including steelhead trout, tidewater goby and California red-legged frog in creeks and wetlands and Gaviota tarplant and white tailed kite nests in upland areas (County of Santa Barbara 2002).

White tailed kites nest on the Gaviota Coast near the planned Coastal Trail (e.g., Paradiso del Mare site). However, trails can be compatible with kite nests; existing and planned trail segments pass kite nest trees on More Mesa, Ellwood Mesa and UC Santa Barbara's North Campus.

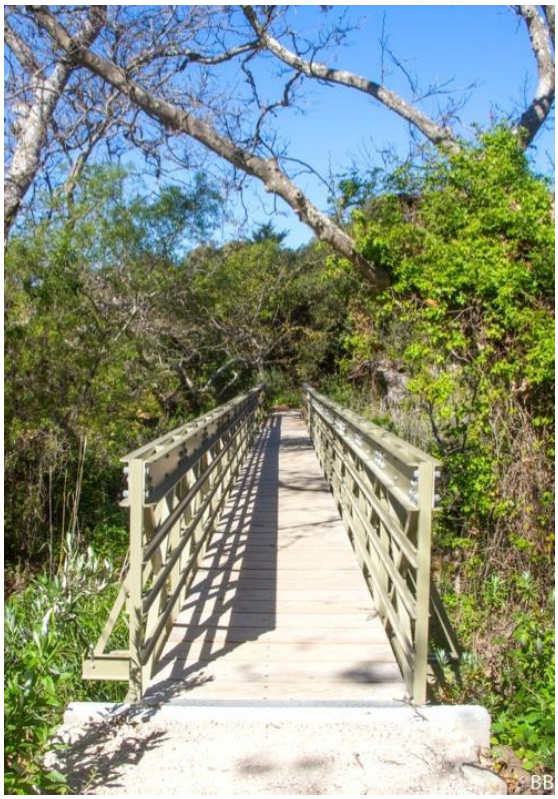
Some of these habitats qualify as Environmentally Sensitive Habitats (ESH), resources protected by state and county policy. The County's Local Coastal Plan (LCP) and draft Gaviota Coast Plan identify 16 major creeks on the Gaviota Coast as ESH (County of Santa Barbara 2013a). Other bluff top habitats that may qualify as ESH include vernal pools, native grasslands, white tailed kite and other raptors nesting trees and potentially some areas of high quality coastal sage scrub.

> *"Encouraging public access that includes learning about ecosystems is the best way to create a community of coastal stewards."*
>
> **-California Coastal Conservancy**

ESH areas and sensitive wildlife species exist with ongoing human disturbance across the Gaviota Coast such as agricultural operations, oil and gas development, and rural residential and recreational uses. Existing recreation coexists with a wide range of habitats and species; many existing informal access points are located adjacent to creeks, which support high quality riparian woodlands and wetland habitats. The extensive trail system in streamside riparian and oak woodlands in El Capitan State Beach and informal access trails at San Onofre Creek are examples of such coexisting use. Generations of surfers have used the access trail to Seal's Beach; yet 50 seals and pups were recently observed on this beach despite ongoing public access. Future access improvements offer the opportunity to maintain and improve recreational access while protecting and enhancing

ESH areas through appropriate siting and design to ensure compatibility of recreation and habitat uses.

Coastal Trail and Access Framework: The planned route of the Gaviota Coastal Trail set forth in this Trail Study would traverse 16 creeks designated as ESH. This route would cross many of these creeks using existing bridges or culverts (e.g., Arroyo Hondo, El Capitan), but would potentially require new bridges at other creeks (e.g., Eagle, Las Varas, Gato). The planned route would also follow existing roads and trails in many locations, with more than 60% of the ten miles of planned Gaviota Coastal Trail between Bacara and Refugio State Beach following existing ranch and oil company roads (e.g., eucalyptus, Gaviota Holdings, Paradiso del Mare) or existing paved bicycle paths (El Capitan and Refugio State Beaches). The dominant habitats that would be potentially disturbed by construction of new segments of the Gaviota Coastal Trail would be coastal sage scrub followed by non-native grassland (Table 4-1). Trail routing is addressed in more detail in Section 3.0 (refer to Appendix C for details on similar trails in ESH examples).



Free-span bridges should be used where appropriate for crossing larger creeks consistent with ESH policies, such as this existing bridge within the ESH of El Capitan Creek.

Coastal access points identified in the LCP also occur within ESH. Certified LCP access points at Cañada San Onofre, Arroyo Hondo, Dos Pueblos Creek and Edwards Point are within or adjacent to ESH, as are newly proposed access points at the Gaviota Marine Terminal (riparian woodlands, estuaries) and Tomate Canyon West (coastal sage scrub). The new access at Tomate Canyon West, near Naples, is proposed 1,500 feet west of the existing informal access trail at Seal's Beach. This location would greatly reduce potential access conflicts with hauled out seals, but have limited effects on coastal sage scrub. Careful siting of access to protect the most sensitive resources while maintaining and improving access can be accomplished and is a central goal of this Trail Study.

Table 4.1. Habitats within the Proposed Coastal Trail Alignment

Habitat	Trail Length (Miles)
Path/Roadway	4.6
Existing Coastal Trail	4.5
Disturbed/ROW	5.9
Coastal Sage / Coyote Scrub	3.7
Non-Native Grassland	1.3
Eucalyptus Woodland	0.2
Riparian	0.1
Designated ESH	
New Trail Segment	0.3
Existing Trail/ ROW	0.6

Sources: County of Santa Barbara 2011; 2012b; State Parks 2006; Trails Council 2013.

A detailed review of the planned route of the Coastal Trail indicates that much of the proposed alignment would occur within areas subject to prior development or heavy disturbance. The easternmost 1.2 miles of trail would occur almost entirely on a historic oil road. An additional 1.3 miles of Coastal Trail across Santa Barbara and Las Varas ranches, and would cross pastures of non-native grassland habitat – habitats that can support foraging areas for raptors, but are generally not considered ESH.

> *"The lack of crowds, and the scenery and wildlife make the Gaviota Coast a unique and very special place that should be enjoyed by future generations."*
>
> **—Gaviota Coast Visitor for 9 years**

Additionally, 4.5 miles of the Central segment of the Gaviota Coastal Trail is a constructed bike path, with no impacts to ESH anticipated except minor disturbance during renovation and repair work. Approximately 7.4 miles of the trail to the west of Refugio State Beach would occur within the disturbed right-of-way between US 101 and UPRR, as well as along existing roadways (i.e., County-owned Arroyo Quemado). However, removal of perhaps 100 non-native trees and shrubs as well as small areas of coastal sage scrub and native grasslands would be required. The westernmost Coastal Trail in Gaviota State Park was routed to avoid sensitive habitats, including wetlands under the jurisdiction of the California Coastal Commission, Gaviota tarplant habitat, drainage areas, and a monarch butterfly overwintering area. The areas of greatest potential habitat disturbance would be associated with the proposed four span bridges and five footbridges across small creeks; however, incorporation of standard trail design techniques and site-specific engineering measures would reduce habitat disturbance and potential impacts to sensitive species consistent with County policy.

Compatibility of Trails and ESH: The County's certified LCP and draft Gaviota Coast Plan require protection of ESH; however, public recreation is a permitted use within and adjacent to sensitive habitats. For example, LCP policy 9-40 specifically permits trails within riparian corridors. The County and other agencies have planned for and built many trails, bridges and boardwalks within ESH areas. On More Mesa, the County's certified LCP plans for eight miles of new trails through ESH grasslands, across wetlands and riparian areas, with trails near white tailed kite nesting trees; two miles of existing trails already traverse ESH on County owned land (More Mesa Preservation Coalition 2008). On the Ellwood Mesa, the County and city of Goleta approved trails passing through a large native grassland and vernal pool complex, locations approved by the California Coastal Commission. The Coal Oil Point Reserves "Pond Trail" passes along the edge of the Devereux Slough, a major coastal estuary. Similarly, State Parks has built trails and bridges in ESH areas on the Gaviota Coast, such as in ESH surrounding El Capitan Creek.

Coastal Trail and Access Implementation Principles

- Minimize impacts to ESH by using existing roads, trails, bridges and culverts as feasible
- Design natural earthen trails in eastern segment with narrow trail tread to minimize vegetation removal
- Provide interpretive displays to educate trail users about ESH and sensitive species
- Use logs, bollards, signs or potentially fencing where needed to keep users on trails in sensitive areas
- Minimize use of engineered structures; use natural trails and minimal improvements (e.g., railroad ties) down gaps in bluff and canyons to provide coastal access

4.2 Agriculture

Key Concerns

- Trail design across or adjacent to productive orchard or grazing land
- Potential urban-rural conflicts (e.g., cattle-hiker conflicts, vandalism, pesticide exposure)

Setting: Much of the private land on the Gaviota Coast is zoned for agriculture and exiting agricultural production includes grazing, orchard crops, primarily avocados and lemons, as well as specialty crops such as cherimoya, abalone and limited organic truck farms. However, active crop cultivation is generally concentrated in the foothills north of US 101. On the 6.2 mile reach of the Gaviota Coastal Trail along the coastal terrace between Bacara Resort and El Capitan State Park, cultivated crops consist of orchards primarily on Las Varas and Dos Pueblos Ranches and all are located north of the UPRR. For example, approximately 11% of the 1,802 acre Las Varas Ranch is under cultivation in orchards (198 acres) with 71 acres of these orchards located on the coastal terrace north of the UPRR; no orchards are located on the bluff top (County of Santa Barbara 2011). The Cultivated Abalone, a mariculture operation, is located in Dos Pueblos Canyon north of the UPRR. Additional orchards exist on Dos Pueblos Ranch and adjacent properties, all north of the UPRR. However, bluff top areas of both the Santa Barbara and Las Varas Ranches are used for grazing, with varying levels of existing informal public use. The Santa Barbara Ranch currently authorizes public access and receives moderate visitation.

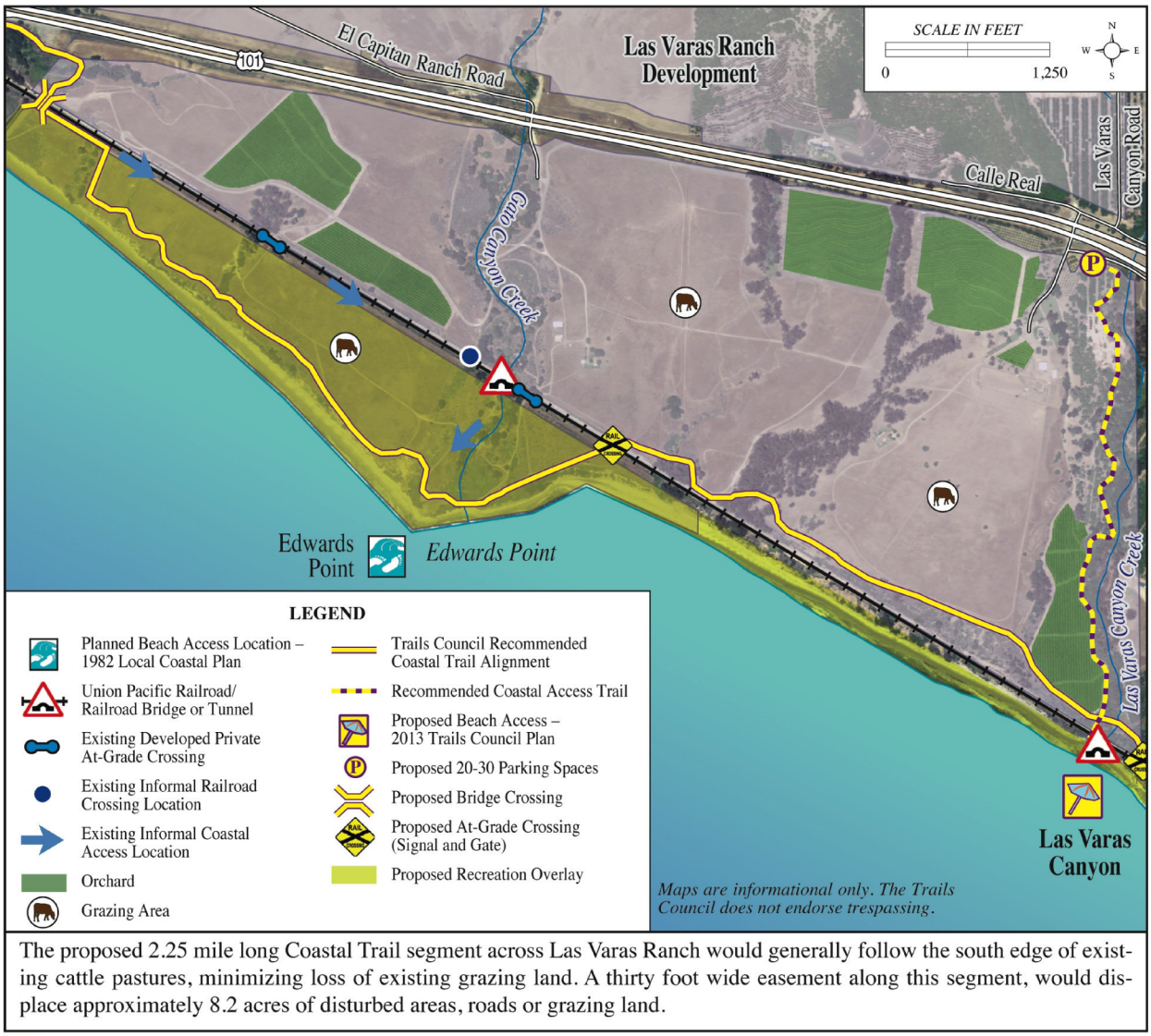
Agricultural use characterizes much of the eastern Gaviota Coast, such as cattle operations on Santa Barbara and Las Varas Ranches. Public trails successfully coexist with grazing in Santa Barbara County and throughout California.

Coastal Trail and Access Framework: The planned route of the Gaviota Coastal Trail would traverse approximate 6.5 miles of agriculturally zoned land, primarily between Paradiso del Mare and El Capitan State Beach. Although much of this reach is zoned for agriculture, the planned Coastal Trail would be located near active agricultural operations for approximately 0.9 miles across the Santa Barbara Ranch (i.e., Naples) and 2.0 miles across the Las Varas Ranch. Active agricultural operations on these ranches consist of cow/calf cattle grazing and orchards. Less than 300 feet of the Gaviota Coastal Trail would border an avocado orchard on Las Varas Ranch (Figure 4-1). Other areas, such as the Paradiso del

"It is a commonly recognized fact of land management that proper use of grazing animals in range management is completely compatible with proper public use."

- Neil Havlik, PhD, City of SLO Natural Resources Manager

Mare site, are zoned for agriculture but currently contain no active operations. Proposed coastal access trails on the Santa Barbara Ranch would traverse grazing land while that on Las Varas Ranch, as proposed by the property owner, would traverse next to avocado orchards (County of Santa Barbara 2008; 2011).



The proposed 2.25 mile long Coastal Trail segment across Las Varas Ranch would generally follow the south edge of existing cattle pastures, minimizing loss of existing grazing land. A thirty foot wide easement along this segment, would displace approximately 8.2 acres of disturbed areas, roads or grazing land.

SANTA BARBARA COUNTY Trails Council
Map prepared by the Santa Barbara County Trails Council

Figure 4-1. Las Varas Section

The County approved Santa Barbara Ranch development does not envision continued grazing south of US 101 (County of Santa Barbara 2008)[1]; open unfenced public access is currently permitted through an active grazing operation which consisted of about 40 head of cattle in the spring of 2013. No incidents or conflicts between hikers and livestock have been reported and agricultural conflicts do not appear to be a major issue for this 0.9-mile reach of the Coastal Trail.

[1] The Santa Barbara Ranch Project consists of amendments to the County's Comprehensive Plan, Coastal Land Use Plan and Zoning Ordinance along with a variety of subdivision and entitlement applications that would collectively permit a residential estate development. The project was conditionally approved by the Board of Supervisors in 2008. The project remains under litigation.

On the Las Varas Ranch, after crossing Las Varas Creek heading west, the Coastal Trail would border an avocado orchard for 300 feet, then run along the southern edge of a pasture, generally outside the fence line for 4,000 feet, with most of this reach lying in disturbed coastal sage scrub and eucalyptus groves. After crossing the UPRR, the Trail would closely follow the bluff top along the south edge of pasture areas, minimizing loss of grazing land and interference with livestock. Based on a 30-foot wide easement, the currently proposed Coastal Trail alignment would occupy approximately 8.7 acres of grazing land on the Las Varas Ranch (refer to Figures 4-1 and 3-1).[2]

Proposed trails and access would minimize effects to ongoing agriculture; however, it is unclear to what extent agricultural production will remain active. If approved, current development proposals would transition the eastern Gaviota Coast from primarily agricultural use to estate residential.
Photograph: © John Wiley

As the Las Varas Ranch transitions in land use from a family owned farm to large residential estates on the coastal terrace, the primary use of these properties appears likely to shift to residential estate, with values that would far surpass the annual agricultural production value of these lands. It is unclear if grazing would be maintained under such circumstances. The County lacks an enforceable mechanism to require future estate owners to graze their properties; grazing may be viewed as incompatible with future exclusive estate residential uses.

Compatibility of Trails and Grazing: Grazing, orchards, and trails coexist throughout California with thousands of miles of unfenced hiking trails that pass through cattle pastures. These trails typically share creek crossings, roads and gates with cattle operations. Research on over 15 major land management organizations with extensive grazing operations and trail systems indicate few or minor trail user-grazing conflicts (Appendix B). These organizations manage tens of thousands of acres of grazing land with thousands of head of cattle, with little or no adverse effects on grazing operations.

Los Padres National Forest supports over 400,000 acres of grazing land within 59 active allotments. Dozens of miles of unfenced trails run through active allotments including the Judell Canyon Trail; no serious problems or complaints have been reported by the US Forest Service.

[2] Much of the Coastal Trail route through Las Varas Ranch pastures would hug the coastal bluff, traversing areas of mixed grassland and coastal sage scrub, reducing loss of use of grassland pasture (County of Santa Barbara 2011).

Midland School: Santa Ynez Valley's Midland School runs 200-250 head of cattle (cow/ calf; and stocker) on 3,000 acres with over 10 miles of unfenced trails. Trail users frequently encounter livestock and both the ranch manager and grazing lessee indicate that there have never been any serious problems with trail user/ cattle interaction (Ben Munger, Ranch Manager, 2012).

East Bay Regional Parks Department: This agency manages 22,000 acres with 1,200 miles of trails, which is grazed by 5,000 head of cattle. This multiple use trail system accommodates hikers, runners, dog walkers, equestrians and mountain bikers along generally unfenced trails through open range. With over 40 years of experience managing grazing and trails, this agency reports no serious trail user cattle interactions, with less than 1 minor incident annually (David Amme, Vegetation Program Manager, 2013).

> *"None of our lessees have complained about cattle losing weight because of stress caused by people walking or riding by them. There have been no incidences of people harassing livestock."*
>
> **-Ben Munger, Ranch Manager, Midland School, Santa Ynez**

Cowell-Purisima Trail: Almost two miles of the Coastal Trail pass through 1,200 acres of grazing land used by 100 head of cattle near Half Moon Bay. Trails are fenced (hog wire topped with barbed wire) with gated cattle trail crossings. No serious problems between livestock and trail users have been reported (Tim Duff, California Coastal Conservancy, 2012).

Coastal Trail and Access Implementation Principles

- Align shoreline Coastal Trail to minimize impacts to grazing land; use existing agricultural roads and areas outside of pastures where possible
- Use self-closing gates on the trail to permit cattle to pass through fenced trail corridors
- Provide signs to educate trails users on "range etiquette"; stay on trail, control pets and close gates
- Consider initiation of rezones of land from agriculture to open space that are in transition out of agriculture to estate residential (e.g., Paradiso del Mare, Naples and Las Varas bluff top parcels)

4.3 Cultural Resources

Key Concerns

- Ensuring protection of archaeological / historic sites and respect for Native American concerns

Setting: Cultural resources along the Gaviota Coast include sites from early "Paleoindian" habitation through the Chumash, Spanish, Mexican, and American cultural epochs. This long history of human use has left a variety of important prehistoric and historic sites scattered along the Gaviota Coast, including shell middens, Native American or Chumash village sites, historic ranch buildings and remnants of oil production from early 20th century.

The Chumash, an organized and elaborate maritime culture, inhabited the Gaviota Coast for approximately 3,000 years resulting in many sites occurring along the coast, such as this bedrock mortar near a bluff top trail.

Many older prehistoric archaeological sites may have been covered in sediments or lost to coastal erosion. Most remaining archaeological sites reflect the elaborate maritime culture of the Chumash, with permanent villages typically occurring along the coastline near water sources. By approximately 1,500 years ago, the Chumash population was one of the densest Native American populations in North American (County of Santa Barbara 2013a). Early Spanish expeditions to the Santa Barbara Channel encountered villages with as many as 800–1,000 residents. Dozens of known prehistoric archaeological sites exists along the coastal terrace north and south of US 101 and the UPRR, including at least 11 village sites. Chumash villages along the Gaviota Coast included *Tikshma* at Ellwood Canyon, *Helapunitse* at the mouth of Tecolote Canyon, *Huspat Hulkilik* at Eagle Canyon, and *Kuyamu* and *Mikiw*, both along Dos Pueblos Canyon (Singer 1992; County of Santa Barbara 2004). Additional habitation sites occur on the bluff tops at Las Varas Ranch and near major creek canyons such as Gaviota and Canada San Onofre.

"The Gaviota Coast represents one of the most significant intact historic landscapes along the Anza Trail… Outside of the California deserts, this is the one place that trail visitors can go to get a feel for what the Anza expedition would have seen and experienced two centuries ago."

-National Park Service. Gaviota Coast Feasibility Study. 2004

The Portolá expedition of 1769 was the first overland journey by Europeans along the California coast. A few years later, between 1775 and 1776, Juan Bautista de Anza led a group of pioneers 1,200-miles from Sonora, Mexico across the desert to the California coast, passing through the Gaviota Coast en route to San Francisco. The National Park Service has commemorated this route as the Juan Bautista de Anza National Historic Trail (National Park Service 2013).

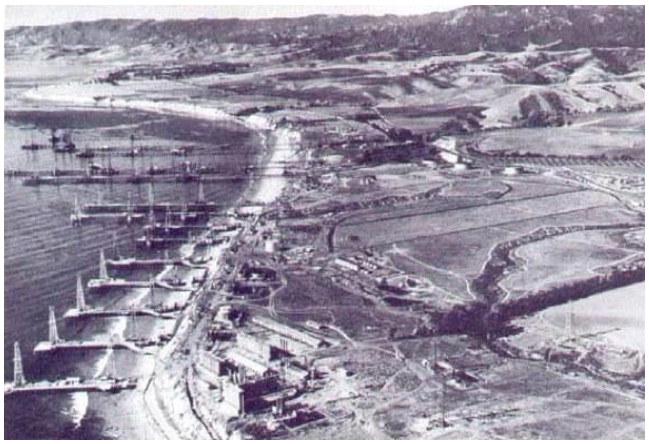
The Gaviota Coastal Trail occurs within the route of the Juan Bautista de Anza National Historic Trail. Through this designation the National Park Service provides support to communities, private land owners, and local governments to work together to create the 1,200-mile trail from Sonora, Mexico to San Francisco following the historic route.

The Gaviota Coast was also part of Mission Santa Barbara's land, used primary for grazing. Historic resources associated with this period include the remains of agricultural facilities, as well as harbors and landings used by Spanish, Russian, and English traders. El Camino Real was also developed during this time and follows the current route of US 101. In the Mexican and early American period in the 1840s and 1850s, the former mission and rancho lands were acquired by American settlers such as Nicholas Den, who ran a successful cattle ranch on the Dos Pueblos Ranch (Tompkins 1960:109). Following severe droughts in 1863-1864, many of the original ranchos, including the original Dos Pueblos rancho, were subdivided or sold. In the late 1880s, early settlers such as John H. and Alice P. Williams planned unfulfilled real estate development schemes, such as the City of Naples-by-the-Sea, while successfully pursuing development of crops such as walnuts, orchids, or lemons.

In 1901, the Southern Pacific Railroad Company completed the Coast Line connecting Santa Barbara to Northern California (Nicholson 2002). In 1943, the Signal Oil and Gas Company developed more than forty wells between Eagle and Dos Pueblos canyons and over the next twenty years pumped more than $20,000,000 of crude oil (Tompkins 1964:143). The area continued in agricultural and oil production with substantial oil development and orchard expansion through the 1980s, with oil production declining into the 1990s. All of these activities have left a variety of archaeological and historic resources along the coast.

> *"I never felt any special calling to a farmer's life, yet now I felt that I could be brought to accept one of these generous, slumberous, oak-shaded estates, with sea and mountains handy for purposes of recreation."*
>
> **—J. Smeaton Chase on the Gaviota Coast (1911)**

Coastal Trail and Access Framework: Construction of the Gaviota Coastal Trail and improved coastal access points could lead to disturbance of cultural resources through direct disturbance during construction or indirect disturbance by future users. This Trail Study proposes trails that are sited to avoid most known significant cultural resources. For example, the proposed alignments on 8501 Hollister, LLC and Las Varas Ranch have been routed around or at the edge of archaeologically sensitive areas, as has the State-studied route in Gaviota State Park. Other segments on Paradiso del Mare, Gaviota Marine Terminal, the road shoulder US 101 segments, and Arroyo Quemada Lane follow old paved roads to limit disturbance to known sites.



The eastern Gaviota coastline was heavily developed with oil and gas production facilities in the late 1920s and early 1930s. Remnants of oil production remain, such as degraded roads that could be reutilized for segments of the Gaviota Coastal Trail.
Photograph: California State Lands Commission.

In general, on the wide coastal terraces at the eastern 6.2 miles and western 3.0 miles of the coast, the Coastal Trail alignment has been or can be adjusted to avoid known significant archaeological resources. Where potential impacts to sites could occur, appropriate mitigation could be applied, such as placement of sterile fill over identified resources and construction monitoring; however, avoidance is the preferred mitigation. No known historic structures lie within or would be damaged by the proposed Gaviota Coastal Trail route or coastal access improvements; however, additional surveys would be required to refine trail routing. Interpretive signage would also be provided at key locations to explain the area's rich history to inform trail users regarding Gaviota's cultural resources. Although significant archaeological and historic resources remain on the coastal terrace, with appropriate trail siting and implementation of measures to protect adjacent sites, the provision of public access would not appear to conflict with cultural resource protection.

Coastal Trail and Access Implementation Principles

- Perform Cultural Resource surveys as needed to avoid or minimize disruption of resources
- Trail/ access improvements should avoid cultural resource sites as much as possible
- Consultation with tribal representatives should occur where trails pass close to sensitive resources
- Interpretive displays should be provided at key locations to educate the public about cultural resources
- Fencing, sterile fill and vegetative cover should be used as required to reduce potential disturbance

Key Concerns

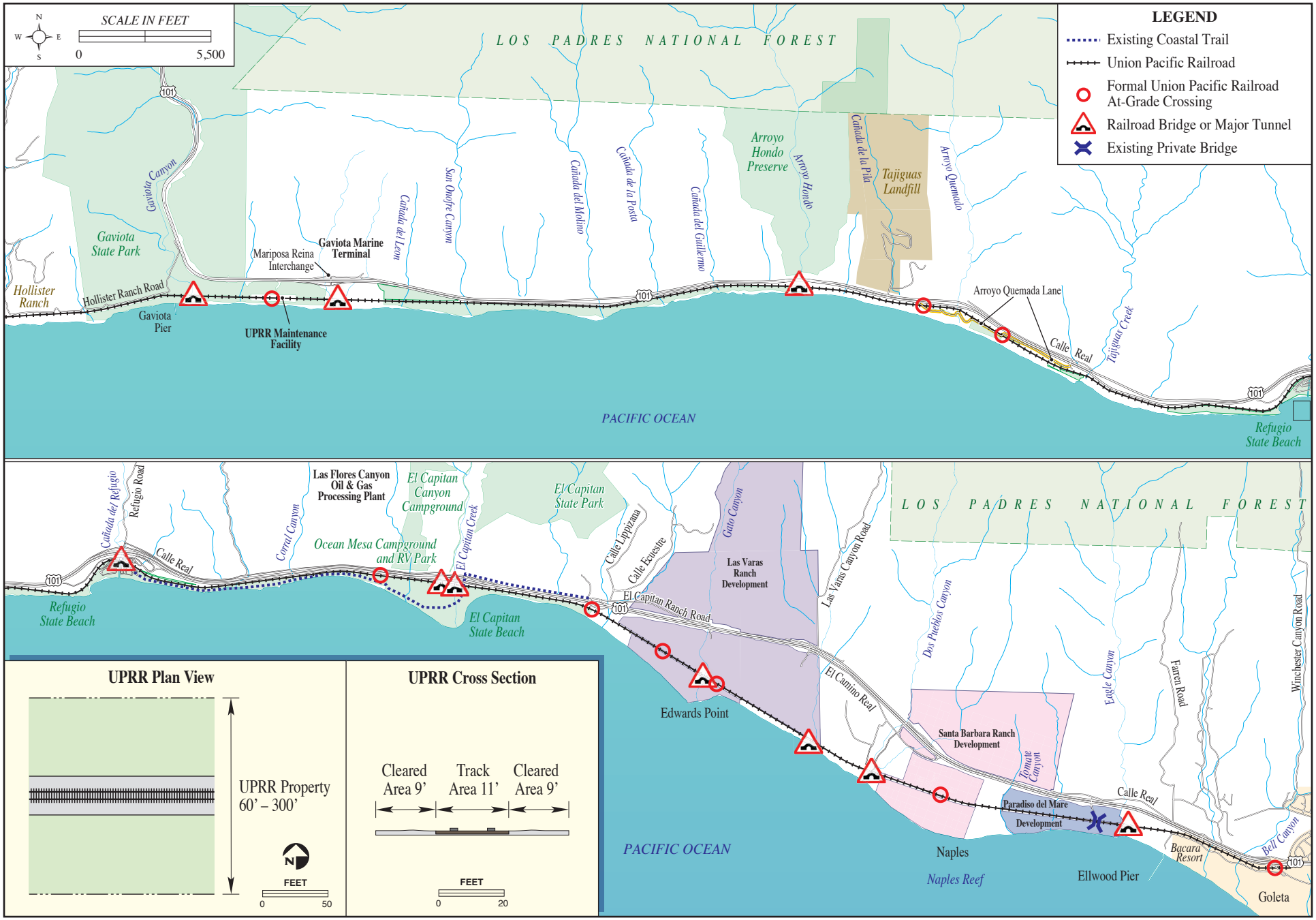
- UPRR presents a significant barrier to improved public access to the Gaviota Coast shoreline
- More than 60 existing informal at-grade trail crossings with possible safety issues
- Seven public and private signed or gated at-grade crossing points exist on the Gaviota Coast
- Potential use of eight existing UPRR bridges and tunnels for Coastal Trail or coastal access
- Onerous permit processes required to formalize / improve safety of UPRR crossing points

4.4 Union Pacific Railroad

Setting: The UPRR closely parallels the Gaviota Coast shoreline for all 19.8 miles of the coast and carries approximately twelve trains per day (County of Santa Barbara 2013b). The UPRR tracks are generally set back from the shoreline by 200 to 1,200 feet between Bacara Resort and El Capitan State Beach, while most of the western 13 miles occur within 25 to 100 feet of the bluff edge. The UPRR crosses 16 major creeks and multiple small drainages using raised iron trestles, concrete and stone bridges, tunnels and many culverts. Moderate to heavy public access across and along the UPRR corridor occurs throughout the Gaviota Coast. At least 60 distinct coastal access trails cross the UPRR from 22 informal parking areas along US 101 and County roads. The UPRR corridor is also used for lateral access along the coast (e.g., Las Varas Ranch). Firm estimates are not available, but existing use levels indicate that tens of thousands of beach goers cross the tracks annually.

Thousands of beach goers cross the UPRR annually along the Gaviota Coast using at least 60 existing informal at-grade crossing points, such as this site along the Naples access trail at Paradiso del Maré.

Coastal Trail and Access Framework: The UPRR is a major barrier to the public's right to obtain formal access to and along the shoreline on the Gaviota Coast. To address this barrier, this Trail Study identifies desired UPRR crossing locations in order to allow construction of the Coastal Trail "as close as physically and aesthetically feasible to the shoreline" while minimizing UPRR crossings to reduce cost and protect public safety. This study also identifies coastal access improvements at key locations along the shoreline, some of which would also require a UPRR crossing. Further, this study identifies actions and principles to facilitate acquisition of crossing points and to improve cooperation between the local community, and to improve cooperation between the local community, the California Public Utilities Commission (CPUC) and UPRR to achieve these goals at reasonable cost and to account for public safety.



SANTA BARBARA COUNTY Trails Council

Map prepared by the Santa Barbara County Trails Council

Figure 4-2. Existing UPRR Crossings

Coastal Trail UPRR Crossings: The proposed 20.8 mile long Gaviota Coastal Trail would cross the UPRR at five locations, including passing under two existing UPRR bridges in El Capitan and Refugio State Beaches. Two new at-grade crossings would be constructed on Las Varas Ranch and the Scott property west of Dos Pueblos Ranch, as well as a new bridge on the Las Varas Ranch. The at-grade crossings would be developed with rubberized tread at the tracks, warning signals and crossing gates, and are proposed as the most economical method to maximize access to over 1.5 miles of scenic bluff top along the Dos Pueblos Ranch, Scott and Las Varas Ranch properties. These crossing points appear to meet federal line-of-sight standards.[3] The proposed bridge has been sited over a deep cut for the rail line to provide the required 23.5 feet of clearance for trains passing under the bridge, which would still need to be arched or elevated approximately 10 feet to meet UPRR standards.

Proposed Coastal Access Trail UPRR Crossings: Proposed coastal access trails at locations with developed access off of US 101 would cross the UPRR at a total of six locations, with four of these using existing UPRR tunnels or bridges. A new bridge at Paradiso del Mare may be required, as well as improvements to an existing private at-grade crossing on the Santa Barbara Ranch. The proposed Las Varas Ranch access trail would use the existing UPRR Las Varas Creek tunnel to reach the ocean. Proposed access at Dos Pueblos Ranch, Arroyo Hondo and Gaviota Marine Terminal would all pass under existing UPRR trestle bridges.

Existing private at-grade crossing points such as this one on Santa Barbara Ranch could be improved to fully developed crossing points for the Coastal Trail or coastal access. UPRR standards currently require abandonment of 1-2 crossing points in order to acquire a new crossing location.

The UPRR along the Gaviota Coast has several large tunnels and four trestle bridges that could be used for coastal access or the Coastal Trail. Use of facilities such as this tunnel on Las Varas Creek may require easements and negotiations with UPRR and state and federal agencies as well as required permits.

Development of formal improved access at popular beaches identified in the County's certified LCP at San Onofre Creek, Cañada del Molina, Cañada del Guillermo and Tajiguas would all appear to require use of at-grade crossings. Development of this number of new at-grade crossings, while physically feasible, would raise significant concerns with the

[3] Line-of-sight requirement for locations with trains traveling 60 miles per hour is 1,060 feet for pedestrian crossings; at 70 miles per hour the line-of-site requirement is 1,235 feet (Federal Rail Administration 2007).

UPRR and the CPUC. Under current standards, two existing crossing points are required to close somewhere along the rail corridor for each new one constructed. However, informal at-grade crossings could be improved with limited fencing to channel beach goers to the single safest crossing and reduce the number of informal crossing points. Such improvements would be similar to those installed at the heavily used Santa Clause Lane Beach, where hundreds of thousands of users cross the UPRR through three gaps in fencing installed over the last decade.

Compatibility of Public Access and the UPRR: Cities and counties throughout California have successfully completed many new railroad crossing points and rail corridor trails. For example, the City of San Clemente has completed over four miles of rail corridor trail and 14 rail corridor crossing points, including nine pedestrian crossings over busy railroad tracks using at-grade crossings, bridges and tunnels. The cities of Encinitas and Solana Beach have also completed several rail crossing points. These cities have provided such crossings along the busy Los Angeles to San Diego corridor, which carries almost four times the daily train traffic found along the Gaviota Coast, including more than 40 daily high speed trains.

This at-grade pedestrian crossing is one of nine in four miles of the Coastal Trail in San Clemente. These at-grade crossings were installed to improve safety and reduce unsanctioned crossing. Similar public safety benefits could occur with installation of formal at-grade crossings on the Gaviota Coast.

In Santa Barbara County, both the County and the City of Carpinteria are working on railroad crossing improvements. At the popular Santa Clause Lane beach access, hundreds of thousands of pedestrian crossings occur annually. In response, the County is pursing permits to construct a formal at-grade railroad crossing to replace existing informal crossing points. Design would include installation of improved rubberized pedestrian crossing surface, warning lights and crossing arms. The County estimates that permitting and studies for the at-grade crossing at Santa Claus Lane will cost $250,000, require closure of at least one other existing crossing and an estimated three years to complete (Rosie Dystie, personal communication 2012). This burdensome process is required to improve safety for hundreds of thousands of beach goers annually where prescriptive rights to access may already exist. The City of Carpinteria is improving public access to and along the UPRR corridor through construction of new nearshore and bluff top segments of the Coastal Trail adjacent to the UPRR corridor. Currently, trail users cross the UPRR between existing trail segments at an informal crossing point. The City plans to complete the 2-mile long Carpinteria to Rincon Beach segment of the Coastal Trail, and that will include crossing the UPRR via a free span bridge over a deep cut in the rail corridor.

Based on the experience of other communities, completing a Gaviota Coastal Trail far from the shoreline (e.g., north of US 101) would do little to relieve trespassing to achieve coastal access, as the public's destination is the shoreline and beach. Well-designed trail crossings can reduce trespassing and accidental deaths and associated rail operator concerns (Rails to Trails Conservancy 2009).

Permitting and Design of Rail Crossings*:* The CPUC has authority over railroad safety and crossings. The CPUC favors grade separated crossings over at-grade crossings but does permit at-grade crossings. UPRR believes the safest railroad crossing is no crossing and has a goal to reduce the number of at-grade crossings (UPRR 2013). Time consuming and expensive UPRR and CPUC permit requirements increase the difficulty of providing improved and safe access to and along the shoreline. Both the CPUC and the UPRR require the closure of at least two existing at-grade crossings for every new one created; however, these standards do not account for improved safety when informal crossing points are closed or improved with developed gates and signals.

Coastal Trail and Access Design Principles

- Identify priority rail crossing locations
- Prioritize use of existing bridges, at-grade crossings and tunnels
- Adopt policies to ease acquisition/ development of rail crossings for the Coastal Trail and coastal access
- Protect and defend the public's right to historic access to the coast across the UPRR
- Prepare a Transportation Corridor Plan to guide UPRR development and improve cooperation between CPUC, UPRR, County and community organizations
- Form a working group with community organizations, UPRR, the County and representatives of state and federal legislators to assure improved coordination on rail crossing issues

4.5 Transportation and Parking

Key Concerns

- US 101 and County roads provide free road shoulder coastal access parking for 450 vehicles
- Safety standards may limit formal coastal access to existing interchanges or intersections
- US 101 and the UPRR limit development of a bluff top Coastal Trail and access along nine miles of shoreline west of Refugio State Beach

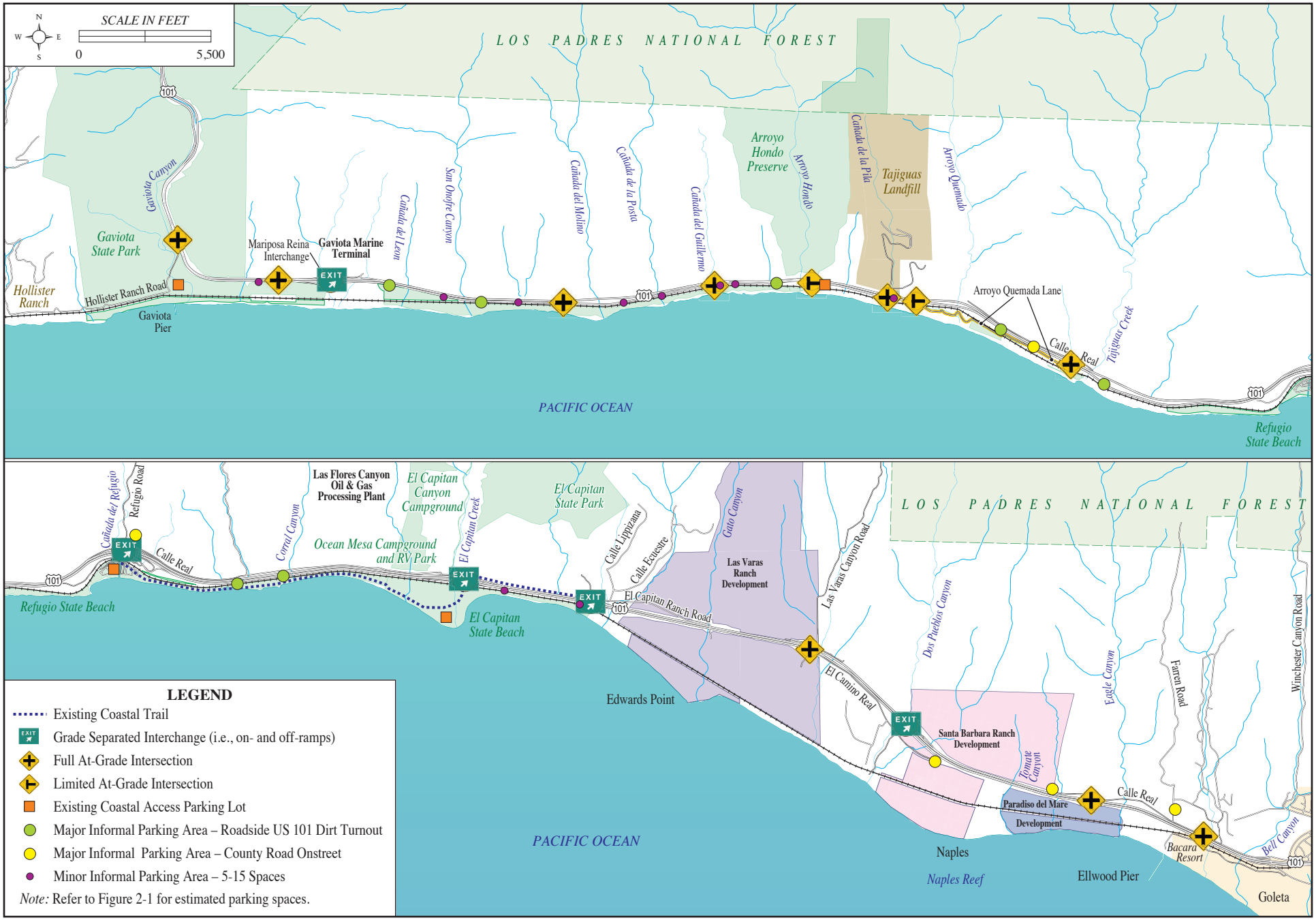
Setting: Transportation facilities along the shoreline reaches of the Gaviota Coast include US 101, the UPRR, over eight miles of discontinuous County frontage road segments north and south of US 101 (e.g., Calle Real, El Capitan Ranch Road and Arroyo Quemada Lane) and County or private roads that provide coastal or foothill access and roadside parking (e.g., Refugio Road).

Twelve existing major informal parking areas are accessible from US 101 and receive heavy public use. This parking area at San Onofre can accommodate over 40 vehicles and often is full in the summer.

Transportation: US 101 is a four-lane limited access highway that extends for 19 miles along the Gaviota Coast and carries an average of 30,500 daily trips (Caltrans 2013). The state owned right-of-way (ROW) for US 101 varies from 170 to 390 feet in width along the Gaviota Coast (Trails Council 2013). Surface street access to and across US 101 between Gaviota and Bacara Resort is available at five grade separated interchanges, eight full at-grade intersections with center median openings, and three limited access at-grade intersections (i.e., no access across median) located both north and south of US 101. Five underpasses separate from the interchanges also provide access across US 101, primarily for existing ranches and state parks (Figure 4-3).

Calle Real, a County owned frontage road located north of US 101, extends for over five miles in three major segments providing access to public and private roads and is used in places for coastal access parking. Public frontage roads (e.g., Naples Access Road, El Capitan Ranch Road and Arroyo Quemada Lane), which extend for about three miles, provide access to private roads and coastal access parking areas. South of US 101, many roads are private.

US 101 and the UPRR run parallel and are often closely aligned with the shoreline of the Gaviota Coast, with UPRR always located seaward of US 101. Average separation between highway travel lanes and the railroad tracks is approximately 40-100 feet for more than seven miles of shoreline from El Capitan State Beach west to Canada San Onofre. Along this reach the ROW and parcel lines of these facilities generally abut. Along roughly six miles of shoreline east of El Capitan State Beach, US 101 is located farther inland, up to ½ mile from



SANTA BARBARA COUNTY Trails Council

Map prepared by the Santa Barbara County Trails Council

Figure 4-3. Gaviota Transportation and Parking

the UPRR, which more closely follows the shoreline. Similarly, for approximately the western-most three miles of shoreline within Gaviota State Park and the Gaviota Marine Terminal, US 101 is set back 500 to 700 feet from UPRR and the shoreline.

Public Parking: The 20 miles of the Gaviota Coast support coastal access parking for approximately 871 vehicles for day use in developed State Park parking lots and at informal roadside pullouts. Approximately 52% (452) of this parking is available at informal roadside pullouts and 48% (419) is in developed public parking lots (Figure 4-1, Table 4.2).[4] By comparison, the City of Santa Barbara's four-mile long waterfront supports over 1,600 coastal access parking spaces; the ten-mile shoreline between Arroyo Burro Beach and Bacara Resort in the Goleta Valley supports approximately 856 developed coastal access parking spaces (Santa Barbara County 2013d).

Table 4.2. Existing Public Parking

Gaviota Section	Formal Parking Areas	Estimated # Spaces	Informal Roadside Parking	Estimated # Spaces
East	0	0	4	89
Central	2	244	4	114
West	2	175	14	249
TOTAL	**4**	**419**	**22**	**452**

Sources: Trails Council 2013.

Informal roadside parking exists throughout the Gaviota Coast alongside US 101 and on County Roads (e.g., Refugio Road, Calle Real), but is concentrated at 12 major locations that accommodate between 15 and 45 vehicles (refer to Figure 4-3). Developed public parking consists of 344 spaces in three main lots within state beach parks as well as room for 75 vehicles at the Arroyo Hondo scenic overlook. Developed parking within state beach parks is subject to a $10 day use fee; availability may be limited due to high demand and overlapping use by campers, resulting in day use visitors sometimes being turned away.

Coastal Trail and Access Framework: The location and function of the UPRR and US 101 strongly influence the location of the Coastal Trail and improved coastal access along the Gaviota Coast. Ample room exists for construction of almost nine miles of scenic bluff top Coastal Trail "within the sights and sounds of the Pacific Ocean" along both the east and west ends of the Gaviota Coast. The wide coastal terraces between US 101 and the shoreline in these areas permit a scenic bluff top location for the Coastal Trail. For almost five miles of these areas, the UPRR is also well set back from the bluff edge, permitting construction of a true bluff top Coastal Trail. This includes approximately six miles at the east end of the Gaviota Coast from Bacara Resort almost to El Capitan State Beach; in this area US 101 is located up to ½ mile from the shoreline, and the UPRR is generally set back from the bluff edge between 200 to 1,300 feet.

[4] Vehicle capacity at informal parking areas is estimated based on an average parking space length of 20 feet for parallel parking and 12 feet for pull-in parking.

The wide coastal terrace on the east end of the Gaviota Coast provides space for development of a scenic bluff top alignment of the Coastal Trail with connections to existing and planned sections of the Coastal Trail on UC Santa Barbara and in the City of Goleta (background). In these areas, US 101 (left) is set back up to ½ mile from the shoreline while the UPRR lies 200 to 1,300 feet landward of the coast.

On the west end of the Gaviota Coast, almost three miles of US 101 east of Gaviota Pass is located up to 800 feet from the shoreline. Although the UPRR hugs the bluff edge along this reach, the large setback of US 101 permits ample room for a scenic bluff top Coastal Trail. Approximately 2.5 miles of this section is located within Gaviota State Park and ½ mile within the Gaviota Marine Terminal, which is undergoing decommissioning.

For approximately seven miles of shoreline from Refugio State Beach west to Canada San Onofre, the UPRR lies at or near the edge the coastal bluffs, with US 101 immediately inland, limiting room for development of a shoreline coastal trail. Over the short term (i.e., 20 years), the undeveloped road shoulder south of US 101 could generally accommodate the Gaviota Coastal Trail between UPRR and US 101 within US 101 ROW. Approximately ½ mile of County-owned Arroyo Quemada Road could also be used for the trail. Available US 101 undeveloped ROW ranges from 10 to 40 feet in width seaward of the southbound

US 101 and UPRR run parallel for approximately seven miles west of Refugio State Beach, often at or near the bluff edge, which limits space for development of a bluff top Coastal Trail. Caltrans has indicated a willingness for siting segments of the Gaviota Coastal Trail within the ROW.

travel lanes. Caltrans has indicated openness for siting the Coastal Trail in Caltrans ROW between US 101 and UPRR (County of Santa Barbara 2013c). A potential realignment of US 101 between Arroyo Quemada and Arroyo Hondo could be designed to include increased ROW for the Coastal Trail.

Consistent with Coastal Conservancy guidelines, a road shoulder Coastal Trail would be located as far from the travel lanes of US 101 as possible. For public safety, a barrier separating US 101 and the Coastal Trail should be installed where required. Breaks in this barrier could accommodate access to existing roadside parking. Over the long term, landward relocation of the UPRR and sections of US 101 would appear to be required to avoid coastal bluff retreat. Any such landward retreat and realignment of UPRR and US 101 should be designed to accommodate coastal access and to locate the Coastal Trail seaward of the UPRR (refer to Section 4.6, *Coastal Erosion, Bluff Retreat, and Sea Level Rise*).

Closure of informal parking areas, such as recently occurred on portions of Refugio Road, impairs an important component of free public coastal access. Protection of these areas should be a County priority.

Public Parking: Existing informal public parking along US 101 and on county roads is not currently recognized in County policy as an important coastal access resource. Roadway realignment, potential safety concerns or other issues could lead to loss of such parking due to highway or road improvement projects or areas being blocked off or posted as no parking, such as recently occurred on Refugio Road. The location of new formal developed parking lots may be constrained by requirements of existing intersections or interchanges for access off of US 101, and also to obtain formal access across the UPRR. Absent clear policies to govern repair or improvements to the UPRR and US 101 and their relationship to coastal access, existing parking may not be protected and standards for provision of new parking and coastal access would remain unclear.

Given these constraints, development of new formal coastal access parking should be focused at sites with acceptable US 101 access (i.e., interchanges and intersections). Formal coastal access parking improvements for up to 180 or more vehicles appear feasible at six locations; Paradiso del Mare, Santa Barbara Ranch, Las Varas Ranch, Arroyo Hondo, Gaviota Marine Terminal and potentially Arroyo Quemada Lane. Existing free roadside coastal parking, including along both US 101 and County roads, should be retained and protected, but may not be suitable for development as formal access points.

Improved coordination with Caltrans and the UPRR should be fostered by creation of a working group consisting of these agencies and the County, State Parks and community organizations to coordinate coastal access improvements. Such a working group could address ways to protect existing access, plan for new access, and plan for development of the Coastal Trail and provision of new coastal access.

The County and City of Santa Barbara have adopted detailed transportation corridor standards that govern transportation facilities in other segments of the Coastal Zone, including Montecito and downtown Santa Barbara. Development of a Gaviota Coast Transportation Corridor Plan to guide future improvements to both UPRR and US 101 would assure that Coastal Act priorities such as the Coastal Trail and access are integrated into long-term planning for these transportation facilities, including potential landward relocation of both the UPRR and US 101, as required to address sea level rise and improve coastal.

Coastal Trail and Access Design Principles

- The Gaviota Coastal Trail should be located seaward of US 101 and UPRR wherever physically feasible
- All future US 101 and UPRR improvements should facilitate and enhance public access to the coast
- Free road shoulder coastal access parking should be protected and new parking lots provided
- New crossing points of the UPRR for the Coastal Trail and coastal access should be identified and adopted into regional transportation and capital improvements plans
- A Transportation Corridor Plan should be prepared to guide all improvements to US 101 and UPRR
- Managed retreat of UPRR and US 101 should be planned for due to bluff retreat and sea level rise
- A shoreline location for the Coastal Trail and new coastal access should be incorporated during managed retreat planning

4.6 Coastal Erosion, Bluff Retreat and Sea Level Rise

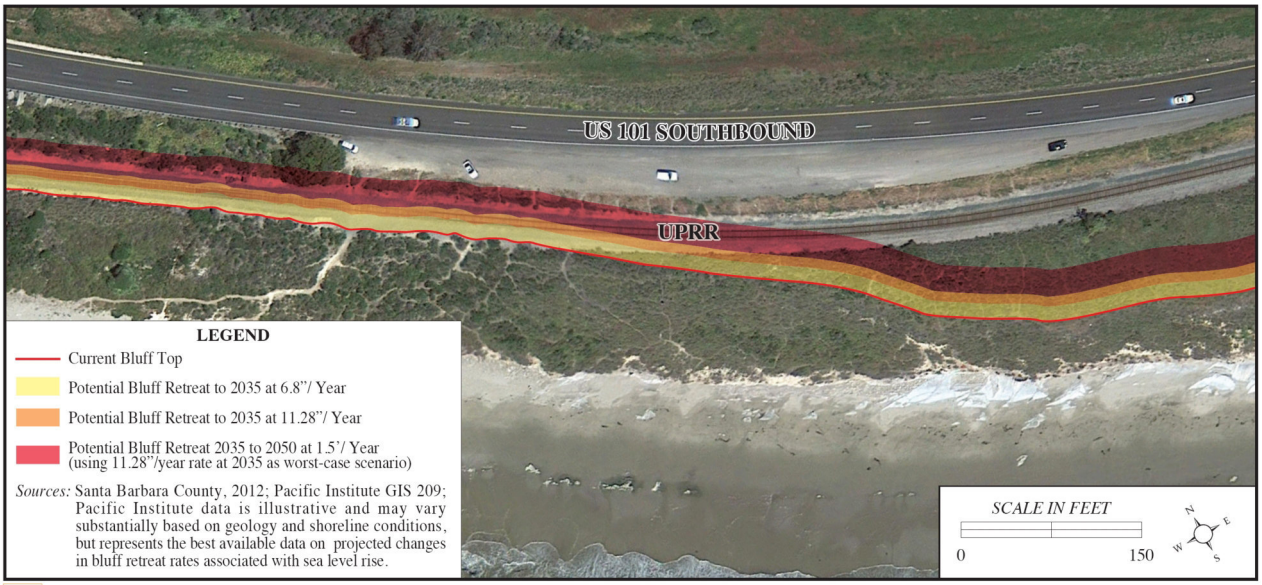
Key Concerns

- Coastal erosion affects alignment of a nearshore Coastal Trail and coastal access design
- Segments of UPRR are threatened by bluff erosion, which will increase with sea level rise
- UPRR seawalls may affect sand supply and limit public access to and along the coast

Setting: The shoreline of the Gaviota Coast is characterized by a wave cut rocky marine terrace overlain by a thin layer of sandy beach backed by steep coastal bluffs. These bluffs rise from 40 to 90 feet above the beach except where cut by creek canyons or gullies. The bedrock composing these bluffs is weak and easily eroded by wave action, resulting in relatively high rates of coastal erosion (Griggs 2005).

Bluff retreat is caused by direct wave attack on the toe of the bluff, water runoff over or through the bluff, wind erosion, and dry season sluffing of unconsolidated material. Large storms combined with high tides, such as those experienced during El Nino events, can cause major bluff failures. Bluff erosion rates along the Gaviota Coast average from 6 inches to almost 1 foot per year, depending on the underlying geologic formation (Santa Barbara County 2013b). Bluff retreat is not uniform; long periods of modest erosion are occasionally punctuated by catastrophic bluff failure.

Areas of wide coastal terrace at the east and west ends of the Gaviota Coast provide ample room for a bluff top Coastal Trail. On the west end, this would be located between the UPRR and US 101 (left); on the east it would be seaward of the UPRR (right). Both of these areas allow for trail setbacks from the bluff edge. However, much of the UPRR is within the coastal erosion hazard zone (Gaviota State Park segment; left). UPRR-installed seawalls line 1.5 miles of the Gaviota Coast to protect the tracks, yet large segments remain vulnerable to erosion. UPRR maintains a store of boulders and often heavy equipment at a Gaviota storage yard to effect emergency repairs (left). Ongoing bluff retreat will accelerate with sea level rise, posing predictable threats to the UPRR with substantial additional seawall construction likely to occur over the coming decades.



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Map prepared by the Santa Barbara County Trails Council

Figure 4-4. Coastal Erosion Impacts

Bluff retreat has damaged facilities along the Gaviota Coast. For example, in August of 2000 a 500-foot segment of bluff collapsed damaging or destroying the UPRR near Arroyo Hondo and causing temporary closure of the UPRR. Major repairs were required including installation of an approximately 0.7-mile long concrete seawall. In addition, a 540-foot long segment of the existing El Capitan to Refugio Coastal Trail has been damaged by bluff erosion and remains closed. No room exists for landward relocation of this trail segment due to the location of the UPRR immediately inland. Informal access routes also suffer erosion damage; however, many are located in relatively sheltered pocket beaches.

Future sea level rise will threaten existing infrastructure along the California coast, including transportation facilities (Caltrans 2011). Over the coming decades, sea level rise is projected to accelerate rates of coastal bluff retreat (California Climate Change Center 2009). Although specific projections for the Gaviota Coast are not available, areas in Santa Barbara County with similar geological formations and bluff heights (e.g., Isla Vista) are forecast to potentially experience accelerated retreat rates from the current rates of 6 to 12 inches per year to 1.5 feet per year by 2050 and up to 3 feet per year by 2100 (County of Santa Barbara 2013b).

Coastal Trail and Access Framework: There are three key issues surrounding Gaviota Coastal Trail and access planning associated with coastal erosion, bluff retreat and sea level rise include provision of adequate setbacks for the Coastal Trail, the location and design of proposed coastal access points, and the proximity of the UPRR to the edge of the bluff, often within the coastal erosion hazard zone.

Coastal Trail Location: Coastal erosion has the potential to damage a bluff top segment of the Coastal Trail as well as planned coastal access points. However, wide coastal terraces in the eastern six miles (Bacara Resort to El Capitan) and the western three miles (i.e.,

Gaviota State Park) of the Gaviota Coast provide ample room for a bluff top Coastal Trail set well back from the bluff edge. The central 2.5-mile segment (El Capitan to Refugio) also has generally adequate bluff setbacks, except for one 540 foot-long segment damaged by coastal erosion, which will require repairs, and a previously armored 280 foot-long segment near the Venadito informal access point.

> *"[The County] will seek solutions to shoreline hazards on a larger geographic basis than a single lot circumstance."*
>
> **-County of Santa Barbara 2009**

Within the nine mile long reach between Refugio State Beach and Gaviota State Park, the existing alignment of the UPRR would require the Gaviota Coastal Trail to be located landward of the rail line due to the lack of uniformly available bluff top south of the UPRR. Over the short term (i.e., 20 years), the Coastal Trail could be constructed along this reach between UPRR and US 101 within the US 101 ROW. Over the long term, if threatened segments of UPRR are relocated landward out of the coastal erosion hazard zone, ambulatory easements for the Coastal Trail should be provided seaward of the UPRR.

Coastal Access Locations: The steep bluffs present along the Gaviota Coast and the often narrow beaches require siting of coastal access points that use natural features, such as canyons or gullies; many existing informal access points are found in such features. Construction of large engineered stairways on exposed coastal bluffs would be expensive, would leave such structures exposed to wave damage, and would not be in keeping with the rural character of the area. Locating coastal access trails in canyons that lead to pocket beaches may also reduce exposure to wave action and bluff retreat. The new access points proposed in this *Gaviota Coastal Trail and Access Study* all take advantage of natural or man-made features to avoid construction of major new engineered stairways and to minimize threats from bluff erosion.

UPRR and Bluff Retreat: The proximity of the UPRR to the edge of the coastal bluff and existing rates of bluff retreat will lead to ongoing damage to the UPRR and reasonably foreseeable requests for "emergency" seawall construction. Sea level rise will increase erosion rates, particularly after 2050, leading to increased damage of infrastructure and armoring of the coast. Based on existing erosion rates of six inches to one foot per year, well over 2.0 miles of UPRR will be threatened with damage or destruction by coastal erosion within the 30 year life of the County's 2013 draft Gaviota Coast Plan. Based on application of coastal modeling of bluff erosion rates in nearby shorelines in Santa Barbara County (i.e., Isla Vista), potentially threatened mileage will increase to 3.5 miles by 2050, and 5.4 miles by 2100 (Trails Council 2013).[5]

[5] Coastal Erosion Hazard Zones are areas where infrastructure would be at risk of damage due to coastal erosion/bluff retreat. Coastal Erosion Hazard Zones were generated through conservative extrapolation of bluff retreat rates from geologically similar sections of the Santa Barbara County coastline (Isla Vista bluffs, the Mesa area of Santa Barbara), should not be considered a formal vulnerability analysis, and are presented as initial order of magnitude estimates.

If substantial expansion of seawalls along the Gaviota Coast is to be avoided, planning for relocation of threatened segments of the UPRR needs to begin soon. Given the proximity of the UPRR to the coastal bluffs, it is reasonably foreseeable that the next major El Nino storm season may cause bluff failures that will threaten segments of the UPRR. Damage or destruction could bring additional seawall construction, which would be in conflict with State and County policy. County LCP Policy 3-1 states in part: "*Seawalls shall not be permitted unless the County has determined that there are no other less environmentally damaging alternatives reasonably available for protection of existing principal structures. The County prefers and encourages non-structural solutions to shoreline erosion problems, including beach replenishment, removal of endangered structures…"* (County of Santa Barbara 2009).

Over 1.5 miles of seawall have been constructed along the Gaviota Coast, including this 0.7-mile segment south of Arroyo Hondo. To avoid incremental armoring of other sections of Coast, the County should pursue longer-term planning, including managed retreat of UPRR and US 101 (as needed).

The County appears to retain permit authority for construction of revetments and seawalls by the UPRR (Article II, Section(s) 35-93.2 and 174.10). However, only limited attempts appear to have been made to exercise this authority. In contrast, recent County and State planning efforts have emphasized managed retreat for threatened facilities. For example, at Goleta Beach, the County is proposing removal of existing revetments that would permit wave action to erode the most heavily-used beach park in the County – a potentially significant impact to regional coastal recreation (County of Santa Barbara 2013d).

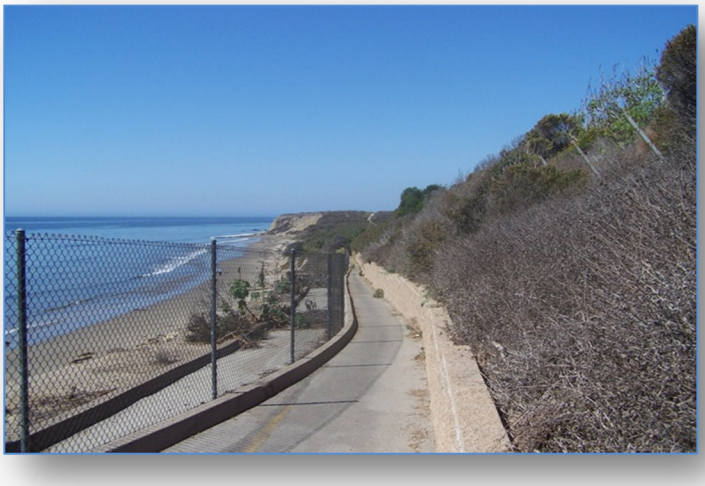
To plan for future threats to the UPRR and to avoid incremental armoring of the Coast through piecemeal "emergency" seawall construction, the UPRR and the County and State need to commence planning for relocation of threatened segments of the UPRR, and potentially US 101 through completion of a Transportation Corridor Plan. This plan, as currently proposed in Policy TEI-7 of the draft Gaviota Coast Plan, could identify key at-risk sections of the UPRR and US 101 to coastal erosion (County of Santa Barbara 2013a). The County should strictly regulate all proposed construction of seawalls (emergency or otherwise) prior to completion of a Transportation Corridor Plan to ensure that public access and sand supply are protected and environmental impacts are addressed in long-term coastal management decisions.

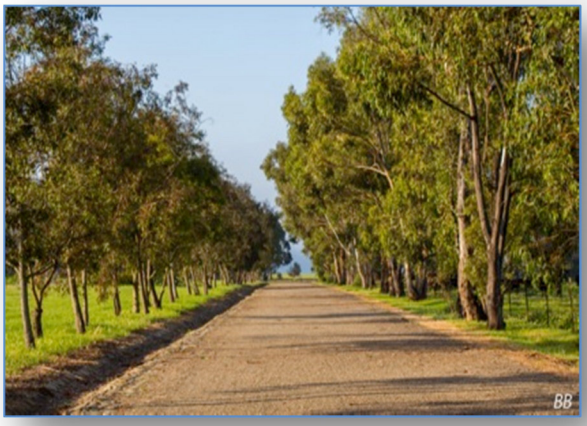
Coastal Trail and Access Implementation

- The Coastal Trail should be located near the bluff, with adequate setbacks to minimize erosion hazards
- Coastal access points should use canyons and other natural features wherever possible
- All Coastal Trail easements should be ambulatory (i.e., rolling) to permit landward migration
- A Transportation Corridor Plan should be prepared to guide managed retreat of the UPRR and US 101
- Landward retreat of the UPRR and US 101 should provide bluff top Coastal Trail easements
- Permit requirements for seawalls should be rigorously enforced and mitigation required

5.0 Trail Forward

This section outlines planning, funding, and the need for community leadership and local and state agency cooperation to complete the Gaviota Coastal Trail and coastal access improvements over the next 20+ years. This section identifies a proposed timeline for key actions, while recognizing that flexibility is crucial to respond to different circumstances or opportunities that will permit the phased opening of trail segments to enhance public access to and along the coast.





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5.0 Trail Forward

Overview: Completion of the Gaviota Coastal Trail and improved coastal access as envisioned in the Trail Framework will require 20 or more years from 2014 through 2035. The timing of construction of different segments of the Gaviota Coastal Trail and access improvements will be governed by funding availability, a complex and lengthy permit process, easement acquisition and, perhaps most importantly, local and state agency support and leadership. This section identifies a proposed timeline for key actions, although such timelines are affected by many factors and, by their nature, must be goal-oriented. However, flexibility is crucial to respond to different circumstances or opportunities; trail segments should be constructed as soon as feasible to permit phased opening of trail segments to expedite enhanced public access to and along the coast.

5.1 Recommended Improvements

This *Gaviota Coastal Trail and Access Study* provides information to support more detailed planning for and design of the proposed Gaviota Coastal Trail and coastal access system. The Trail Framework identifies the preferred route for the Gaviota Coastal Trail, as well as new developed coastal access points, general trail design parameters, and associated supporting improvements, such as creek bridges, railroad crossings, parking and signage. These proposed improvements would provide a continuous trail system and enhanced shoreline access along the Gaviota Coast's 20 miles of shoreline. However, more detailed planning for and permitting of proposed improvements will be required.

The four years from 2013 to 2017 are critical to successful completion of the improvements proposed in the Trails Framework. The County's draft 2013 Gaviota Coastal Plan will be central to the successful implementation of these improvements through provision of the programs, policies and land use tools required to make these proposed public improvements a reality. In addition, strong leadership and support from the County and Coastal Commission will be essential to acquire easements for planned trails from pending development projects and to complete a Gaviota Coast Transportation Corridor Improvement Plan that protects and enhances public access to and along the shoreline. Community organizations will need to work with and support local and state agencies to implement the Trails Framework and provide leadership to obtain funds for planning, design and construction.

Gaviota Coastal Trail and Access Improvements - Short Term Priorities

Key priorities to complete by 2017 include:

1. Reopen/ improve the trail between El Capitan and Refugio State Beaches
2. Construct 2.5-mile Gaviota State Park/ Gaviota Marine Terminal (GMT) bluff top trail
3. Acquire trail easements on Paradiso del Mare, and Santa Barbara and Las Varas Ranches
4. Complete the Gaviota Coast Transportation Corridor Improvement Plan
5. Complete detailed plans for the Bacara to El Capitan Coastal Trail and access trails
6. Acquire funding to support all planned improvements
7. Improve Arroyo Hondo access. Acquire GMT and begin use and improvement plan

5.2 Gaviota Coastal Trail and Access Projects 2014-2017

The following five major projects are recommended to be the focus of Gaviota Coastal Trail construction during the four-year period between 2014 and 2017. These projects have been selected based on their readiness to proceed to construction, detailed planning, or the need to address long-term planning issues. However, flexibility is imperative and this list may be adjusted based on evolving circumstances (i.e., trail dedication by pending development).

Construction Projects: Priority projects ready for construction from 2014-2017 include:

1. **El Capitan to Refugio Trail Repair/ Upgrade:** This project would involve major repair of the 580-foot long trail segment damaged by coastal erosion, and the repaving and repair of the existing 3.5 mile long paved deteriorated multiple use trail that runs along the bluff top through El Capitan State Beach and Refugio State Beach. This trail is under public ownership, receives heavy existing use, and can maximize public access to and along a scenic reach of coast. Repair of damaged trail segments presents an engineering challenge due to ongoing erosion and undercutting of the existing trail. Possible repair techniques could include use of cantilevered grade beams to support undercut portions of the trail and installation of 580 feet of rock revetment along the base of the coastal bluff to protect the trail and the UPRR from coastal erosion. Such revetments are discouraged by Coastal Act and County LCP policy, but are permitted where impacts are minimized and other feasible solutions are lacking. In this case, absent landward relocation of the UPRR, use of coastal protection structures appears to be required if the Coastal Trail, a State-mandated facility, is to be reopened at this location. The trails community will need to work with State Parks, UPRR, the County, Coastal Commission and Coastal Conservancy to proceed.

2. **Gaviota State Park Bluff Top Trail:** State Parks previously proposed construction of more than 2.5 miles of parallel paved multiple use and soft surface trails across the scenic coastal bluff tops of Gaviota State Park and the Gaviota Marine Terminal (GMT), as well as a trailhead parking area in Gaviota Creek Canyon. Preliminary engineering

Repair of the 580 feet of damaged El Capitan to Refugio coastal trail would restore and enhance public access to this highly scenic coastline. The UPRR (right) prevents trail landward relocation.

The 300-800 foot wide scenic bluff tops of Gaviota State Park have been planned by State Parks for development of a 2.5-mile Gaviota Coastal Trail segment to extend through the GMT to near Canada San Onofre.

design plans (6/30/2004) and a draft Mitigated Negative Declaration (7/2007) have been completed by the State (refer to www.sbtrails.org > see Reports Folder). This is the most shovel-ready new segment of the Gaviota Coastal Trail and could be combined with acquisition and development of improved coastal access at the proposed Mariposa Reina (i.e., GMT) coastal access point. An offer to dedicate the Coastal Trail through the GMT would need to be accepted and/ or to purchase of all or portions of this 44-acre property for public use.[1] To complete this trail, the draft MND would need to be updated and approved, final design would need to be completed, permits obtained from the County, and a funding package assembled. The trails community will need to work with State Parks, the County, Coastal Commission and Coastal Conservancy to proceed.

3. **Arroyo Hondo Coastal Access Improvements:** This scenic overlook and roadside parking area has been planned as a coastal access point for over 30 years and is recognized in both the County's 1982 LCP and the 2013 draft Gaviota Coast Plan. Coastal access improvements here would require construction of a coastal access trail from the existing parking area along the US 101 fill slope to the bottom of Arroyo Hondo Canyon and along an existing informal trail to the beach. Alternatively, the trail could follow the steep existing UPRR stairway down to the Canyon bottom; however, this would require negotiations with UPRR, safety improvements, such as handrails, and may limit accessibility. In addition, this location should be improved with signage and an information kiosk that details the Gaviota Coast's recreational opportunities, natural and cultural resources and history. No trespassing and sensitive habitat signs would also need to be posted at Arroyo Hondo Creek and the US 101 creek tunnel.

A proposed coastal access trail at Arroyo Hondo would cut across the US 101 fill slope and under the historic 101 and UPRR bridges to Arroyo Hondo Beach. Use of this fill slope would permit construction of a gently sloping beach access trail.

Planning Projects: Several key planning projects that should be pursued during the 2013-2017 period to further improvements in the Trail Framework include:

4. **Paradiso del Maré, Santa Barbara and Las Varas Ranch Trails Easements:** Acquisition of easements for the nearshore alignment of the Gaviota Coastal Trail, planned coastal access parking, and beach access trails as part of proposed development of these properties is a key component of the proposed Trail Framework. Acquisition of easements for the Gaviota Coastal Trail from the pending development proposals in the eastern Gaviota Coast area would provide over 4-miles of nearshore trail easement as well as three proposed coastal access parking lots and vertical access trails. The County,

[1] The Trust for Public Land is actively pursuing funding for acquisition of this property. Abandonment of historic oil facilities is ongoing and will likely be completed within the 2014-2107 planning horizon.

Coastal Commission and community will need to work to ensure that development of these properties includes appropriate easements. The Paradiso del Mare project includes offers to dedicate easements for a 1.1-mile-long nearshore Coastal Trail, a parking area and a vertical access easement to the Coastal Trail. The approved 2008 Santa Barbara Ranch development does not provide desirable Coastal Trail or beach access trail easements. Negotiations to resolve litigation or final action by the County and Coastal Commission will be needed to require easements for a nearshore Coastal Trail and vertical access trail to the beach as a condition of approval. The proposed 2011 Las Varas Ranch development does not provide desirable Coastal Trail easements or long-planned coastal access at Edwards Point. County and Coastal Commission permits for the project will need to require easements for a nearshore Coastal Trail and access at Edwards Point as a condition of approval. As part of the 2013 Gaviota Coast Plan, the County and Coastal Commission will also need to adopt tools to acquire the 108 acres at Edwards Point as planned by the 1982 LCP.

5. **Bacara Resort to El Capitan Trail Planning and Funding:** As easements are acquired from pending development projects along this reach of coastline, engineering plans should be completed for longer sections of trail (e.g., Paradiso del Mare) to facilitate opening each segment to the public as soon as feasible. This will require assembling funds for planning, permitting, environmental review, and construction, and addressing complex issues, such as crossing the UPRR. Planning should also occur for easement acquisition across 8501 Hollister, acquisition of Dos Pueblos Canyon Creek Mouth as a day use public park, and for trails easements across the Scott Property.

6. **Gaviota Coast Transportation Corridor Plan:** This plan involves multiple stakeholders, potential for major long range capital improvements, and will require several years to complete. A draft should be completed during this period to clarify Coastal Trail and access design issues for upcoming projects, especially for the western Gaviota Coastal Trail segment.

7. **Gaviota Marine Terminal Acquisition:** Acquisition of all or portions of this property should proceed during this period. Public planning should also begin for the ultimate uses of this site, including coastal access improvements recommended in the Trail Framework, potential for priority coastal visitor-serving uses (e.g., campground, cottages, yurts), habitat restoration and possible relocation of the US 101 rest stop currently at Gaviota Pass tunnel to this location.

5.3 Short Term Implementation Timeline Goals: 2013 to 2017

Key Gaviota Coastal Trail and access improvements identified in the Trail Framework will be determined in the 4 years from 2013-2017. County and Coastal Commission action is likely on the draft 2013 Gaviota Coast Plan and on major pending developments along the proposed Gaviota Coastal Trail. The trails community will also request initiation of a Transportation Corridor Plan and detailed planning for key Gaviota Coastal Trail and access improvements. The timeline is goal oriented and reflects current project status.

5.4 Long Term Implementation Timeline Goals 2018-2030

The following plan for Gaviota Coastal Trail and access improvement projects is recommended during the 12-year period from 2018 to 2030. Because of the long term nature of these forecasts and the many factors affecting project timing and design, this timeline is very conceptual and is intended to help guide long term planning. Flexibility is imperative,

and this list of projects and schedule will need to be adjusted based on evolving circumstances (e.g., trail easement or open space acquisition, UPRR realignment, etc.).

5.5 Construction Cost

This *Gaviota Coastal Trail and Access Study* is intended to aid and spur more detailed planning for completion of more than 20 miles of the California Coastal Trail and associated coastal access improvements. This study is not an engineering analysis of trail design and construction costs. However, the County's unpublished Gaviota Coastal Trail Route Concept Report (Condor Environmental 2004) did provide cost estimates for large segments of the Gaviota Coastal Trail, (refer to www.sbtrails.org – Reports Folder). However, these estimates are not directly applicable to those identified in this Trail Framework since recommended improvements vary. For example, the 2004 report includes costs for a paved bike path from Bacara Resort to El Capitan and did not address the cost of coastal access improvements, including UPRR crossings or repair of closed Coastal Trail segments as addressed in the Trail Framework. This previous study projected a cost in 2004 dollars of $16.4 million to construct the Bacara Resort to El Capitan bluff-top trail and the Refugio to San Onofre Beach road shoulder trail. Although not directly applicable to Trail Framework proposed improvements, this indicates that tens of millions of dollars will be required to complete proposed improvements over the next 20 years.

5.6 Funding Sources

Funding the improvements proposed in the Trails Framework will be a major challenge for the community, and local and state agencies. While a wide range of local state and federal funding sources would be available to help fund proposed improvements, the cost and scale

of such improvements will require drawing upon a range of funding sources. State and federal grant programs can provide large grants to aid in trail construction, but often require the provision of matching funds. Each grant program also has individual requirements that trail projects must be tailored to meet. Funding for proposed Trail Framework projects would need to come from a range of sources. Key funding sources are briefly described below:

- **Federal Funding:** Federal funding sources for recreational trails include the Transportation Equity Act (TEA-21), the Recreational Trails Program, Transportation Alternatives Program and the Land and Water Conservation Fund. Additional partnerships may be available through the National Park Service for the completion of the Juan Bautista de Anza National Historic Trail.
- **State Coastal Conservancy:** The Coastal Conservancy draws upon bonds passed by State voters as a key funding source. While voters have repeatedly approved park and open space bonds, such funding is cyclical. Funding the Coastal Trail and coastal access improvements are high priorities for this agency.
- **State Funding Programs:** Key state programs include the Transportation Improvement Program, California Trails and Greenways Program, State Highways Operations and Protection Program, State Recreational Trails Fund, Environmental Enhancement and Mitigation Fund and the Bicycle Transportation Account.
- **County Sources:** County funding sources that are currently available for trail construction include the Coastal Resource Enhancement Fund (CREF) Program and Parks and Recreation Development Impact Fees fund accounts.
- **Private Foundation Grants:** The American Hiking Society, Conservation Alliance, REI and other business and local foundations are potential sources of private funding.

Gaviota Coastal Trail and Access Improvements- Funding Strategies

- Develop secure local funding sources; Allocate a percentage of Gaviota Coast lodging transient occupancy tax revenues to Coastal Trail and access improvements
- Partner with State Coastal Conservancy to develop funding packages for improvements that draw from multiple sources
- Amend Regional Transportation Improvements Plan to identify specific trail improvements and costs
- Lobby state and federal governments for trail acquisition and construction funding earmarks
- Program trail and access improvements into County Capital Improvement Plan
- Amend County Long Range Planning Five Year Work Program to address Gaviota Coastal Trail and Access improvements
- Establish working group of community organizations, State Parks and County staff to review and pursue funding opportunities for individual trail projects
- County's Gaviota Coast Plan should address trail funding mechanisms and actions
- Establish partnerships with local businesses/ foundations to support trail development and maintenance.
- Condition potential future development to not only grant easements but also construct the trail segment per required trail development standards formulated in concert with local and state agencies, and community organizations.

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7.0 List of Preparers

Project Manager / Lead Author

Ben Botkin – Environmental Planner: Mr. Botkin has over five years of professional experience, including recreational trails planning and environmental analysis along the Santa Clara River and in the Gaviota region of Los Padres National Forest. His experience also includes the Baron Ranch Trail extension on the Gaviota Coast, the California Coastal Trail on Ellwood Mesa in the City of Goleta, and the Franklin Trail in Carpinteria. He serves on the Trails Council Board of Directors.

Senior Review: These reviewers provided editing and technical peer review services.

Dan Gira – Environmental and Community Planner: Mr. Gira is a professional planer with 29 years of experience and has directed preparation of trails plans for over 100 miles of trails in the communities of Summerland, Toro Canyon, Goleta and Orcutt for Santa Barbara County as well as for the Ellwood – Devereux Coastal Open Space in City of Goleta and UCSB. Mr. Gira is the Vice President of the Trails Council.

George Amoon – Transportation and Trail Planner: Mr. **Amoon** is a professional planner with 18 years of experience, including over 10 years with Santa Barbara County Long Range Planning Division leading grant acquisition and trail planning efforts (e.g., 2004 Gaviota Coastal Trail Study) and 5 years with the City of Goleta as the project manager in the Public Works Department. He serves on the Trails Council Board of Directors.

Allyson Biskner – Parks and Trail Planner: Ms. Biskner is a recreation and trail planner with almost 20 years of experience, including leading trail planning efforts for the City of Santa Barbara and recreational planning services for the City of Carpinteria. She currently serves in the Trails Council Board of Directors.

Otis Calef – Trails Council President: Mr. Calef has 30 years of trail maintenance and construction experience. He has packed mule strings to supply Forest Service trail crews and assisted in construction of the Midland School trails system, Franklin Trail, Baron Ranch Trail and Jesusita Trail. He has performed maintenance on numerous trails throughout Santa Barbara County. Mr. Calef is the President of the Trails Council.

Kerry Kellogg – Trail and Recreation Specialist: Mr. Kellogg served as the Recreation Trail Manager for the Santa Barbara Ranger District of Los Padres National Forest and has over 30 years of recreational trail construction and maintenance experience. He serves on the Trails Council Board of Directors.

Additional Services

Mark Wilkinson – Trails Council Executive Director: Mr. Wilkinson provided assistance with public outreach, Trail Study design and Trails Study budget management and administration.

Deirdre Stites – Maps and Graphics: Ms. Stites prepared all Trails Study maps and graphics.

Janice Depew – Word Processing: Ms. Depew prepared final formatting and design, and assisted in document production.

Ray Ford – Photo Simulations and Trail Routing: Mr. Ford prepared all photo simulations and provided initial routes for segments of the Gaviota Coastal Trail.

Interns

Natalie Croak & Brett Simons – Ms. Croak and Mr. Simons assisted in over 10 days of fields surveys along the Gaviota Coast, including both trail alignment and recreational use surveys. They prepared detailed field notes and trail mapping of Gaviota coastal access locations and authored drafts of existing access descriptions. They were also responsible for substantial public outreach, including presentations, tabling at UCSB and SBCC campuses, and contacting organizations and agencies.

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