Monterey Peninsula Light Rail Project Administrative Draft Environmental Assessment/Environmental Impact Report (SCH#2009111044)

MONTEREY PENINSULA LIGHT RAIL PROJECT

First Administrative Draft Environmental Assessment/Environmental Impact Report

State Clearinghouse # 2009111044

Prepared for:

TAMC
TRANSPORTATION AGENCY FOR MONTEREY COUNTY

Transportation Agency for Monterey County

Prepared by:

PARSONS

September 2011

MONTEREY PENINSULA LIGHT RAIL PROJECT

First Administrative Draft Environmental Assessment/ Environmental Impact Report

Pursuant to:

National Environmental Policy Act (42 United States Code [USC], Section 4332), 49 USC Chapter 53, 16 USC, Section 470, 23 Code of Federal Regulations [CFR] Part 771, 23 CFR Part 450, and Executive Order 12898

and

California Environmental Quality Act (CEQA) (Public Resources Code [PRC], Section 21000, *et seq*.) and the *California CEQA Guidelines* (PRC Section 15000, *et seq*.).

by the

U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION

and

TRANSPORTATION AGENCY FOR MONTEREY COUNTY

The following persons may be contacted for additional information concerning this document:

Kristen Hoschouer
Project Manager
Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, CA 93901
(831) 775-4403

Lorraine Lerman
Federal Transit Administration, Region IX
201 Mission Street, Suite 1650
San Francisco, CA 94105-1839
(415) 744-3133

ABSTRACT:

The proposed action would restore passenger rail service (i.e., light rail transit [LRT]) between the city of Monterey and the community of Castroville, Monterey County, California. The proposed action alignment is 15.2-miles in length and would be constructed predominantly, but not exclusively, along the existing Monterey Branch Line right-of-way, and would serve the existing population, employment, and educational concentrations along the Monterey Peninsula. Twelve stations are proposed and would serve Castroville and the cities of Marina, Seaside, Sand City, and Monterey. In addition, a new maintenance facility is proposed to be constructed within the former Fort Ord military base. The proposed action is planned in two phases: Phase 1 would be constructed by 2015 and extend 10 miles, beginning in the city of Monterey (Custom House Plaza area) and extending to the northern limits of the city of Marina (Marina Green Drive area). Bus service continuing to Castroville on local roadways is also proposed; Phase 2 is planned to be constructed by 2030 and is funding dependent. This phase would extend the LRT service an additional 5.2 miles to the proposed Castroville Station (north of Blackie Road). Standard bus service would connect with the LRT stations, including between Marina and the existing intercity rail station in the city of Salinas.

The proposed action is expected to increase transit usage, reduce traffic congestion and automobile vehicle miles traveled, improve regional air quality, increase access to jobs and education facilities, provide additional transportation options for low-income populations, senior citizens and those with physical disabilities, and facilitate the construction of transit-oriented developments in and around the proposed station areas. Operational impacts would be few and of minor consequence, although some property acquisitions would be required within the proposed station areas. Other issues that are resolvable through mitigation include: geology, soils and seismicity, biological resources, hazardous materials and waste, acquisitions and displacements, cultural resources, agricultural resources, noise and vibration, safety and security, and traffic and circulation. Proposed mitigation measures include a Real Estate Acquisition Management Plan and adherence to Federal Transit Administration acquisition laws, safety and security measures at stations and park-and-ride lots, archaeological and paleontological monitoring during ground-disturbance activities, additional noise and vibration monitoring, a Traffic Control Plan, and implementation of construction best management practices.

SUMMARY

The *Monterey Peninsula Light Rail Project* (i.e., Proposed Action; Locally Preferred Alternative [LPA]) is a proposed 15.2-mile-long transit project designed to restore passenger rail service (i.e., light rail transit [LRT]) between the city of Monterey and the unincorporated Monterey County community of Castroville along Monterey Bay, California. Figure S-1 shows the project vicinity and proposed action alignment starting/ending points and station locations. The proposed action would be constructed predominantly, but not exclusively, along the existing Monterey Branch Line (MBL) right-of-way (ROW) from Custom House Plaza in the city of Monterey northeasterly to Blackie Road in Castroville. As shown on Figure S-2, the proposed action alignment would include 12 stations (including associated parking at selected stations) serving the existing population, employment, and educational concentrations along the Monterey Peninsula. As currently proposed, LRT service would serve one Castroville station at Blackie Road. Five stops are proposed to serve the city of Marina at Marina Green Drive, Beach Road, Reservation Road, Palm Avenue and Eighth Street. Three stations are proposed to serve the city of Seaside and city of Sand City at First Street, Playa Avenue, and Contra Costa Street. In the city of Monterey, three stations are proposed at Casa Verde Way, U.S. Naval Postgraduate School (Sloat Avenue), and Custom House Plaza. A new maintenance facility for inspection and servicing of trains is proposed; the Transportation Agency for Monterey County (TAMC) is considering three optional sites located either immediately west or east of Highway 1 on lands formerly associated with the Fort Ord military base and currently owned by TAMC and Monterey-Salinas Transit (MST).

The proposed action would be implemented in two phases. In the first phase, existing MBL railroad track would be restored or constructed for a distance of 10 miles between downtown Monterey and the city of Marina, with bus service continuing to Castroville on local roadways. Phase 1 service is anticipated to be operational by 2015. Phase 2 would extend LRT service an additional 5.2 miles to the Castroville rail station north of Blackie Road. Standard bus service would connect with the LRT stations, including between Marina and the intercity rail station in the city of Salinas. In addition, connections could be made with planned future commuter rail (i.e., Commuter Rail Extension to Monterey County proposed by TAMC) and National Railroad Passenger Corporation's (Amtrak) services. Phase 2 is dependent upon securing additional funding and could be built by 2030.

The Federal Transit Administration (FTA) is the federal lead agency exercising authority and responsibility for the proposed action and the Environmental Assessment (EA) portion of this document. TAMC is the lead agency for the proposed action and the Environmental Impact Report portion of this document. It is also the grantee agency and owner of the proposed action. The FTA and TAMC will use this EA/EIR to determine if the proposed action would cause adverse environmental effects. Since the EA/EIR is a public document, the FTA and TAMC are required to provide notice of its availability and involve other federal, state, and local governments and other interested parties. As such, comments received on the EA/EIR may require its revision. If it is determined that the proposed action would not result in adverse impacts or they can be mitigated, then a Finding of No Significant Impact (FONSI) or a mitigated FONSI will be issued by the FTA. Issuance of the FONSI concludes the National Environmental Policy Act (NEPA) environmental process. Alternatively, if impacts cannot be mitigated then an Environmental Impact Statement would be prepared for the proposed action. If significant impacts are identified which cannot be mitigated for the EIR, TAMC will prepare Findings and a Statement of Overriding Consideration for the proposed action in compliance with the California Environmental Quality Act (CEQA).

Figure S-1: Proposed Action Vicinity Map

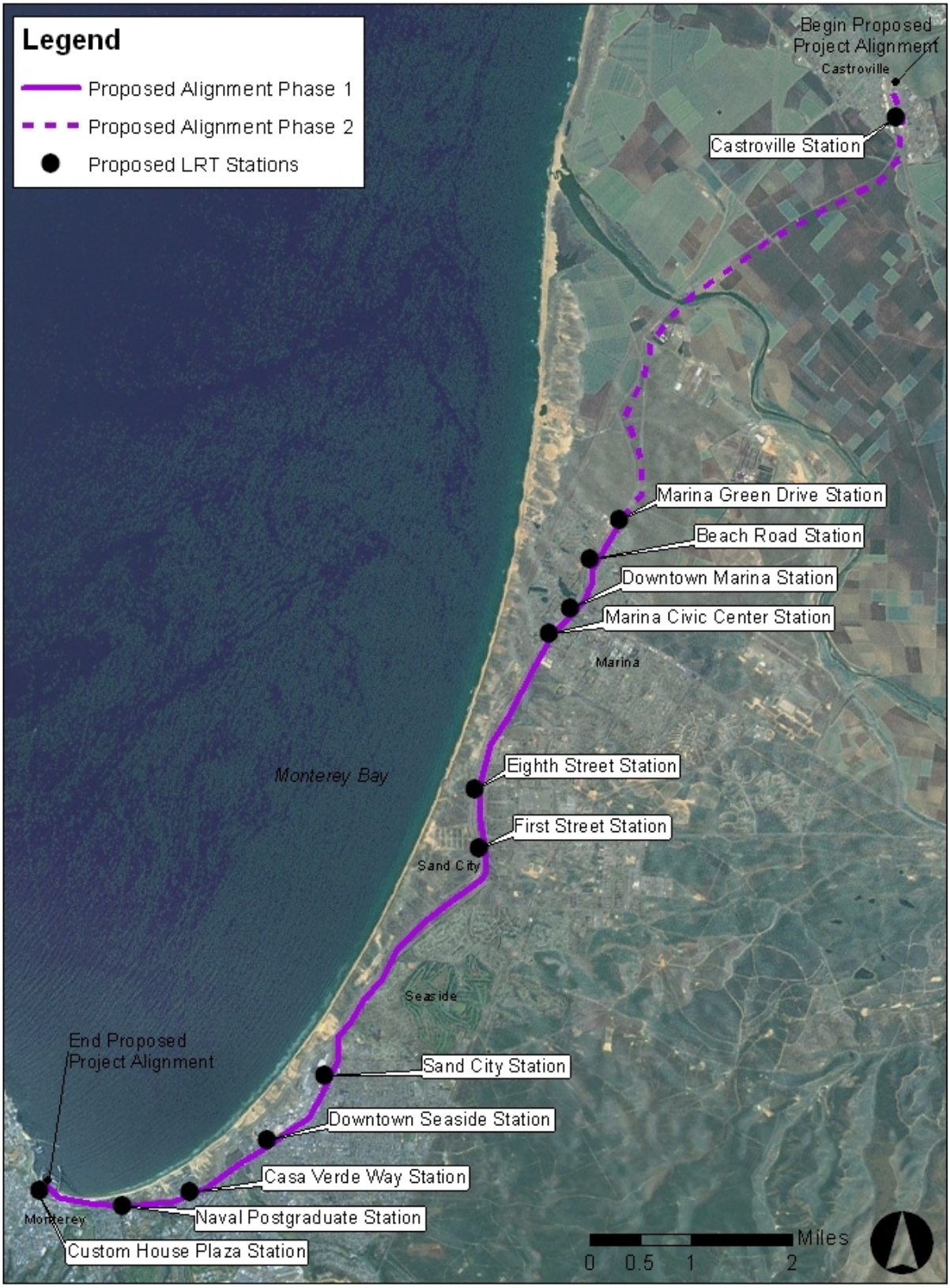


Figure S-2: Proposed Action Location Map

S.1 Background

Constructed by Southern Pacific Railroad Company (SPRR) in 1879, the MBL originally extended 19.6 miles from Castroville to Lake Majella in Pacific Grove. Southern Pacific operated both freight and passenger rail service on the Del Monte Express between the Monterey Peninsula and San Francisco from 1881 to 1971. In 1978, the branch line service was discontinued south of Seaside. In 1982, using State Senate Bill 620 funds the cities of Seaside and Monterey purchased the SPRR ROW between Contra Costa Street in Seaside and downtown Monterey. North of Contra Costa Street, SPRR continued operation of freight rail service through the 1990s. TAMC purchased this portion of the line from the SPRR effective September 12, 2003.

The origin of the proposed action dates to 1990 with the passage of Proposition 116, a California voter initiative which identified Monterey County as a recipient of rail bond capital funds for passenger rail projects. Also in 1990, Governor Deukmejian approved Assembly Bill No. 222, which appropriated $100,000 for a rail passenger feasibility study for the Gilroy–Monterey portion of the San Francisco–Monterey rail corridor. In September 1993, Passenger Rail Feasibility Study No. 05D423 was finalized for the California Department of Transportation (Caltrans), District 5. It addressed the feasibility of passenger rail service between the cities of San Francisco, Monterey, Salinas, and Hollister. The study found a promising market for work trips using passenger rail service between the city of Salinas and Silicon Valley (i.e., Santa Clara Valley area), and indicated that service to Salinas would be the most feasible short-term corridor due to the presence of existing rail facilities. A daily schedule of two northbound trains departing from Salinas and two southbound trains terminating in Salinas was recommended. Subsequent to this study, Monterey County officials apportioned the Proposition 116 bond funding between the Monterey Peninsula and U.S. Highway 101 Corridor travel markets.

Additional intra- and inter-county studies undertaken within the proposed action corridor included the following:

Monterey Peninsula Corridor Element (Intra-County Travel)

- Passenger Rail Feasibility Study, 1993
- San Francisco–Monterey Intercity Rail Service Implementation Plan, 1998
- Around the Bay Rail Study, 1998
- Major Investment Study (MIS) and Preliminary Design, 1999-2003
- Monterey Peninsula Fixed Guideway Alternatives Analysis, 2004

U.S. 101 Corridor Element (Inter-County Travel)

- Commuter Rail Extension to Monterey County, 2002

S.2 Purpose and Need

Current and future population and employment conditions within the proposed action corridor both establish a need for restoration of passenger rail service and also provide the market to ensure the success of that service.

The Association of Monterey Bay Area Governments (AMBAG) indicates that Monterey County's population is anticipated to increase from 422,632 persons (2005) to 530,362 persons by 2035 or an increase of 25 percent. Similarly, employment within Monterey County is expected to experience growth of 21 percent (42,350 new jobs or 235,460 total jobs). The existing distribution of both households and jobs is focused along Del Monte Avenue, Del Monte Boulevard, and Highway 1, which

are roughly parallel to the proposed action corridor. Job and housing concentrations are focused in and near city of Monterey downtown area, followed by concentrations in the cities of Sand City, Seaside, and Marina. It should be noted that a number of approved commercial and residential development projects would be located adjacent to or within close proximity to the proposed station areas and would be anticipated to contribute to the viability of the proposed action. North of the city of Marina (Phase 2 area) and extending to Castroville, households, jobs, or development are limited and principally focused on farming and agricultural operations. Additional areas of population and employment are located in the city of Salinas.

Information derived from the 2000 U.S. Census Bureau indicates that considerable concentrations of low-income households on the Monterey Peninsula (e.g., cities of Monterey, Seaside, Sand City, and Marina and the unincorporated community of Castroville) are located in areas which could be directly served by the proposed LRT service. In addition, the proposed action corridor contains an environmental justice population with minority populations exceeding 50 percent and low-income populations exceeding 20 percent. These statistics are generally strong indicators that area households do not have an automobile.

As noted above, the proposed action alignment has a strong current and projected future high demand for transit that needs to be accommodated. By providing high quality, reliable, comfortable, and secure LRT service, the proposed action would contribute to a healthy rider base by increasing access to jobs, education, and service markets within Monterey County and potentially within the San Francisco Bay Area (provided TAMC's Commuter Rail Extension to Monterey County is operational by 2015).

Monterey County is considered a housing rich and jobs poor area. This jobs/housing imbalance generates an intra- and inter-county regional commuter traffic pattern, leading to local and regional highway congestion and poor air quality. During the morning hours, intra-county commuters travel to jobs in the Monterey Peninsula or in the city of Salinas, while inter-county commuters travel north to Santa Cruz and Santa Clara counties and the San Francisco Bay Area and then south in the late afternoon to their residences. However, available public transportation for inter-county commuters is limited or do not operate during normal northbound commute times. As such, Highways 1 and 101 currently provide the most viable route for inter-county commuters which depend on their private automobiles to access employment centers. Both of these highway facilities are projected to experience unstable or jammed flow by 2020. Moreover, as these roadways experience increased congestion, it is anticipated that commuters will seek alternative routes, including those within adjacent communities.

The primary purpose of the proposed action is to design a system that reduces travel times and improves accessibility so as to provide a transit service competitive with the private automobile. The reduction would be accomplished through investment in an exclusive guideway, off-vehicle fare collection, multi-door boarding, and more frequent service (15-minute weekday headways versus 30-minute headways on MST Route 20 between the cities of Monterey and Marina). Deteriorating traffic operations resulting from the anticipated population growth in the proposed action corridor are forecast to increase weekday travel times on the approximately 10-mile Route 20 alignment between Monterey and Marina from 33 minutes today (one-way) to 36 minutes in 2030. This is an average travel speed in 2030 of 16.7 miles per hour (mph). The proposed action would provide end-to-end service along the 10-mile Phase 1 alignment between Monterey and Marina in 26 minutes, which is an average travel speed of about 23.1 mph. This service improvement is forecast to reduce travel times through the proposed action corridor by approximately 10 minutes per transit trip, which is equivalent to more than 7,667 annual hours of travel time savings. The proposed action is intended to avoid or minimize the pitfalls associated with current standard bus travel along the Route 20 corridor. Wide variations in travel times for standard bus systems, especially during peak-hour traffic conditions, result in scheduling

problems, loading inefficiencies, and longer than desirable wait times for passengers transferring between routes.

Investing in transit facilities and equipment would help transit to capture a larger share of the travel market, reducing reliance on single-occupancy vehicles, improving the efficiency of the local roadway network, reducing the need for roadway expansion, and improving air quality.

Recognizing the importance of inter- and intra-county mobility and access to employment, education, and activity centers, TAMC proposes a transportation option that is designed to achieve the following objectives:

- Improve transit service by expanding transit mode opportunities
- Provide branded rapid transit service
- Improve transit in high ridership areas
- Improve mobility of transit-dependent populations
- Improve ridership by providing a viable and competitive transit option
- Reduce auto use and congestion
- Better serve major travel markets
- Support local and regional planning goals to organize development along transit corridors and around transit stations
- Contribute to Transit-Oriented Development (TOD)

S.3 Legislative Authority

California Government Code Sections 67930 and 67931 provides TAMC with a number of powers related to the implementation of rail service including its ability to contract for the operation of these services in Monterey County and for connections with rail service in adjacent and neighboring counties and cities. In addition, it is also has the power of eminent domain and the power to preserve, acquire, construct, or improve any of the following:

- Rights-of-way for rail purposes
- Rail terminals and stations
- Rolling stock, including locomotives, passenger cars, and related rail equipment and facilities
- Grade separation and other improvements along rail rights-of-way for rail purposes
- Rail maintenance facilities
- Other capital facilities deemed necessary for a rail service, including soundwalls

In the case of the proposed action, TAMC, as the local lead agency, grantee agency, owner of the project, and the designated rail authority for Monterey County intends to contract with MST to operate and maintain the system.

S.4 Alternatives

No Action/No-Build Alternative

Under the No Action/No-Build Alternative local bus ridership along the proposed action corridor is expected to increase, as future infill and regional development projects are approved. As such, MST bus ridership along Fremont Boulevard, Del Monte Avenue, and other parallel arterials within the proposed action corridor would continue to grow (15 percent by 2015 and an additional 19 percent between 2015 and 2035). This Alternative also assumes that MST's proposed 6.75-mile Bus Rapid Transit (BRT) project would be in place by 2012. This service is proposed to operate between the cities of Sand City and Monterey, following Fremont Boulevard and then terminating at the Monterey Bay Aquarium. It is also assumed that existing intra-county bus service between the cities of Monterey and Salinas on MST's Line 20 (Monterey-Salinas via Marina) would be maintained. Existing inter-county transit service options are assumed to include MST's Line 55 (Monterey-San Jose Express) and Amtrak's Coast Starlight (serving Salinas and San Jose/San Francisco areas). Passengers seeking to access areas north of San Jose could transfer from the San Jose Diridon station and utilize Caltrain (San Francisco area), Altamont Commuter Express (Stockton area), or Capital Corridor (Sacramento area) services.

It should be noted that under the No Action/No-Build Alternative construction of rail transit (including proposed stations, associated amenities, or the new maintenance facility) along the proposed action corridor would not be built. Commuters would continue to be dependent on the use of the private automobile, MST bus service, or Amtrak to access intra- and inter-county destinations along the Monterey Peninsula.

Locally Preferred Alternative (Proposed Action)

Mainline and Special Track Improvements

Except for approximately two miles of track across the former Fort Ord military base area, the existing MBL track is unusable. New ballasted track construction, with 115 pound, continuously-welded rail is needed. Passing sidings would be constructed at locations to be determined during the design stage to allow for two-way train operations. As conceptually conceived, to maintain optimal 10-minute headways, passing tracks would be located from north to south as follows: south of Tembladero Slough; Lapis Sand Plant access road; Reservation Road Station; between Eighth Street and First Street Stations; Monterey Road; Roberts Avenue; and La Playa Station. (TAMC, 2010)

Special trackwork (turnouts, diamond crossings, and derails) would be constructed along the proposed action corridor. Turnouts would be constructed at passing sidings and junctions of the MBL with the UPRR Coast Mainline in Castroville (if provided).

The proposed action would replace the existing five timber trestle structures over drainage courses between Castroville and the Salinas River. As noted in Table S-1, these structures would largely be replaced with culverts or, in the case of the Salinas River Bridge, rehabilitation and eventual reconstruction of the structure is proposed.

Table S-1: Trestles and Bridge Structures Affected by the Proposed Action

Mile Post	Structure	Description	Comments
111.05	Trembladero Slough	150-foot ten span timber trestle	Structure to be replaced using pre-stressed, precast concrete girders supported on driven pile bents
111.93	Alisal Slough	45-foot 3-span timber trestle	Structure to be replaced with culvert crossing
112.54	Drainage channel	120-foot 8-span timber trestle	Structure to be replaced with culvert crossing
112.80	Floodplain equalizer	225-foot 15-span timber trestle	Structure to be replaced with culvert crossing
113.04	Floodplain equalizer	90-foot 6-span timber trestle	Structure to be replaced with culvert crossing
113.50	Salinas River	715-foot 5-span steel through truss	Structure to be rehabilitated

Source: Parsons, 2010.

Street and Traffic Signal Improvements

The existing rail crossing surfaces are in poor condition and need to be replaced. Each rail crossing would typically be constructed with a high durability pre-cast concrete crossing surface. Signals at adjacent intersections would be preempted to prevent waiting traffic from blocking the tracks. In most cases this would involve adding preemption to existing traffic signals. New signals with preemption are proposed to be constructed at Roberts Avenue in the city of Monterey.

Track intersections with cross streets would be controlled by gates for safety. The existing grade crossing warning devices (GCWDs) need to be replaced with new equipment due to obsolescence. GCWDs required for the proposed action are summarized in Chapter 2, Project Description/Alternatives Considered (see Table 2.1-2).

Field review of the Highway 1 interchange at Fremont Boulevard indicates that local circulation improvements are warranted under both the No Action/No-Build Alternative and proposed action conditions. TAMC, along with the cities of Seaside and Sand City, are working to secure funding for various improvements at this interchange. Figure S-3 illustrates a conceptual plan for these improvements, which are included in the proposed action and preliminarily described as follows:

- Reconstruct the northbound Highway 1 on-ramp from Fremont Boulevard by removing it from the Fremont Boulevard/Monterey Road intersection. This would require the closure of the east leg of the intersection (Monterey Road), which would be realigned onto an existing access road leading to Seaside High School and Noche Buena Avenue or a frontage road paralleling Fremont Boulevard which connects to Del Monte Boulevard. Access to the Highway 1 on-ramp from the west leg of Monterey Road would be preserved via a minor realignment and widening of the northbound Highway 1 on-ramp.

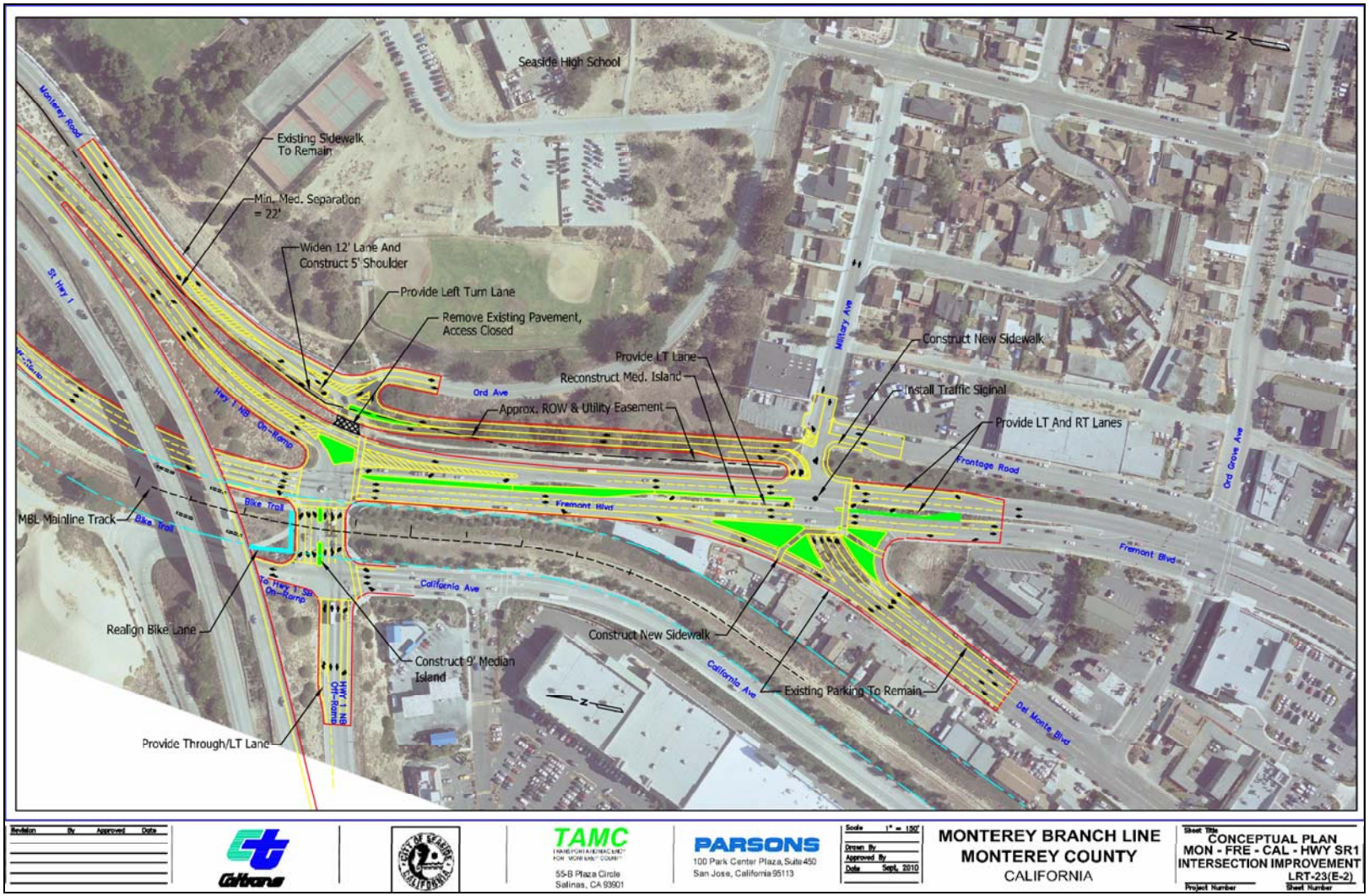


Figure S-3: Highway 1/Fremont Boulevard Interchange Proposed Local Circulation Improvements

- Reconfigure the existing Fremont Boulevard/Del Monte Boulevard–Military Avenue intersection, which would allow unrestricted movement between all four legs of the intersection. (Currently, no left turns are allowed on Fremont Boulevard at this intersection; Military Avenue is restricted to only right turns in and out, and no traffic is permitted to travel between Del Monte Boulevard and Military Avenue.) The intersection would also be signalized. Alternatively, extend Del Monte Boulevard to Old Monterey Road via a frontage road paralleling Fremont Boulevard.

  Construct a new Monterey Road interchange, just to the north of the Fremont Boulevard interchange. This interchange would provide the freeway connection to Monterey Road that would be severed by the Fremont Boulevard interchange reconstruction. As part of this interchange, a new connector road would be extended between the interchange and the existing Monterey Road, approximately one mile north of Fremont Boulevard.

- Add a new northbound auxiliary lane to Highway 1 between the Fremont Boulevard and Monterey Road interchanges.

Monterey Peninsula Recreational Trail

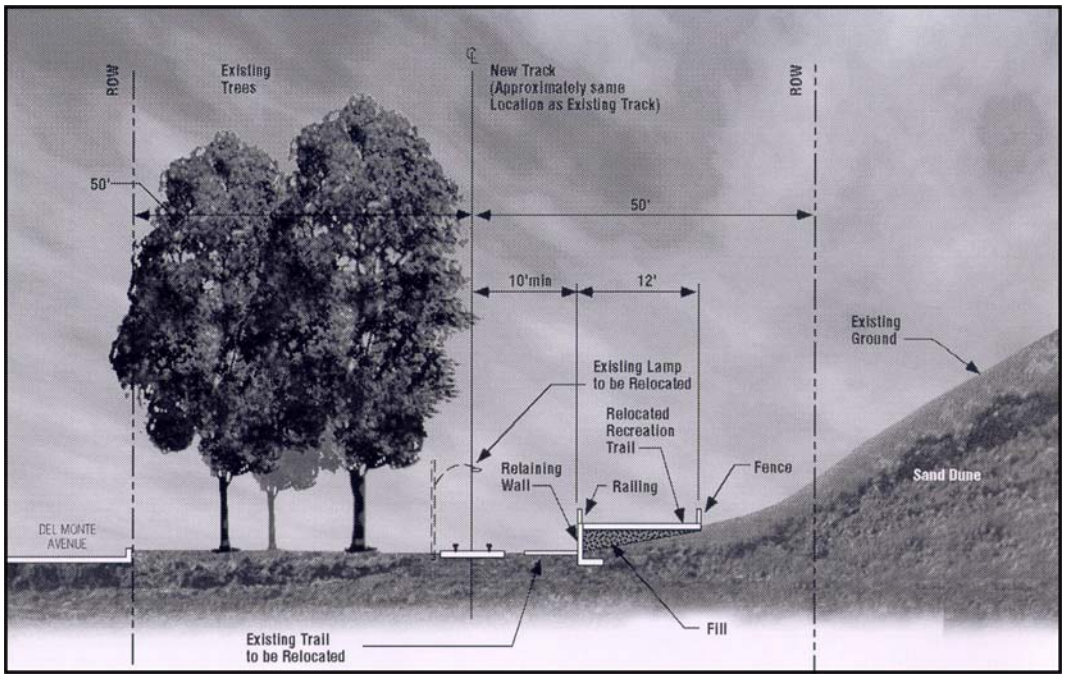
The Monterey Peninsula Recreational Trail extends 18 miles beginning in the city of Pacific Grove and terminating in the Castroville area. The trail parallels the former MBL ROW within the Phase 1 portion of the proposed action. North of the city of Marina (Phase 2 portion) the trail runs roughly parallel to the MBL ROW before terminating at Lapis Road. This asphalt-surface trail is wheel chair-accessible and used for walking, jogging, bicycling and skating. As currently proposed, the trail would generally be retained at the same level as the tracks. At two locations, one just west of the Highway 1 overpass and the other just west of Palo Verde Avenue, the trail would be elevated to avoid excavation into the adjacent sand dunes on the north side of the right-of-way. See Figure S-4 for illustrative cross sections of the track restoration and elevated recreational trail.

The recreational trail would be reconstructed at various points where its current location conflicts with the proposed action alignment, such as in the city of Monterey between Roberts and Del Monte Avenues. The trail would also be relocated to minimize grade crossings of the track. Pedestrian grade crossing warning signals would be installed at all the remaining crossings.

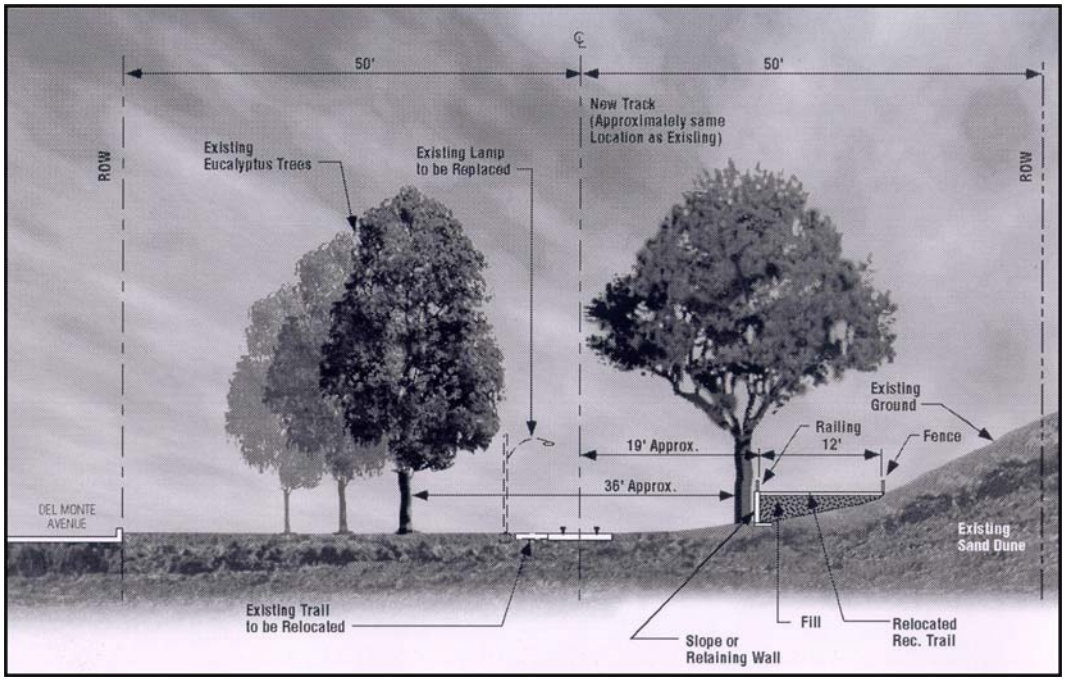
Between Canyon Del Rey Boulevard and Roberts Avenue in the city of Monterey, the existing trail would be relocated to cross the Roberts Lake estuary on a new pedestrian bridge over the estuary south of the railroad, and the existing concrete bridge would be used for the new railroad track. The trail would cross to the north side of the railroad track at Roberts Avenue, where a new signalized grade crossing is proposed. From Roberts Avenue to the west end of the recreation trail at Camino Estero, the trail would be reconstructed where necessary so that it remains on the north side of the new track.

There are a few places where access paths to the recreation trail would cross the proposed action alignment. At Casa Verde Way in the city of Monterey, two paths, one on each side of the street, are proposed to be closed so that pedestrian traffic would be directed to the sidewalks on Casa Verde Way, which would be controlled by a grade crossing signal and gates. At Sloat Avenue, there are two forks to the pedestrian path from Del Monte Avenue. One of these forks would be closed to minimize the number of grade crossings. Figure S-5 shows a photographic rendering of the track next to the recreational trail.

West of Casa Verde Avenue, sufficient space for the track to fit between the back of the bus stop sidewalk and the recreation trail exists. Figure S-6 shows a photographic rendering of the track next to the recreational trail at this location.

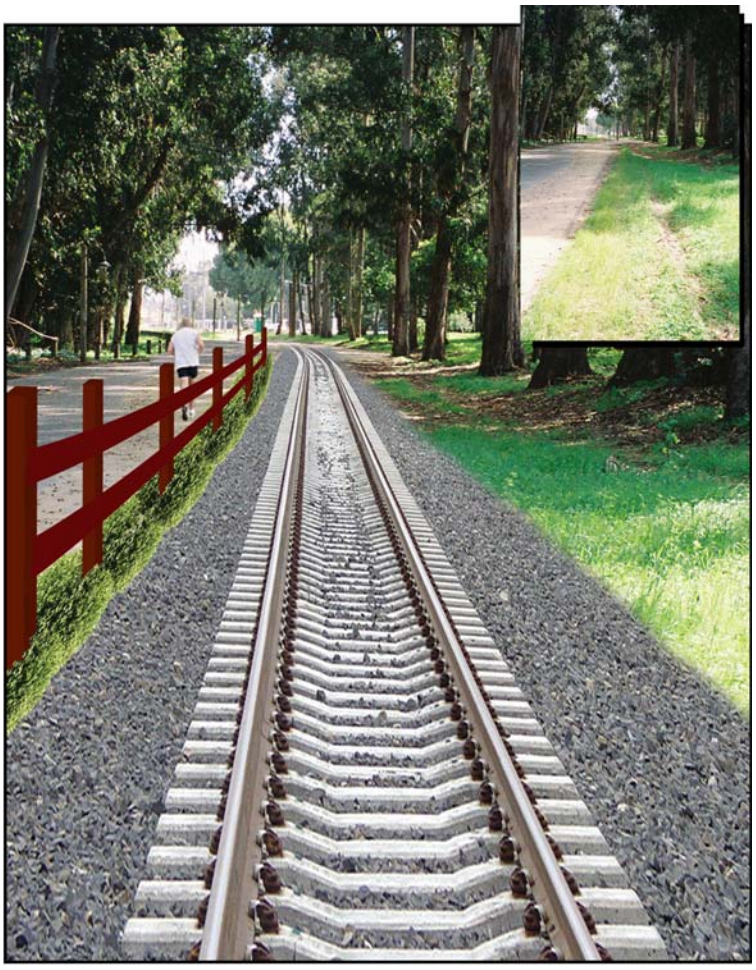


Typical Section Opposite Palo Verde Avenue
(approximately 300 yards west of Casa Verde Avenue)



Typical Section (approximately 300 yards west of Casa Verde Avenue)

Figure S-4: Track Restoration and Elevated Recreational Trail Cross Sections



Source: Parsons, 2011

Figure S-5: Before and After Photo Simulation of the Monterey Peninsula Recreational Trail at Sloat Avenue (easterly view)

Source: Parsons, 2011

Figure S-6: Before and After Photo Simulation of the Monterey Peninsula Recreational Trail at Casa Verde (westerly view)

New Stations and Associated Amenities

As noted in Table S-2, a total of 12 stations are proposed along the proposed action alignment and would be built within the unincorporated Monterey County community of Castroville and the cities of Marina, Sand City, Seaside, and Monterey. Figures S-7 through S-18 of the Project Description/Alternatives Considered illustrates the approximate location of proposed LRT route and stations. Figure S-19 and Figure S-20 show typical station plan and profile views for both side platform and center platform station arrangements.

Table S-2: Proposed Action Light Rail Transit Stations

Station Name	Affected Jurisdiction	Distance to Next Station (miles)	Station Characteristics and Parking
Custom House Plaza	City of Monterey	0.55	Extensive parking exists at site, to be replaced by 26-space lot plus bus accommodations
Naval Postgraduate (Sloat Avenue)	City of Monterey	0.77	Parking lot for 84 spaces planned
Casa Verde Way	City of Monterey	0.89	Parking lot for 171 spaces planned
Downtown Seaside (Contra Costa Street/West Broadway)	City of Seaside	0.87	Area around station to be redeveloped (by others); potential for shared parking
Sand City (Playa Avenue)	City of Sand City	2.90	Park-and-ride lot planned for this site
First Street	County of Monterey	0.58	Stairs and elevator required; for access; no parking planned
Eighth Street	City of Marina and County of Monterey	1.70	Stairs and elevator required; Next to site planned for future Transit-oriented development; 144 space park-and-ride lot proposed
Marina Civic Center (Palm Avenue)	City of Marina	0.37	Pick-up and drop-off area proposed with 37 stalls
Downtown Marina (Reservation Road)	City of Marina	0.57	Pick-up and drop-off area proposed with 8 stalls
Beach Road	City of Marina	0.54	Pick-up and drop-off area proposed
Marina Green Drive	City of Marina	5.32	Park-and-ride lot planned for this site
Blackie Road	Castroville (unincorporated)	--	North of SR 156; proposed future inter-modal transit station; extensive parking planned by others

Source: Parsons, 2010.

Figure S-7: Proposed Station Location—Blackie Road, Castroville (Southerly View)

Figure S-8: Proposed Station Location—Marina Green Drive, Marina (Northerly View)

Figure S-9: Proposed Station Location—Beach Road, Marina (Northerly View)

Figure S-10: Proposed Station Location—Reservation Road, Marina (Northerly View)

Figure S-11: Proposed Station Location—Palm Avenue, Marina (Northerly View)

Figure S-12: Proposed Station Location—Eighth Street, Marina (Northerly View)

Figure S-13: Proposed Station Location—First Street, Seaside (Southerly View)

Figure S-14: Proposed Station Location—Playa Avenue, Sand City (Southerly View)

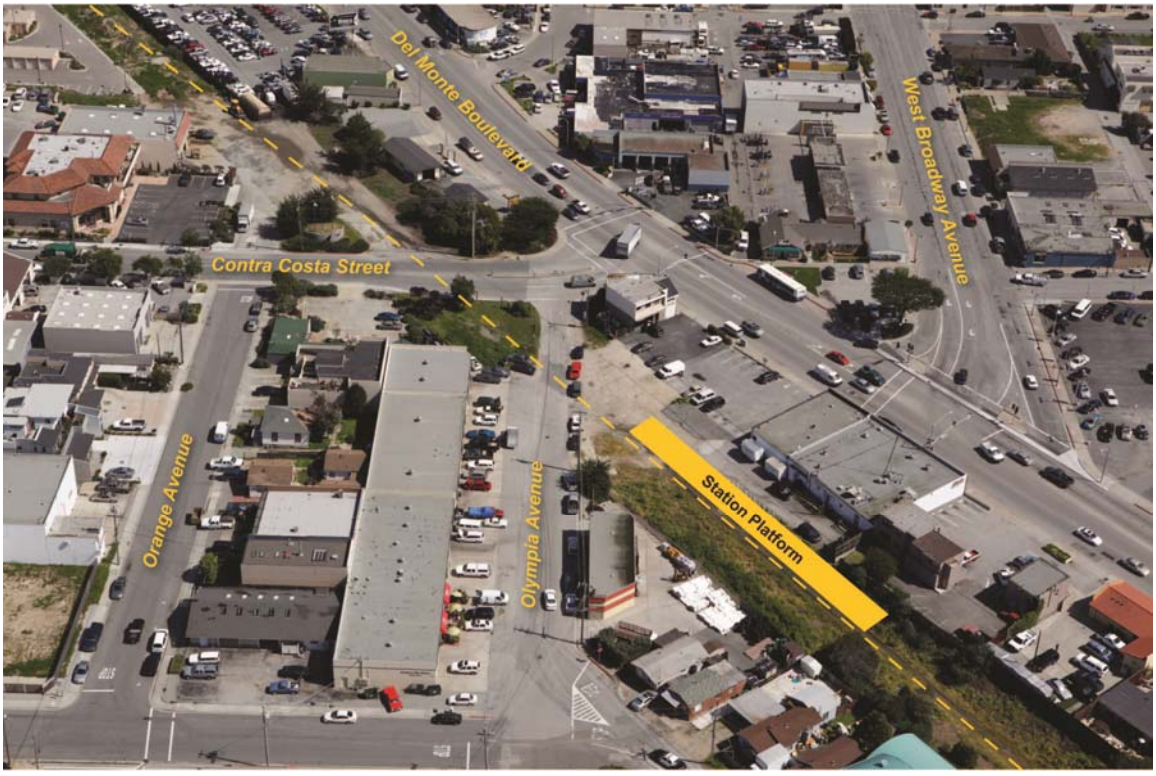


Figure S-15: Proposed Station Location—Contra Costa Street, Seaside (Northerly View)

Figure S-16: Proposed Station Location—Casa Verde Way, Monterey

Figure S-17: Proposed Station Location—Naval Postgraduate School (Sloat Avenue), Monterey (View toward North)

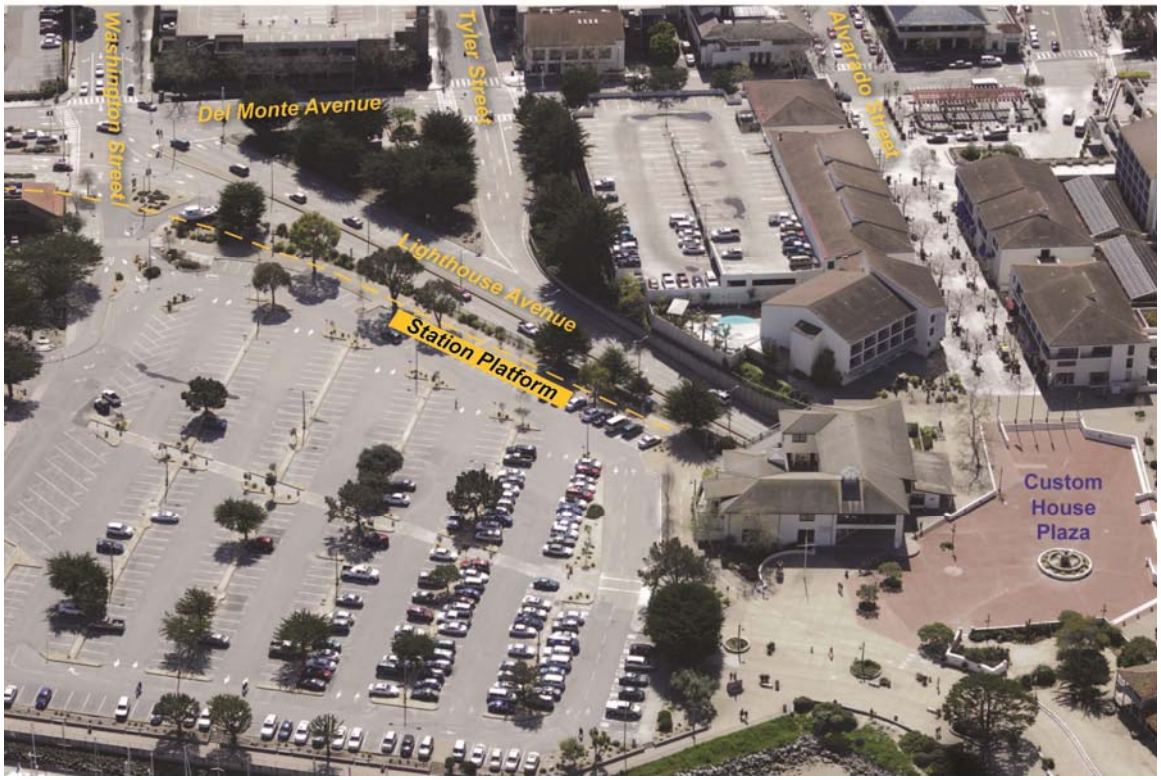


Figure S-18: Proposed Station Location—Custom House Plaza, Monterey (View toward South)

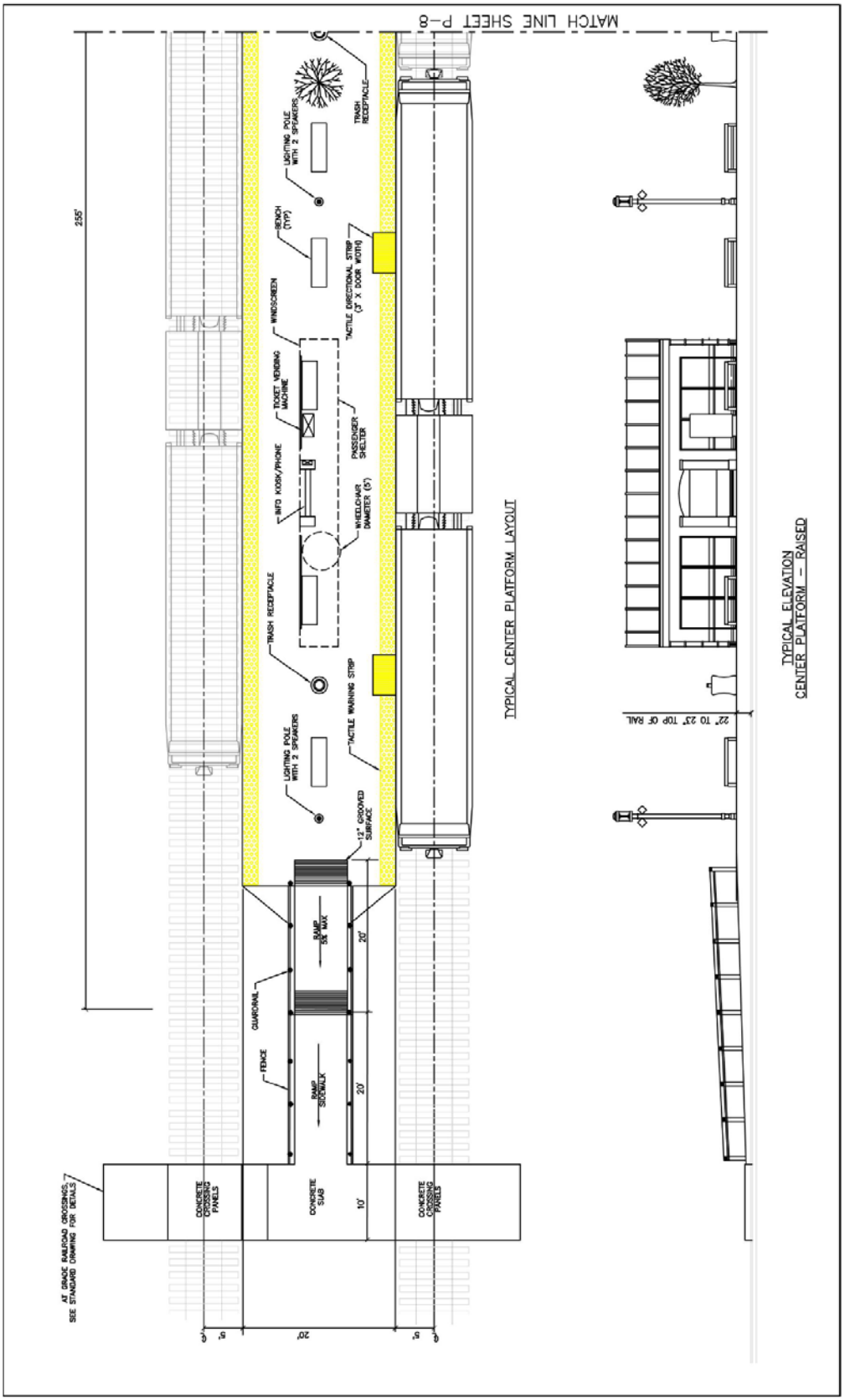


Figure S-19: Typical Light Rail Transit Station Layouts (Center Platform Configuration)

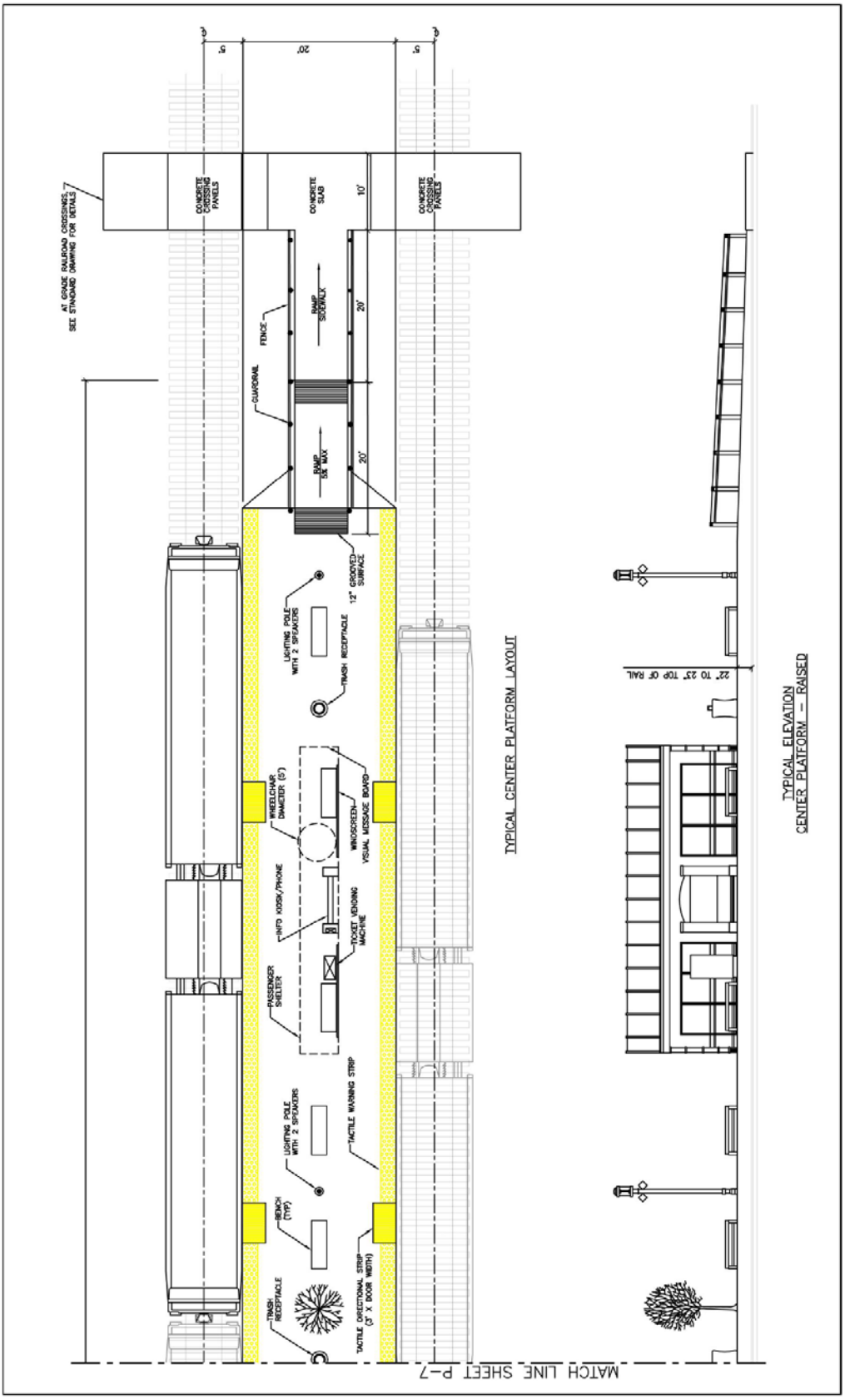


Figure S-19: (cont.)
(Center Platform Configuration)

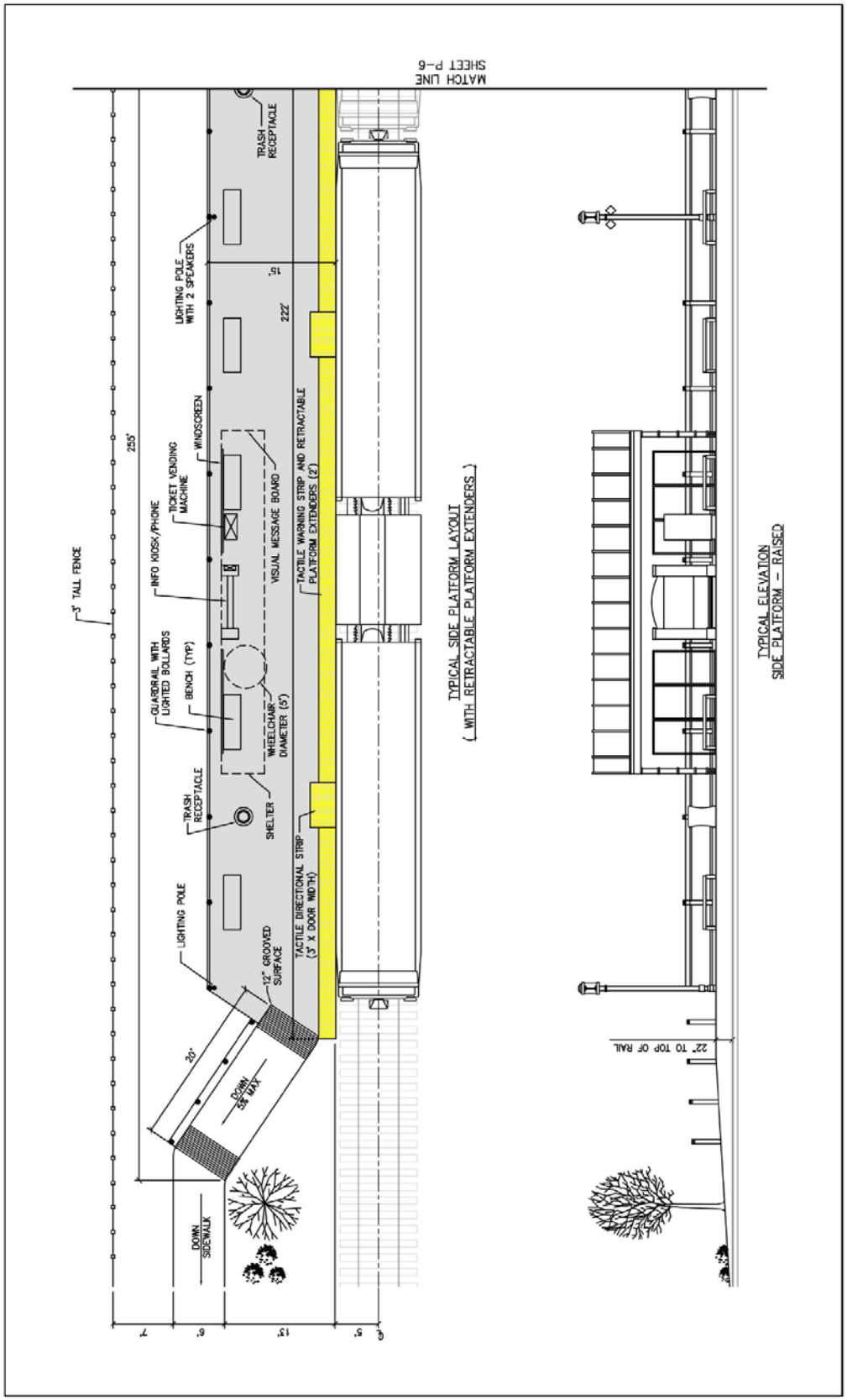


Figure S-20: Typical Light Rail Transit Station Layouts (Side Platform Configuration)

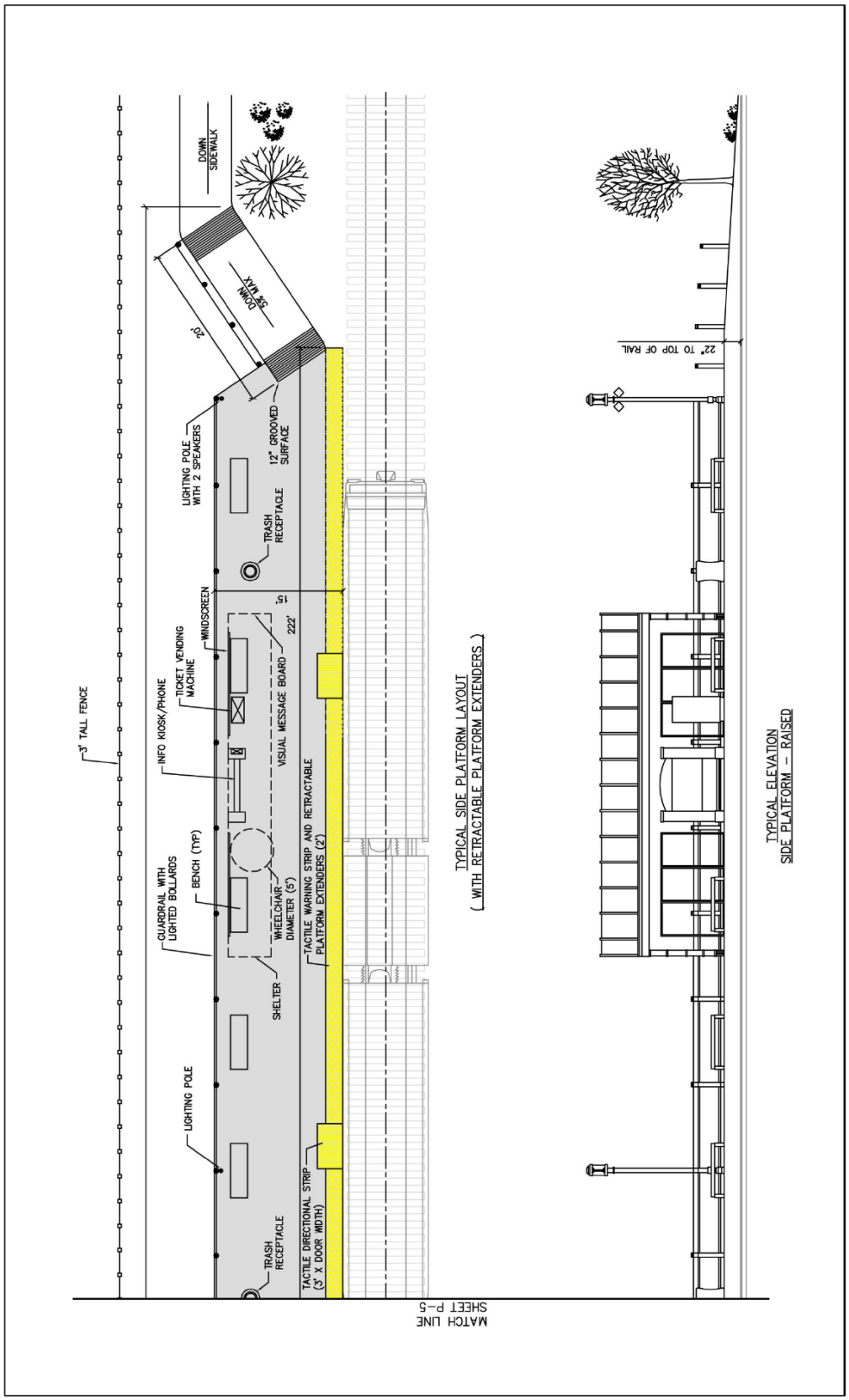


Figure S-20: (cont.)
(Side Platform Configuration)

As shown in Figure S-19 and Figure S-20 each station would consist of a low-level platform with passenger amenities including benches, information kiosk/phone, night lighting, and trash receptacles. The proposed stations would be designed to comply with the Americans with Disabilities Act. A two-foot wide tactile strip would be installed along the guideway facing the platform edge. One stand alone ticket vending machine would be installed on each platform. At the two proposed stations within the former Fort Ord military base at Eighth and First Streets, vertical access facilities (staircase and elevator) are assumed for connection with adjacent streets.

The proposed action would be designed to be bicycle and pedestrian friendly, with bicycle lockers planned at each of the proposed stations. LRT station designs would include several features to provide a safe environment for both bicyclists and pedestrians accessing the facilities. These include, but are not limited to, the following: concrete train crossing panels; crosswalks; decorative paver walkways; safety fencing where appropriate; automatic pedestrian sidewalk gates; wider sidewalks; and night lighting.

New Maintenance Facility

A new maintenance facility for service and inspection of trains is included as part of the proposed action. As shown in Figure S-21 there are three options under consideration: one site is located on the coastal side of Highway 1 and parallel to the proposed action alignment; and two sites located on the inland side of Highway 1 at the former Fort Ord military base quartermaster warehouses site. All of the options would have identical components, including an expansive service bay and rooms for parts and body repair as well as various storage purposes and employee parking (50 spaces).

Fleet Composition

TAMC would purchase six hybrid diesel electric or diesel multiple unit (DMU), non-Federal Railroad Administration (FRA)-compliant[1] light rail vehicles. MST would operate four vehicles at a time during peak Phase 1 service (MST would also likely operate the vehicles during Phase 2, provided funding for construction of this portion of the proposed action corridor is secured). The final decision regarding vehicle make and model is pending and will be made by the TAMC Board of Directors and in consultation with the FTA.

Acquisitions and Displacements

The proposed action would largely be built within the existing MBL ROW. Specific property acquisitions would be identified during final engineering although a number of affected properties have already been preliminarily identified. As noted in Table S-3, a number of light industrial and commercial properties would need to be acquired, but no residential properties have been identified as needed.

TAMC would be required to adhere to the provisions of the federal *Uniform Relocation Assistance and Real Property Acquisition Policies Act* and the *California Relocation Assistance Act* in addressing acquisitions and displacements and will be required to prepare a Real Estate Acquisition Management Plan.

[1] Non-FRA-compliant vehicles are lighter public transit vehicles that do not meet current Federal Railroad Administration (FRA) crashworthiness regulations.

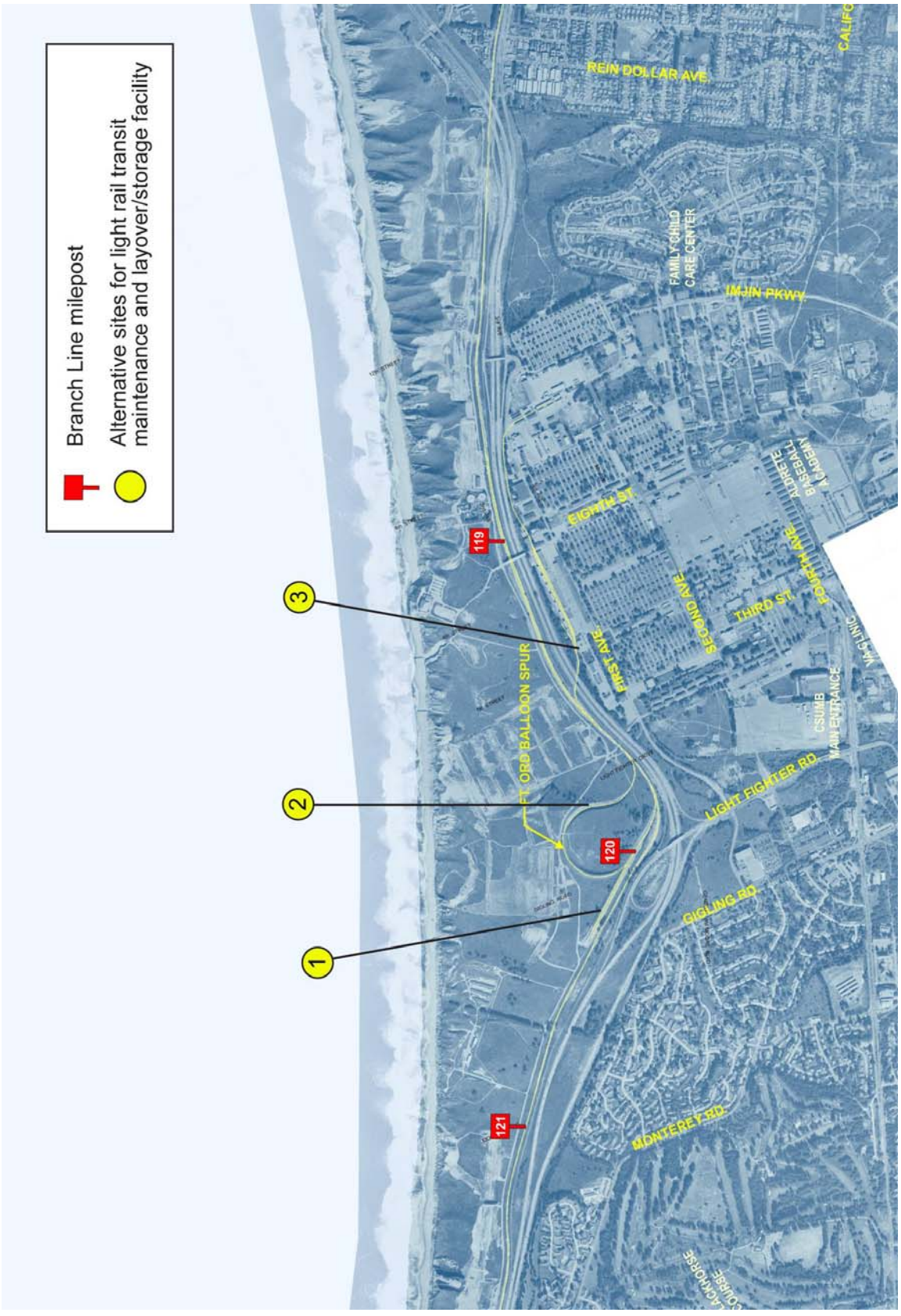


Figure S-21: Proposed Maintenance Facility Location Options

Table S-3: Potential Property Acquisitions

Local Jurisdiction	Address of Property	Assessor's Parcel Number (APN)	Take	Property (square feet [sq.ft.])	Current Land Use	Approx. Land Area Required (sq. ft.)	Purpose of Acquisition
Monterey	2101 Del Monte Avenue	011467002	Full	64,861	Industrial (vacant)	30,558	Parking Lot
		011441023	Full	Included above	Commercial, Industrial	Included above	
		011441024		Included above		Included above	
	1099 Del Monte Avenue	001801003	Full	15,198	Industrial	3,420	ROW
Seaside	1965 Del Monte Boulevard	011101015	Full	8,712	Public (vacant)	8,712	Parking Lot
		011101017	Full	9,875	Commercial	4,250	
	2081 Fremont Boulevard	011022014	Full	7,248	Commercial (vacant)	7,248	ROW
	2105 Noche Buena Street	011511003	Partial	2,516,700	Public	26,373	ROW

Source: Parsons, 2010.

S.5 Operational Assumptions

Phase 1 would serve 11 of the proposed 12 stations (Custom House Plaza to Marina Green Drive). At project start-up, 15 to 30 minute headways (i.e., frequency between consecutive trains) would be offered Monday through Saturday from 6:15 a.m. to 7:15 p.m., with 60 minute headways running to midnight. Sunday service would be provided every 30 minutes from 7:45 a.m. until 6:45 p.m. During Phase 1, four vehicles would operate during peak service to provide 15 minute headways, with connecting bus service to Castroville (from Marina Green Drive). Phase 1 is projected to accommodate 17,943[2] total transit boardings in 2015.

During Phase 2, appropriate peak service headway for the entire line would also be 15 minutes. A total of 22,674[3] total transit boardings are anticipated in 2035 pending operation of Phase 2.

Annual O&M costs (based on fiscal year 2007 estimates) and assuming a distance of 15.2 miles (Custom House Plaza to Blackie Road Station) are anticipated to be $6.06 million.

S.6 Implementation Schedule

Implementation of the proposed action is planned over the next 4 years for Phase 1. Phase 2 is dependent upon funding and is anticipated to be built by the 2030. The following activity schedule for Phase 1 is proposed:

[2] Note: Includes transfers between buses and between bus and rail.

[3] Ibid.

- Completion of the environmental compliance phase (24-month duration, ending in Winter/Spring 2012)
- Completion of Final Design (18-month duration, ending in June 2013)
- Construction and testing (18-month duration, ending in December 2014)
- System operation – (begin revenue operation in January 2015)

S.5 Use of this Document

This EA/EIR has been prepared in compliance with NEPA and CEQA and will be used by the FTA, TAMC, the public, and interested agencies to evaluate the purpose and need, environmental issues, and impacts associated with the proposed action.

S.6 Permits or Approvals Anticipated to be Needed for the Proposed Action

- Regional Water Quality Control Board (RWQCB), Central Coast – National Pollution Discharge Elimination System (NPDES)
- California Public Utilities Commission (CPUC) – Approval of signal plans and improvements to grade crossings
- Fort Ord Reuse Authority, County of Monterey and Cities of Monterey, Seaside, Sand City, and Marina – Plan review and approvals for proposed track work and station improvements. Temporary construction easements (if necessary) for construction activities
- United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) – Biological Resource Permits, if necessary
- United States Army Corps of Engineers, Nationwide Permit
- California Coastal Commission – Coastal Development Permit

S.7 Summary of Environmental Impacts and Mitigation

The analysis determined that short-term (construction) or long-term (operational) adverse impacts could not be readily determined in some instance with implementation of the No Action/No-Build Alternative. Table S-4 identifies both the short-term and long-term impacts anticipated to result from the implementation of the proposed action and corresponding mitigation measures.[4]

[4] Note: Note: The mitigation measures contained within Table S-1 are summarized. Refer to Chapter 3, Traffic and Transportation, Chapter 4, Affected Environment, Impacts, and Mitigation, and Chapter 5, Construction Period Impacts for a complete description of these measures.

Table S-4: Summary of Environmental Impacts and Mitigation Measures

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
Chapter 3, Traffic and Transportation	Local roadways along the proposed action corridor are anticipated to experience LOS degradation with Highways 1 and 101 operating at jammed or forced flow conditions in 2020. Parking impacts are unknown, but anticipated to be minor.	The proposed action would help to alleviate congestion on local roadways and would not result in unacceptable LOS. Some on- and off-street parking losses, but adequate supplies are located along the proposed action corridor and within the proposed station locations.	• TT-C1: Contractor shall develop Traffic Control Plans (TCP) for light rail transit (LRT) construction. Such plans shall provide for construction staging and sequencing of construction segments, detours, street closures, parking restrictions, and haul routes. The TCP shall be developed in consultation with city and county traffic departments. • TT-C2: Contractor shall develop and implement a community outreach program to maintain communication with area communities during the construction period. This program shall be used to provide appropriate advance noticing of construction activities and also to foster appropriate two-way communication between contractor and the affected public, including residents and local businesses. • TT-1: Implementing partial traffic signal priority for train movements in lieu of full preemption within the cities of Marina, Seaside, and Sand City. • TT-2: Perform partial reconstruction of the Highway 1 / Fremont Boulevard interchange within the cities of Sand City and Seaside. • TT-3: During service operation, TAMC would maintain surveillance over parking supply and usage at its stations on an ongoing basis. The Transportation Agency of Monterey County (TAMC) will address the need for additional parking and/or access improvements as it becomes necessary and will coordinate with the effected jurisdiction
4.1 Aesthetics and Visual Resources	Impacts are dependent upon proposed improvements, but anticipated to be minor and able to be mitigated or addressed through project design features or BMPs.	The proposed action would not result in the introduction of a non-urban feature and would be similar to the existing urban environment associated with Phase 1. Similarly, the proposed action is not anticipated to result in changes to the views and visual quality of the areas north of the city of Marina (Phase 2) which are predominately agricultural.	• No mitigation measures are required.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
4.2 Air Quality	No beneficial operations emissions related to reduction in VMT on local roadways or Highways 1 or 101 or associated reductions in regional pollutants. Climate change effects for this alternative would be similar to that of the LPA.	No construction or operational adverse impacts related to regional pollutants. The proposed action would result in lower region-wide future MSAT levels than today's levels. It would also help to reduce greenhouse gas emissions.	• AQ-C1: Contractors shall follow Best Management Practices (BMPs) to reduce construction emissions, including maintaining equipment and vehicle engines in good condition and in proper tune per manufacturers' specifications, use of alternative fueled off-road equipment where possible, route construction trucks away from congested streets and sensitive receptor areas, and all diesel-powered construction equipment in use shall be equipped with control equipment that meets, at a minimum, Tier III emissions requirements. In the event Tier III equipment is not available, diesel-powered construction equipment in use shall be equipped with emissions control equipment with a minimum of Tier II diesel standards. • AQ-C2: Construction specifications shall include dust control measures, including water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes. Track-out shall not extend 25 feet or more from an active operation, and track-out shall be removed at the conclusion of each workday. Traffic speeds on unpaved roads shall be limited to 15 miles per hour (mph). Onsite stockpiles of debris, dirt, or rusty materials shall be covered or watered at least two times per day
4.3 Biological Resources	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through project design features or BMPs.	Impacts to biological resources (e.g., sensitive plants and animals, wetlands, "waters of the U.S.") would be limited to the construction phase and can be mitigated.	• PH1-C1a: A qualified biologist shall monitor during initial construction activities (vegetation removal and other ground disturbing activities) to see that special-status species and sensitive habitats are avoided to the maximum extent possible. • PH1-C1b: Prior to construction activities, a qualified biologist shall conduct an Employee Education Program for the construction crew. The biologist shall provide confirmation that the education program was conducted by providing TAMC with written confirmation that a foreman was designated and a copy of the sign-in sheet. • PH1-C2: Hooker's manzanita, sandmat manzanita, Kellogg's horkelia, and Monterey ceanothus shall be replaced at a 1:1 ratio for the number of individuals affected. • PH1-C3a: Impacts to Monterey spineflower and its critical habitat shall be mitigated at a 3:1 ratio for the acreage of occupied habitat affected. • PH1-C3b: Section 7 formal consultation with

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
			the Service is required due to the potential impacts to Monterey spineflower and critical habitat that may result from implementation of the proposed action. • PH1-C4: Focused botanical surveys shall be conducted during the appropriate blooming period to determine the presence of Monterey spineflower and/or sand gilia within this area. • PH1-C5: A qualified biologist shall conduct preconstruction surveys for active Monterey dusky-footed woodrat nests within three days prior to construction. The survey shall be conducted within the proposed Project's APE and in a buffer zone of 100 feet from the limits of disturbance. • PH1-C6: A qualified biologist shall conduct focused preconstruction surveys no more than two weeks prior to construction for potential American badger dens. If no potential American badger dens are present, no further mitigation is required. • PH1-C7: A qualified biologist shall conduct preconstruction surveys to locate active breeding or wintering burrowing owls no more than 30 days prior to the start of construction. If ground disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site shall be resurveyed. The survey shall conform to the Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium, 1993). • PH1-C8: Construction activities that may affect nesting raptors and other protected avian species (e.g., vegetation or tree removal) can be timed to avoid the nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 1 and before January 31. Alternatively, pre-construction surveys shall be conducted for nesting raptors and other protected avian species within 300 feet of proposed construction activities if construction is to be initiated between February 1 and August 31. • PH1-C9: As Mitigations PH1-C1a and PH1-C1b will be implemented for these species, no additional mitigation is required. • PH1-C10: A qualified biologist will survey suitable habitat no more than 48 hours before the onset of work activities for the presence of western pond turtle. • PH1-C11a: Section 7 formal consultation with the Service is required due to the potential

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
			impacts to the California red-legged frog (CRLF) that may result from the project. • PH1-C11b: A Service-approved biologist possessing a valid §10(a)(1)(A) permit (Threatened and Endangered Species Permit) will survey suitable habitat within the proposed Project's APE no more than 48 hours before the onset of work activities for the presence of CRLF. • PH1-C11c: Before any construction begins on the proposed Project, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will include: a description of the CRLF and its habitat; the specific measures that are being implemented to conserve the CRLF during construction of the proposed Project; and the area of potential effect (APE) boundaries within which construction is allowed. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on-hand to answer any questions. • PH1-C11d: If CRLF are identified during the preconstruction surveys, a Service-approved biologist will be present at the work site until all CRLF have been removed, workers have been instructed, and disturbance of habitat has been completed. • PH1-C12: Section 7 formal consultation with the Service is required due to the potential impacts to federally listed species that may result from the proposed Project. • PH1-C13: If any eucalyptus trees must be removed during the monarch butterfly winter roosting season (generally October – February), the site shall be surveyed by a qualified biologist to ensure that a roosting colony is not present. • PH1-C14a: Riparian habitat shall be avoided to the greatest extent feasible. Protective fencing will be installed to limit access to riparian areas not planned for removal. • PH1-C14b: Where avoidance to riparian habitat is not feasible, a qualified biologist shall prepare and implement a Restoration and Monitoring Plan (Plan) for the proposed Project that details mitigation for permanent impacts to riparian habitat. Riparian habitat will be replaced to achieve a 3:1 ratio after a 5-year establishment period. • PH1-C14c: A 1602 Streambed Alteration Agreement Permit will be obtained. All

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
			requirements of the permit must be followed. • PH1-C15a: Mitigation Measures PH1-14a (as applicable to wetlands and other waters of the U.S.) shall be implemented for impacts to wetlands. • PH1-C15b: If avoidance of wetlands and waters is not feasible, a 404 permit shall be obtained from the ACOE and a 401 Water Quality Certificate shall be obtained from the RWQCB prior to ground disturbance. • PH1-C15c: If avoidance to wetlands and other waters of the U.S. is not feasible, a qualified biologist shall prepare and implement a Restoration and Monitoring Plan (Plan) for the Project that details mitigation for permanent impacts to wetland habitat. Wetland habitat will be replaced at a 3:1 ratio. • PH1-C16: All the mitigation measures identified in the *Monterey Peninsula Light Rail Project, Draft Biological Resources Report*, January 2011 shall be implemented to avoid and reduce impacts to areas that may be considered environmentally sensitive habitat areas (ESHA). • PH1-C17a: In compliance with Executive Order 13112 on Invasive Species, the landscaping for the proposed Project will not use species listed as noxious by the California Department of Food and Agriculture (CDFA). • PH1-C17b: Bare soil shall be landscaped with a seed mix from locally occurring species to preclude the invasion on noxious weeds in the proposed Project's APE. • PH1-C17c: Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds, before mobilizing to arrive at the construction site and before leaving the construction site. Note: Phase 2 is not planned for implementation until 2030 and is funding dependent. As such, the biological resources mitigation measures noted below are generalized. • PH2-C1a: A qualified biologist shall monitor during initial Phase 2 construction activities (vegetation removal and other ground disturbing activities) to see that special-status species and sensitive habitats are avoided to the maximum extent possible. • PH2-C1b: Prior to construction activities associated with Phase 2, a qualified biologist shall conduct an Employee Education Program

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
			for the construction crew. The biologist shall provide confirmation that the education program was conducted by providing TAMC with written confirmation that a foreman was designated and a copy of the sign-in sheet. • PH2-C2: Prior to construction of Phase 2, TAMC shall consult with the United States Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) Fisheries, and the California Department of Fish and Game (DFG) to determine if special-status plant or wildlife could occur within or immediately adjacent to the proposed Project's APE and therefore, be affected by construction or operation of this phase. • PH2-C3: Prior to construction of Phase 2, the project Biologist shall reevaluate the sensitive habitats information and analysis contained within the *Monterey Peninsula Light Rail Project, Draft Biological Resources Report*, January 2011 in order to determine if it is still accurate. • PH2-C4: Prior to construction of Phase 2, the project Biologist shall reevaluate potential impacts to fish passage associated with rehabilitation of the Salinas Bridge. This analysis will be conducted in consultation with NOAA Fisheries and based upon the latest guidance available from this agency. • PH2-C5: Prior to construction of Phase 2, the project Biologist shall reevaluate potential impacts to Adopted habitat conservation plan (HCP), natural communities conservation plan (NCCP), or other approved habitat management plan associated with construction of this Phase. • PH2-C6: Prior to construction of Phase 2, the project Biologist shall reevaluate potential impacts to applicable local biological policies or ordinances associated with this Phase. • PH2-C7: In compliance with Executive Order 13112 on Invasive Species (or subsequent updates or other applicable laws), the landscaping for the Phase 2 portion of the proposed Project will not use species listed as noxious.
4.4 Cultural Resources	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction,	Construction impacts would be limited to discovery of previously unknown archaeological resources and which can be mitigated. No	• CR-C1: Test Excavations. It is recommended that limited subsurface explorations be conducted at any of the high sensitivity areas where construction would include deep excavations. • CR-C2: Monitoring of Ground Disturbing

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
	and able to be mitigated or addressed through project design features or BMPs.	operational impacts to archaeological or historic archaeological resources would result.	Activity. At the locations shown in **Table 5** of the *Archaeological Survey Report for the Monterey Peninsula Light Rail Transit Project*, December 2010, a qualified archaeologist shall be present to monitor ground-disturbing activities during initial grading. • CR-C3: Worker Cultural Awareness Training. Prior to initiation of ground-disturbing activities, qualified archaeologists shall conduct a short awareness training session for all construction workers and supervisory personnel. • CR-C4: Inadvertent Discoveries. In the event that cultural resources are exposed during ground-disturbing activities throughout the proposed action, the archaeological monitor shall be empowered to temporarily halt construction activities within ten meters (~33 ft) of the discovery while the resources are evaluated for significance. Construction activities may continue in other areas. • CR-C5: Human Remains. If human remains are discovered during project construction, compliance with State of California Health and Safety Code Section 7050.5 shall be required. The County Coroner shall be contacted to make a determination of origin and disposition pursuant to Public Resource Code (PRC) Section 5097.98. The County Coroner shall be notified of the find immediately. • CR-C6: Built Environment. If project plans change to include additional parcels not considered in the current Area of Potential Effects (APE) map, additional evaluation and effects analysis shall be required for Section 106 and California Environmental Quality Act (CEQA) clearance. • CR-C7: Paleontological Monitoring of Ground-Disturbance Activity. If grading (10 ft or deeper) is proposed that could disturb older (Pleistocene-age) alluvial deposits and/or Monterey and Santa Margarita Sandstone Formations, then a Qualified Paleontologist as defined by CEQA will be retained to supervise monitoring of construction excavations and produce a Paleontological Monitoring and Mitigation Plan (PMP) for the proposed action. • CR-C8: Fossil Discoveries. Paleontological monitors will have authority to temporarily divert grading away from exposed fossils to professionally and efficiently recover the fossil specimens and collect associated data. • CR-C9: Final Paleontological Report. The Qualified Paleontologist will prepare a final

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
			monitoring and mitigation report to be filed with the client, the lead agency, and the repository.
4.5 Geology, Soils, and Seismicity	Anticipated to be similar to those identified for the LPA. However, impacts could vary depending on site specific conditions and the type of project proposed, but are anticipated to be limited to construction, and able to be mitigated or addressed through project design features or BMPs.	No construction impacts are anticipated. Operational impacts may include geological, soils, and seismicity hazards (e.g., liquefaction, landslides) but can be mitigated through compliance with standard BMPs and adherence to state and local building codes.	• GEO 1: Design considerations will include providing a procedure to be used in the event of an earthquake that will take the system to a safe temporary termination of operations until such time as an evaluation of potential damage can be made. • GEO 2: To reduce the potential for liquefaction, where appropriate, a subsurface investigation within the proposed action alignment will be conducted during project design, and should include Standard Penetration Test borings, laboratory grain size analysis and liquefaction analysis. • GEO 3: One or more standard mitigation options to address the potential effects of liquefaction, cyclic softening, lateral spreading and lurching on surface improvements and structures will be incorporated into the proposed action design. • GEO 4: The stability of the dune sand slopes adjacent to portions of the proposed action alignment will be verified by slope stability analysis for both static and seismic conditions during the proposed action design. Existing and proposed cut and fill slopes will be stabilized where required through establishment and maintenance of vegetation, re-grading of the slopes utilizing industry accepted grading techniques, and construction of retaining structures. If the Salinas River Bridge abutment slopes are determined to be unstable, then results of a slope stability analysis during design will be implemented. • GEO 5: The impact of compressible soil deposits on structures will be mitigated, where necessary, using methods comparable to those described for liquefiable soils. Alternatively, advance mitigation of post-construction settlement to be considered includes use of lightweight fill material such as EPS Geofoam, lightweight aggregates (volcanic pumice or tuff), or light weight Tire-Derived Aggregate (TDA) to raise site grades. • GEO 6: Areas within the proposed action alignment with suspected expansive soils will be investigated during project design by performing site-specific subsurface investigation, laboratory analysis and engineering evaluations.
4.6 Hazardous Waste	Anticipated to be similar to those	Construction impacts may include risk of upset,	• HAZ-C1: If groundwater is encountered during construction, groundwater sampling shall be

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
	identified for the LPA. However, impacts could vary depending on site specific conditions and the type of project proposed. Impacts could occur during both construction and operation, but would be anticipated to be able to be mitigated or addressed through project design features or BMPs.	incidental spills of hazardous materials (e.g., fuel, grease) during machinery operation, and the potential to encounter hazardous materials (e.g., ACM, LBP) during building demolition. No operational impacts are anticipated since the generation, handling, and storage of hazardous materials would be subject to applicable laws. In addition, regular maintenance of LRT vehicles would assist to ensure that hazardous waste leaks would be minimized.	conducted to determine contaminants and contamination levels. If contamination is found, a work plan shall be developed by the project geotechnical engineer to protect the health of construction workers. • HAZ-C2: A survey shall be conducted to screen for Asbestos Containing Materials (ACMs) and Lead Based Paints (LBP) prior to demolition of above ground structures. If ACMs are found, then the contractor shall comply with Monterey Bay Unified Air Quality Management District (MBUAQMD) Rule 424 notification and removal process activities at the project site during construction. In addition, disposal of ACMs would comply with local, state, and federal requirements. • HAZ-C3: Soil and groundwater sampling shall be conducted in areas of known contamination prior to the start of disturbance in those areas. If contamination is found, a work plan shall be developed by the project geotechnical engineer to protect the health of construction workers. • HAZ-C4: ACM, LBP and heavy metal sampling shall be conducted on any bridges identified for modification. Soils within the waterways directly under the bridges should be tested for LBP and heavy metals prior to disturbance. If ACMs are found, then the contractor shall comply with MBUAQMD Rule 424 notification and removal process activities at the project site during construction. In addition, disposal of ACMs would comply with local, state, and federal requirements. If LBP and/or heavy metals are found, then the contractor shall comply with local, state, and federal rules and regulations for notification, removal process, and disposal activities. • HAZ-C5: Any hazardous materials or wastes encountered before or during the demolition stage of the project shall be disposed of according to current regulatory guidelines. • HAZ-C6: A worker health and safety plan (HSP) that meets the provisions of California Code of Regulations (Title 22, Section 5192) shall be developed by the project contractor. HSP procedures will address the identification, excavation, handling, and disposal of hazardous wastes and materials that may be found in construction areas.
4.7 Hydrology and Water Quality	Anticipated to be similar to those identified for the LPA and which could be	No construction or operational impacts are were identified related to violation of water quality	• No mitigation measures are required.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
	mitigated for both during construction and operation through project design features or BMPs.	standards, groundwater depletion, alteration of existing drainages or existing drainage patterns, exceed the capacity of existing conveyance facilities or the degradation of water quality. The proposed action would be subject to RWQCB construction and operational permits which require design considerations to avoid such impacts. In addition, standard BMPs associated with these permits would be required and would reduce impacts.	
4.8 Land Use and Planning	Anticipated to be similar to those identified for the LPA. Proposed projects would be subject to consistency review with applicable plans. No construction-related impacts would be anticipated.	No construction or operational impacts were identified for land use and planning. The proposed action was determined to be consistent with local jurisdictional planning efforts and associated policies which promote transit along the existing MBL ROW and encourage mixed-use and TODs. Similarly, the proposed action was also found to be consistent with applicable goals and objectives as contained within the California Coastal Act.	• No mitigation measures are required.
4.9 Agricultural Resources	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through avoidance, project design features or BMPs.	Potential impacts to agricultural resources were limited to construction activities associated with Phase 2 (proposed in 2030 and funding dependent). Potential impacts included takes (i.e., slivers of land) located adjacent to the existing MBL ROW totaling 18 acres including farmland designated as Important,	• C-F1: TAMC shall work in consultation with the California Department of Conservation (DOC), County of Monterey, and TAMC lease holders to mitigate the loss of Important Farmland. • C-F2: To the extent feasible, TAMC or its Contractor shall develop a construction schedule that avoids conflict with growing seasons and rotation patterns of crops that could be affected by construction activities for portions of the Phase 2 portion of the proposed project alignment that cross or are adjacent to active agricultural land. TAMC or its Contractor shall implement best management practices (BMPs) during construction to minimize dust.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
		Prime, and of Statewide Importance. However, these takes would not be to farmland under private ownership, but include land currently leased by TAMC to area farmers. No Williamson Act contract lands would be affected. Some short-term dust impacts were identified and potential access issues could occur.	Construction access roads, staging, and equipment areas would to the extent practicable, be located in areas that avoid active agricultural production. Provisions will be incorporated into the construction contracts to designate areas for construction worker parking to avoid impacts to active agricultural land. • C-F3: TAMC shall work in consultation with the DOC, County of Monterey, and TAMC lease holders to mitigate the loss of Important Farmland.
4.10 Noise and Vibration	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through project design features or BMPs.	Construction-related noise impacts associated with the operation of machinery and equipment during Phase 1 would affect a total of 12 single-family and three multi-family residences during construction of the proposed Beach Road, Reservation Road, and Contra Costa Street Stations. During Phase 2 (proposed in 2030 and funding dependent), three single-family residences could be affected during rehabilitation of the Salinas River bridge. Operational-related noise impacts associated with train vehicle movements were identified for eight single-family residences. A total of nine single-family residences would be affected by noise generated from warning bells at the Beach Road, Reservation Road, and Contra Costa Street/Olympia Avenue grade-crossings. However, all construction and operational-related noise impacts can be mitigated.	• NOI-C1: Contractor shall use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding). • NOI-C2: Contractor shall perform all construction in a manner to minimize noise and vibration. Noise levels will be required to adhere to noise ordinances, as defined by the respective city Municipal Codes and county ordinance. Similarly, vibration levels will be required to be adhered to and based upon the Federal Transit Administration's (FTA) Transit Noise and Vibration Assessment. Contractor shall use construction methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are also suitable for the soil condition. • NOI-C3: Construction Manager shall perform noise and vibration monitoring to demonstrate compliance with the noise limits, as set forth in the respective city Municipal Codes and county ordinance. Similarly, vibration levels will be required to be adhered to and based upon the FTA Transit Noise and Vibration Assessment. Independent monitoring should be performed to check compliance in particularly sensitive areas. Require contractors to modify and/or reschedule their construction activities if monitoring determines that maximum limits are exceeded at residential land uses. • NOI-C4: Contractor shall conduct truck loading, unloading and hauling operations so that noise and vibration are kept to a minimum by

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
		No vibration-related impacts to sensitive receptors were identified either during construction or operation.	carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent. • NOI-C5: Contractor shall conduct ingress and egress to and from the staging area so as to be on collector streets or higher street designations, and through routes for trucks will be used to the extent feasible to minimize the potential for backup alarm disturbances. • NOI-C6: Contractor shall turn off idling equipment when not in use. • NOI-C7: Contractor shall use temporary noise barriers, as practicable, to protect sensitive receptors against excessive noise from construction activities. Mitigation measures, such as partial enclosures around continuously operating equipment or temporary barriers along construction boundaries, shall be used where needed. • NOI-C8: Contractor shall minimize construction activities within residential areas during evening, nighttime, weekend, and holiday periods. Note: permits may be required in some cities before construction can be performed in noise-sensitive areas (as specified in the respective Municipal Codes and county ordinance). • VIB-C1: Contractor shall limit the use of construction equipment that creates high vibration levels, such as vibratory rollers operating within 140 ft of residential structures. • VIB-C2: Contractor shall conduct vibration monitoring during vibration-intensive activities. • VIB-C3: Contractor shall restrict the hours of vibration-intensive equipment usage, so that impacts to residents are minimal. • NV-1: Table 4.10-4 lists soundwall locations to mitigate train pass-by noise levels at sensitive receptors expected to experience moderate impacts. With soundwalls reaching a minimum height represented by the train window line, noise impacts to affected residences will be fully mitigated. The height of the soundwalls can vary according to topography relative to receptors, distance of the walls from the source of noise and other factors. Approximate soundwall locations are shown in Appendix A, Sheet A-13 and A-26 of the *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*. The exact locations, lengths and heights of the soundwalls will be determined during final design in consultation with the municipalities

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
			and neighborhood groups. • NV-2: The potential for noise impacts exists at the proposed maintenance facility Sites 2 and 3 due to exterior work and from openings in the building. Use of acoustical windows, doors, and louvers should be considered in the building design, where determined necessary to prevent noise impacts at the future residences across from the proposed transit oriented development. HVAC and air handling units will also need to be located such that there would not be noise impacts at the future residences. • NV-3: Use of low noise or directional warning devices instead of more traditional warning bells will be considered at Beach Road, Reservation Road, and Contra Costa Street/Olympia Avenue grade-crossings to reduce noise disturbances. Additionally, TAMC may consider requesting the PUC to allow modification of the operation of the automatic crossing warning device bells, such that they stop ringing after the gate arms reach a horizontal position. • NV-4: Relocation of Special Trackwork – Crossovers, turnouts, and other special trackwork that cause an irregular rail surface should be considered for relocation, if possible or practical, so that they occur more than 125 feet from residential structures. The use of special “spring-loaded rail frogs” should be considered at turnouts and crossovers that cannot be relocated away from a residential structure. The special frogs incorporate mechanisms that close the gaps between running rails. Frogs with spring-loaded mechanisms and frogs with movable points can significantly reduce vibration levels near crossovers. • NV-6: During the final design phase of the proposed action, TAMC or its Contractor shall prepare a supplemental and more detailed vibration analysis for sensitive receptors associated with Receptor 19 in order to determine: (1) the soil characteristics and the efficiency at which the vibration propagates through the ground at various locations along the alignment, (2) the most appropriate method of vibration mitigation, and (3) the extent where mitigation would be required at specific locations. Vibration mitigation options may include ballast mat as well as shredded tire under the tracks, but will be determined pending the results of the supplemental analysis.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures

			• NV-5: The following measures shall be required by TAMC or its rail service Operator as part of regular maintenance activities associated with the proposed action:
			  • Rail grinding on a regular basis, especially on rails that tend to develop corrugations.
			  • Wheel truing to re-contour the wheel and remove wheel flats.
			  • Install wheel-flat detector systems to identify vehicles that are most in need of wheel truing.
			  • Implement vehicle reconditioning programs, particularly with components such as suspension systems, brakes, wheels, and slip-slide detectors.

4.11 Energy	Impacts are dependent upon proposed improvements, but are anticipated to be minor since transit vehicles are high efficiency and can operate on a variety of fuel types.	Construction and operation of the proposed action would entail use of non-recoverable energy and would reduce the overall amount of fossil fuels. Maintenance under the proposed action combined with maintenance of passenger and other non-rail vehicles would also require approximately 0.9 million barrels of oil (5,314 billion BTUs) through 2035. Implementation of the proposed action would not result in wasteful, inefficient, or unnecessary use of energy.	• No mitigation measures are required.
4.12 Demographics, Neighborhoods, and Environmental Justice	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through avoidance, project design features or BMPs.	A beneficial effect of the proposed action would be the creation of new construction and engineering jobs derived from the local workforce and which would directly benefit the local economy. Construction activities would not affected environmental justice communities in a disproportionate manner from the larger population located along	• No mitigation measures are required.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
		the proposed action alignment. Operation of the proposed action would not displace people or housing and the workforce would be derived locally. TODs may be constructed in and around the proposed stations. This beneficial effect could decrease automobile usage, while decreasing other indirect impacts, such as worsened air quality and traffic congestion.	
4.13 Acquisitions and Displacements	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through avoidance, project design features or BMPs.	Construction of the proposed action would require acquisition of a total of eight parcels used for commercial and light industrial purposes. No residential land uses would need to be acquired. Adherence to federal and state relocation and compensation requirements and preparation and implementation of a RAMP would address these impacts. However, some existing businesses may be affected by restricted access or removed parking. There are no anticipated operational-related impacts.	• No mitigation measures are required.
4.14 Public Services and Utilities	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through avoidance, project design features or BMPs.	Construction activities could result in temporary utility disruptions. However, with standard procedural controls, impacts on utilities during construction would not be substantial. Construction could also increase response times by emergency service providers, but could be addressed through preparation of a TMP.	• See mitigation measures TT-C1 and TTC2.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
		Operation of the proposed action would not generate substantial increases in demand for police and fire protection, or emergency medical services. Any increase in demand is expected to be marginal and would not result in overall demand beyond the capacity of public service providers.	
4.15 Safety and Security	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through project design features or BMPs.	Traffic controls would be established and implemented during construction to minimize traffic conflicts and help ensure a safe working and driving environment. Security at staging area lots could also be a concern during construction. However, construction site security precautions would be taken during construction to minimize the potential for adverse impacts to persons or property associated with the proposed action. With adherence applicable laws and regulations, safety and security impacts associated with the proposed action are not expected to be adverse. Operational safety or security impacts can be addressed through the implementation of standard BMPs and measures required by local law enforcement, MST and PUC.	• SS-1: TAMC or its Contractor will coordinate with the city of Monterey and its waterfront design team (when formed) to ensure that future waterfront land uses are compatible with the proposed action operations, and that the PUC is involved with the design review of both projects to ensure compliance with safety orders.
4.16 Parks and Recreation	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and	Portions of the Monterey Peninsula Recreational Trail would be affected by construction of the proposed action in two ways; permanent relocation of portions of	• No mitigation measures are required.

Table S-4: Summary of Environmental Impacts and Mitigation Measures (cont.)

Impact Category/ Section in EA/EIR	No Action/No-Build Alternative	Locally Preferred Alternative Impacts	Locally Preferred Alternative Mitigation Measures
	operation, but likely able to be mitigated or addressed through project design features or BMPs.	the trail to areas within the immediate vicinity of the proposed action corridor; and temporary closures (portions only) during construction, potentially lasting up to 18 months. A portion of Municipal Beach (also known as Monterey Bay Waterfront Park/Window on the Bay) would also be closed to public access during track construction. Construction activities also have the potential to result in temporary loss of on-street parking, and increased noise and dust. Operation of the proposed action would increase public access to park and recreational facilities located long the proposed action alignment and would result in a beneficial impact.	
Source: Parsons, 2011			

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APPENDICES

Appendix A – Land Use and Planning Consistency Analysis

Appendix B – Scoping Meeting Summary Report

Appendix C – Notice of Preparation Comment Letters

TECHNICAL REPORTS (UNDER SEPARATE COVER)

- *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update
- *Draft Monterey Peninsula Light Rail Project Coastal Zone Study*, December 2010
- *Draft Historic Resources Inventory and Evaluation Report, Monterey Peninsula Light Rail Project*, November 2010
- *Draft Finding of Effect and CEQA Impacts Analysis, Monterey Southern Pacific Passenger Depot, Monterey Peninsula Light Rail Project*, January 2011
- *Archaeological Survey Report for the Monterey Peninsula Light Rail Transit Project*, December 2010
- *Paleontological Resources Assessment Report for the Monterey Peninsula Light Rail Project*, November 2010
- *Monterey Peninsula Light Rail Project, Draft Biological Resources Report*, January 2011
- *Monterey Peninsula Light Rail Project, Draft Delineation of Jurisdictional Wetlands and Waters under Section 404 of the Clean Water Act*, November 2010
- *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, January 2011 Update
- *Geotechnical Evaluation Report for the Monterey Peninsula Light Rail Project*, November 16, 2010
- *Hydrology, Floodplain, Water Quality, and Stormwater Runoff Impact Analysis for the Monterey Peninsula Light Rail Project*, November 2010
- *Monterey Peninsula Light Rail Project Draft Visual Impact Assessment*, January 2011
- *Preliminary Corridor Environmental Assessment, Transportation Agency of Monterey County (TAMC), Monterey Branch Line, Monterey County, California* dated November 17, 2010
- *Phase I Environmental Site Assessment Fort Ord Transfer Parcels, L20.16.1, L20.16.2, L20.16.3, and Portions of E2B3.2 and L2.1, Monterey County, California*, December 13, 2010
- *Phase I Environmental Site Assessment, 1965 Del Monte Boulevard and Adjacent Lot (Parcel Numbers 011-101-015-000 and 01-101-117-000)*, November 17, 2010
- *Phase I Environmental Site Assessment, TAMC- Casa Verde Way Park & Ride, 2101 & 2107 Del Monte Avenue, APNS: 011-41-023, 011-441-024, 011-467-002, Monterey California*, November 17, 2010
- *Monterey Peninsula Light Rail Project, Draft Community Impact Assessment*, September 2011
- *Monterey Peninsula Light Rail Project EA/EIR, Final Draft Air Quality and Climate Change Assessment*, December 2010

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ACRONYMS

AA	Alternatives Analysis
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
ACMs	Asbestos Containing Materials
ACOE	U.S. Army Corps of Engineers
AMBAG	Association of Monterey Bay Area Governments
Amtrak	National Railroad Passenger Corporation
APE	Area of Potential Effect
APN	Assessor's Parcel Number
AQMP	Air Quality Management Plan
ASTM	American Society for Testing and Materials
ASTs	aboveground storage tanks
AT&T	American Telephone & Telegraph
BAAQMD's	Bay Area Air Quality Management District's
BMPs	Best Management Practices
BRR	Biological Resources Report
BRT	Bus Rapid Transit
BTU	British Thermal Units
CAA	Clean Air Act
CAAA	CAA Amendments
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
CalAm	California American Water
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCA	California Coastal Act
CCAA	California Clean Air Act
CDFA	California Department of Food and Agriculture
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFCs	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
CNPS	California Native Plant Society
CO	carbon monoxide
CPUC	California Public Utilities Commission
CRLF	California red-legged frog
CSUMB	Cal State University–Monterey Bay

CTI	California Toxics Inventory
CWA	Clean Water Act
CWP	Coastal Water Project
dB	decibel
DFG	California Department of Fish and Game
DMU	diesel multiple unit
DOC	California Department of Conservation
DTSC	Department of Toxic Substances Control
EA	Environmental Assessment
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
EPP	Emergency Preparedness Plan
ESA	Endangered Species Act
ESHA	environmentally sensitive habitat areas
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRMs	Flood Insurance Rate MapS
FMMP	Farmland Mapping and Monitoring Program
FONSI	Finding of No Significant Impact
FORA	Fort Ord Reuse Authority
FPPA	Farmland Protection Policy Act
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GCWDs	grade crossing warning devices
GHG	Green House Gas
GPS	global positioning system
HAPs	hazardous air pollutants
HCP	habitat conservation plan
HHS	U.S. Department of Health and Human Services
hp	horsepower
HSP	health and safety plan
HU	Hydrologic Unit
HVAC	HVAC
ICBO	International Conference of Building Officials
IIPP	Illness Prevention Program
IRIS	Integrated Risk Information System
ITS	intelligent transportation systems
km	kilometers
KOPs	Key observation points
LBP	Lead Based Paints
LCFS	Low Carbon Fuel Standard
LCPs	local coastal programs
LOS	level of service

LRT	light rail transit
LUP	Land Use Plan
LUST	leaking underground storage tank
MBL	Monterey Branch Line
MBSST	MBSST
MBTA	Migratory Bird Treaty Act
MBUAPCD	Monterey Bay Unified Air Pollution Control District
MBUAQMD	Monterey Bay Unified Air Quality Management District
MCWRP	Monterey County Water Recycling Projects
mg	miligrams
MIS	Major Investment Study
MLD	Most Likely Descendant
MOS	Minimum Operating Segment
MP	mile post
mph	miles per hour
MPO	Metropolitan Planning Organization
MSATs	Mobile Source Air Toxics
MST	Monterey-Salinas Transit
MT	metric tons
MTPs	Metropolitan Transportation Plans
MUTCD	California Manual on Uniform Traffic Control Devices
MUTCD	Manual on Uniform Traffic Control Devices
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NATA	National Air Toxics Assessment
NCCAB	North Central Coast Air Basin
NCCP	natural communities conservation plan
NEPA	National Environmental Policy Act
NFIP's	National Flood Insurance Program's
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic and Safety Administration
NMHC	non-methane hydrocarbons
NO_2	nitrogen dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Completion
NOP	Notice of Preparation
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
O_3	ozone
OSHA	Occupational Safety and Health Administration
OU	Operational Unit
PA	Public address
PAHs	polynuclear aromatic hydrocarbons
Pb	lead

PCBs	polychlorinated biphenyls
PM_{10}	10 microns in diameter
$PM_{2.5}$	2.5 microns in diameter
PMP	Paleontological Monitoring and Mitigation Plan
POAQC	Projects of Air Quality Concern
PPV	peak particle velocity
PRC	Public Resources Code
PSR	Project Study Report
RCRA	Resource Conservation and Recovery Act
REC	recognized environmental condition
RMS	root mean square
ROG	reactive organic gases
ROW	right-of-way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAIC	Science Applications International Corporation
SHPO	State Historic Preservation Officer
SLIC	Spills-Leaks-Investigations and Cleanup
SO_2	sulfur dioxide
SPRR	Southern Pacific Railroad Company
SR	State Route
SSPP	system safety program plan
STIP	state transportation improvement program
SWANNC	Solid Waste Agency of Northern Cook County
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TAMC	Transportation Agency for Monterey County
TCE	Trichloroethylene
TCMs	transportation control measures
TCP	Traffic Control Plans
TDA	Tire-Derived Aggregate
TDM	transportation demand management (
TMDLs	Total Maximum Daily Loads
TOD	Transit-Oriented Development
TWW	treated wood waste
UBC	Uniform Building Code
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USTs	underground storage tanks
VdB	velocity level in decibels
VMT	vehicle miles traveled
YOE	Year of Expenditure

Chapter 1. Purpose & Need for Transportation Improvements

1.1 Proposed Action

The *Monterey Peninsula Light Rail Project* (i.e., Proposed Action; Locally Preferred Alternative [LPA]) is a proposed 15.2-mile-long transit project designed to restore passenger rail service (i.e., light rail transit [LRT]) between the city of Monterey and the unincorporated Monterey County community of Castroville along Monterey Bay, California. Figure 1.1-1 shows the project vicinity and proposed action alignment starting/ending points and proposed station locations. The proposed action would be constructed predominantly, but not exclusively, along the existing Monterey Branch Line (MBL) right-of-way (ROW) from Custom House Plaza in the city of Monterey northeasterly to Blackie Road in Castroville. As shown on Figure 1.1-2, the proposed action alignment would include 12 stations (including associated parking at selected stations) serving the existing population, employment, and educational concentrations along the Monterey Peninsula. As currently proposed, LRT service would serve one Castroville station at Blackie Road. Five stops are proposed to serve the city of Marina at Marina Green Drive, Beach Road, Reservation Road, Palm Avenue and Eighth Street. Three stations are proposed to serve the city of Seaside and city of Sand City at First Street, Playa Avenue, and Contra Costa Street. In the city of Monterey, three stations are proposed at Casa Verde Way, U.S. Naval Postgraduate School (Sloat Avenue), and Custom House Plaza. A new maintenance facility for inspection and servicing of trains is proposed; the Transportation Agency for Monterey County (TAMC) is considering three optional sites located either immediately west or east of Highway 1 on lands formerly associated with the Fort Ord military base and currently owned by TAMC and Monterey-Salinas Transit (MST).

The proposed action would be implemented in two phases. In the first phase, existing MBL railroad track would be restored or constructed for a distance of 10 miles between downtown Monterey and the city of Marina, with bus service continuing to Castroville on local roadways. Phase 1 service is anticipated to be operational by 2015. Phase 2 would extend LRT service an additional 5.2 miles to the Castroville rail station north of Blackie Road. Standard bus service would connect with the LRT stations, including between Marina and the intercity rail station in the city of Salinas. In addition, connections could be made with planned future commuter rail (i.e., Commuter Rail Extension to Monterey County proposed by TAMC) and National Railroad Passenger Corporation's (Amtrak) services. Phase 2 is dependent upon securing additional funding and could be built by 2030.

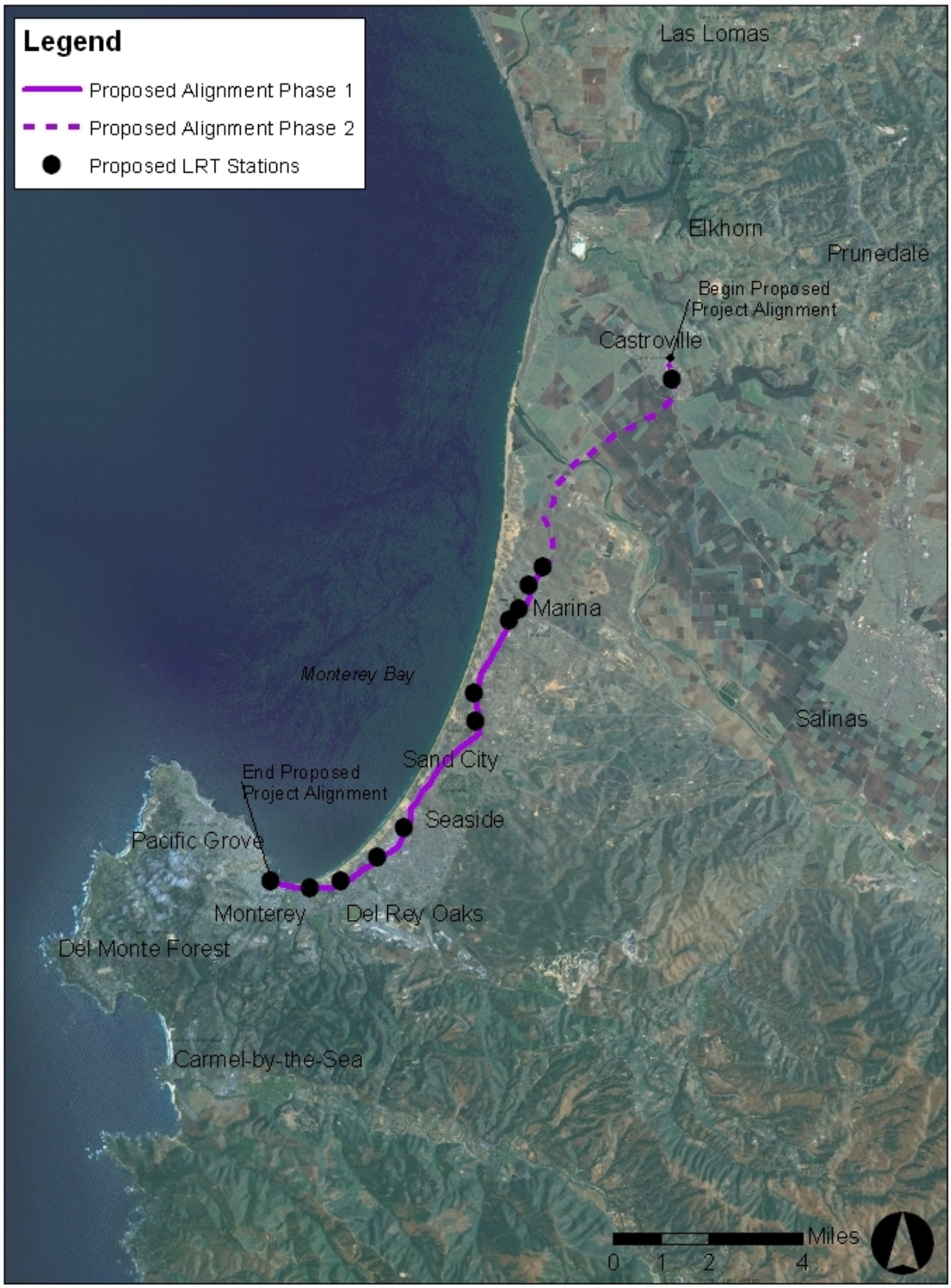


Figure 1.1-1: Proposed Action Vicinity Map

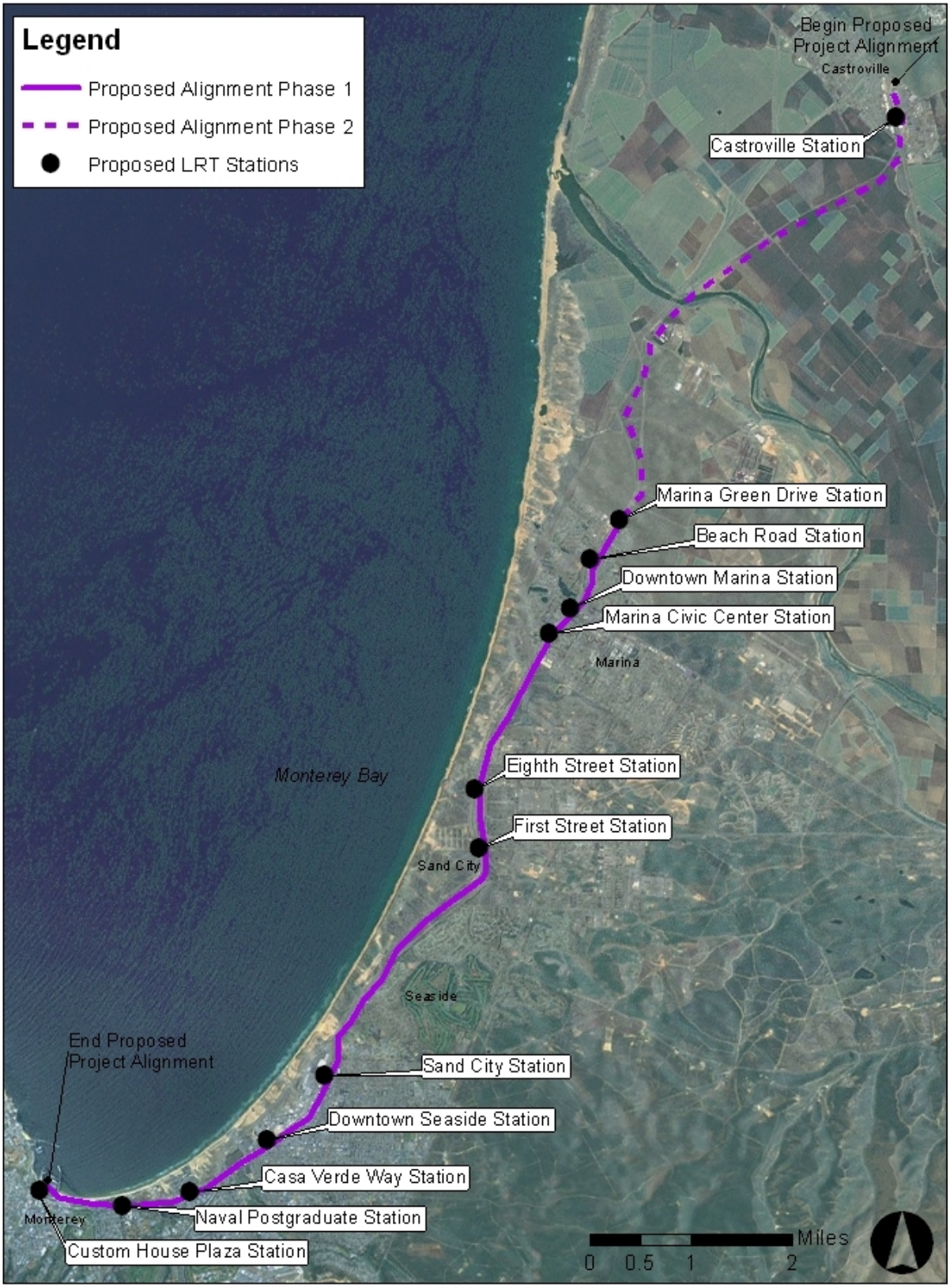


Figure 1.1-2: Proposed Action Location Map

1.2 Previous Intra- and Inter-County Transportation Studies Under Taken within the Proposed Action Corridor

The origin of the proposed action dates to 1990 with the passage of Proposition 116, a California voter initiative which identified Monterey County as a recipient of rail bond capital funds for passenger rail projects. Also in 1990, Governor Deukmejian approved Assembly Bill No. 222, which appropriated $100,000 for a rail passenger feasibility study for the Gilroy–Monterey portion of the San Francisco–Monterey rail corridor. In September 1993, Passenger Rail Feasibility Study No. 05D423 was finalized for the California Department of Transportation (Caltrans), District 5. It addressed the feasibility of passenger rail service between the cities of San Francisco, Monterey, Salinas, and Hollister. The study found a promising market for work trips using passenger rail service between Salinas and Silicon Valley (i.e., Santa Clara Valley area), and indicated that service to Salinas would be the most feasible short-term corridor due to the presence of existing rail facilities. A daily schedule of two northbound trains departing from Salinas and two southbound trains terminating in Salinas was recommended. Subsequent to this study, Monterey County officials apportioned the Proposition 116 bond funding between the Monterey Peninsula and U.S. Highway 101 Corridor travel markets.

Additional intra- and inter-county studies undertaken within the proposed action corridor are summarized below.

1.2.1 Monterey Peninsula Corridor Element (Intra-County Travel)

A number of studies have been undertaken to define fixed guideway[5] service in the Monterey Peninsula Corridor. Key studies in this regard are summarized below:

Passenger Rail Feasibility Study, 1993, Wilbur Smith & Associates

This study, sponsored by Caltrans, examined both intercity and commuter rail services from San Francisco to Monterey, Salinas and Hollister and intercity service from San Francisco to Los Angeles that would also provide service between San Francisco and Salinas. As a result of this study, a LPA was adopted in the Association of Monterey Bay Area Governments' 1994 Regional Transportation Plan. A short-term element of this LPA entailed intercity rail services serving Salinas. The long-term LPA component involved rail service into Monterey either via the MBL from Castroville or via a new alignment from Salinas to Monterey.

San Francisco–Monterey Intercity Rail Service Implementation Plan, 1998, De Leuw, Cather & Company

This TAMC study examined the travel market from the San Francisco Bay Area to the Monterey Bay Area by all modes. The study concluded that there is a market for weekday rail service from San Francisco to the city of Seaside in the morning and return in the evening with shuttle buses from Seaside to Monterey destinations.

[5] Note: A "fixed guideway" refers to any transit service that uses exclusive or controlled rights-of-way or rails, entirely or in part. The term includes heavy rail, commuter rail, light rail, monorail, trolleybus, aerial tramway, inclined plane, cable car, automated guideway transit, ferryboats, that portion of motor bus service operated on exclusive or controlled rights-of-way, and high-occupancy-vehicle (HOV) lanes. Source: FTA, 2011.

Around the Bay Rail Study, 1998, LS Transit Systems

This study, prepared for TAMC and the Santa Cruz County Regional Transportation Commission, examined joint services from the San Francisco Bay Area to Monterey and Santa Cruz. It projected the ridership for weekend services building over time. It analyzed the operating cost advantage of diesel multiple unit rolling stock in comparison to locomotive-hauled trains.

Major Investment Study (MIS) and Preliminary Design, 1999-2003, STV Incorporated

In part to satisfy Federal Transit Administration (FTA) requirements for an MIS, STV was contracted by TAMC to prepare environmental reports and a preliminary design of improvements necessary to accommodate intercity passenger rail service between Monterey and San Francisco via the MBL. A TAMC-formed task force convened on April 25, 2000 to identify four alternatives: Base-Case Alternative (No-Build); Transit Demand Alternative; Bus Build Alternative; and Intercity Rail Build Alternative. The latter Build Alternative (Caltrain Extension Alternative) entailed operation of passenger rail service from San Francisco to Monterey via Caltrain to San Jose, the UPRR from San Jose to Castroville (shared with limited Caltrain service to Gilroy and a future extension to Salinas) and the MBL to a new station at Fort Ord. Shuttle buses serving various Monterey destinations would meet the trains at the Fort Ord station.

Monterey Peninsula Fixed Guideway Alternatives Analysis, 2004, Parsons Transportation Group, Inc.

TAMC contracted with Parsons to prepare an FTA-sanctioned Alternatives Analysis to further evaluate the corridor to determine what alignment and technology would best serve its needs. At the request of FTA staff, in addition to examining Monterey Peninsula service options this study was expanded to include the Commuter Rail Extension to Monterey County project. As discussed below in Section 2.1.3, these efforts were later separated into individual studies.

1.2.2 U.S. 101 Corridor Element (Inter-County Travel)

Project scoping activities for an extension of Caltrain (i.e., commuter rail) to Monterey County along the U.S. Highway 101 Corridor have been ongoing since 1996. Between June 1996 and June 1998, the City of Salinas sponsored investigations for development of a Salinas Intermodal Transportation Center at the site of the existing Amtrak Station. Phase 1 of the transportation center, consisting of bus layover bays, surface parking, site landscaping and lighting, was constructed and placed into operation in 1999.

In 2000, TAMC sponsored the preparation of the *Extension of Caltrain Commuter Service to Monterey County Business Plan.* The business plan considered, but did not completely evaluate, alternative sites for new stations at the unincorporated Monterey County communities of Pajaro and Castroville plus a layover yard in Salinas. Coinciding with preparation of the Business Plan, the State enacted the Traffic Congestion Relief Act of 2000, which earmarked $20 million for the Caltrain extension to Salinas. A Project Study Report (PSR) was then prepared to provide decision makers with sufficient information with which to make budget decisions and have the project included in the State Transportation Improvement Program. The PSR was completed on February 21, 2006. Preliminary review of potential CEQA documentation requirements occurred in parallel with the PSR stage.

The U.S. Highway 101 Corridor project consists of the following components: improvements to the UPRR Coast Mainline between the city of Gilroy and Salinas; commuter rail station construction at both Pajaro and Castroville; renovation/expansion of the existing Salinas Intermodal Transportation Center, including a new parking facility; and construction of a commuter rail layover facility at Salinas.

Institutional arrangements required for construction and operation of commuter rail service on the Coast Mainline are also part of this project.

The culmination of this corridor-level analysis was selection of the LRT Alternative as the LPA by the TAMC Board of Directors on October 28, 2009. This decision was based on the LRT Alternative's ability to provide superior transportation service in the long-term while best meeting the vision and future plans for each of the affected cities.

1.3 Purpose of the Proposed Action

The proposed action area experiences a high proportion of intra-county travel (within the Monterey Peninsula) such as local commute, business, educational, and shopping trips. Trips of this type occur predominately between Monterey Peninsula cities and between the Monterey Peninsula and city of Salinas. Inter-county travel from Monterey, Santa Cruz and San Benito counties and the San Francisco Bay Area is also considerable. However, intra-county traffic congestion is at unacceptable levels within many portions of the proposed action area. At present, segments of Highway 1 and Del Monte Avenue experience level of service (LOS) "F" operations during both the morning and afternoon peak travel demand periods.[6] Traffic projections indicate that these conditions are anticipated to worsen given the implementation of approved development projects and projected population and employment estimates for the proposed action corridor. Moreover, inter-county commuters experience considerable traffic congestion due to heavy traffic volumes along Highways 1 and 101 and State Route SR 156.

The proposed action would provide commuters with a viable and dependable means of intra-county public transit and would facilitate inter-county commuting upon completion of Phase 2. The proposed action would lower congestion along major inter- and intra-county travel routes, reduce the need to expand highway capacity, and compliment the highway investment proposals included in the Monterey County Regional Transportation Plan. Additional benefits would include increased access to jobs, additional transportation options for low-income populations, senior citizens and those with physical disabilities, increased access by students to educational resources, and economic development opportunities along the proposed action alignment. These benefits would be further enhanced provided TAMC's proposed Commuter Rail Extension to Monterey County project is in place by 2015 and which would provide commuter rail service from the city of Salinas (with a proposed station in Castroville) to the San Francisco Bay area.

Recognizing the importance of inter- and intra-county mobility and access to employment, education, and activity centers, TAMC proposes a transportation option that is designed to achieve the following objectives:

- **Improve transit service by expanding transit mode opportunities** – The proposed action would provide improved transit opportunities for existing intra-county commuters traveling between Monterey Peninsula cities and between the Monterey Peninsula and city of Salinas and inter-county commuters traveling along Highway 1, SR 156, and Highway 101 and would also benefit low-income and transit-dependent populations within Monterey County seeking to access both local and

[6] Note: LOS is a qualitative description of an intersection and roadway's operation, ranging from LOS A to LOS F. LOS A represents free flow uncongested traffic conditions. LOS F represents highly congested traffic conditions with what is commonly considered unacceptable delay to vehicles on the road segments and at intersections. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

regional employment, education, and activity centers. The proposed action would provide frequent, reliable, and easily accessible LRT service.

- **Provide branded rapid transit service** – MST (proposed action LRT system operators) is a regionally recognized and well utilized transit system. MST has created a system that conveys uniqueness, high-quality service, and a strong sense of permanency which will help to ensure that the LRT service from Monterey to Castroville will be rapidly accepted by the target service markets. This existing identity is anticipated to translate into multiple benefits, including fostering transit-oriented redevelopment and revitalization, encouraging mode shift from automobiles to transit, and promoting "smart growth" in Monterey County within the proposed station areas.

- **Improve transit in high ridership areas** – The proposed action would offer substantial benefits in both system-wide and project corridor ridership. The project alignment has already been determined to be a good market for transit. MST's local bus service accommodates approximately 2,070 daily riders within the project corridor on local bus Line 20. The proposed action is forecast to provide 'opening day' ridership service for approximately 15,540 daily system-wide transit trips (approximately 4,670,000 annually) and 17,943 system-wide boardings (approximately 5,380,000 annually) in the year 2015. By 2035 with Phase 2 complete, system-wide trip and boarding numbers increase to projected totals of 19,694 (approximately 5,910,000 annually) and 22,677 (approximately 6,800,000 annually), respectively.

- **Improve mobility of transit-dependent populations** – Transit investment in the alignment would contribute to improved mobility and better access to jobs for transit-dependent persons.

- **Improve ridership by providing a viable and competitive transit option** – The proposed action would attract new riders by offering improved transit service and facilities and transit travel times competitive with auto travel.

- **Reduce auto use and congestion** – The proposed action is forecast to substantially increase transit use along the proposed action alignment. A mode shift from non-transit to transit would reduce, or at least slow down, the growth of auto traffic in urbanized areas of Monterey County in which the proposed action alignment is located. This would improve the efficiency of the local roadway network and reduce the need for parking. Greater transit and less auto travel would result in reduced air emissions and safer driving conditions, plus energy savings. All of these changes would improve the livability of the local communities.

- **Better serve major travel markets** – The proposed action would improve access to important intra- and inter-county employment, educational, retail, commercial, and entertainment centers both along the alignment and potentially within the San Jose and San Francisco Bay areas (provided TAMC's Commuter Rail Extension to Monterey County project is in place by 2015). Restoration of passenger rail service along the existing MBL and the construction of attractive stations and park-and-ride facilities would help transit capture a larger share of the local and regional travel market.

- **Support local and regional planning goals to organize development along transit corridors and around transit stations** – Restoration of passenger rail service and infrastructure using existing railroad ROW, branded service, and highly visible transit stations offers a strong sense of permanence that can help communities along the proposed action alignment attract investment in transit-oriented development and reinforce local planning objectives.

- **Contribute to Transit-Oriented Development (TOD)** – Building upon strong existing transit-supportive use patterns, communities along the proposed action alignment are working to redevelop "smart growth" areas within the proposed station area locations to encourage even

greater use of transit and non-auto modes. The proposed action is intended to be a catalyst for planned new development efforts at these locations within the alignment. The proposed action would provide nodes for concentrating jobs, services, and residences and a high level of access for individuals traveling to and from these locations. TOD concepts can be targeted to specific areas that have the best potential to transform the surrounding land-use patterns reinforce the use of transit. Local land use plans have incorporated goals, objectives, and policies aimed at encouraging LRT service and TODs within the proposed station areas. The proposed action is anticipated to further the implementation of these plans and to guide this development.

1.4 Need for the Proposed Action

The purpose and objectives stated above would respond to the following needs.

1.4.1 Current and Future Population and Employment

Current and future population and employment conditions within the proposed action alignment both establish a need for restoration of passenger rail service and also provide the market to ensure the success of that service. Specific conditions are described in the following subsections.

Current and Future Population, Housing, and Employment Statistics

The Association of Monterey Bay Area Governments (AMBAG) indicates that Monterey County's population is anticipated to increase from 422,632 persons (2005) to 530,362 persons by 2035 or an increase of 25 percent. Similarly, employment within Monterey County is expected to experience growth of 21 percent (42,350 new jobs or 235,460 total jobs). The existing distribution of both households and jobs is focused along Del Monte Avenue, Del Monte Boulevard, and Highway 1, which are roughly parallel to the proposed action alignment. Job and housing concentrations are focused in and near the city of Monterey downtown area, followed by concentrations in the cities of Sand City, Seaside, and Marina. It should be noted that a number of approved commercial and residential development projects would be located adjacent to or within close proximity to the proposed station areas and would be anticipated to contribute to the viability of the proposed action. North of the city of Marina (Phase 2 area) and extending to Castroville, households, jobs, or development are limited and principally focused on farming and agricultural operations. Additional areas of population and employment are located nearby in the city of Salinas.

Information derived from the 2000 U.S. Census Bureau indicates that considerable concentrations of low-income households on the Monterey Peninsula (e.g., cities of Monterey, Seaside, Sand City, and Marina and the unincorporated community of Castroville) are located in areas which could be directly served by the proposed LRT service. In addition, the proposed action alignment contains an environmental justice population with minority populations exceeding 50 percent and low-income populations exceeding 20 percent. These statistics are generally strong indicators that area households do not have an automobile.

As noted above, the proposed action alignment has a strong current and projected future high demand for transit that needs to be accommodated. By providing high quality, reliable, comfortable, and secure LRT service, the proposed action would contribute to a healthy rider base by increasing access to jobs, education, and service markets within Monterey County and potentially within the San Jose and San Francisco Bay areas, provided TAMC's Commuter Rail Extension to Monterey County is operational by 2015.

Major Employers and Trip Generators

The proposed action alignment is a strong market for LRT service. Major employment, education, and activity centers located along the proposed action alignment include, California State University, Monterey Bay, Monterey Peninsula College, and the Naval Postgraduate School. AMBAG indicates that between 2005 and 2035 Monterey County will experience increased demand for professional and technical services, health care and public services. In addition, there are also a number of Monterey Bay area tourist attractions including Monterey Fisherman's Wharf, Monterey Bay Aquarium, Cannery Row, and area beaches.

1.4.2 Current and Future Transportation Conditions

Current and future transportation conditions within the proposed action alignment are described in this section.

Current and Future Traffic Conditions

Monterey County is considered a housing rich and jobs poor area. Intra-county major employment centers are principally located within the cities of Monterey (with additional employment located within the Peninsula cities) and Salinas. Inter-county major employment centers are located within Santa Cruz and Santa Clara counties and the San Francisco Bay Area. This jobs/housing imbalance generates an intra- and inter-county regional commuter traffic pattern, leading to local and regional highway congestion and poor air quality. During the morning hours, intra-county commuters travel to jobs in the Monterey Peninsula or in the city of Salinas, while inter-county commuters travel north to Santa Cruz and Santa Clara counties and the San Francisco Bay Area and then south in the late afternoon to their residences.

Available public transportation for inter-county commuters is limited or do not operate during normal northbound commute times. As such, Highways 1 and 101 currently provide the most viable route for inter-county commuters which depend on their private automobiles to access employment centers. However, both of these facilities are projected to experience unstable or jammed flow by 2020. Moreover, as these facilities experience increased congestion, it is anticipated that commuters will seek alternative routes, including those within adjacent communities.

Intra-county commuters have limited public transportation options along the proposed action alignment. Existing bus service within the project alignment is operated by MST and includes local and express services with frequencies ranging from 30 minutes to a couple of hours between consecutive buses. However, deteriorating traffic operations resulting from the anticipated population growth in the proposed action corridor are forecast to increase weekday travel times on many of the lines serving the proposed action alignment. These factors are also expected to result in scheduling problems, loading inefficiencies, and longer than desirable wait times for passengers transferring between routes. In addition, future growth is anticipated to further contribute to deterioration of local roadways (see Chapter 3, Traffic and Transportation).

The proposed action would provide commuters with alternative transportation option to driving in increasingly congested conditions. Investing in transit facilities and equipment would help transit to capture a larger share of the travel market, reducing reliance on single-occupancy vehicles, improving the efficiency of the local roadway network, reducing the need for roadway expansion, and improving air quality.

Travel Time Savings

The proposed action would provide end-to-end service along the 10-mile Phase 1 alignment between the cities of Monterey and Marina in 25.5 minutes, which is an average travel speed of about 23.5 miles per hour. This service improvement is forecast to reduce travel times through the proposed action alignment by approximately 10 minutes per transit trip, which is equivalent to more than 7,667 annual hours of travel time savings. It would also provide a transit service competitive with the private automobile. Travel time savings for Phase 2 (5.2 miles) between the city of Marina and the Castroville portion of the proposed action alignment would depend on headways which have not been established for this phase.

As noted above, inter-county travel times would be anticipated to continue to deteriorate along the Highway 1 and 101 travel corridors. The analysis of future travel times (2010 to 2030) indicates that commute times for a number of destinations along the Highway 101 corridor will increase substantially, and in certain instances will experience a doubling (e.g., the commute from Santa Clara to Mountain View (8.2 ,miles) currently takes 18 minutes (2010 estimate), but will increase to 34 minutes (2030 estimate).[7] Similar deteriorations for travel times along Highway 1 would also be expected, although the extent of these is unknown at this time.

1.4.3 Transit-Related Opportunities

A wide variety of land uses exist along the proposed action alignment, including low- and medium-density residential, retail and office commercial, institutional, open space, agriculture, and public uses. Within the proposed station areas, land uses are primarily residential, commercial, and light industrial. As described below, local land use plans and policies in the cities of Monterey, Seaside, Sand City, and Marina, and the County of Monterey are supportive of establishing communities that integrate transit and other modes of transportation into the fabric of planned development.

Relationships to Other Systems (Local and Regional Transit Agencies)

In addition to connecting people with places, the proposed action would provide a vital link to connect with other transit lines including the Santa Clara Valley Transportation Authority, Santa Cruz Metro, and MST. Currently, transit access to employment and inter-modal centers, as well as other destinations within the proposed action alignment, is considered inadequate to meet current and future needs. High-quality, reliable LRT service is needed to deliver riders to these multiple destinations. The proposed action would provide such service.

Redevelopment and TODs

Portions of the proposed action alignment are located within redevelopment areas. Redevelopment in concert with transit improvements is strongly encouraged by state, regional, and local general planning documents. These planning documents recommend that the region's transportation and planning agencies, in cooperation and coordination with local jurisdictions, should promote policies and strategies that further integrate land use and transportation. Moreover, many of these planning policies encourage development of plans that maximize the use of existing urbanized areas accessible to transit through infill and redevelopment. Redevelopment agencies located along the proposed action alignment include the following:

[7] Source: Santa Clara Transportation Authority, 2007.

- **Redevelopment and Housing Office of Monterey County** – The proposed Blackie Road Station is located within the Office's Castroville Project Area. The primary redevelopment focus is on upgrading and expanding the housing base, improvements to the circulation system, creation of pedestrian friendly locations, commercial business development, and industrial development to promote jobs.
- **Redevelopment Agency of the City of Marina** – A portion of the proposed action alignment is located within the City's Redevelopment Area 3 (Fort Ord Redevelopment Project Area). The primary redevelopment focus is to improve the overall economic and physical climate to provide increased private investment and employment, improved and modern infrastructure, remove blight, assist the local community in developing government, education, and art facilities on-site, implement a habitat management plan, finance certain public improvements, and preserve and improve the existing housing stock.

Transit-Supportive Development Potential at Station Areas

The FTA encourages establishment of transit-supportive land uses around transit facilities. The FTA criteria for evaluating transit-supportive land uses include existing land use; transit supportive plans and policies, including supporting zoning regulations near transit stations, and potential to assist in containment of sprawl; and performance of land use policies and impacts of transit projects on regional land use.

The potential for transit-supportive development at station areas draws on TOD principles that focus on compact growth, a mix of land uses, and pedestrian-oriented design within walking distance of a transit station. The potential for the area proximate to the proposed action alignment stations to reach higher concentrations of development than their surroundings is dependent primarily upon the planned land use and zoning designations around stations. The improved transit services could provide opportunities for potential transit-supportive uses in the area. Stations located in areas that are not currently developed to the extent possible under existing plans, but are designated for commercial, industrial, or multi-family residential development, would have the greatest potential to accept increased growth. It should be noted that the general plans of jurisdictions located along the proposed action alignment have adopted policies that promote TOD principles.

1.5 Legislative Authority

California Government Code Sections 67930 and 67931 provides TAMC with a number of powers related to the implementation of rail service including its ability to contract for the operation of these services in Monterey County and for connections with rail service in adjacent and neighboring counties and cities. In addition, it is also has the power of eminent domain and the power to preserve, acquire, construct, or improve any of the following:

- Rights-of-way for rail purposes
- Rail terminals and stations
- Rolling stock, including locomotives, passenger cars, and related rail equipment and facilities
- Grade separation and other improvements along rail rights-of-way for rail purposes
- Rail maintenance facilities
- Other capital facilities deemed necessary for a rail service, including soundwalls

In the case of the proposed action, TAMC, as the local lead agency, grantee agency, owner of the project, and the designated rail authority for Monterey County intends to contract with MST to operate and maintain the system.

1.6 National Environmental Policy Act and California Environmental Quality Act Compliance and Procedures

This Environmental Assessment (EA)/Environmental Impact Report (EIR) has been prepared for the proposed *Monterey Peninsula Light Rail Project* in accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) implementing regulations (Part 40 *Code of Federal Regulations* [CFR] Section 1500 *et. seq*.) and the California Environmental Quality Act (CEQA), Public Resources Code (PRC) Section 21000 *et seq.*; and the State of California *CEQA Guidelines*, California Administrative Code, Section 15000 *et seq.*. FTA is the NEPA federal lead agency exercising its authority and responsibility. TAMC is the proposed action sponsor, the CEQA local lead agency, grantee agency, and owner of the project.

An EA is a document that is prepared when a proposed action is not covered by a categorical exclusion or is otherwise exempt from NEPA. It is also used by the FTA to determine if an Environmental Impact Statement would be required. The FTA uses the EA to determine if a proposed action would cause adverse environmental effects. Under NEPA, involvement of other federal agencies and the public is accomplished through formal and informal coordination and outreach. Since the EA is a public document, the FTA is required to provide a Notice of Availability (NOA) which may be published in the Federal Register, post the NOA in local newspapers, and mail it to federal, state, and local governments, and other interested parties. The EA is also made available for review by the public (normally for 30 days). A public hearing is not normally required for the EA unless specifically determined by the FTA. Comments received on the EA sometimes require its revision. If the EA determines that the proposed action would not result in adverse impacts, then a Finding of No Significant Impact (FONSI) or a mitigated FONSI is issued by the FTA. Issuance of the FONSI concludes the NEPA environmental process.

The preparation of an EIR is required when the Lead Agency determines that a project is both not exempt from CEQA and could potentially cause significant effects on the environment. An EIR is a detailed informational document prepared by a Lead Agency that analyzes a project's potential significant effects and identifies mitigation measures and reasonable alternatives to avoid the significant effects. The primary purpose of an EIR is to inform decision makers and the public about a project's significant environmental effects and ways to reduce them, to demonstrate to the public that the environment is being protected. There are various stages throughout the EIR process in which the public is invited to provide input and review the analysis and findings and mitigation measures identified in the EIR. These include the Notice of Preparation (NOP), scoping (optional under CEQA), Notice of Completion (NOC), circulation to public of the Draft EIR (45 day review period), public hearings (optional for Draft EIR), and response to comments. The final steps of the EIR process are: preparation of a mitigation monitoring and reporting program, findings, and a statement of overriding considerations (if necessary); certification of the EIR; and project approval by the Lead Agency. A Notice of Determination is then prepared and filed with the County Clerk's office in which the proposed action is located.

Chapter 2. Project Description/Alternatives Considered

2.1 Corridor Characteristics

2.1.1 Surrounding Land Uses, Service Population and Ridership

Land Uses

The proposed action corridor contains a variety of land uses and related street/intersection layouts. Land uses comprising the corridor, population characteristics, and ridership projections are briefly described below.

Castroville to Marina – In Castroville, the ROW is flanked on either side by commercial, light industrial and agricultural warehouses. South of Castroville, the proposed action corridor traverses rural agricultural land. The first three miles (mile post [MP] 111 to MP 114) pass through artichoke fields. Just west of the Salinas River, the proposed action corridor passes by the Dole refrigeration plant located to the south. The terrain begins to change just past this area from flat agricultural fields to rolling sand dunes. For the next two miles (MP 114 to MP 116), the proposed action corridor traverses open space along the southern edge of the CEMEX Lapis Sand Plant and parallel to Del Monte Boulevard.

City of Marina – Beginning at Marina Green Drive (MP 116) and ending at the Highway 1 overcrossing (MP 118), this section of the proposed action corridor is slightly less than two miles long. A mixture of residential and commercial land uses dominate this portion of the corridor. Commercial uses are concentrated on both sides of Del Monte Boulevard in central Marina. Numerous multi-family residential uses exist along the east side of Del Monte Boulevard to the north of Beach Road. The Marina Del Mar Elementary School is located on the west end of Marina Drive.

Fort Ord Reuse Authority Land – The next four miles (MP 118 to MP 122) are located within the boundaries of the former Fort Ord military base. The Monterey Bay Recreational Trail crosses the former Fifth Street railroad spur to the south. Land to the west of Highway 1 and the proposed action corridor is currently undeveloped except for the non-operational Main Garrison Sewage Treatment Plant. To the east of Highway 1 there are various remnant residential and industrial uses associated with the former Fort Ord military base. Newer residential and commercial developments exist to the east of Highway 1, especially south of Light Fighter Drive.

Cities of Seaside and Sand City – From MP 122 to MP 123.5, the proposed action corridor passes through the cities of Sand City and Seaside. Land uses on both sides of the ROW is generally developed, with commercial (including automobile sales dealerships) and light industrial uses on the south (east) side and a variety of light industrial, commercial and retail land uses on the north (west) side. After crossing Canyon Del Rey Boulevard (SR 218), the proposed action corridor forms the southern edge of Roberts Lake and crosses the estuary connecting Roberts Lake and Laguna Grande Lake on an existing 45-foot-long railroad bridge.

City of Monterey – The proposed action corridor crosses under the northbound and southbound Highway 1 overpasses and the Del Monte Avenue off-ramp, and then proceeds westerly past Monterey State Beach. The proposed action corridor passes light industrial and residential land uses located north of Casa Verde Way, with commercial uses on the south side of Del Monte Avenue. In the vicinity of Palo Verde Avenue, the proposed action corridor is located adjacent to the U.S. Naval Postgraduate School. West of Sloat Avenue, the proposed action corridor continues adjacent to the Monterey

Peninsula Recreational Trail and commercial land uses fronting Del Monte Avenue. West of La Playa Avenue the proposed action corridor crosses landscaped open space (Window on the Bay). At the very west end of the proposed action corridor, by the Monterey Marina, the proposed action corridor curves slightly to the north across the existing Monterey Depot surface parking lot to its terminus at Custom House Plaza.

Service Population

The proposed action corridor traverses through several major population centers. According to AMBAG (2008) forecast year 2010 populations for the peninsula cities are: Marina (24,551), Seaside (35,666), and Monterey (30,106). It is estimated that the population of the city of Monterey increases to nearly 70,000 during tourist seasons as visitors flock to area attractions (City-Data.com, 2009).

The proposed action corridor is comprised of an ethnically, culturally and economically diverse population. U.S. Census data indicate that over 12 percent of Monterey County residents live below the poverty line, with much higher percentages in areas including the city of Sand City (21.8 percent) and the unincorporated community of Castroville (18.8 percent). Many residents in the proposed action corridor therefore, have low incomes and are assumed to be transit dependent. The proposed action corridor, because of its high demand, is one of MST's most heavily utilized bus route corridors.

The largest concentration of urban development activity on the Monterey Peninsula occurs along the Highway 1 / Del Monte Avenue corridor adjacent to the proposed action corridor. Major tourist and employment destinations are located along the corridor including the California State University, Monterey Bay, Monterey Peninsula College, Naval Postgraduate School, Monterey Fisherman's Wharf, Monterey Bay Aquarium, Cannery Row, and area beaches.

Ridership

The proposed action would offer substantial benefits in both system-wide and corridor ridership. It is noted that ridership forecasts do not reflect the possible future extension of commuter rail south from San Jose to Monterey County, which could further increase demand for the proposed action. Nor do the forecasts fully reflect the potential of bicycle access to the stations, which with the available facilities are likely to increase the accessibility of LRT service to this user group.

The proposed action corridor has already been determined to be a good market for transit. MST's local bus service accommodates approximately 2,070 daily riders within the project corridor. The proposed action is forecast to provide 'opening day' ridership service for approximately 15,540 daily transit trips (approximately 4,670,000 annually) and 17,943 boardings[8] (approximately 5,380,000 annually) in the year 2015. By 2035 with Phase 2 complete, trip and boarding numbers increase to projected totals of 19,694 (approximately 5,910,000 annually) and 22,677 (approximately 6,800,000 annually), respectively. While many proposed patrons would be diverted from bus transit, overall system transit trips are projected to increase by 16.3 percent compared with the 2015 No-Build Alternative.

2.1.2 Existing and Planned Transit Operations within the Corridor

There is currently no rail service available within or parallel to the proposed action corridor. With the proposed action it is assumed that currently planned extension of commuter rail service from San Jose south to Monterey County, with a station at Castroville, would be completed by 2015.

[8] Transit 'boardings' are unlinked trips; passengers are counted each time they board a vehicle. Transit 'trips' are linked to include transfers between buses and between bus and rail connections.

Existing bus service within the proposed action corridor is operated by MST. There are several MST bus lines that follow the proposed action alignment between the cities of Monterey and Marina and include:

- **Route 2X** – express bus service from the city of Monterey to the city of Salinas
- **Route 8** – local service to the cities of Seaside and Sand City along Del Monte Avenue and Playa Avenue to Edgewater Transit Exchange (city of Sand City)
- **Route 9** – follows Fremont Boulevard for most of its service between the cities of Monterey and Sand City.
- **Route 12** – local and express service between the city of Monterey and The Dunes Shopping Center (city of Marina)
- **Route 16** – services California State University, Monterey Bay
- **Route 20** – regional service between the cities of Pebble Beach and Salinas
- **Route 55** – express service from the city of Monterey to San Jose
- **Route 79** – express service from the city of Monterey to San Jose via Gilroy (Santa Clara County)

In addition, Route 27 provides limited, two-hour headway service between the community of Castroville and the city of Marina on weekdays. Local services generally provide 30 minute to one hour service during weekdays.

As of 2006, ridership on MST's Monterey Peninsula routes averaged 7,516 passengers per day. Route 20 is considered the backbone of the system, providing critical service along Del Monte Boulevard and Highway 1 between the cities of Monterey and Marina, then on to Salinas. Route 20 parallels the project corridor between Monterey and Marina. It is the most popular line with an average of 2,030 weekday riders. As shown in Table 2.1-1, it was operating at 29.9 riders per revenue hour and in this regard compared favorably with other local routes operating fewer hours per day. This route provided the most service weekdays (68.5 revenue hours) and on weekends (TAMC, 2006).

2.2 No Action/No-Build Alternative

Under the No Action/No-Build Alternative local bus ridership along the proposed action corridor is expected to increase, as future infill and regional development projects are approved. As such, MST bus ridership along Fremont Boulevard, Del Monte Avenue, and other parallel arterials within the proposed action corridor would continue to grow (15 percent by 2015 and an additional 19 percent between 2015 and 2035). This Alternative also assumes that MST's proposed 6.75-mile Bus Rapid Transit (BRT) project would be in place by 2012. This service is proposed to operate between the cities of Sand City and Monterey, following Fremont Boulevard and then terminating at the Monterey Bay Aquarium. It is also assumed that existing intra-county bus service between the cities of Monterey and Salinas on MST's Line 20 (Monterey-Salinas via Marina) would be maintained. Existing inter-county transit service options are assumed to include MST's Line 55 (Monterey-San Jose Express) and Amtrak's Coast Starlight (serving Salinas and San Jose/San Francisco areas). Passengers seeking to access areas north of San Jose could transfer from the San Jose Diridon station and utilize Caltrain (San Francisco area), Altamont Commuter Express (Stockton area), or Capital Corridor (Sacramento area) services.

Table 2.1-1: MST Monterey Peninsula Routes Ridership and Productivity by Line

Line	Riders per Revenue Hour		Riders per Revenue Mile	
	Pass/Hour	Rank	Pass/Mile	Mile
1	21.4	6	2.1	5
2	15.6	8	1.5	8
4	18.4	7	1.7	6
5	25.1	5	2.3	4
9	37.4	3	3.9	2
10	43.3	2	4.4	1
11	44.7	1	3.1	3
16	5.4	12	0.3	11
17	6.2	11	0.4	10
20	29.9	4	1.5	7
21	10.7	9	0.6	9
24	7.6	10	0.3	12
27	4.1	13	0.2	14
53	2.8	15	0.1	15
Average	22.4		1.6	

Source: MST, March 2006 Operations Summary Report

It should be noted that under the No Action/No-Build Alternative construction of rail transit (including proposed stations, associated amenities, or the new maintenance facility) along the proposed action corridor would not be built. Commuters would continue to be dependent on the use of the private automobile, MST bus service, or Amtrak to access intra- and inter-county destinations along the Monterey Peninsula.

2.3 Locally Preferred Alternative (Proposed Action)

The LPA (proposed action) is described in the following section and addresses proposed stations and amenities and parking, maintenance facility, roadway and trail and intersection improvements, park-and-ride and kiss-and-ride facilities, and operations and maintenance requirements.

2.3.1 Route and Station Locations

This section briefly describes the types of construction and modifications to existing and planned facilities that would be required for restoring passenger rail service along the proposed action alignment. A more detailed description of construction activities is provided in Chapter 5, Construction Period Impacts.

The main construction elements required for the proposed action consist of track, structures, grade crossings and passenger train stations. Minor project construction components include signals, drainage and roadway improvements.

Fixed Facilities

Except for approximately two miles of track within the former Fort Ord military base area, the existing MBL track is unusable. New ballasted track construction, with 115 pound, continuously-welded rail is

needed. Material for the rail ties, either timber or concrete, would be determined during the final engineering and design stages. Based on field observations, it appears that where the proposed new track is on the existing MBL ROW, the existing ballast can be re-used as sub-ballast, with cleaning and some additional material added. Ballasted track would be constructed on all timber trestles. For the Salinas River Bridge, the track on the existing bridge would be open deck (i.e., timber bridge ties fastened directly to the steel cross members, as they are now).

Passing sidings would be constructed at locations to be determined during the final engineering and design stages to allow for two-way train operations. As conceptually conceived, to maintain optimal 10-minute headways, passing tracks would be located from north to south as follows: south of Tembladero Slough; Lapis Sand Plant access road; the proposed Reservation Road Station; between the proposed Eighth Street and First Street Stations; Monterey Road; Roberts Avenue; and the proposed La Playa Station. (TAMC, 2010)

Rolling Stock

Several rail equipment and service options were evaluated as part of the Alternatives Analysis (see below) with regard to the proposed action's purpose and need. Considerations applied in this regard were cost effectiveness, potential environmental impacts, compatibility with other planned improvements, operational constraints, and other criteria. As a result of this analysis, use of inter-city (e.g., Amtrak, Caltrain) trains or electric multiple units was dismissed. As currently proposed, TAMC would purchase six hybrid diesel electric or diesel multiple unit, non-Federal Railroad Administration-compliant[9] light rail vehicles. MST would operate four vehicles at a time during peak Phase 1 service (MST would also likely operate the vehicles during Phase 2, provided funding for construction of this portion of the corridor is secured). The final decision regarding vehicle make and model is pending and will be determined by the TAMC Board of Directors in consultation with the FTA.

Civil Work

Civil work includes miscellaneous street and traffic signals, earthwork, drainage and utility relocation associated with the proposed action. Relocation / reconstruction of a portion the Monterey Peninsula Recreational Trail directly affected by the proposed action is included in this category.

Streets and Traffic Signals

The existing railroad crossing surfaces are in poor condition and need to be replaced. Each crossing would typically be constructed with a high durability pre-cast concrete crossing surface. Signals at adjacent intersections would be preempted to prevent waiting traffic from blocking the tracks. In most cases this would involve adding preemption to existing traffic signals. New signals with preemption are proposed constructed at Roberts Avenue in the city of Monterey.

Track intersections with cross streets would be controlled by gates for safety. The grade crossing warning devices (GCWDs) need to be replaced with new equipment due to obsolescence. GCWDs required for the proposed action are summarized in Table 2.1-2. The California Public Utilities Commission (CPUC) must approve the type of GCWD to be installed. Pedestrian-only GCWDs usually consist of a post with a flashing light and bell. Gates are available for pedestrian crossings, but they are generally not used as people can duck under or go around them, and they pose a risk of trapping handicapped people on the wrong side of the gate. Private crossings, of which there are four in the

[9] Non-FRA-compliant vehicles are lighter public transit vehicles that do not meet current Federal Railroad Administration (FRA) crashworthiness regulations.

proposed action corridor, are not under the jurisdiction of the CPUC. The types of GCWDs at these crossings are usually established by negotiations between the ROW owner and the party owning the road.

Table 2.1-2: Grade Crossings

Mile Post	Crossing	Description	Notes
107.30	Blackie Road	4-lane street	Existing tracks and panels to remain; existing GCWD is functional and can be used with additional circuit for MBL track
110.80	SR 183	2-lane State Highway	A local circulation change may be required to address safety concerns at intersection with Del Monte Road
112.50	Nashua Road	2-lane county road	Road used for access to nearby agricultural fields
113.80	North Dole	2-lane street	Private driveway
114.07	South Dole/Ranch Access	Two- 2-lane streets	Two crossings separated by fence
114.30	Del Monte Avenue	2-lane county road	
114.64	Private Driveway	Unpaved private driveway	Asphalt concrete crossing surface
115.04	Lapis Road	Paved private driveway	
116.00	Marina Green Drive (formerly Diane Avenue)	2-way, up to 4-lane street	Existing crossing panels and track to remain; existing GCWD controller and gate posts can be re-used. Extend track circuits; road may be realigned by adjacent development
116.50	Beach Road	2-lane road	Road may be widened; pre-empt traffic signal at Del Monte Avenue
116.90	Reservation Road	4-Lane road	Pre-empt traffic signal at Del Monte Avenue
117.30	Palm Avenue	2-lane road	Pre-empt traffic signal at Del Monte Avenue; add cantilever lights to ocean-side approach
119.00	Eighth Street Station		Pedestrian crossing
119.50	Bicycle and Pedestrian Path	Non-motorized travel	Fort Ord spur at Fifth Street
122.20	Monterey Road (formerly Ord Avenue)	5-lane road	Between two adjacent signalized intersections; pre-empt traffic signals at Fremont Boulevard and California Avenue
122.60	Playa Avenue	4-lane road	Pre-empt traffic signal at Del Monte Boulevard; existing GCWD equipment to remain; extend track circuits
122.80	Tioga Avenue	3-lane road	Pre-empt traffic signal at Del Monte Boulevard
122.92	Granite Rock	Unpaved driveway	Private crossing (closed)
123.36	Contra Costa Street	3-lane street	
123.38	Olympia Avenue	1-lane, 1-way street	May need supplementary signal with pre-emption at Contra Costa Street
123.60	Canyon Del Rey Boulevard (SR 218)	6-lane arterial	Pre-empt traffic signal at Del Monte Avenue; widen median for center gates

Table 2.1-2: Grade Crossings (cont.)

Mile Post	Crossing	Description	Notes
123.80	Roberts Avenue	2-lane street	Construct new, pre-empted traffic signal at Del Monte Avenue; recreational trail crossing
123.90	Bicycle and Pedestrian Path	Non-motorized travel	Recreational trail access from English Avenue
124.10	Bicycle and Pedestrian Path	Non-motorized travel	
124.20	Maris property driveway	2-lane private driveway	Exit-only property to Del Monte Avenue; close driveway
124.30	Casa Verde Way	4-lane street	Pre-empt traffic signal at Del Monte Avenue; access to recreational trail on sidewalks
124.60	Monterey Wastewater Treatment Plant Driveway	Paved private driveway	Private driveway
125.00	Sloat Avenue Ped. Trail	2-leg crossing	
125.20	La Playa Avenue	2-lane street	Access to Del Monte Beach townhouses; pre-empt traffic signal at Del Monte Avenue
125.50	Cam. El Estero Ped. Trail	Non-motorized travel	Recreational trail crossing
125.70	Figueroa Street	4-lane street	Pre-empt traffic signal at Del Monte Avenue

Source: Parsons, 2010.

Field review of the Highway 1 interchange at Fremont Boulevard indicates that local circulation improvements are warranted under both the No-Action/No-Build Alternative and proposed action conditions. TAMC, along with the cities of Seaside and Sand City, are working to secure funding for various improvements at this interchange. Figure 2.1-1 illustrates a conceptual plan for these improvements, which are included in the proposed action and preliminarily described as follows:

- Reconstruct the northbound Highway 1 on-ramp from Fremont Boulevard by removing it from the Fremont Boulevard/Monterey Road intersection. This would require the closure of the east leg of the intersection (Monterey Road), which would be realigned onto an existing access road leading to Seaside High School and Noche Buena Avenue or a frontage road paralleling Fremont Boulevard which connects to Del Monte Boulevard. Access to the Highway 1 on-ramp from the west leg of Monterey Road would be preserved via a minor realignment and widening of the northbound Highway 1 on-ramp.
- Reconfigure the existing Fremont Boulevard/Del Monte Boulevard–Military Avenue intersection, which would allow unrestricted movement between all four legs of the intersection. (Currently, no left turns are allowed on Fremont Boulevard at this intersection; Military Avenue is restricted to only right turns in and out, and no traffic is permitted to travel between Del Monte Boulevard and Military Avenue.) The intersection would also be signalized. Alternatively, extend Del Monte Boulevard to Old Monterey Road via a frontage road paralleling Fremont Boulevard.

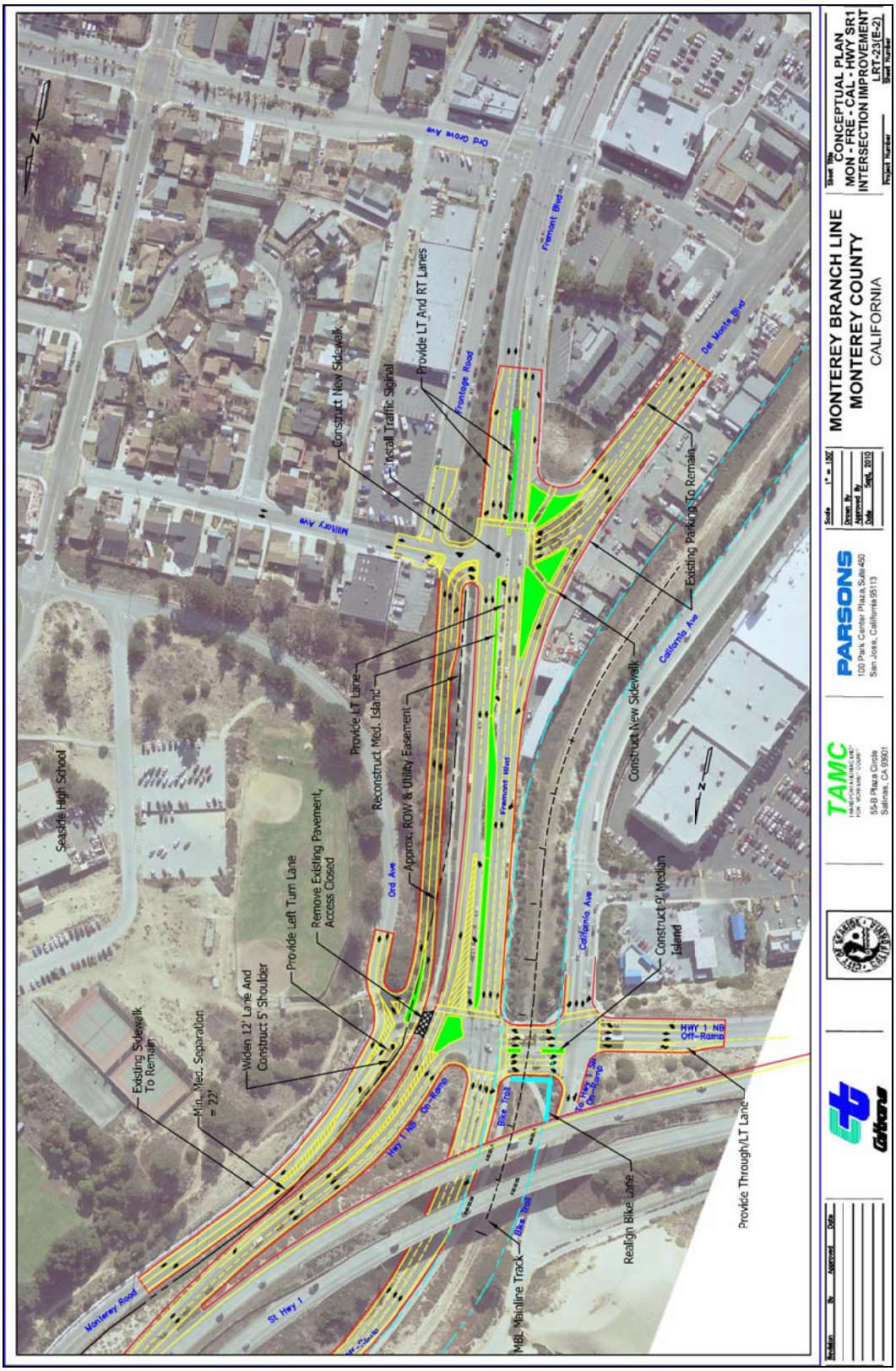


Figure 2.1-1: Highway 1/Fremont Boulevard Interchange Proposed Local Circulation Improvements

Construct a new Monterey Road interchange, just to the north of the Fremont Boulevard interchange. This interchange would provide the freeway connection to Monterey Road that would be severed by the Fremont Boulevard interchange reconstruction. As part of this interchange, a new connector road would be extended between the interchange and the existing Monterey Road, approximately one mile north of Fremont Boulevard.

- Add a new northbound auxiliary lane to Highway 1 between the Fremont Boulevard and Monterey Road interchanges.

Drainage

Phase 2 would include clean out of drainage channels at each crossing to clear accumulated sediment and debris.

South of the Salinas River, there are very few drainage structures because the ground is sandy and permeable. The track is either at-grade or in shallow excavation and some work to improve drainage flow and/or treatment may be necessary west of Marina Green Drive, in the vicinity of Palm Avenue, and from Tioga Avenue to Canyon Del Rey Boulevard.

Utilities

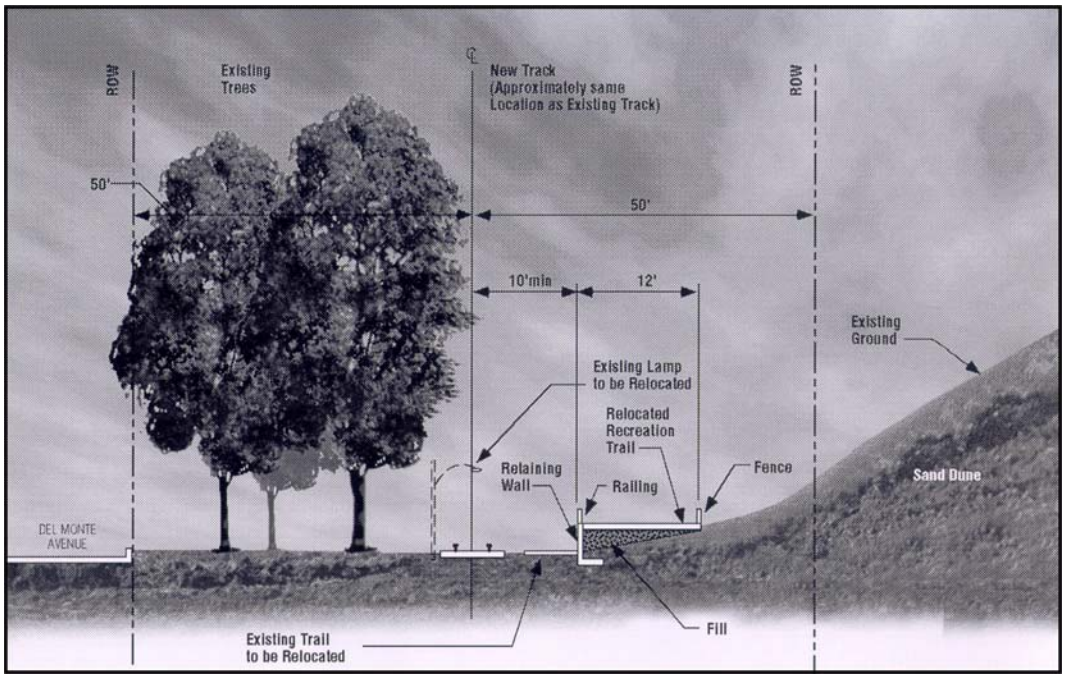
There are a variety of utilities both alongside and crossing the proposed action corridor at various locations. These include electricity, gas, cable television, telephone and water and wastewater conveyance. There are also irrigation and lighting systems associated with the Monterey Peninsula Recreational Trail in the city of Monterey. These utilities, both parallel and crossing, are located on easements from TAMC, or the cities of Seaside and Monterey; they may be subject to relocation depending on their location and which will be evaluated during the final engineering and design stages.

Recreational Trail

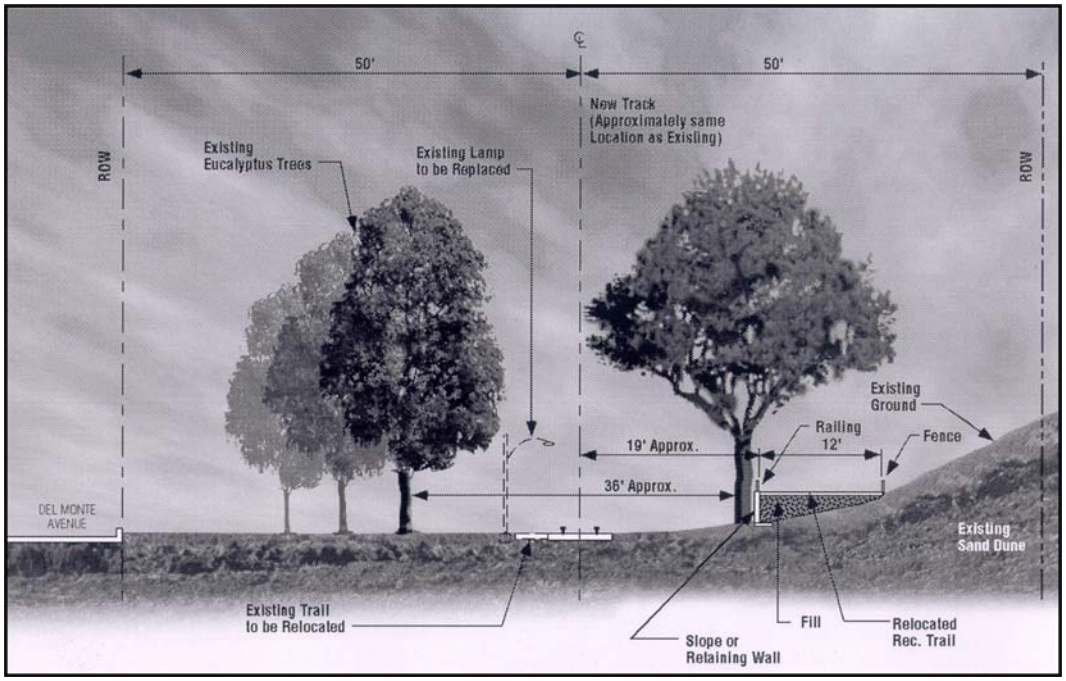
The Monterey Peninsula Recreational Trail extends 18 miles beginning in the city of Pacific Grove and terminating in Castroville area. The trail parallels the former MBL ROW within the Phase 1 portion of the proposed action alignment. North of the City of Marina (Phase 2 portion) the trail runs roughly parallel to the MBL ROW before terminating at Lapis Road. This asphalt-surface trail is wheel chair-accessible and used for walking, jogging, bicycling and skating. As currently proposed, the trail would generally be retained at the same level as the tracks. At two locations, one just west of the Highway 1 overpass and the other just west of Palo Verde Avenue, the trail would be elevated to avoid excavation into the adjacent sand dunes on the north side of the right-of-way. See Figure 2.1-2 for illustrative cross sections of the track restoration and elevated recreational trail.

The recreational trail would be reconstructed at various points where its current location conflicts with the proposed railroad track alignment, such as in the city of Monterey between Roberts and Del Monte avenues. The trail would be relocated to minimize grade crossings of the track. Pedestrian grade crossing warning signals would be installed at all the remaining crossings.

Between Canyon Del Rey Boulevard and Roberts Avenue in the city of Monterey, the existing trail would be relocated to cross the Roberts Lake estuary on a new pedestrian bridge over the estuary south of the railroad, and the existing concrete bridge would be used for the new railroad track. The trail would cross to the north side of the railroad track at Roberts Avenue, where a new signalized grade crossing is proposed. From Roberts Avenue to the west end of the recreation trail at Camino Estero, the trail would be reconstructed where necessary so that it remains on the north side of the new track.



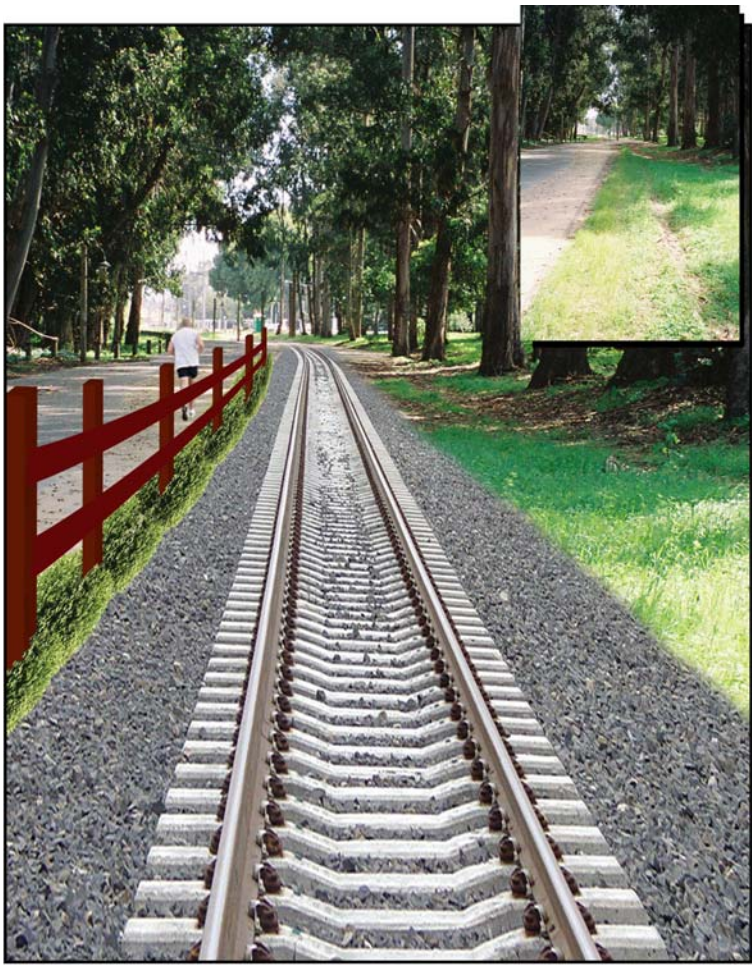
Typical Section Opposite Palo Verde Avenue
(approximately 300 yards west of Casa Verde Avenue)



Typical Section (approximately 300 yards west of Casa Verde Avenue)

Figure 2.1-2: Track Restoration and Elevated Recreational Trail Cross Sections

There are a few places where access paths to the recreation trail would cross the railroad ROW. At Casa Verde Way in the city of Monterey, two paths, one on each side of the street, are proposed to be closed so that pedestrian traffic would be directed to the sidewalks on Casa Verde Way, which would be controlled by a grade crossing signal and gates. At Sloat Avenue, there are two forks to the pedestrian path from Del Monte Avenue. One of these forks would be closed to minimize the number of grade crossings. Figure 2.1-3 shows a photographic rendering of the track next to the recreational trail.



Source: Parsons, 2011

Figure 2.1-3: Before and After Photo Simulation of the Monterey Peninsula Recreational Trail at Sloat Avenue (easterly view)

West of Casa Verde Avenue, sufficient space for the track to fit between the back of an existing bus stop sidewalk and the recreation trail exists. Figure 2.1-4 shows a photographic rendering of the track next to the recreational trail at this location.

Source: Parsons, 2011

Figure 2.1-4: Before and After Photo Simulation of the Monterey Peninsula Recreational Trail at Casa Verde (westerly view)

Throughout the entire planning process for the proposed action, maintaining the recreational trail within the project corridor has been recognized as a high priority. The project design would require that the trail connection be maintained during the construction stage.

Structures

The proposed action would replace the five timber trestle structures over drainage courses between Castroville and the Salinas River. A detailed description of these structures including proposed rehabilitation of the Salinas River Bridge is documented in the *Bridge Strategy Report for the Monterey Branch Line*, updated May 2010 (available under separate cover). As noted in Table 2.1-3, these structures would largely be replaced with culverts or, in the case of the Salinas River Bridge, rehabilitation of the structure is proposed.

Table 2.1-3: Trestle and Bridge Structures Affected by the Proposed Action

Mile Post	Structure	Description	Comments
111.05	Trembladero Slough	150-foot ten span timber trestle	Structure to be replaced using pre-stressed, precast concrete girders supported on driven pile bents
111.93	Alisal Slough	45-foot 3-span timber trestle	Structure to be replaced with culvert crossing
112.54	Drainage channel	120-foot 8-span timber trestle	Structure to be replaced with culvert crossing
112.80	Floodplain equalizer	225-foot 15-span timber trestle	Structure to be replaced with culvert crossing
113.04	Floodplain equalizer	90-foot 6-span timber trestle	Structure to be replaced with culvert crossing
113.50	Salinas River	715-foot 5-span steel through truss	Structure to be rehabilitated
Source: Parsons, 2010.			

Stations

Stations are proposed to be constructed at the locations noted in Table 2.1-4. Figures 2.1-5 and 2.1-6 show typical station plan and profile views for both side platform and center platform station arrangements. Figures 2.1-7 through 2.1-18 show an aerial perspective of the proposed station locations, beginning in Castroville and terminating in the city of Monterey at Custom House Plaza.

Station Amenities - As shown in Figures 2.1-5 and 2.1-6, each station would consist of a low-level platform with passenger amenities including benches, information kiosk/phone, night lighting, and trash receptacles. The stations would be designed to comply with the Americans with Disabilities Act. A two-foot wide tactile strip would be installed along the guideway facing the platform edge. One stand alone ticket vending machine would be installed on each platform. At the two proposed stations within the former Fort Ord military base at Eighth and First Streets, vertical access facilities (staircase and elevator) are assumed for connection with adjacent streets.

Table 2.1-4: Proposed Action Light Rail Transit Stations

Station Name	Affected Jurisdiction	Distance to Next Station (miles)	Station Characteristics and Parking
Custom House Plaza	City of Monterey	0.55	Extensive parking exists at site, to be replaced by 26-space lot plus bus accommodations
Naval Postgraduate (Sloat Avenue)	City of Monterey	0.77	Parking lot for 84 spaces planned
Casa Verde Way	City of Monterey	0.89	Parking lot for 171 spaces planned
Downtown Seaside (Contra Costa Street/West Broadway)	City of Seaside	0.87	Area around station to be redeveloped (by others); potential for shared parking
Sand City (Playa Avenue)	City of Sand City	2.90	Park-and-ride lot planned for this site
First Street	County of Monterey	0.58	Stairs and elevator required; for access; no parking planned
Eighth Street	City of Marina and County of Monterey	1.70	Stairs and elevator required; Next to site planned for future Transit-oriented development; 144 space park-and-ride lot proposed
Marina Civic Center (Palm Avenue)	City of Marina	0.37	Pick-up and drop-off area proposed with 37 stalls
Downtown Marina (Reservation Road)	City of Marina	0.57	Pick-up and drop-off area proposed with 8 stalls
Beach Road	City of Marina	0.54	Pick-up and drop-off area proposed
Marina Green Drive	City of Marina	5.32	Park-and-ride lot planned for this site
Blackie Road	Castroville (unincorporated)	--	North of SR 156; proposed future inter-modal transit station; extensive parking planned by others

Source: Parsons, 2010.

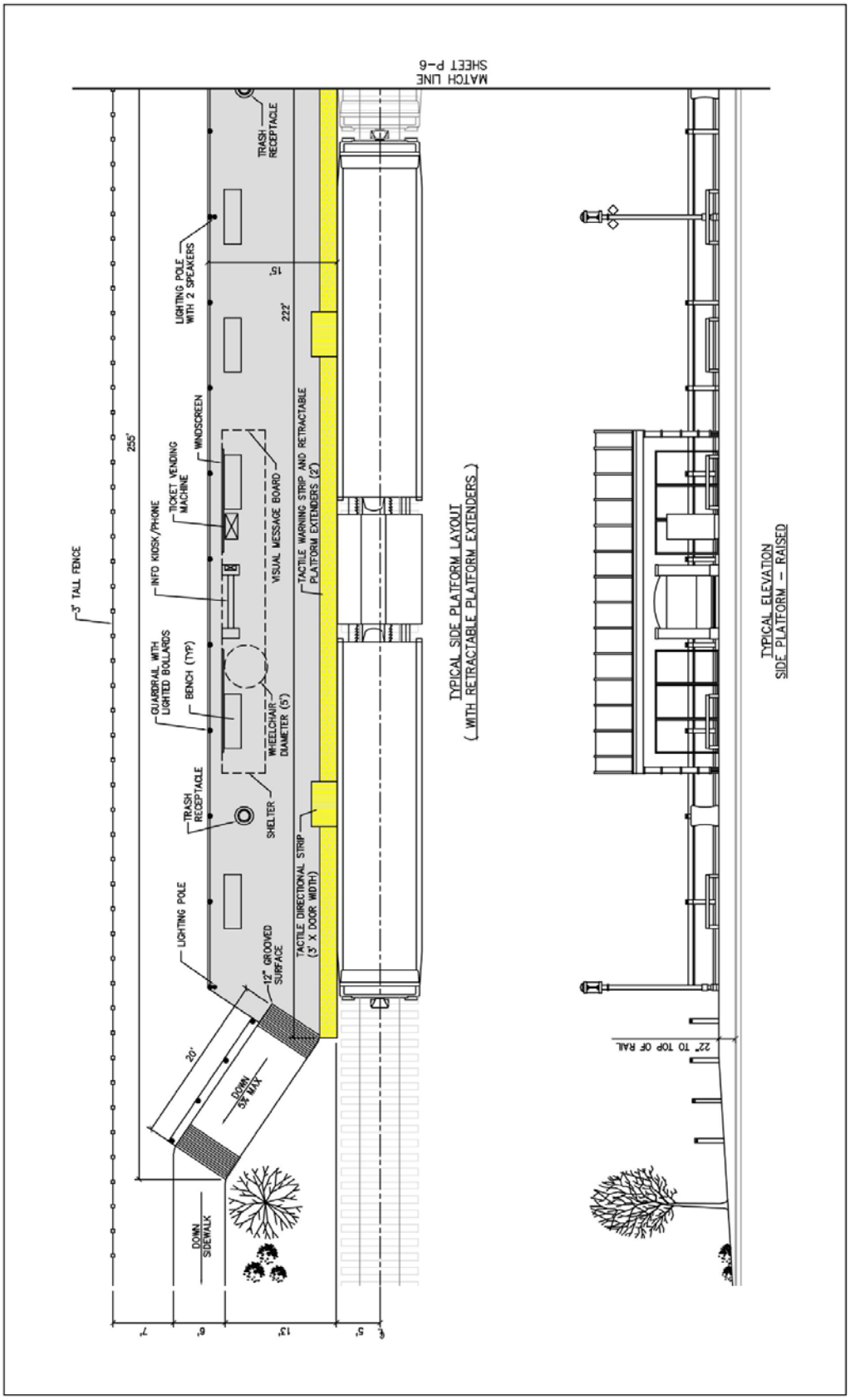


Figure 2.1-5: Typical Light Rail Transit Station Layouts (Side Platform Configuration)

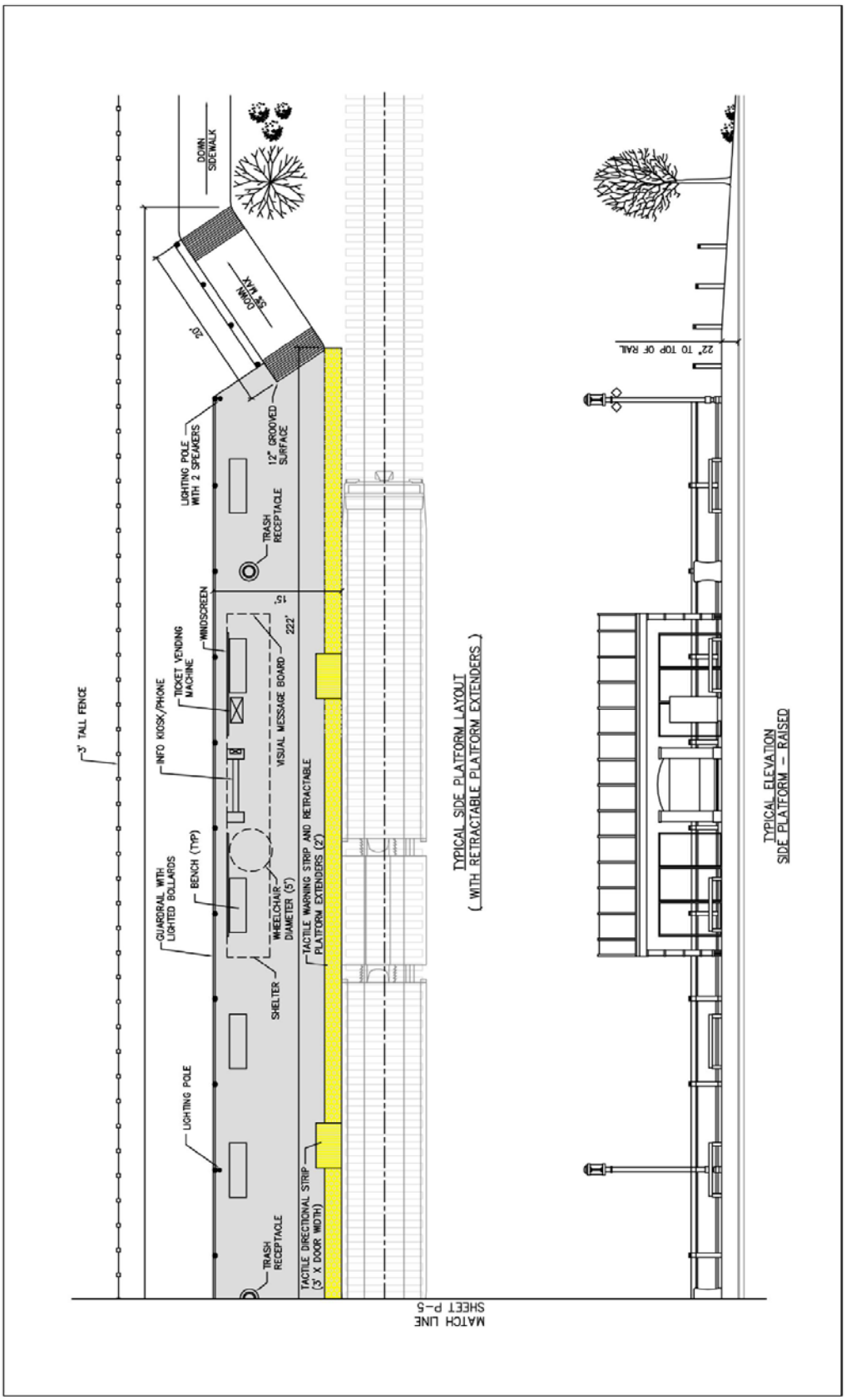


Figure 2.1-5: (cont.)

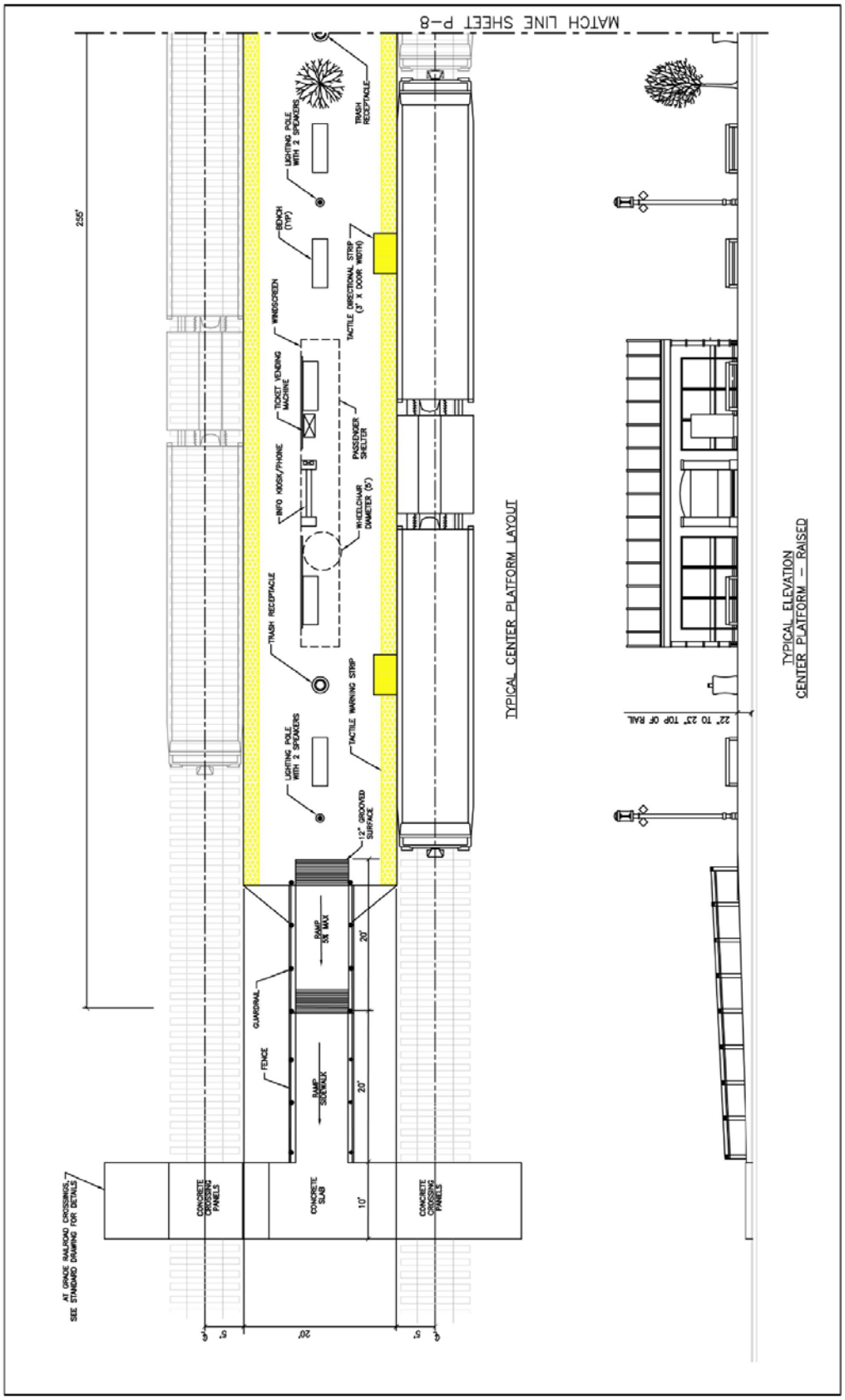


Figure 2.1-6: Typical Light Rail Transit Station Layouts (Center Platform Configuration)

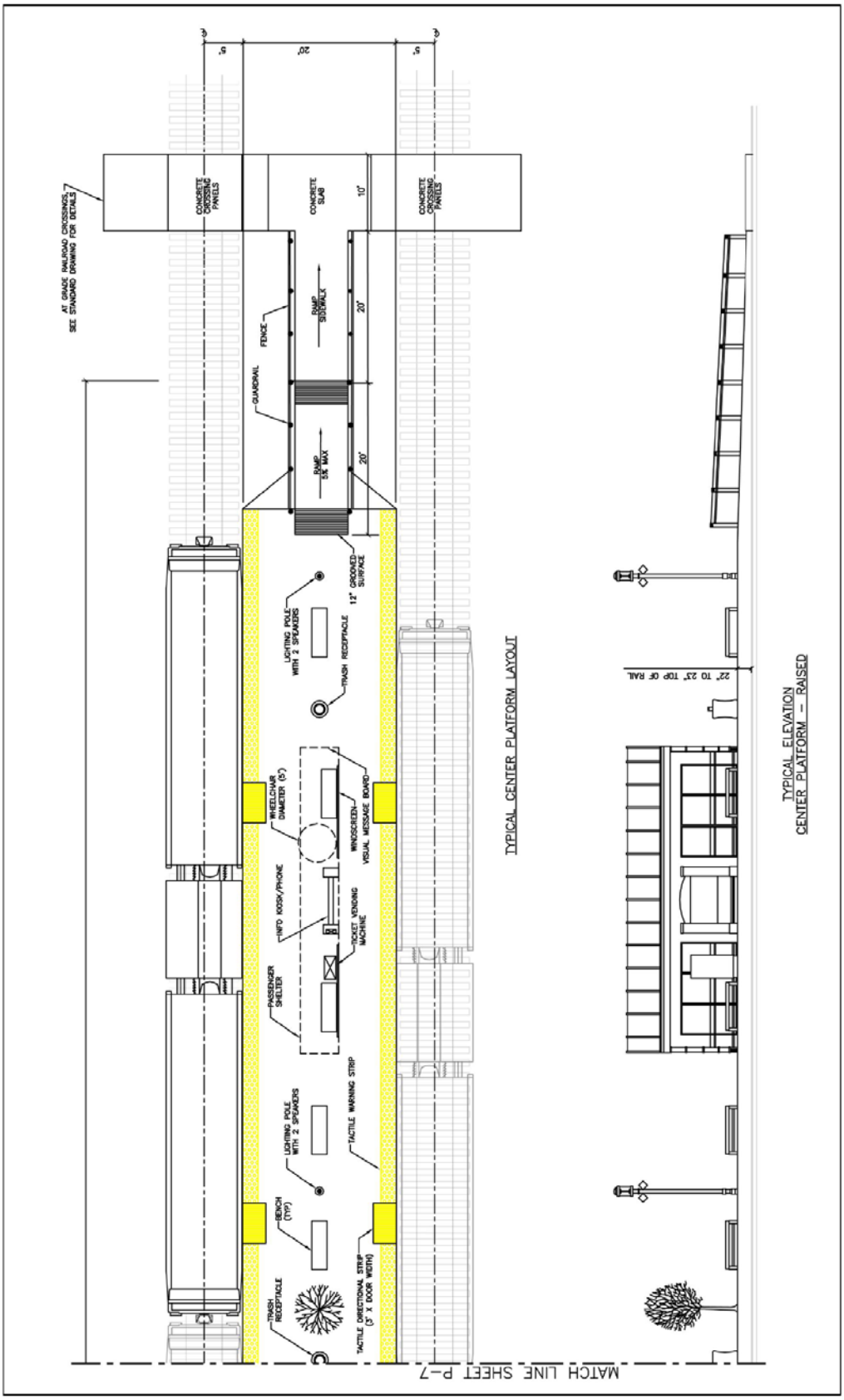


Figure 2.1-6: (cont.)
(Center Platform Configuration)

Figure 2.1-7: Proposed Station Location—Blackie Road, Castroville (Southerly View)

Figure 2.1-8: Proposed Station Location—Marina Green Drive, Marina (Northerly View)

Figure 2.1-9: Proposed Station Location—Beach Road, Marina (Northerly View)

Figure 2.1-10: Proposed Station Location—Reservation Road, Marina (Northerly View)

Figure 2.1-11: Proposed Station Location—Palm Avenue, Marina (Northerly View)

Figure 2.1-12: Proposed Station Location—Eighth Street, Marina (Northerly View)

Figure 2.1-13: Proposed Station Location—First Street, Seaside (Southerly View)

Figure 2.1-14: Proposed Station Location—Playa Avenue, Sand City (Southerly View)

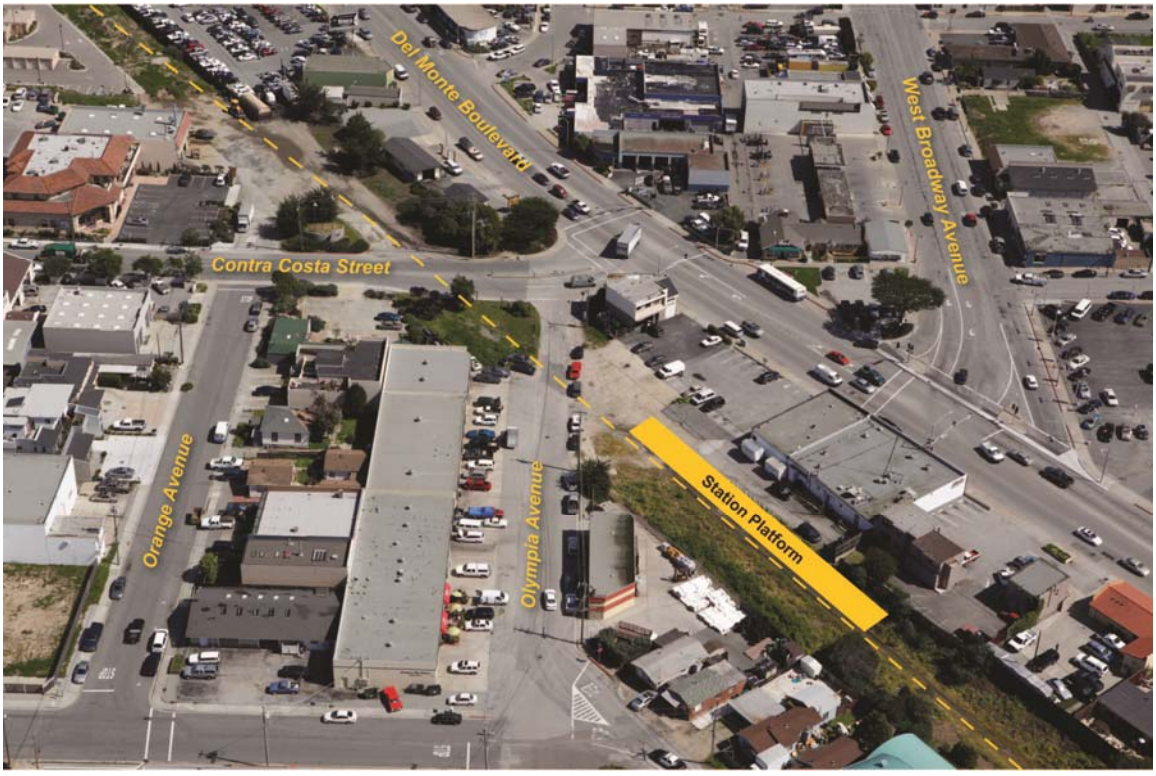


Figure 2.1-15: Proposed Station Location—Contra Costa Street, Seaside (Northerly View)

Figure 2.1-16: Proposed Station Location—Casa Verde Way, Monterey

Figure 2.1-17: Proposed Station Location—Naval Postgraduate School (Sloat Avenue), Monterey (View toward North)

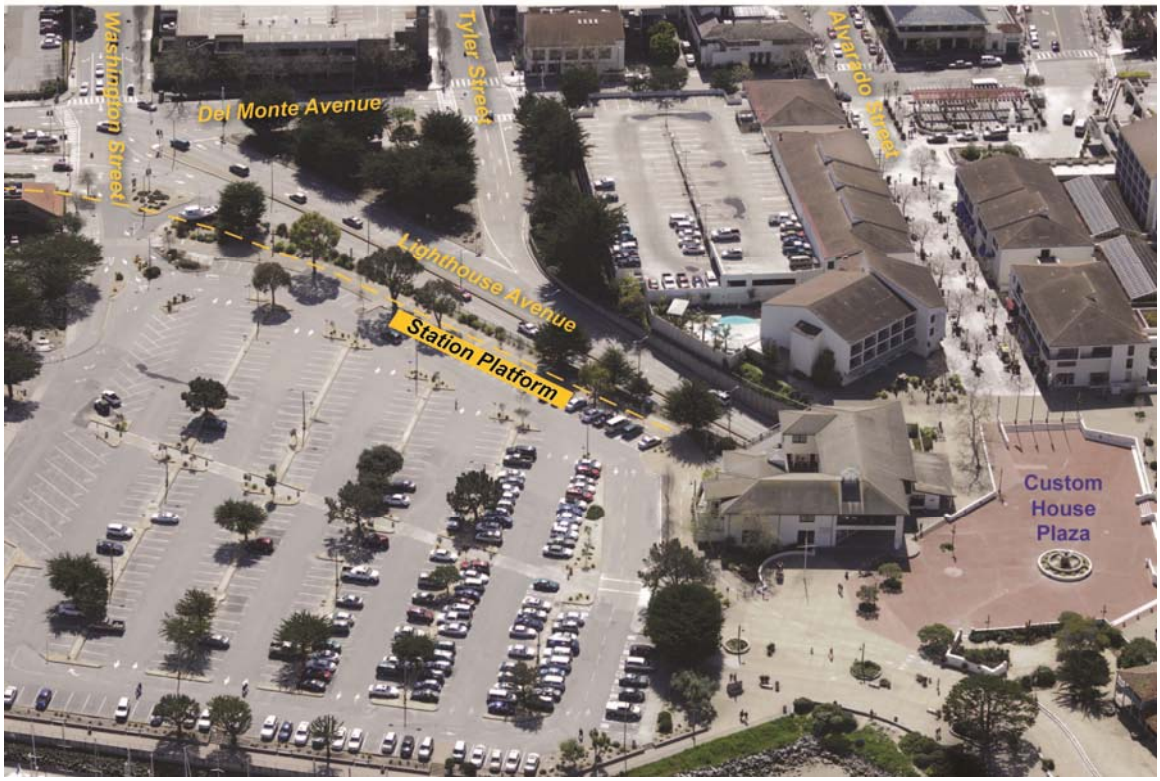


Figure 2.1-18: Proposed Station Location—Custom House Plaza, Monterey (View toward South)

The proposed action would be designed to be bicycle and pedestrian friendly, with bicycle lockers planned at each of the stations. LRT station designs would include several features to provide a safe environment for both bicyclists and pedestrians accessing the facilities. These include, but are not limited to, the following: concrete train crossing panels; crosswalks; decorative paver walkways; safety fencing where appropriate; automatic pedestrian sidewalk gates; wider sidewalks; and night lighting.

Parking and Pick-Up/Drop-Off Locations

The location of parking facilities is noted in Table 2.1-4. The size of each lot has been estimated based on the projected demand at each station. Bicycle and walk access to the proposed stations would be strongly encouraged and supported with bicycle storage lockers and pedestrian walkway access improvements.

A total of four (4) park-and-ride lots are currently proposed for construction at the stations identified in Table 2.1-4. Table 2.1-4 also provides the currently-proposed number of parking spaces at each lot to be constructed. These lots would be located at the proposed Marina Green Drive, Eighth Street, Casa Verde Way, and Playa Avenue Stations. Kiss-and-ride lots are planned at three (3) proposed stations, as follows: Beach Avenue; Reservation Road; and Palm Avenue. Extensive parking would be available at both the proposed Blackie Road (249 spaces) and Custom House Plaza Stations. There is also the possibility of shared parking at the Contra Costa Transit Plaza. There would be a net loss of off-street parking at the proposed Custom House Plaza Station since it would be constructed on an existing city of Monterey parking lot.

2.3.2 Acquisitions and Displacements

The proposed action would largely be built within the existing MBL ROW. Specific property acquisitions would be identified during final engineering although a number of affected properties have already been preliminarily identified. As noted in Table 2.1-5, a number of light industrial and commercial properties would need to be acquired, but no residential properties have been identified as needed.

TAMC would be required to adhere to the provisions of the federal *Uniform Relocation Assistance and Real Property Acquisition Policies Act* and the *California Relocation Assistance Act* in addressing acquisitions and displacements and will be required to prepare a Real Estate Acquisition Management Plan.

2.3.3 Operations

Rail Service

The proposed action would provide LRT service operations between the cities of Monterey and Marina initially (i.e., Phase 1), with connecting bus service to Castroville and the city of Salinas. As noted previously, Phase 2 service is dependent on funding and would serve the area between the northern portion of the city of Marina and the community of Castroville (anticipated by 2030). Diesel multiple unit (DMU) train service would be provided within Phase 1 and would serve the 11 stations contained in Phase 1. It is anticipated that DMUs would also be used to service Phase 2, but the actual technology would be determined once funding is made available. All train equipment would be interchangeable, thereby minimizing requirements for spare vehicles. As described below, the fleet would be stored at a new Maintenance Facility on the former Fort Ord military base.

Table 2.1-5: Potential Property Acquisitions

Local Jurisdiction	Address of Property	Assessor's Parcel Number (APN)	Take	Property (square feet [sq.ft.])	Current Land Use	Approx. Land Area Required (sq. ft.)	Purpose of Acquisition
Monterey	2101 Del Monte Avenue	011467002	Full	64,861	Industrial (vacant)	30,558	Parking Lot
		011441023	Full	Included above	Commercial, Industrial	Included above	
		011441024		Included above		Included above	
	1099 Del Monte Avenue	001801003	Full	15,198	Industrial	3,420	ROW
Seaside	1965 Del Monte Boulevard	011101015	Full	8,712	Public (vacant)	8,712	Parking Lot
		011101017	Full	9,875	Commercial	4,250	
	2081 Fremont Boulevard	011022014	Full	7,248	Commercial (vacant)	7,248	ROW
	2105 Noche Buena Street	011511003	Partial	2,516,700	Public	26,373	ROW

Source: Parsons, 2010.

At project start-up, 15 to 30 minute headways (i.e., frequency between consecutive trains) would be offered Monday through Saturday from 6:15 a.m. to 7:15 p.m., with 60 minute headways running to midnight. Sunday service would be provided every 30 minutes from 7:45 a.m. until 6:45 p.m. During Phase 1, four vehicles would operate during peak service to provide 15 minute headways, with connecting bus service to Castroville (from Marina Green Drive). Phase 1 is projected to accommodate 17,943[10] total transit boardings in 2015.

During Phase 2, appropriate peak service headway for the entire line would also be 15 minutes. A total of 22,674[11] total transit boardings are anticipated in 2035 pending operation of Phase 2.

Annual O&M costs (based on fiscal year 2007 estimates) and assuming a distance of 15.2 miles (Custom House Plaza to Blackie Road Station) are anticipated to be $6.06 million.

Special Trackwork

Special trackwork (turnouts, diamond crossings, and derails) would be constructed along the proposed action corridor. Turnouts would be constructed at passing sidings and junctions of the MBL with the UPRR Coast Mainline in Castroville (if provided). For unsignalized operation, turnouts at passing sidings would have spring switches. With this type of switch, the switch point rails are held in position by a spring with a damper mechanism. When a train approaches the turnouts facing the switch points (facing point move), the train is diverted to the track to which the points are aligned. When a train approaches from the other direction (trailing point move), the flanges of the wheels force the switch

[10] Note: Includes transfers between buses and between bus and rail.

[11] Ibid.

points to open, and the damper retards the points from closing to allow the train to pass through. This type of operation works when the facing point movement is always to the same track. The points can always be manually switched to allow facing point moves to the other track, but this is not normally necessary for passing operations.

For turnouts where facing point movements to either track are required, such as at the turnout to the maintenance yard, a push-button operated switch machine is proposed. The train operator would stop before the turnout and throw the switch points to the correct position if necessary prior to proceeding through the switch.

Systems

Phase 1 and Phase 2 operations are planned to run without train signals. Trains would be diverted to passing sidings with spring switches, as described above. Some signals would be needed at track junctions and crossings. The signals proposed would consist of wayside signal masts.

Automatic block signaling is an optional item. This is the simplest form of railroad signals and consists of wayside signals activated by track circuits to prevent trains from getting too close to each other. This does not replace procedures for authorizing trains to occupy segments or blocks of track, similar to an unsignaled railroad.

No communications systems are planned for the proposed action. Communications between a dispatcher and the cab operators could be via two-way radio or cell phone.

Traffic signals at intersections adjacent to grade crossings of the track would be preempted to allow traffic to clear the crossings. In most cases this involves adding preemption to existing traffic signals. Signal modifications would include upgrades to signal controllers and software to accommodate the transit priority treatment at intersections. The method of signal priority to be given (full or partial) would be determined as the result of detailed traffic analysis conducted during the final engineering and design phases.

NextBus® is an optional item for the proposed action. This is a system that keeps track of vehicle locations and conveys anticipated arrival times to individual stations on sign displays. The system consists of a central computer operated and maintained by NextBus®, on-board transmitters so that global positioning system (GPS) satellites can track the locations, and station-mounted message boards. Data is transmitted via the internet.

Right-of-Way

The MBL ROW is generally 100 feet wide. The original corridor right-of-way widens to about 400 feet near the project terminus at the proposed Custom House Plaza Station in the city of Monterey.

2.3.4 New Maintenance Facility

A new maintenance facility for service and inspection of trains is included as part of the proposed action. This facility would be constructed east of Highway 1 on over three acres of land formerly used for Fort Ord military base quartermaster warehousing and currently owned by TAMC and MST. This facility, to be accessed via the Fifth Street undercrossing of Highway 1, would be fenced for security and to minimize visual impact. The maintenance building itself would be set back 100 or more feet from the highway, and building height would be 45 feet or less. Parking lot space would be designed to accommodate approximately 50 vehicles.

As shown in Figure 2.1-19, there are three options: one site located on the coastal side of Highway 1 and parallel to the project corridor; and two sites located on the inland side of Highway 1 at the former Fort Ord military base quartermaster warehouses site. Based on conceptual planning, the Maintenance Facility to the west of Highway 1 has a linear design extending between mile post (MP) 492 and 512. The two site footprints west of the First Avenue/Fifth Street intersection partially overlap. One Maintenance Facility concept has a north-south orientation and one is oriented east-west. All of the options would have identical components, including an expansive service bay and rooms for parts and body repair as well as various storage purposes.

For the Maintenance Facility site on the inland side of Highway 1, the existing railroad spur track connection to the former Fort Ord military base quartermaster warehouses at Fifth Street would be restored. The six- to eight-inch asphalt overlay to the rail track would be removed to uncover good-condition track, and the pedestrian / bicycle trail would be relocated to First Street and Eighth Street via the Highway 1 undercrossing and bridge structures, respectively. However, to the east of Highway 1 new yard track would be needed for storage and layover.

For the Maintenance Facility site on the coastal side of Highway 1, the southerly portion of the existing 'balloon spur' track in this area would be either be restored or replaced. The ties would need to be selectively replaced and new ballast added. An existing railroad siding would be removed. It is likely that existing track can be relocated and resurfaced, in part to extend the yard south to tie back to the mainline.

Given the proximity to the project corridor, any of the three Maintenance Facility locations would result in minimal deadhead distance (i.e., the distance between mainline track and maintenance facility); hence, operating costs would be minimized.

2.3.5 Implementation Schedule

Implementation of the proposed action is planned over the next 5 years for Phase 1. Phase 2 is dependent upon funding and is anticipated to be built by the 2030. The following activity schedule for Phase 1 is proposed:

- Completion of the environmental compliance phase (24-month duration, ending in Winter/Spring 2012)
- Completion of Final Design (18-month duration, ending in June 2013)
- Construction and testing (18-month duration, ending in December 2014)
- System operation – (begin revenue operation in January 2015).

2.3.6 Permits or Approvals Anticipated to be Required for the Proposed Action

The following public agencies may be required to approve or issue permits necessary to construct the proposed action:

- Regional Water Quality Control Board (RWQCB), Central Coast – National Pollution Discharge Elimination System

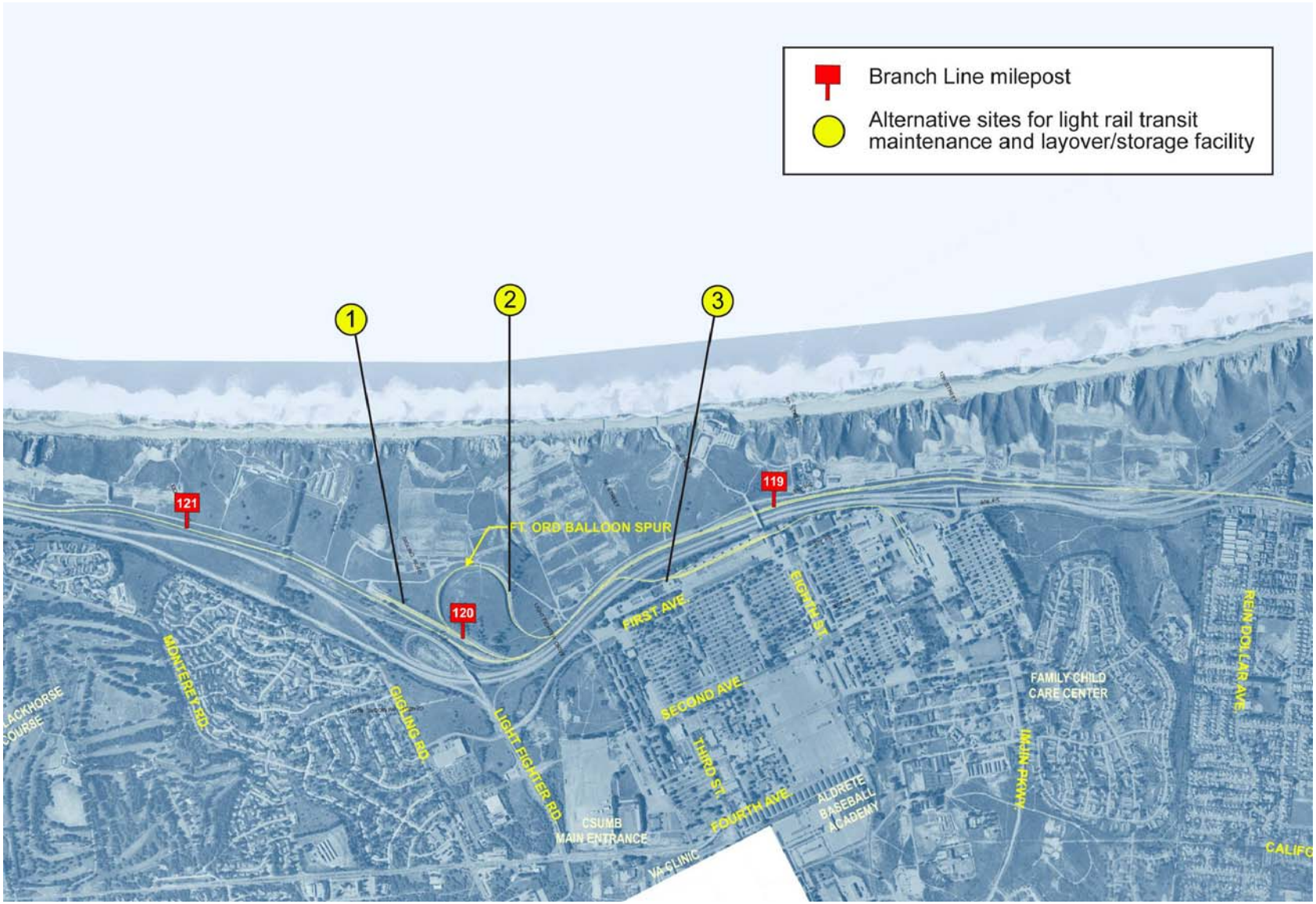


Figure 2.1-19: Proposed Maintenance Facility Location Options

- California Public Utilities Commission (CPUC) – Approval of signal plans and improvements to grade crossings
- County of Monterey and Cities of Monterey, Seaside, Sand City, and Marina – Plan review and approvals for proposed track work and station improvements. Temporary construction easements (if necessary) for construction activities
- United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) – Biological Resource Permits, if necessary
- United States Army Corps of Engineers, Nationwide Permit
- California Coastal Commission – Coastal Development Permit

2.4 Alternatives Analysis Development and Selection of the Locally Preferred Alternative

This Project Description/Alternatives Considered section provides an overview of FTA's Alternatives Analysis (AA) process for New Starts projects. The proposed action was subject to this required planning process in advance of preparation of the EA component, per FTA requirements. This section also describes the processes which resulted in the identification of the EA/EIR Alternatives (i.e., Proposed Action and No Action/No-Build Alternative).

The AA is the first step of the FTA's New Starts project development process and is conducted in advance of the EA process. The AA process is divided into four major steps: study initiation; development and refinement of alternatives and technical methodologies; analysis and evaluation; and selection of the LPA. These steps necessarily follow one another in sequence, with the results of each phase serving as necessary inputs to the following phase. In addition, the AA serves as the local forum for evaluating the costs, benefits, and impacts of a range of transportation alternatives designed to address mobility problems and other locally-identified objectives in a defined transportation corridor, and for determining which particular investment strategy should be advanced for more focused study and development. For AA studies which may result in the local selection of a project eligible for FTA New Starts or Small Starts funding, the AA further serves as the process for development of the technical information necessary to support a candidate project's advancement into New Starts preliminary engineering. Figure 2.1-20 contains an overview of the FTA's AA planning and development process.

The FTA indicates that while the range of alternatives in the AA should include all reasonable and promising choices available to decision-makers, the number of alternatives considered should be as small as possible in order to reduce the complexity of the analysis process, preparation time, and cost of the study. However, where a large number of alternatives are proposed for advancement into alternatives analysis, FTA encourages local sponsoring agencies to perform a preliminary screening task early in the study to reduce the number of alternatives to a manageable few.

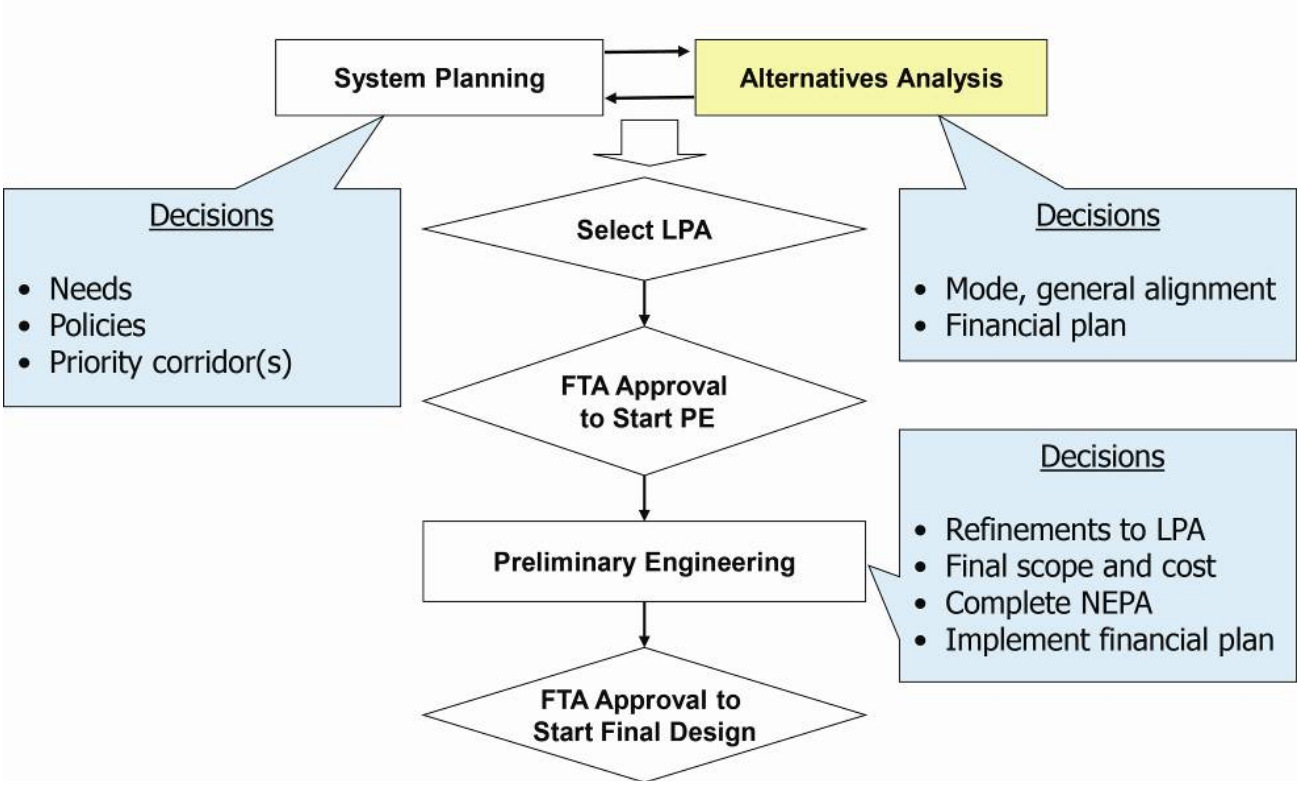


Figure 2.1-20: Planning and Project Development

2.4.1 Identification of Alternatives and Selection of the Locally Preferred Alternative

Two tiers of transit alternatives were examined including seven build rail and bus options, and a no-build alternative for comparison of benefits. Intercity rail, commuter rail, local Peninsula light rail and local BRT and enhanced bus improvements were defined, costs and potential impacts quantified, and each alternative was evaluated against a number of performance criteria linked to project purpose and need objectives. The criteria fell into several categories: relief of existing and forecast traffic congestion (roadway/intersection operations); ability to attract and efficiently move transit riders (total daily and new transit users; vehicle travel times); improve the local environment and promote smart, sustainable growth (environmental impacts); and costs relative to funding (both capital and operating). High cost alternatives and those not significantly benefiting local traffic and mobility were dropped from further consideration. This screening resulted in a second level of alternatives for further refinement and additional evaluation. These included a no-build and five build alternatives:

- BRT-1: Bus rapid transit from the city of Monterey to the city of Marina along a restored MBL transitway
- BRT-2: Bus rapid transit from the city of Monterey to the unincorporated Monterey County community of Castroville along a MBL transitway
- LRT-1: Light rail transit from the city of Monterey to the city of Marina along a restored MBL rail guideway using DMUs
- LRT-2: Light rail transit from the city of Monterey to the unincorporated Monterey County community of Castroville Castroville on the MBL using DMUs

- Enhanced Bus: Improved bus service on existing roadways from the city of Monterey to unincorporated Monterey County community of Castroville.

The evaluation of the second tier alternatives included extensive outreach to the public, local agencies and decision-makers in addition to more detailed analysis of costs and impacts. The process resulted in a recommendation of Alternative LRT-1 as the preferred initial investment and Alternative LRT-2 as a longer term investment, implemented to support long-term corridor growth. On October 28, 2009, the TAMC Board of Directors in Resolution No. 2009-13 adopted phased LRT as the LPA for the Monterey Peninsula corridor (proposed action alignment).

The reasons for selecting phased LRT over BRT and other alternatives included:

- Ridership*:* In the near term, LRT and BRT alternatives had similar ridership potential. Average weekday boardings were estimated to be range from 4,300 to 4,450, with LRT-1 rail service to the city of Marina at the high end of this range. Daily boardings on build alternatives were approximately 80% higher than for the no-build condition (2,400 daily boardings) and 35 to 40% higher than on the enhanced bus/transportation system management alternative (3,150 daily boardings). However, light rail, including LRT-2 rail service to Castroville, was anticipated to have greater potential for long term ridership growth.

- Costs*:* Total capital costs of the LRT and BRT alternatives were similar. In the absence of value engineering of improvements, the initial phase of BRT had the lowest costs and a two-phased LRT-2 project the highest. However, capital cost savings were feasible for light rail without adversely affecting project benefits. As a result, the initial phase of the LPA (LRT-1 to Marina) could be constructed at the lowest cost of all build alternatives, $164.4 million in Year of Expenditure (YOE) dollars. Operating costs, measured in terms of the net change in systemwide costs to MST, the regional transit operator, were lower for the initial phase of light rail compared to the initial segment of BRT. LRT-1 was estimated to increase system costs by $6.1 million ($2007) and BRT-1 by $7.9 million, a difference of $1.8 million (all $2007). LRT-2 would have had the highest operating costs of all alternatives ($8.9 million increase) and BRT-2 the second highest ($8.2 million).

- Cost-Benefit*:* Weighing ridership potential and other benefits of rail against its moderately higher initial capital cost, policy makers and the public concluded that rail was a superior long-term investment strategy. By one benefit-cost measure, in fact, LRT-1 would perform better than BRT-1 in the opening year: the annualized cost (capital and operating) for each new transit user was estimated to be $10 for LRT-1 and $11 for BRT-1.

- Traffic, Transportation and General Mobility*:* Light rail would reduce growth in single passenger automobile trips. Rail would expand intra-county travel options in the capacity constrained Highway 1 corridor. Major intersection operations would improve at several critical locations relative to the no-build.

- Other Environmental Impacts*:* Phased light rail transit had fewer adverse environmental impacts and greater environmental benefits than phased BRT:

  - Rail had greater potential to divert single occupant vehicle trips to high-capacity transit. Each rail vehicle would have had twice the capacity of each BRT vehicle. Rail vehicles could also be linked into trains.

  - Energy use and emissions per rider were lower for light rail than BRT. In the long term, light rail's greater capacity holds more potential to reduce emissions, including GHGs and slow the growth in transportation energy consumption.

- Rail supports efforts to promote other travel alternatives to the auto, such as bicycles and pedestrians by accommodating bikes on-board vehicles and creating pedestrian environments around stations.
- The LPA would facilitate TODs proposed in land use plans of the corridor cities.
- Other economic benefits included expanded access to employment centers and visitor/recreational facilities in and around the city of Monterey.

- Local Support*:* Local policymaker and public support was highest for phased LRT; it would serve intra-county trips and has the highest potential to attract choice riders and divert auto users to transit.
- Service Reliability and Convenience*:* Rail service reliability would be the highest of all modes as it would operate largely in segregated ROW and include priority through protected at-grade crossings.
- Financial Feasibility*:* Major roadway widening was infeasible, particularly along Highway 1 due to cost and environmental impacts. The LPA and other transit investment strategies carried through the AA were financially feasible.

2.4.2 Identification of Alternatives for Evaluation in the EA/EIR

NEPA and CEQA require that an EA and EIR, respectively, include alternatives to the proposed action which could reasonably achieve the need that the proposed action is intended to address. It should be noted however, that unlike the AA process, the range of alternatives considered in an EA and EIR is generally limited. The following alternatives were identified for analysis in the EA/EIR:

No Action/No-Build Alternative

This Alternative was identified in order to allow decision-makers and the public with an understanding or what could result without implementation (i.e., no construction) of the LPA (proposed action). This alternative was previously described.

Locally Preferred Alternative (Proposed Action)

As noted above, the LPA was selected based upon a rigorous and extensive analysis processes which involved consultation with the public and decision-makers. This alternative was previously described above.

2.5 Related Projects

This section describes and summarizes other related projects that are known or planned within the proposed action corridor and which are anticipated to be built of operated during Phase 1 of the proposed action. A related projects list for Phase 2 has not been developed, since this component is funding dependent and may not be constructed until 2030.

2.5.1 Other Planned Transit Projects

Commuter Rail Extension to Monterey County

This project would extend commuter rail service southerly from the existing terminus in Gilroy to Monterey County, including stations in Pajaro/Watsonville, Castroville, and Salinas. The commuter rail service could operate as an extension of existing Caltrain service between San Francisco and Gilroy to

Salinas, or an extension of existing Capitol Corridor service between Auburn or Sacramento and San Jose to Salinas.

Frank J. Lichtanski Monterey Bay Maintenance & Operations Center

A new consolidated MST Maintenance & Operations Center is currently planned on the former Fort Ord military base at 10601 Inter-Garrison Road. This facility, to support an anticipated future fleet of 205 buses, 50 paratransit vehicles, 60 support vehicles and 550 employees, would consolidate MST's maintenance, operations and administrative functions at one location (MST, 2010). The project entails development of: 36,000 square feet, 3-story Administration Building; 96,450 square feet 2-story bus maintenance building; 18,620 square feet fuel/brake/tire building; 8,373 square feet bus wash/steam cleaning facility; and approximately 15 acres of paved parking. This project is currently under environmental review with County.

2.5.2 Highway and Roadway Projects

Citywide Street Resurfacing, City of Marina

On-going program for street resurfacing and maintenance within the city. Specific streets that would be affected in future years are not yet known.

Street Improvement Project, City of Marina

Full traffic signal system and street improvement projects at Imjin Parkway/ Road/Boulevard. Project is in the design phase.

Citywide Street Resurfacing, City of Monterey

On-going annual street resurfacing program involving several streets each year during late summer and early fall. Specific streets that would be affected in future years are not yet known.

Citywide Transportation and Parking Study, City of Monterey

Study to reconfigure and enhance the City's circulation system to better accommodate bicycle, pedestrian, and public transit options, redefine LOS to accommodate a variety of transportation modes, design complete streets within the mixed use specific plan areas, and potentially reconfigure Foam, Lighthouse, Del Monte, and downtown circulation to address these goals. Study is underway with expected completion date of June 2011.

Broadway Avenue Street Improvements, City of Seaside

Project to include resurfacing, traffic signal upgrades, and landscaping; located along Broadway Avenue from Del Monte Boulevard to General Jim Moore Boulevard. Project is currently out-to-bid for construction contract.

Pavement Management, City of Seaside

Annual pavement overlays conducted at specific streets located throughout the city as part of street maintenance program.

2.5.3 Development Projects

The list of related projects shown in Table 2.1-6 was derived from information provided by the cities of Monterey, Seaside, Sand City, and Marina and the County of Monterey.

Table 2.1-6: Related Projects

Project Title	Planned Project & Location	Project Status	Estimated Construction Timeframe
City of Marina			
Downtown Vitalization	Downtown Specific Plan and accompanying planning documents are being prepared with the goal of developing an attractive, pedestrian-friendly and visitor-serving commercial district. The project would include street improvements to both Reservation Road and Del Monte Boulevard.	Project is undergoing environmental review.	15 to 20 year timeframe
The Dunes	Development on approximately 430 acres of a mixed-use village center with retail components of approximately 750,000 square feet, office/research uses of approximately 760,000 square feet, parks and open space, public facility uses, as well as 1,237 new residential units and up to 500 new hotel rooms; located east of Highway 1 and south of Imjin Parkway.	Entitled project is under construction	2006-2020
Marina Station	Project includes 1,360 residential units, 60,000 square feet commercial / retail, 143,808 square feet office and 651,624 square feet business park / industrial. This 320-acre site is located on both sides of Del Monte Avenue along the northern city limits.	Entitled project	2010-2027
City of Monterey			
Lighthouse Specific Plan	Development of land use regulations and design guidelines for future mixed use projects along Lighthouse Avenue	On-going; Preferred Land Use alternatives accepted in December 2010	2012
Downtown Specific Plan	Development of land use regulations and design guidelines for future mixed use projects within the downtown	On-going. Preferred Land Use alternatives accepted in December 2010	2012
Waterfront Master Plan	Long-term, visionary master plan for the City's waterfront located between the west end of San Carlos Beach to Sloat Avenue and includes Del Monte Avenue as its southern boundary.	On-going. Preferred Land Use alternatives accepted in December 2010	2012

Table 2.1-6: Related Projects (cont.)

Project Title	Planned Project & Location	Project Status	Estimated Construction Timeframe
City of Seaside			
West Broadway Urban Village Specific Plan	Specific Plan proposes an urban village, containing a mix of residential (market rate and affordable for sale and rental units) with ground-floor retail and commercial uses. This also will be the future site of a proposed transit hub. Located on both sides of Del Monte Boulevard, at the Broadway Avenue and Palm Avenue intersections.	Specific Plan adopted; no private redevelopment projects under current review	Unknown
In-N-Out Project	Project to develop 3,700 square feet restaurant and related facilities on 6 acres located at 1350 Del Monte Boulevard	Draft EIR expected out for public review in December 2010	July 2011
Utility Systems			
CalAm Coastal Water Project	Project would provide a new water supply to the Monterey Peninsula through desalinization, convey it to the existing California American (CalAm) distribution system, and increase the system's storage capacity in the Seaside Groundwater Basin. Project has two main components: Moss Landing Project and North Marina Project. Both projects would include a seawater intake system, desalination plant, brine discharge system, and conveyance and storage facilities.	EIR finalized; CPUC vote on Certificate of Convenience and Public Necessity expected in late 2010.	2011-2015
Sources: City of Marina: Teresa Szymanis; City of Monterey: Elizabeth Caraker; City of Seaside: Rick Medina; County of Monterey: Mike Novo, Bob Schubert & http://www.co.monterey.ca.us/; California PUC website: http://www.cwp-eir.com/			

Chapter 3. Traffic and Transportation

3.1 Introduction

The purpose of this chapter is to document the potential operational transportation impacts associated with implementation of the proposed action. This section has been prepared based on the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

3.2 Rail and Bus Transit Service

3.2.1 Existing Rail Service

There is currently no rail service available within or parallel to the proposed action corridor. The city of Salinas is served once daily (in each direction) by Amtrak's Coast Starlight, and several times daily by its Thruway buses connecting the Monterey Bay area with Amtrak trains operating out of the city of San Jose. Amtrak provides bus service to the Monterey Transit Plaza via Salinas on Pacheco Pass Route 37 from the city of Merced. In addition, Amtrak bus feeders to/from the Coast Starlight use this stop. However, there are no ticket sales or checked-bag services at the Monterey Transit Plaza.

3.2.2 Existing Bus Service

Greyhound Bus Lines, a private inter-city transit company, provides limited regional transit service between the cities of Monterey and Salinas (AMBAG 2005). Public transit service within the proposed action corridor is provided by MST. MST serves a 280 square-mile area within Monterey County and the southern portion of Santa Cruz County. Of MST's 50 routes, 37 serve an estimated population of 352,000 people within three-quarters of a mile of established routes. MST provides service on weekdays and Saturdays from approximately 7:00 am to 11:00 pm and from approximately 7:30 am to 5:30 pm on Sundays and holidays (MST, 2010).

MST currently operates the following two major operations centers: Thomas D. Albert Operations Facility in the city of Monterey which houses its administrative offices, dispatch, and Monterey Peninsula operations and maintenance; Clarence "Jack" Wright Operations Facility in the city of Salinas which houses its operations and maintenance for the Salinas area service and provides a backup dispatcher location. As described in Section 2.0, Project Description/Alternatives Considered, a new consolidated Monterey Bay Maintenance & Operations Center is currently planned on the former Fort Ord military base.

There are five key transit centers operated by MST, three of which are located within the proposed action corridor and described below.

- Monterey Transit Plaza is the main transit center in Monterey; it is operated by MST, but also served by Amtrak Thruway buses and Monterey/Salinas Airbus. It is located at Jules Simoneau Plaza, a city park at the intersection of Munras Avenue, Pearl Street, and Tyler Street near the southern end of Alvarado Street. The Plaza can accommodate ten buses.
- MST Edgewater Transit Exchange is located in the city of Sand City along Playa Avenue immediately west of California Avenue, which parallels the proposed action corridor to the west. There is room for three buses at this on-street facility.

- Marina Transit Center, located at 280 Reservation Road in the city of Marina, features eight bus gates, electronic signage for bus arrival and departure times, and a customer service window.

As listed in Section 2.0, several bus lines serve the proposed action corridor between the cities of Monterey and Marina. Route 20 is considered the backbone of the system, providing critical service along Del Monte Boulevard and Highway 1 between Monterey and Marina, then on to the city of Salinas (Seaside, City of, 2004). Route 20 parallels the proposed action corridor between Monterey and Marina.

In addition, Route 27 provides limited, two-hour headway (i.e., frequency between consecutive buses) service between the community of Castroville and the city of Marina on weekdays. Local services generally provide 30 minute to one hour service during weekdays.

As of 2006, ridership on MST's Monterey Peninsula routes averaged 7,516 passengers per day. Route 20 is the most popular line with an average of 2,030 weekday riders (TAMC, 2006).

3.2.3 Future Rail and Bus Services

TAMC is proposing to extend commuter rail service south to Monterey County from the city of San Jose either as an extension of Caltrain or Amtrak's Capitol Corridor services. This proposed project would provide commuter rail service connecting the city of Salinas and unincorporated Monterey County communities of Castroville and Pajaro to the existing Caltrain service serving Santa Clara, San Mateo, and San Francisco counties and Capitol Corridor service to Alameda County, Oakland, and Sacramento. This proposed project is undergoing environmental review and is proposed to include a passenger station in Castroville (Blackie Road).

3.3 Vehicular Traffic

3.3.1 Existing Street and Highway Conditions

The proposed action corridor contains a variety of land uses and related street/intersection layouts. In the more developed areas of the corridor (i.e., Phase 1), traffic signals control intersection movements while in less developed areas (i.e., Phase 2) of the corridor stop signs control traffic movements. Existing transportation facilities are described below by jurisdiction. The characteristics of highways and major roads in the proposed action corridor are described in Table 3.1-1.

County of Monterey

Beginning in the unincorporated community of Castroville, the proposed action corridor extends southerly between agricultural fields to the city of Marina. Four roadways cross the proposed action corridor at-grade: Blackie Road; SR 183; Nashua Road; and Del Monte Boulevard. In addition to these public road crossings, private roads (driveways) cross the proposed action corridor to access the Dole Foods plant along Monte Road just east of Del Monte Boulevard, and the RMC Pacific Materials sand plant along Lapis Road to the west of Del Monte Boulevard. Figure 3.1-1 shows the locations of motor vehicle crossings along the proposed action corridor within unincorporated Monterey County and the community of Castroville.

Table 3.1-1: Characteristics of Highways and Major Roads within the Proposed Action Corridor

Agency	Highway / Road	Location	Number of Lanes/ Classification	Function
County of Monterey	Blackie Road	Castroville to Prunedale	2- to 4-Lane County Road	Access to agricultural processing facilities
	State Route 183	Salinas to Castroville	2-Lane Highway	Intra-regional travel
	Nashua Road	From Hwy. 1 southeast & east of Salinas River	2-Lane County Road	Agricultural service road
	Del Monte Boulevard	North of Marina to Hwy. 1 Interchange	2-Lanes / Rural Highway	Intra-regional travel
City of Marina	Del Monte Boulevard	South of Beach Road to Hwy. 1	4-Lane Divided / Major Arterial	Intra-regional travel
		North of Beach Road to City Limits	2-Lanes / Major Arterial	Intra-regional travel
	Marina Green Drive	West of Del Monte Blvd.	2-Lanes / Local Street	Access to residential & industrial areas
	Beach Road	Reservation Rd. to Del Monte Blvd.	Arterial	Connection to Highway 1
		East of Del Monte Blvd.	2-Lanes / Collector	Access to residential neighborhoods
	Reservation Road	Marina State Park to Del Monte Blvd.	2-Lanes / Major Arterial	Access to Marina commercial district
		Del Monte Blvd. to Blanco Road	4-Lane / Major Arterial	Access to Marina commercial district
	Palm Avenue	Del Monte Blvd. to Lake Drive	2 Lanes / Collector	Access to residential neighborhoods
		Lake Drive to Sunset Avenue	2 Lanes / Collector	Access to city hall, police and fire stations
Cities of Seaside and Sand City	Del Monte Boulevard	Fremont Blvd. South to City Limits	4-Lanes / Major Arterial	Intra-regional travel
	California Avenue	Monterey Road to Playa Avenue	2-Lanes / Local Street	Access to businesses / shopping centers
	Monterey Road	Fremont Blvd. to California Avenue	4-Lanes / Local Street	Access to residential and high-school
		North of Fremont Blvd.	2-Lanes / Collector	Access to residential and high-school
	Playa Avenue	Noche Buena St. to East of Hwy. 1	4-Lanes / Local Street	Commercial / Shopping Center access
	Tioga Avenue	Monterey State Beach to East of Del Monte Blvd.	2-Lanes / Collector	Access to Commercial / Shopping Center and other uses
	Contra Costa Street	California Avenue to Del Monte Blvd.	2-Lanes / Collector	Access to Sand City businesses
	Olympia Street	Alhambra St. to Del Monte Avenue	One-way Local Street	Provides egress to Contra Costa Street
	Canyon del Rey Boulevard	West of Highway 1 to Fremont Blvd.	4- to 6-Lanes / Arterial	Commercial / Shopping Center Access

Table 3.1-1: Characteristics of Highways and Major Roads within the Proposed Action Corridor (cont.)

Agency	Highway / Road	Location	Number of Lanes/ Classification	Function
City of Monterey	Casa Verde Way	North and South of Del Monte Avenue	2-Lanes / Collector	Beach and Residential Access
	Figueroa Street	North of Del Monte Avenue	2- to 4-Lanes / Collector	Access to public parking lots for beach and wharf
	Lighthouse Avenue	Extension of Del Monte Avenue	4-Lanes / Arterial	Access to Presidio, commercial, aquarium
Source: Parsons 2010.				

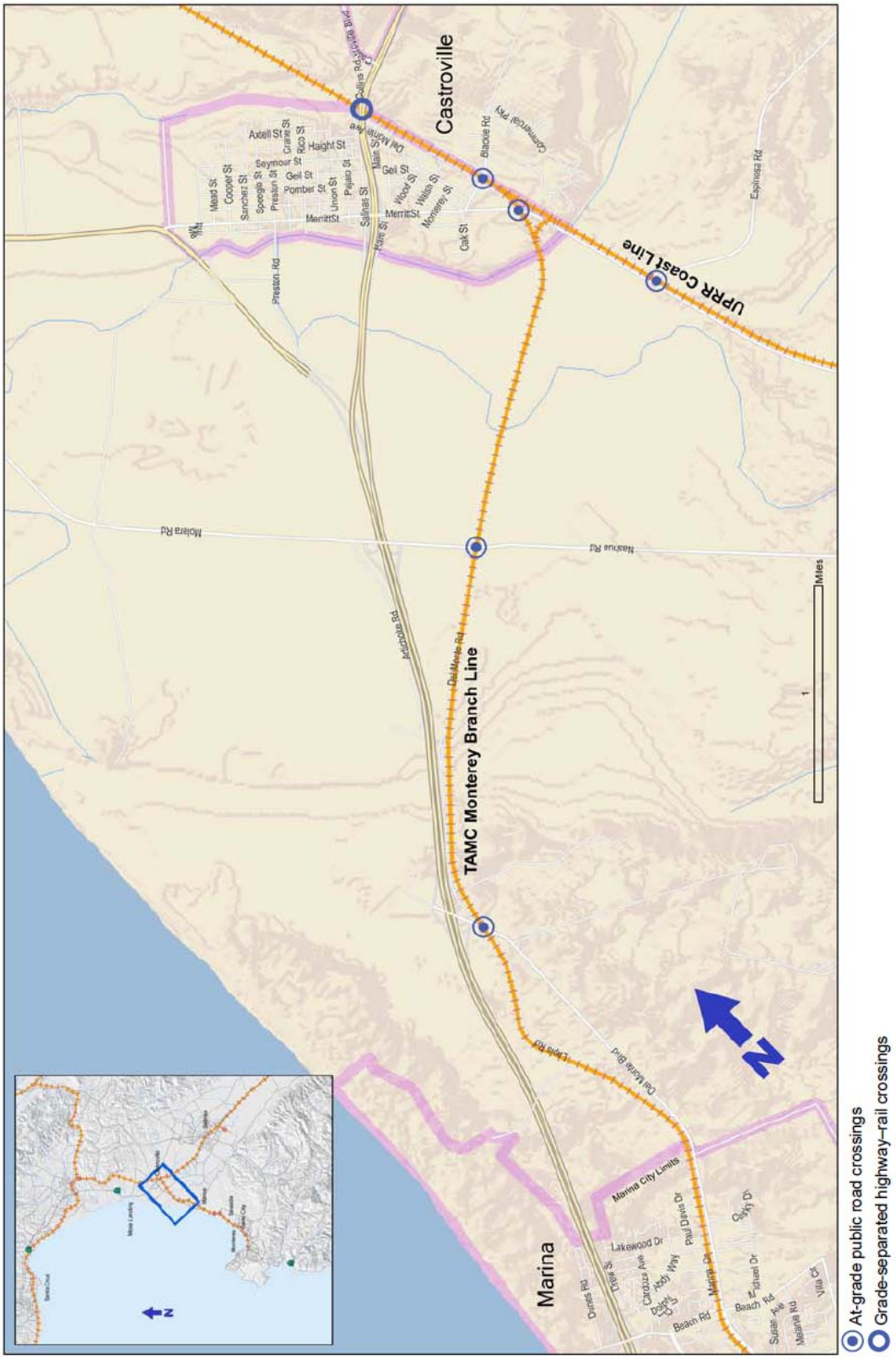


Figure 3.1-1: Unincorporated Monterey County Road/Rail Crossing Location Map

City of Marina

The proposed action corridor runs along the west side of the city of Marina, in a north–south orientation. Between the northern city limit and Reindollar Avenue, the corridor is immediately adjacent and west of Del Monte Boulevard. Four local roadways cross the corridor at-grade. These are Marina Green Drive, Beach Road, Reservation Road and Palm Avenue. South of Reindollar Avenue, the corridor crosses under Highway 1 and then runs along the west side of this highway, adjacent to the Fort Ord Dunes State Park. Figure 3.1-2 shows the locations of motor vehicle crossings within the city.

Figure 3.1-2: City of Marina Controlling Intersections Location Map

● Controlling intersections; ⊙ Other at-grade public road crossings; ○ Grade separated highway-rail crossings

Source: Parsons, 2010

Existing traffic volumes and intersection lane configurations are shown on Figure 3.1-3. Two of the four at-grade "controlling" intersections in the city are currently signalized. Beach Road at Del Monte Boulevard is an all-way stop sign controlled intersection. Marina Green Drive forms a T-intersection with Del Monte Boulevard and movements onto Del Monte Boulevard are also controlled by a stop sign.

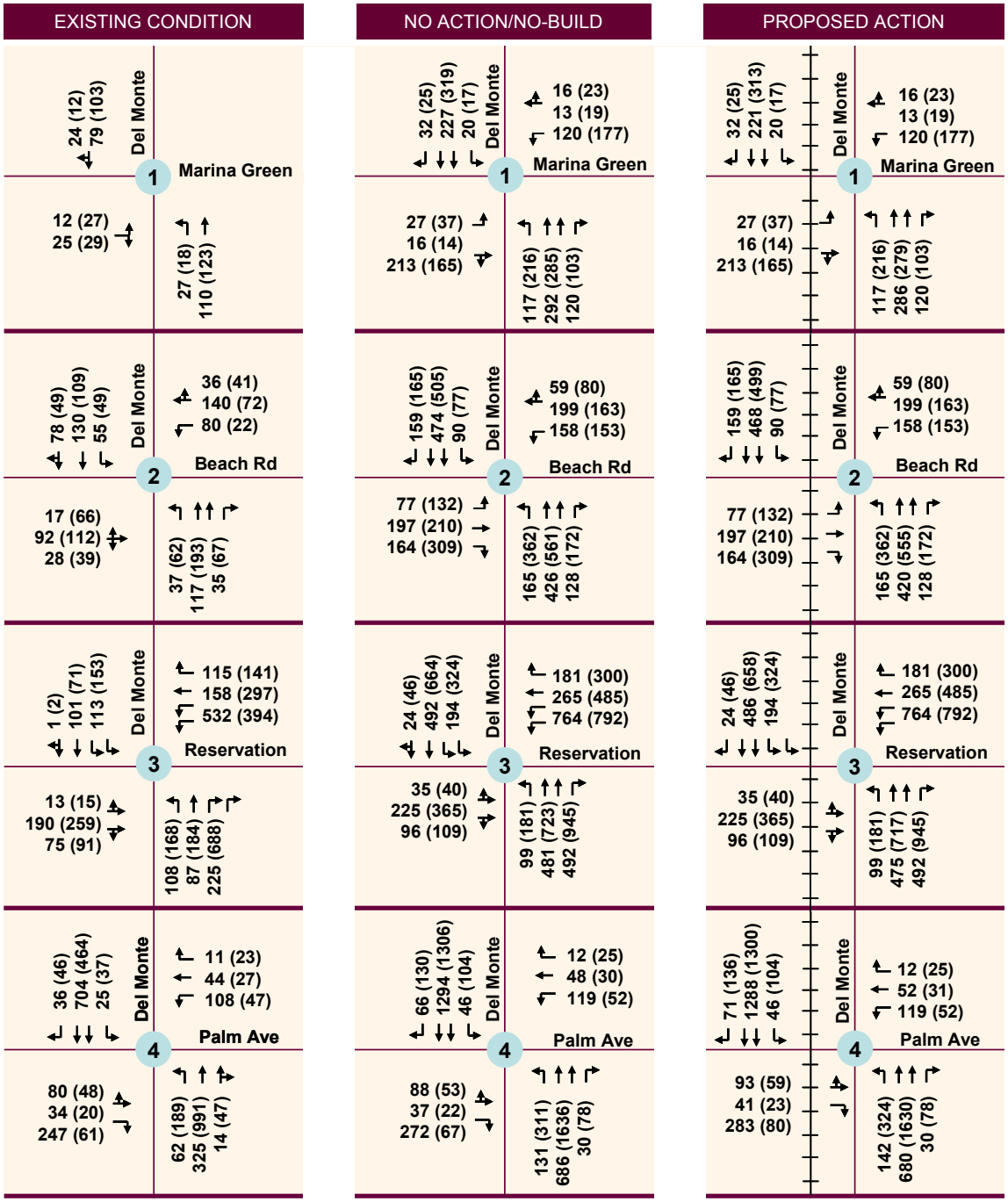


Figure 3.1-3: Marina Traffic Volumes and Intersection Geometric Lane Configurations

Cities of Seaside and Sand City

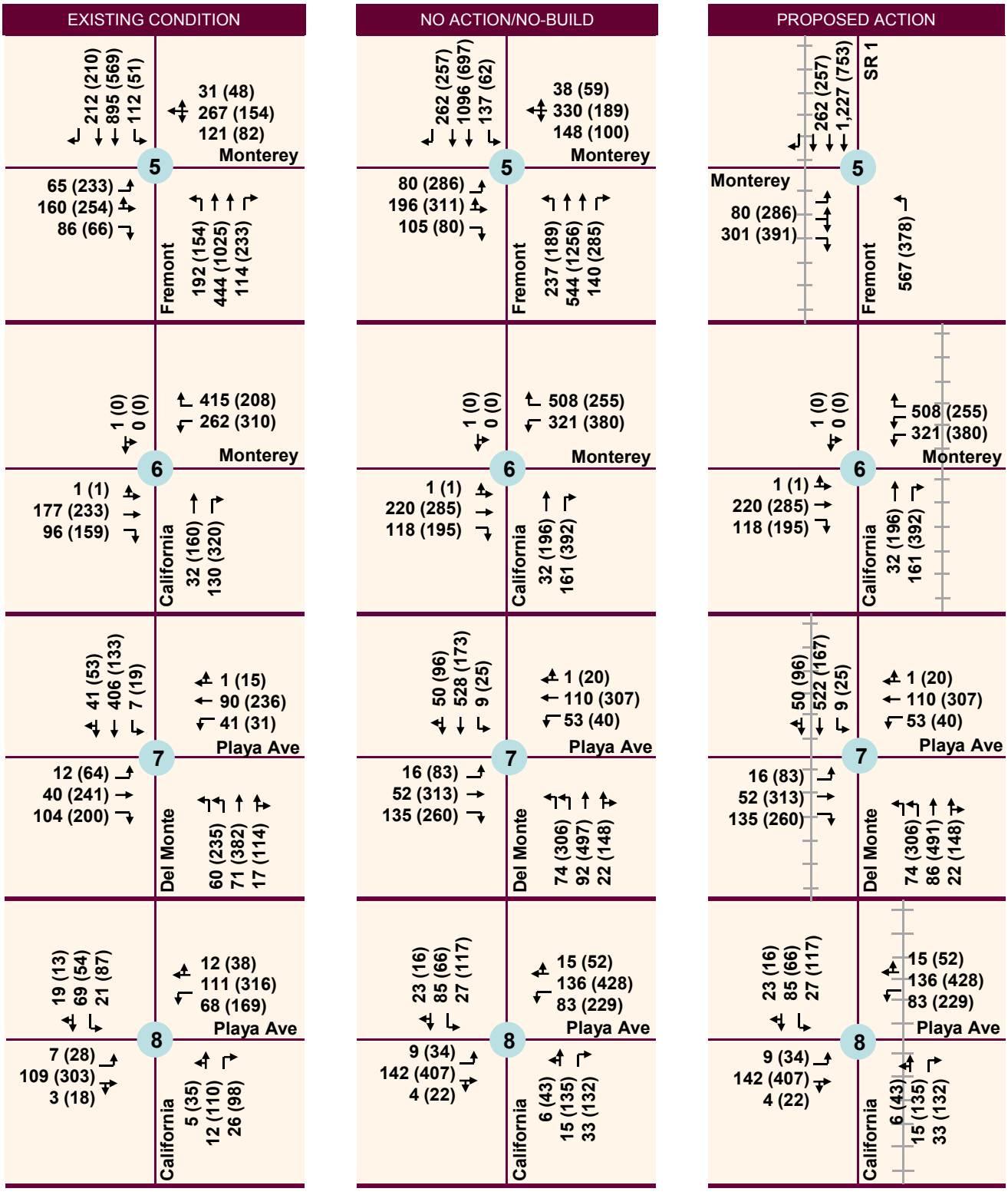
The proposed action corridor generally bisects the cities of Seaside and Sand City, defining a portion of the westerly city limits of Seaside and most of the easterly city limits of Sand City. North of the Highway 1 overcrossing, the corridor lies to the west of the highway, crossing portions of the former Fort Ord military base which is now designated as the Fort Ord Dunes State Park. South of the Highway 1 overcrossing, the corridor is parallel to Del Monte Boulevard, which lies within the city of Seaside to the west. Within Sand City, a portion of California Avenue parallels the corridor to the west.

Within both cities, seven public roads cross the proposed action corridor at-grade. These are Monterey Road, Playa Avenue, Tioga Avenue, Contra Costa Street, Olympia Avenue, Canyon del Rey Avenue (SR 218), and Roberts Avenue. All of these public roadways, except Olympia Avenue and Roberts Avenue, are considered to be controlling intersections for traffic impact analysis purposes. Figure 3.1-4 illustrates the locations of motor vehicle crossings within these jurisdictions. Existing traffic volumes and intersection lane configurations are shown on Figure 3.1-5.

● Controlling intersections; ⊙ Other at-grade public road crossings; ⊙ Grade separated highway-rail crossings

Source: Parsons, 2010

Figure 3.1-4: Seaside and Sand City Controlling Intersections Location Map



XX (XX) — AM (PM)

Figure 3.1-5: Seaside and Sand City Traffic Volumes and Intersection Geometric Lane Configurations (1 of 2)

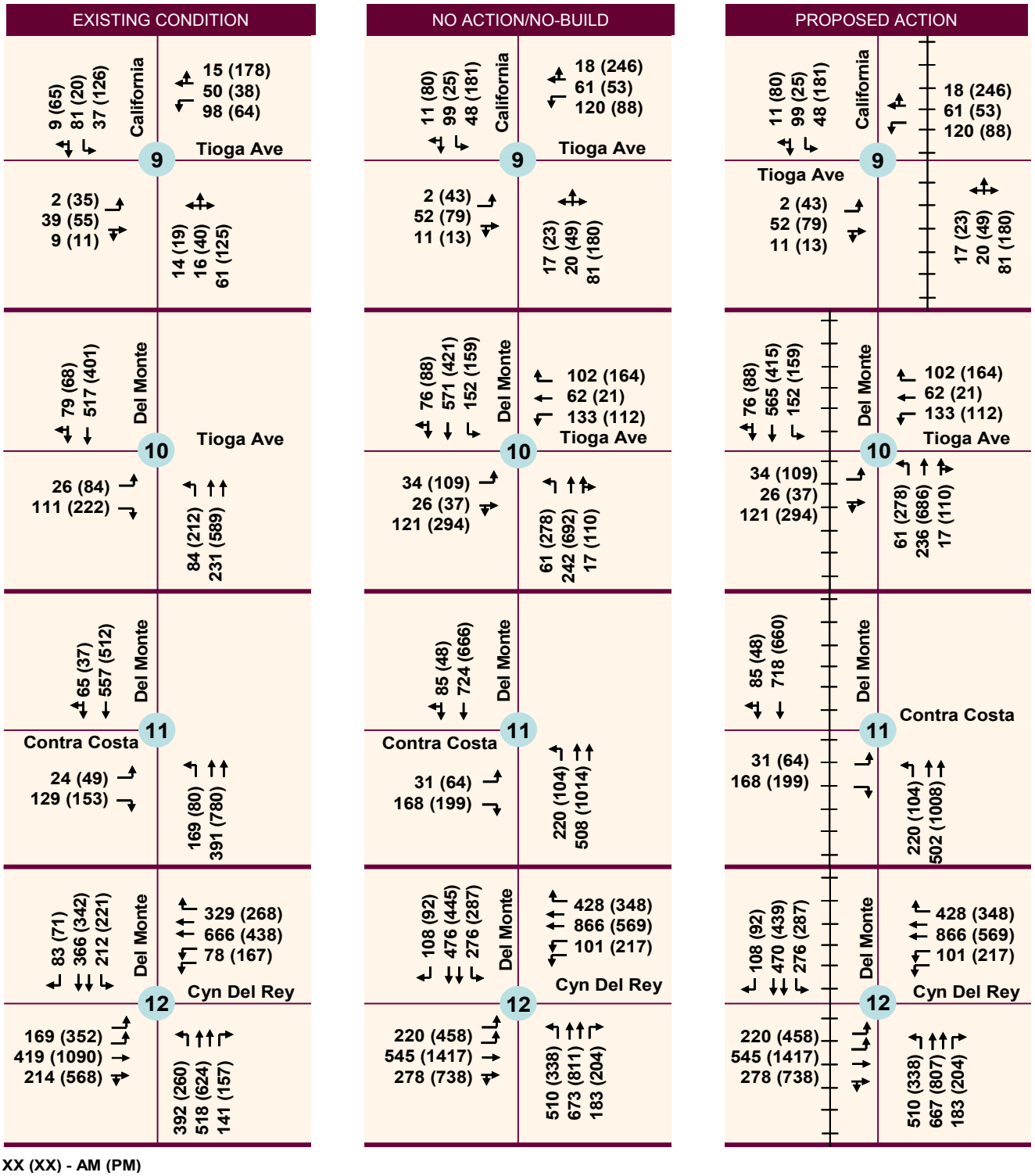


Figure 3.1-5: Seaside and Sand City Traffic Volumes and Intersection Geometric Lane Configurations (2 of 2)

The local roads adjacent to the proposed action corridor and those which cross it at-grade primarily serve Monterey Peninsula residents traveling to the cities of Sand City and Seaside shopping centers and non-retail land uses located in Sand City. All of the controlling at-grade intersections in Seaside along Del Monte Boulevard and Fremont Street are signalized. In Sand City, the Monterey Road / Fremont Boulevard and Monterey Road / California Avenue intersections are signalized. Traffic is controlled by stop signs at the intersections of California Avenue with Playa Avenue and East California Avenue with Tioga Avenue.

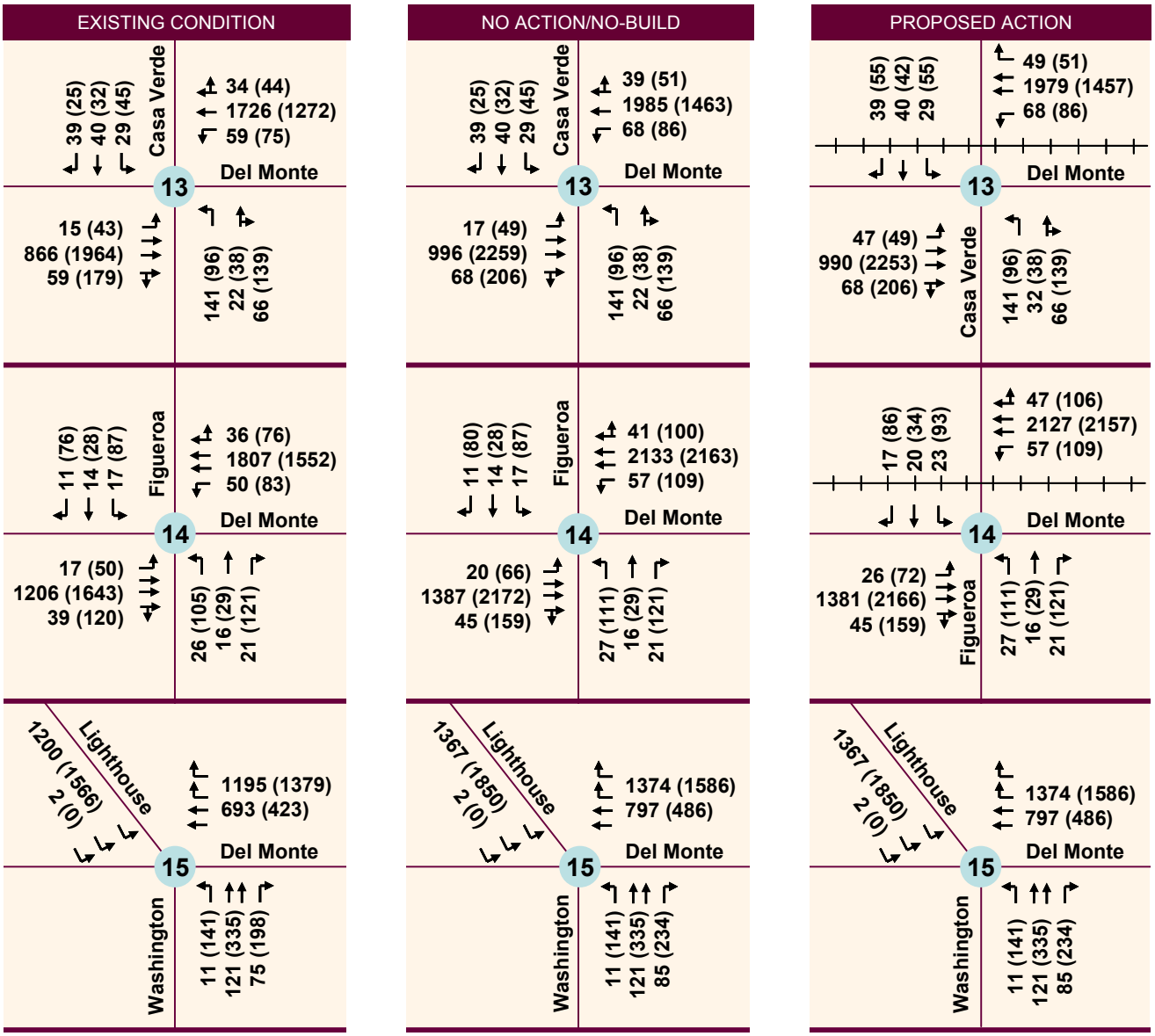
City of Monterey

Del Monte Avenue is a four- to six-lane arterial street which connects the cities of Seaside and Sand City with the downtown area of the city of Monterey. As shown on Figure 3.1-6, Del Monte Avenue primarily runs easterly to westerly within the city of Monterey. Existing traffic volumes and intersection lane configurations are shown on Figure 3.1-7.

Figure 3.1-6: City of Monterey Controlling Intersections Location Map

● Controlling intersections; ⊙ Other at-grade public road crossings; ○ Grade separated highway-rail crossings

Source: Parsons, 2010



XX (XX) - AM (PM)

Figure 3.1-7: Monterey Traffic Volumes and Intersection Geometric Lane Configurations

At the eastern limits of the city, Highway 1 crosses over Del Monte Avenue just west of English Avenue. This overcrossing provides full access to Del Monte Avenue, from both directions on Highway 1. The Naval Postgraduate School is located on Del Monte Avenue approximately midway between Highway 1 and downtown Monterey. Downtown Monterey marks the western limit of Del Monte Avenue, where the roadway ends at Portola Plaza.

In general, the proposed action corridor runs along the northern edge of the city of Monterey and parallels Del Monte Avenue on its bay side. The corridor is 100 feet wide except for a short segment opposite the Naval Postgraduate School, where the right-of-way is 80 feet wide. It is crossed at-grade by two private driveways, pedestrian/bicycle recreational trail, and four public roadways. The highway-rail crossings are located at Roberts Avenue, Casa Verde Way, La Playa Avenue, and Figueroa Street.

Of these at-grade highway-rail crossings, two are considered to be "controlling intersections" for the purpose of this analysis. These are the intersections of Del Monte Avenue with both Casa Verde Way and Figueroa Street. The location of these and other crossings are illustrated on Figure 3.1-6.

3.3.2 Existing Traffic Conditions

Traffic operations as described in this section are determined at "controlling intersections" along the proposed action corridor based on the LOS concept. The LOS concept is quantified in Table 3.1-2 and described in more detail in the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update. LOS is a qualitative description of an intersection and roadway's operation, ranging from LOS A to LOS F. LOS A represents free flow uncongested traffic conditions. LOS F represents highly congested traffic conditions with what is commonly considered unacceptable delay to vehicles on the road segments and at intersections. The intermediate levels of service represent incremental levels of congestion and delay between these two extremes.

Table 3.1-2: Level of Service Definitions

LOS	Signalized Intersection	Unsignalized Intersection	Roadway (Daily)
A	Uncongested operations; all queues clear in a single signal cycle. *Average Control Delay < 10 seconds*	Little or no delay. *Average Control Delay 0 to 10 seconds*	Free flow.
B	Uncongested operations; all queues clear in a single cycle. *Average Control Delay 10.1 to 20 sec*	Short traffic delays. *Average Control Delay 10.1 to 15 seconds*	Free flow, presence of other vehicles noticeable.
C	Light congestion, occasional backups on critical approaches. *Average Control Delay 20.1 to 35 seconds*	Average traffic delays. *Average Control Delay 15.1 to 25 seconds*	Ability to maneuver and select operating speed affected.
D	Significant congestions of critical approaches, but intersection functional. Cars must wait more than one cycle during short peaks. No long queues formed. *Average Control Delay 35.1 to 55 seconds*	Longer traffic delays. *Average Control Delay 25.1 to 35 seconds*	Unstable flow, speeds and ability to maneuver restricted.
E	Severe congestion; long queues on critical approaches. Blockage of intersection if no protected turning movements. Traffic queue may block nearby intersections upstream of critical approaches. *Average Control Delay 55.1 to 80 seconds*	Very long traffic delays and congestion. *Average Control Delay 35.1 to 50.0 seconds*	At or near capacity, flow quite unstable.
F	Total breakdown, stop-and-go operation. *Average Control Delay > 80 seconds*	Severe delays; operation with delays unacceptable to most drivers. *Average Control Delay > 50.0 seconds*	Forced flow, breakdown.

Source: Highway Capacity Manual, 2000

Monterey County

Of the public roads within the unincorporated area of Monterey County, existing traffic volumes and LOS are provided in Table 3.1-3.

City of Marina

Peak hour traffic volumes and intersection approach geometric lane configurations are illustrated on Figure 3.1-3 for the four at-grade "controlling" intersections located within the city of Marina.

At the Reservation Road and Del Monte Boulevard intersection, traffic counts indicate that traffic volumes increased by approximately 0.3 percent between 2004 and 2008. Intersection traffic volumes reported on Figure 3.1-3 for the Marina Green Drive and Beach Road intersections with Del Monte Boulevard have therefore been increased by 0.3 percent (0.075 percent per year for four years) to account for growth in background traffic increases.

Table 3-1.3: At-Grade Crossings Between Castroville and Marina

Location	2-Way 24-Hour Volume	Peak-Hour 2-Way Volume	Level of Service
Existing Conditions			
Blackie Road	10,300	837	C
Merritt Street (SR 183)	20,810	1,630	D
Nashua Road	4,325*	370	B
Del Monte Boulevard	5,270	450	C
No Action/No-Build Conditions			
Blackie Road	11,820	960	C
Merritt Street (SR 183)	23,455	1,837	C
Nashua Road	5,715	490	D
Del Monte Boulevard	6,455	550	C
Build Conditions (Proposed Action)			
Blackie Road	11,820	1,032**	C
Merritt Street (SR 183)	23,455	1,975**	D
Nashua Road	5,715	525**	C
Del Monte Boulevard	6,455	590**	C

Level of Service Analysis Technique: A2009 U.S. Department of Transportation, Quality/Level of Service Handbook – Table 5 Generalized Peak Hour, Two-way Volume (Thresholds) for Areas Transitioning into Urban Areas or Areas Over 5,000 Not in Urban Areas and Table 6…Rural Undeveloped Areas and Cities or Developed Areas Less than 5,000 Population

* Volume from Travel Forecast Model

** Volumes increased by 7.5 percent to account for gate closure time

Source: TAMC, 2010a

Table 3.1-4 reports LOS conditions for the four at-grade intersections which are adjacent to the proposed action corridor. The results show that during both the AM and PM peak periods, all of the controlling intersections operate above LOS D, the city's acceptable threshold for overall traffic operations.

Table 3.1-4: Existing Level of Service at Controlling Intersections in the City of Marina

Intersections	AM Peak				PM Peak			
	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume /Capacity	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/Capacity
Del Monte Boulevard/ Marina Green Drive	A	9.4	—	—	A	9.9	—	—
Del Monte Boulevard/ Beach Road	B	13.0	—	—	B	12.8	—	—
Del Monte Boulevard/ Reservation Road	C	21.8	23.7	0.442	C	21.8	20.0	0.477
Del Monte Boulevard/ Palm Avenue	C	22.4	23.5	0.523	B	17.6	12.3	0.438
Source: TAMC, 2010a								

Cities of Seaside and Sand City

Peak hour traffic volumes and intersection approach geometric lane configurations are illustrated on Figure 3.1-5 for the five at-grade controlling intersections located within the city of Seaside and the three controlling intersections located within the city of Sand City. At the Playa Avenue and Del Monte Boulevard intersection, a comparison of the 2004 and 2008 traffic counts indicates that traffic volumes decreased by approximately 7 percent during this time period. Since volumes collected in 2008 decreased from traffic volume counts collected in 2005, the higher (2005) volumes were utilized for the LOS calculations as a conservative assumption.

Table 3.1-5 reports LOS conditions for the eight at-grade controlling intersections adjacent to the proposed action corridor. The LOS results show that all intersections except three operate at acceptable levels of service during both the AM and PM peak periods.

- The two intersections with Monterey Road, at Fremont Boulevard and California Avenue, operate collectively at LOS E during the AM peak hour and LOS F during the PM peak hour.
- In the AM peak hour, the Del Monte Boulevard/Canyon del Rey Boulevard intersection operates at an acceptable LOS C, but deteriorates in the PM peak hour to LOS D, which is below the city's acceptable threshold.

Table 3.1-5: Existing Level of Service at Controlling Intersections in the Cities of Seaside and Sand City

Intersections	AM Peak				PM Peak			
	LOS*	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ veh)	Critical Volume/ Capacity	LOS*	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Fremont Boulevard/ Monterey Road	E	74.0	N/A	0.94	F	148.4	N/A	1.07
California Avenue/ Monterey Road	E	74.0	N/A	0.94	F	148.4	N/A	1.07
Del Monte Boulevard/Playa Avenue	C	24.5	22.7	0.290	C	27.6	24.2	0.347
California Avenue/ Playa Avenue	A	8.9	—	—	C	19.0	—	—
California Avenue/ Tioga Avenue	A	8.9	—	—	B	11.1	—	—
Del Monte Boulevard/Tioga Avenue	B	15.9	18.6	0.332	C	21.6	28.6	0.468
Del Monte Boulevard/Contra Costa Street	B	18.2	23.4	0.421	B	15.6	21.0	0.332
Del Monte Boulevard/Canyon Del Rey Boulevard	C	33.6	38.1	0.675	D	44.9	53.7	0.985

*Sand City level of service threshold = LOS D
Seaside level of service threshold = LOS C
Source: TAMC, 2010a

City of Monterey

Peak hour traffic volumes and intersection approach geometric lane configurations are illustrated on Figure 3.1-7 for the three at-grade "controlling" intersections located within the city of Monterey. All intersections are currently signalized.

Table 3.1-6 shows LOS conditions for these three intersections which are adjacent to or crossed by the proposed action corridor. The results indicate that all of the intersections operate satisfactorily during the AM peak period; however, in the PM peak hour, the intersection at Del Monte Avenue/Washington Street/Lighthouse Avenue currently operates at LOS E.

Table 3.1-6: Existing Level of Service at Controlling Intersections in the City of Monterey

Intersections	AM Peak				PM Peak			
	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Del Monte Avenue/ Casa Verde Way	B	16.8	16.7	0.774	B	16.9	18.0	0.684
Del Monte Avenue/ Figueroa Street	A	6.2	4.7	0.481	B	17.6	18.7	0.613
Del Monte Avenue/ Washington Street/ Lighthouse Avenue	C	28.5	31.4	0.830	**E**	62.3	71.7	1.050
Source: TAMC, 2010a								

3.3.3 Future (2030) Traffic Conditions

No Action/No-Build Alternative

This alternative represents the future, cumulative development condition without the proposed action. Existing roadway geometrics were estimated to remain in place for the analysis, except at locations where improvements are currently planned.

Population and employment growth within the Monterey Bay area is expected to be significant between now and 2030, with an associated substantial growth in traffic volumes. Average daily traffic in Monterey County is expected to increase more than 30 percent between 2010 and 2030 (AMBAG 2010). This growth in traffic volumes would lead to worsening of levels of service, traffic congestion, and travel delay on various roadways and at various intersections within the project corridor. Either with or without the proposed action, implementation of planned municipal and state roadway improvement projects would help to alleviate the higher traffic volumes.

Monterey County – The No Action/No-Build Alternative traffic condition reflects future population and employment growth to a 2030 planning horizon. Within this timeframe, it is estimated there would be no changes to the county road network in the vicinity of the proposed action corridor. According to AMBAG's *Monterey Bay Area 2008 Regional Forecast*, the County is expected to experience a modest increase in population, housing units and employment by the 2030 planning horizon. Given these future operating condition assumptions, all four roads noted previously are projected to operate at LOS D or better under the No Action/No-Build conditions.

City of Marina – The Future No Action/No-Build Alternative traffic condition reflects future population and employment growth to a 2030 planning horizon, assuming construction of all approved and known land development proposals (as of 2005) within the city of Marina's sphere of influence are constructed. These include build-out of major land development proposals and entitlements previously listed in Table 2.1-6.

According to AMBAG, the city of Marina's population is projected to increase by nearly 70 percent between 2005 and 2030, although employment increases would be modest. This means that most

employed residents are anticipated to continue travelling to jobs elsewhere along the Monterey Peninsula and in the city of Salinas, and most shopping trips would be destined elsewhere as well.

Under the No Action/No-Build traffic scenario, a number of changes to Marina's street network are estimated to be implemented. These include the following city of Marina Capital Improvement Program projects, some of which are funded by Transportation Facilities Impact Fees:

- Del Monte Boulevard/Marina Green Drive—Signalize intersection;
- Del Monte Boulevard/Beach Road—Signalize intersection, add eastbound left turn channelization, reconstruct adjacent Beach Road Monterey Branch rail crossing and grade crossing protection;
- Widen Reservation Road to four lanes between northbound Highway 1 ramps and Beach Road;
- Extend Second Avenue from Imjin Parkway to Del Monte Boulevard; and
- Widen Imjin Parkway from two to four lanes between Imjin Road and Reservation Road.

Of the five projects listed, the first two are controlling intersections addressed by this traffic analysis. The latter three projects would affect traffic flows using the Del Monte Boulevard corridor.

The *Marina Station Traffic Impact Analysis* (Higgins Associates, 2006) notes that Marina Green Drive may need to be realigned to avoid an offset intersection with a fourth leg of the intersection, proposed to provide access to and from the proposed Marina Station development. The Marina Station project would include three mixed-use village centers. One of these three village centers would be located immediately north of Marina Green Drive, bisected by Del Monte Boulevard.

Figure 3.1-3 illustrates the peak hour traffic volumes and intersection approach geometric lane configurations estimated for the four controlling intersections located in the city of Marina. Table 3.1-7 presents LOS for these intersections.[12] The results show that during both the AM and PM peak periods, all of the controlling intersections operate at or above an acceptable LOS D.

Cities of Seaside and Sand City – The No Action/No-Build Alternative traffic condition addresses population and employment growth to a 2030 planning horizon, reflecting build-out of the General Plans for the two cities.

According to AMBAG, growth in the city of Seaside from 2005 to 2030 is projected to be limited to approximately 1,100 dwelling units, or about 10 percent of the 2005 housing supply. Employment is expected to increase by nearly 50 percent, however, primarily in the retail and service sectors. In the city of Sand City, AMBAG forecasts the addition of some 565 dwellings between 2005 and 2030, and a 60 percent increase in employment levels.[13]

[12] LOS results vary slightly from those reported in the *Marina Station Traffic Impact Analysis* report due to ongoing software upgrades to the TRAFFIX LOS calculation program: TRAFFIX Version 7.7 was used for the 2005 era analysis; TRAFFIX Version 7.9 was used for this 2008 analysis.

[13] AMBAG forecast data are presented in the *Monterey Peninsula Fixed-Guideway Study Traffic Impact Report*, Table 5-2 (TAMC, 2010a).

Table 3.1-7: Level of Service at Controlling Intersections in the City of Marina, No Action/No-Build Conditions

Intersections	AM Peak				PM Peak			
	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Del Monte Boulevard/ Marina Green Drive	C	20.3	24.3	0.338	C	21.5	27.3	0.456
Del Monte Boulevard/ Beach Road	C	24.5	28.3	0.584	C	25.1	29.3	0.615
Del Monte Boulevard/ Reservation Road	C	27.7	31.0	0.645	D	46.3	61.5	0.988
Del Monte Boulevard/ Palm Avenue	C	26.4	30.6	0.772	B	19.1	24.7	0.720
Source: TAMC, 2010a.								

Under the No Action/No-Build Alternative condition, traffic growth on Del Monte Boulevard is estimated to be 30 percent over existing conditions, consistent with traffic impact study prepared by others for the Seaside Auto Center. This rate of growth was applied to all study area turning movements as a worst case assumption.

All roadway geometrics and traffic control for the No Action/No-Build Alternative condition are estimated to be as previously reported for the existing condition except for one intersection. In July 2008, an easterly leg was added to the signalized intersection of Del Monte Boulevard and Tioga Avenue to provide access to the Seaside Auto Center.

Planning has been initiated by Caltrans to widen Highway 1 between Canyon del Rey Boulevard and Fremont Boulevard. Also, the Highway 1 / Fremont Boulevard interchange may be reconstructed by Caltrans and the city of Sand City to decrease congestion, and improve safety and access.[14] A full interchange reconstruction project would include the following components:

- Widen Highway 1 to six lanes between Canyon del Rey Boulevard (Highway 218) and Fremont Boulevard.
- Reconstruct the northbound Highway 1 on-ramp from Fremont Boulevard by removing it from the Fremont Boulevard/Monterey Road intersection.
- Reconfigure the existing Fremont Boulevard/Del Monte Boulevard–Military Avenue intersection, which would allow unrestricted movement between all four legs of the intersection. The intersection would also be signalized. Alternatively, extend Del Monte Boulevard to Old Monterey Road via a frontage road paralleling Fremont Boulevard.

[14] TAMC, along with Seaside and Sand City are working to secure funding for components of this interchange improvement project.

- Construct a new Monterey Road interchange, just to the north of the Fremont Boulevard interchange. As part of this interchange, a new connector road would be extended between the interchange and the existing Monterey Road, approximately one mile north of Fremont Boulevard.
- Add a new northbound auxiliary lane to Highway 1 between the Fremont Boulevard and Monterey Road interchanges.

However, the full interchange reconstruction project was dependent upon funding through Measure Z, which was not approved by the electorate. Given this status, the No-Build Alternative analysis herein estimates that no Highway 1 / Fremont Boulevard interchange reconstruction would occur in the near future.

Figure 3.1-5 illustrates the peak hour traffic volumes and intersection approach geometrics estimated for the five controlling intersections in the city of Seaside and the three controlling intersections in the city of Sand City. Table 3.1-8 shows the potential future LOS for these intersections. The results indicate that during the AM peak period, five of the eight intersections would operate at acceptable levels of service. In Sand City, the Fremont Boulevard / Monterey Road intersection and the California Avenue / Monterey Road intersection would operate collectively at LOS F. In the city of Seaside, the Del Monte Boulevard / Canyon del Rey Boulevard intersection would operate at LOS D.

In the PM peak hour, the following four intersections are projected to operate below an acceptable LOS threshold, all at LOS F: California Avenue / Playa Avenue intersection in the city of Sand City; Del Monte Boulevard / Canyon Del Rey Boulevard intersection in the city of Seaside; and the Fremont Boulevard and California Avenue intersections with Monterey Road. The remaining controlling intersections would all operate at acceptable levels of service.

City of Monterey – The No Action/No-Build Alternative condition reflects future population and planning growth to the 2030 planning horizon. According to AMBAG's *Monterey Bay Area 2008 Regional Forecast,* Monterey's population is projected to remain largely unchanged due to water resource constraints. Employment, on the other hand, is expected to grow by 20 percent.

Under the No Action/No-Build Alternative condition, a number of traffic improvements, including the installation of new traffic signals, the addition of new turn lanes and through lanes, Employee Transportation Management Program actions, and transit service improvements (proposed by others) are planned in and around downtown Monterey and the Cannery Row area. Of these, two projects in particular would affect the Del Monte Avenue corridor and the controlling intersections addressed by this study.

Table 3.1-8: Level of Service at Controlling Intersections in the Cities of Sand City and Seaside, No Action/No-Build Condition

Intersections	AM Peak				PM Peak			
	LOS*	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS*	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Fremont Boulevard/Monterey Road	F	152.6	N/A	1.19	F	183.5	N/A	1.22
California Avenue/Monterey Road	F	152.6	N/A	1.19	F	183.5	N/A	1.22
Del Monte Boulevard/Playa Avenue	C	23.0	21.7	0.380	C	26.5	23.9	0.458
California Avenue/Playa Avenue	A	9.5	—	—	F	56.7	—	—
California Avenue/Tioga Avenue	A	9.4	—	—	C	15.2	—	—
Del Monte Boulevard/Tioga Avenue	C	25.9	23.8	0.447	C	32.7	32.2	0.706
Del Monte Boulevard/Contra Costa Street	B	17.9	23.0	0.553	B	15.3	20.2	0.436
Del Monte Boulevard/Canyon Del Rey Boulevard	D	39.5	51.3	0.891	F	113.9	159.5	1.268

*Sand City level of service threshold = LOS D

Seaside level of service threshold = LOS C

Source: TAMC, 2010a.

As shown on the Figure 3.1-8, Del Monte Avenue is proposed to be widened between west of Cunningham Avenue and Camino El Estero as part of the City's on-going *Window on the Bay* park development project. Elements of the street widening project include the removal of 16 on-street parking spaces, the addition of a center median and left-turn lane, and the addition of one eastbound lane to provide three eastbound lanes.

The Lighthouse Avenue intersection with Del Monte Avenue and Washington Street is congested during peak weekday hours and on weekends. To offset existing congestion, and impacts from new developments, a pedestrian overcrossing is planned between the Fisherman's Wharf / Wharf No. 2 parking lot areas adjacent to Washington Street and Spanish Plaza. Removal of pedestrian movements from the at-grade intersection would increase the available green light time for vehicular traffic flows.

Figure 3.1-7 illustrates the peak hour traffic volumes and intersection lane configurations estimated for the three controlling intersections located in Monterey. Under the No Action/No-Build Alternative condition, the traffic growth on Del Monte Avenue is estimated to be 15 percent over existing conditions. This assumption reflects the projected increase in employment, and virtually no increase in Monterey resident trips or "university" trips to the Naval Postgraduate School, the Defense Language Institute (at the Presidio of Monterey) or the Monterey Institute of International Studies. Other factors influencing this growth assumption are described in Section 6.2 of the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update.

Source: City of Monterey, www.monterey.org/parks/window_on_the_bay/vision.html; digital image simulation created by Bellinger Foster Steinmetz Landscape Architecture.

Figure 3.1-8: Window on the Bay / Monterey Bay Waterfront Park Vision

Insofar as feeder street volumes, no increase is estimated in the number of vehicles crossing the project corridor at Casa Verde Way or Figueroa Street. These streets, north of Del Monte Avenue, serve land uses and parking supplies which are not anticipated to increase in size.[15]

Based on the above traffic growth estimates and roadway network improvements, LOS was computed for the three controlling intersections. These results are documented in Table 3.1-9.

[15] Monterey Salinas Transit is working with the City of Monterey to relocate the Monterey Transit Plaza from Jules Simoneau Plaza to a location that will provide additional capacity.

Table 3.1-9: Level of Service at Controlling Intersections in the City of Monterey, No Action/No-Build Condition

Intersections	AM Peak				PM Peak			
	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Del Monte Avenue/ Casa Verde Way	B	19.1	20.9	0.884	B	17.0	18.6	0.775
Del Monte Avenue/ Figueroa Street	A	6.3	5.0	0.572	B	18.1	19.8	0.774
Del Monte Avenue/ Washington Street/ Lighthouse Avenue	D	36.7	42.5	0.961	**F**	118.8	143.0	1.237
Source: TAMC, 2010a.								

The results show that during the AM peak period, all of the intersections would operate satisfactorily, with the Del Monte Avenue/Washington Street/Lighthouse Avenue intersection performing at a slow, but acceptable, LOS D. In the PM peak hour, the Del Monte Avenue/Washington Street/Lighthouse Avenue intersection would deteriorate from

LOS E under existing conditions to LOS F. The remaining two intersections would continue to operate at LOS B.

Proposed Action Alternative

The proposed action would provide an improved public transit alternative to the private automobile, for trips destined both within the proposed action corridor and also connecting to other transit opportunities serving the region. As a result, it is expected that automobile travel within the corridor would be reduced over the No Action/No-Build condition.

In terms of traffic operations, this impact assessment addresses future forecast traffic, including the addition of traffic from approved and pending projects, the addition of transit service, and traffic traveling to or from park/kiss-and-ride lots. This analysis includes a simulation of train vehicles arriving at different times in the traffic signal cycle and crossing at-grade. Under this case, the trains would preempt cross street traffic movements via traffic signal control or automatic gate closures. Three quarters of the traffic signal cycles were estimated to be uninterrupted by crossing gate closures; and one quarter of the cycles were estimated to be interrupted. A weighted average of these two conditions was computed to determine average delay and LOS conditions. As a worst case scenario, full preemption (i.e., the signal light would change from red to green as the train approaches the intersection) was estimated at all roadway crossings except at the following intersections: Monterey Road / Fremont Boulevard / California Avenue; Del Monte Boulevard / Canyon Del Rey Boulevard; and Del Monte Avenue / Washington Street and Lighthouse Avenue. At these three locations, partial priority for transit vehicle movements was estimated. See Section 2.4 of the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update for further discussion of this topic.

Given round trip running times and schedule recovery allowances, peak hour headways of 15 minutes have been proposed for the proposed action. For this worst-case analysis, ten minute headways are estimated, yielding a transit vehicle traversal of highway-rail at-grade crossings every five minutes on average.

Monterey County – For this area, which encompasses Phase 2 of the project, headways may be as frequent as 20 minutes, equal to three (3) trains per direction per hour. With six crossings per hour, approximately 4.2 minutes of gate closure time is projected, resulting in about seven (7) percent reduction in roadway capacity. For traffic analysis purposes, peak hour traffic volumes were increased 7 percent to reflect the diminished capacity. Results indicate that all crossings would continue to operate at LOS D or better with the proposed action. Also, a traffic queuing analysis at Blackie Road / Merritt Street (SR 183) intersection indicated that an adjacent upstream signalized intersection would not be adversely affected by LRT gate crossing closures.

City of Marina – Conceptual improvement plans for the intersections of Del Monte Boulevard with Marina Green Drive, Beach Road, Reservation Road and Palm Avenue are provided in Section 4.3 of the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update.. Recently-constructed or proposed improvements estimated to be operational with the proposed action, are briefly recapped below.

- At Marina Green Drive, the developers of the aforementioned Marina Station mixed-use project propose to relocate the MBL rail crossing approximately 115 feet to the north, and to add an east side leg to the Del Monte Boulevard intersection. The intersection would be signalized, replacing the current stop sign control. The proposed Marina Green Station located north of the intersection would be constructed as a center piece of the village center.
- At Beach Road, the city intends to signalize the intersection with Del Monte Boulevard, reconstruct and widen Beach Road as it crosses the MBL ROW, replace the highway-rail grade crossing protection, and add eastbound left-turn channelization.
- At Reservation Road, the conversion of an existing double right-turn lane from northbound Del Monte Boulevard to eastbound Reservation Road is proposed for either the No Action/No-Build Alternative or Proposed Action Alternative.
- At Palm Avenue, the city has recently demolished a pedestrian overcrossing of Del Monte Boulevard, realigned the northbound to westbound left-turn lane, and reconstructed the Palm Avenue crossing of the proposed action corridor.

Figure 3.1-3 illustrates the traffic volumes and traffic lane geometry estimated for the Proposed Action Alternative. The traffic volumes are generally the same as the No Action/No-Build Alternative, except for the addition of LRT movements along the proposed action corridor, and a corresponding reduction of local bus movements along Del Monte Boulevard. Kiss-and-ride trips have been included in the Palm Avenue / Del Monte Boulevard intersection analysis.

LOS at the four controlling intersections in Marina, under the Proposed Action Alternative, is shown in Table 3.1-10. The results indicate that the intersection at Del Monte Boulevard and Reservation Road would degrade from LOS C to LOS D in the morning peak period and from LOS D to LOS E in the evening peak period. As LOS D is the acceptable threshold for overall traffic operations established by the city, a degradation of traffic operations to LOS E during the evening peak period would result.

Table 3.1-10: Level of Service at Controlling Intersections in the City of Marina, Proposed Action Condition

Intersections	AM Peak				PM Peak			
	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Del Monte Boulevard/ Marina Green Drive	C	20.1	24.7	0.342	C	23.3	30.8	0.465
Del Monte Boulevard/ Beach Road	C	26.7	33.2	0.596	C	30.6	38.4	0.621
Del Monte Boulevard/ Reservation Road	D	35.4	43.9	0.634	**E**	57.3	81.6	0.940
Del Monte Boulevard/ Palm Avenue	C	27.8	32.3	0.785	C	20.0	26.1	0.736
Source: TAMC, 2010a.								

Cities of Seaside and Sand City – The Proposed Action Alternative condition estimated for this analysis includes worst case pre-emption of cross street traffic flows for three of the crossings within Seaside and Sand City—at Playa Avenue, Tioga Avenue and Contra Costa Street. Additional assumptions applicable to the Seaside and Sand City segment are described below.

- At Playa Avenue, the conceptual track restoration plans for reconstructing the project corridor envision the Playa Station serving the Edgewater and Sand Dollar shopping centers. Figure 5-7A of the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update illustrates a conceptual plan for this crossing and the station area located just north of Playa Avenue.
- As discussed above, the city of Seaside is developing an urban renewal plan that would create a gateway to downtown at the existing intersection of Contra Costa Street and Del Monte Boulevard. A proposed future Transit Hub is planned for this area and would realign a narrowed West Broadway Avenue to connect with Contra Costa Street. Figure 5-9 of the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update shows an enlarged conceptual plan view of the transit station and MBL crossing of Contra Costa Street. This conceptual plan reflects the closure (cul de sac) of Olympia Avenue at the edge of the MBL ROW, consistent with the West Broadway Urban Village Specific Plan proposal and the inclusion of bicycle lanes along Del Monte Boulevard instead of the MBL ROW.

As described previously, partial reconstruction of the Highway 1 / Fremont Boulevard interchange is included as part of the proposed action. TAMC and the cities of Seaside and Sand City are working to secure funding for needed improvements at this intersection. See Figure 2.1-4 for an illustration of the proposed local circulation improvements.

Figure 3.1-5 shows the traffic volumes and traffic lane geometry estimated for the Proposed Action Alternative. The traffic volumes are generally the same as the No Action/No-Build Alternative condition, except for the addition of LRT movements along the proposed action corridor, and a corresponding reduction of local bus movements along Del Monte Boulevard.

The LOS estimates at the four controlling intersections located in the city of Seaside and the four controlling intersections located in city of Sand City, under the Proposed Action Alternative, are contained in Table 3.1-11. In addition, this table shows projected LOS at a new Fremont Boulevard / Del Monte Boulevard / Military Avenue intersection to be constructed as part of the aforementioned local circulation improvements. The results show that during the AM peak period, six of the nine intersections would operate at acceptable LOS. In Sand City, the Fremont Boulevard and California Avenue intersections with/ Monterey Road would operate at an unacceptable LOS D; and in Seaside, the Del Monte Boulevard / Canyon del Rey Boulevard intersection would operate at LOS D. However, these AM peak hour performances would be an improvement over the No Action/No-Build Alternative condition.

In the PM peak hour, the Fremont Boulevard and California Avenue intersections with Monterey Road would show marked improvement in operations. Several other intersections would drop below acceptable LOS thresholds. The new Fremont Boulevard / Del Monte Boulevard / Military Avenue intersection is projected to operate at LOS D. The California Avenue/Playa Avenue intersection in Sand City would operate at LOS F under both Proposed Action Alternative and No Action/No-Build Alternative conditions. Compared to the No Action/No-Build Alternative, the intersection of Del Monte Boulevard with Tioga Avenue in Seaside would degrade from LOS C to an unacceptable LOS D during the PM peak hour. At the Del Monte Boulevard / Canyon Del Rey Boulevard intersection in the city of Seaside, the LOS is predicted to operate at LOS F in the PM peak period for both the Proposed Action Alternative and No Action/No-Build Alternative conditions.

City of Monterey – For the purpose of this traffic impact assessment, a worst case preemption of cross street traffic flows is estimated for four of the crossings affecting Monterey: Roberts Avenue, Casa Verde Way, La Playa (Park) Avenue and Figueroa Street.

At Roberts Avenue, a new traffic signal is proposed at the Del Monte Avenue intersection. Roberts Avenue is a two-lane local road, carrying low volumes of traffic. A traffic actuated signal is proposed to allow traffic to safely enter and exit Roberts Avenue when trains cross the roadway. Conceptual plans indicate that westbound traffic on Del Monte Avenue would be required to turn left at the signalized intersection of English Avenue. Motorists destined to Virgin Avenue would then need to turn left on Encina Avenue, resulting in a three to four block detour.[16] Eastbound traffic on Del Monte Avenue desiring access to Virgin Avenue would not be affected.

At Casa Verde Way, the conceptual plans for reconstructing the project corridor envision a station with a park-and-ride lot located just east of Casa Verde Way. Figure 6-5A of the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update, shows a conceptual plan for this crossing and the adjacent station area. The figure illustrates closure of a private driveway[17] with direct access to Del Monte Avenue, because it would conflict with Highway 1 off-ramp movements, and the addition of a westbound right-turn lane at Casa Verde Way to accommodate vehicle storage while the crossing gates are down.

[16] Two commercial businesses located between Del Monte Avenue and Encina Avenue and approximately 25 residences located south of Encina Avenue would be affected by this change in circulation.

[17] This driveway is used to access an industrial building on the 'Maris' property, owned by the Community Hospital of the Monterey Peninsula. This private crossing of the railroad right-of-way (EE-124.23X, Department of Transportation [DOT] No. 752297J) is subject to California Public Utilities Commission [CPUC] jurisdiction and is expected to be closed upon restoration of passenger rail service along the project corridor.

Table 3.1-11: Level of Service at Controlling Intersections in the Cities of Sand City and Seaside, Proposed Action Condition

Intersections	AM Peak				PM Peak			
	LOS*	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS*	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Fremont Boulevard/Monterey Road	D	52.5	N/A	0.87	D	42.3	N/A	0.90
California Avenue/Monterey Road	D	52.5	N/A	0.87	D	42.3	N/A	0.90
Fremont Boulevard/Del Monte Boulevard/Military Avenue	C	22.6	N/A	0.70	D	45.1	N/A	0.90
Del Monte Boulevard/Playa Avenue	C	22.1	21.0	0.378	C	26.5	25.7	0.446
California Avenue/Playa Avenue	A	9.5	—	—	F	56.7	—	—
California Avenue/Tioga Avenue	A	9.4	—	—	C	15.2	—	—
Del Monte Boulevard/Tioga Avenue	C	25.2	25.9	0.428	D	39.1	46.3	0.699
Del Monte Boulevard/Contra Costa Street	B	17.7	22.8	0.551	B	14.7	13.9	0.454
Del Monte Boulevard/Canyon Del Rey Boulevard	D	39.3	51	0.889	F	113.3	158.6	1.266

*Sand City level of service threshold = LOS D
Seaside level of service threshold = LOS C
Source: TAMC, 2010a.

As part of the on-going *Window on the Bay* project, the city would acquire lands between Camino Aguajito and Sloat Avenue north of Del Monte Avenue. This portion of the park is the "East Project Area." Once acquired, the publicly owned ROW would extend from Del Monte Avenue seaward to the Del Monte Beach Townhouses. Beginning just west of La Playa (Park) Avenue, the proposed action corridor would transition from the historical MBL ROW to run parallel and adjacent to Del Monte Avenue. Between La Playa (Park) Avenue and Figueroa Street, a single track guideway would be constructed over which bi-directional train service would operate. Figure 3.1-9 is an artist's rendering of the East Project Area and operation of the train. The graphic indicates that a curb and gutter section running along the north edge of Del Monte Avenue would separate westbound traffic from the train

vehicles. No sidewalk is contemplated along the north side of Del Monte Avenue, as pedestrian trails are internalized within the park, and no parking would be permitted on this side of the street.

At Figueroa Street, improvements to public transportation service are estimated for the Proposed Action Alternative. To address Section 30252(1) of the California Coastal Act and city of Monterey transportation policies which support the enhancement of public transit service, the development of a transit exchange has been proposed. A conceptual plan for this downtown transit project is illustrated as Figure 3.1-10. The three- to four-bus capacity transit exchange would provide the end-of-the-line train station with connecting bus service to the existing Monterey Transit Plaza and other Monterey and Pacific Grove destinations.

Light Rail Transit "Lawn Track"

Figure 3.1-9: Transit Guideway Rendering at Window on the Bay

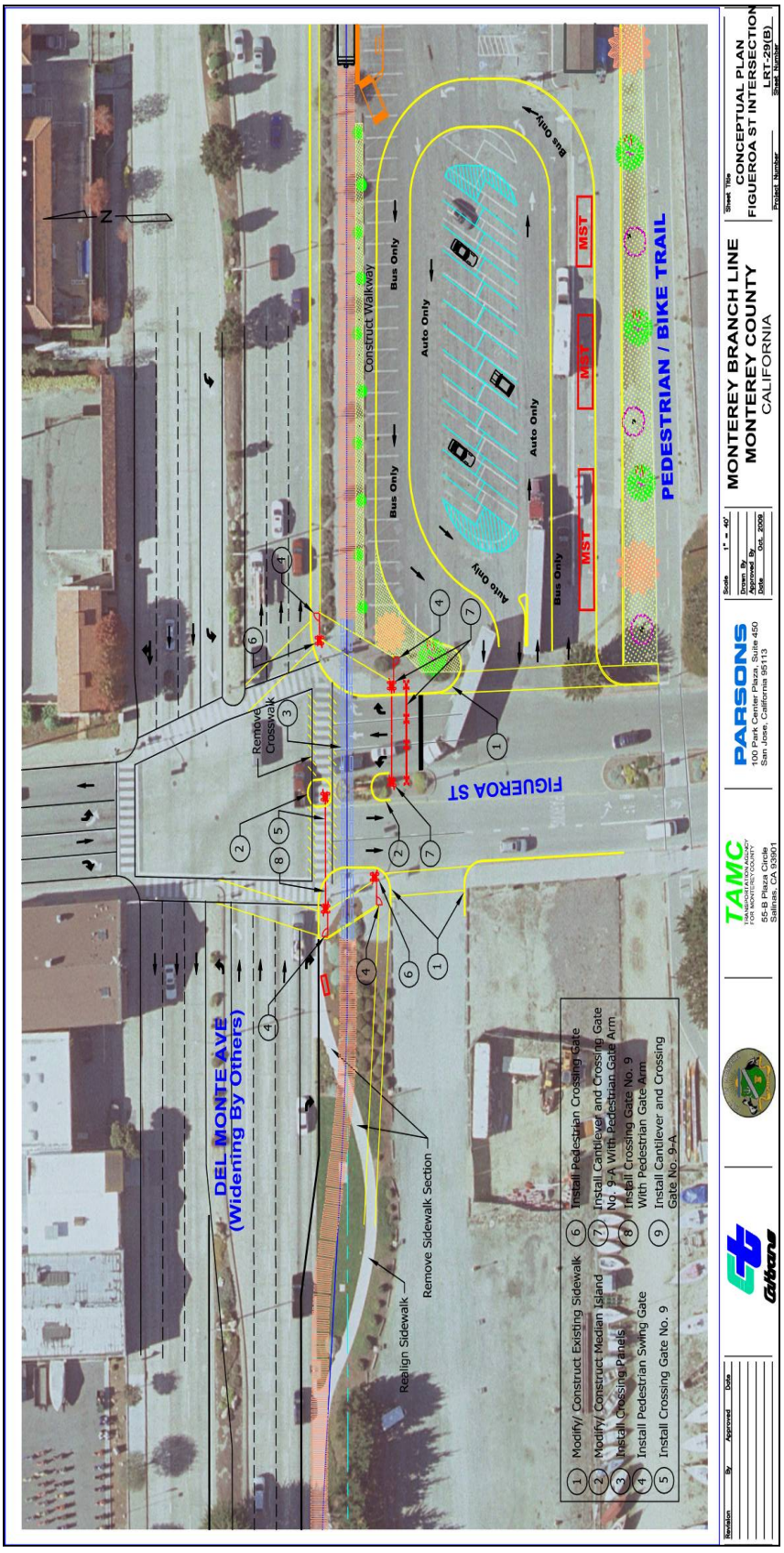


Figure 3.1-10: Figueroa Street Intersection Conceptual Plan

Figure 3.1-7 illustrates the traffic volumes and traffic lane geometry estimated for the Proposed Action Alternative. The traffic volumes are generally the same as the No Action/No-Build Alternative condition, except for the addition of proposed action movements along the proposed action corridor, and a corresponding reduction of local bus movements along Del Monte Avenue. Park-and-ride trips have been added to the intersection of Del Monte Avenue and Casa Verde Way analysis, while MST local bus trips have been added to the intersections of Del Monte Avenue with Figueroa Street and Lighthouse Avenue/Washington Street. These local bus trips would be destined to and from the relocated Monterey Transit Plaza, which is estimated to be constructed as a companion to the Proposed Action Alternative.

The LOS at the three controlling intersections located in the city of Monterey under the Proposed Action Alternative is reported in Table 3.1-12. The results show that during the AM peak period, the Del Monte Avenue / Casa Verde Way intersection would operate at LOS C, an acceptable condition. All other intersections and time periods would experience the same LOS as forecast under No Action/No-Build Alternative conditions. This includes the intersection of Del Monte Avenue / Washington Street / Lighthouse Avenue, which is projected to operate at LOS F under both the No Action/No-Build Alternative and Proposed Action Alternative conditions.

Table 3.1-12: Level of Service at Controlling Intersections in the City of Monterey, Proposed Action Alternative Condition

Intersections	AM Peak				PM Peak			
	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity	LOS	Average Delay (seconds/ vehicle)	Average Critical Delay (seconds/ vehicle)	Critical Volume/ Capacity
Del Monte Avenue/ Casa Verde Way	C	20.5	23.0	0.877	B	17.6	19.2	0.780
Del Monte Avenue/ Figueroa Street	A	7.0	6.2	0.540	B	18.6	20.1	0.777
Del Monte Avenue/ Washington Street/ Lighthouse Avenue	D	36.7	42.5	0.961	**F**	118.9	143.0	1.237

Source: TAMC, 2010a.

3.4 Parking

3.4.1 Existing Parking Conditions

In an effort to encourage ridesharing, there are 15 formal, informal and joint-use park-and-ride lots in the Monterey Bay region (AMBAG, 2010); however, none of these are located within the proposed action corridor between the city of Monterey and the community of Castroville. Existing parking within the jurisdictions traversed by the proposed action corridor is discussed below by agency.

Monterey County

A considerable amount of paved, flat land exists at the industrial properties proposed for future development of a station at Castroville (Blackie Road). These parcels are proposed to be made available for parking lot purposes during Phase 2 of the proposed action (2030).

City of Marina

With the exception of the proposed Eighth Street Station site, existing on-street parking exists at proposed station locations within the city of Marina. At Marina Green Drive, Beach Road, Reservation Road and Palm Avenue, no parking is allowed along the west side of Del Monte Boulevard. “No parking” is also signed along Beach Road and Reservation Road in the vicinity of each respective station. Street parking is unrestricted along Marina Green Drive, Marina Drive, and Palm Avenue in the local vicinity. Some off-street parking also occurs at unpaved areas near these station sites.

The city of Marina has prepared a Downtown Specific Plan which addresses revitalization of the downtown core. Potential components of the Specific Plan include: narrowing of Reservation Road with possible inclusion of on-street parking; civic center site near the Del Monte Avenue / Reservation Road intersection; and centrally-located parking structures. According to the environmental document for this project, development in accordance with the Specific Plan would increase the demand for parking beyond the current supply. However, it is difficult to determine the date when buildout would occur because the pace of development would largely be driven by market forces (Marina, City of, 2009a).

Parking availability was studied at California State University, Monterey Bay as part of the Recirculated Environmental Impact Report for the 2007 Master Plan (California State University, Monterey Bay, 2008). This study concluded that existing parking spaces plus Master Plan parking development would more than adequately offset any potential campus parking supply issue.

Cities of Seaside and Sand City

With the exception of the proposed First Street Station site, existing on-street parking exists at proposed station locations within the city of Sand City. At the Playa Avenue / Del Monte Boulevard intersection, parking is unrestricted along the west side of Del Monte Boulevard and restricted along both Playa and California avenues. At the Contra Costa Street / Del Monte Boulevard intersection, parking is unrestricted along both Del Monte Boulevard and Contra Costa Street.

The city of Seaside has recently completed a Draft Parking Study and Implementation Plan (Seaside, City of, 2009) to comprehensively assess parking supply and to develop a strategy for addressing inadequate conditions. Draft results of this study indicate that there is adequate on-street parking supply along the following major streets within the study area: Palm Avenue; Del Monte Boulevard; and Broadway Avenue. Future planned development of the West Broadway Urban Village Specific Plan calls for the construction of 850 to 1,350 off-street parking spaces to partially offset extensive new demand. Considering a minimum of 228 on-street parking spaces are expected to be available in the

Specific Plan area, impacts associated with implementation of the 'Urban Village' are expected to be fully offset. The draft study recommends the city continue to monitor parking availability in targeted areas for shifts in on-street parking characteristics, and to assess the effectiveness of enforcement (Seaside, City of, 2009).

City of Monterey

The city's General Plan Circulation Element states that the "City should make the most efficient use of possible land devoted to parking. The city's overall parking supply is generally sufficient to meet the demand for all except for a few peak hours of each year…".

The city of Monterey operates 31 parking facilities throughout the city. These facilities range in size from 10 space parking lots to the 1,003 space Cannery Row Parking Garage. Approximately 3,500 total off-street parking spaces are available within these facilities. In addition to off-street spaces, there are 3,312 on-street spaces in the Downtown, Cannery Row and Lighthouse areas of the city (Monterey, City of 2010).

There are parking issues in specific neighborhoods within the proposed action corridor, mostly related to coastal access. Along Casa Verde Way for example, to the north of the corridor, vehicle access to the beach is constrained by limited available public parking. No parking is permitted along Del Monte Avenue within the vicinity of the three proposed station sites in the city.

3.4.2 Horizon Year 2030 Parking Conditions

No Action/No-Build Alternative

With the No Action/No-Build Alternative, passenger rail service along the project corridor would not be constructed and increased MST bus service is assumed; hence, this alternative would not generate demand for additional parking. As described above, 16 on-street parking spaces would be lost due to street widening associated with implementation of the city's *Window on the Bay* project.

Proposed Action Alternative

Availability of adequate parking capacity has been a major concern of the California State University, Monterey Bay and the local government agencies within the proposed action corridor. As mentioned, recent unrelated parking studies have been commissioned by the city of Seaside and the University in response to this concern. These and other jurisdictions, including cities of Marina and Monterey are implementing policies to encourage demand reduction approaches such as shared parking, ride sharing, or development of bicycle infrastructure.

Parking demand associated with the proposed action is shown in Table 3.1-13. The proposed action would reduce the demand for parking in major activity centers by diverting trip ends to park-and-ride lots. For the purpose of this analysis, a 'parking impact' is defined as a reduction in parking supply to a level that is less than the parking demand. Implementation of the proposed action would not increase the demand for parking along the proposed action corridor. Additionally, because the proposed action is predominantly aligned along an existing off-street right-of-way, it would not result in substantial displacement of on-street parking spaces.

County of Monterey – At the project's northern terminus, 249 parking spaces are planned by TAMC as part of its Commuter Rail Extension to Monterey County project. This is expected to provide sufficient capacity to handle the proposed action's foreseeable long-term (Phase 2) demand.

Table 3.1-13: Parking Assumptions by LRT Station

Station	Jurisdiction	Type and Location of Facility	Parking Spaces Proposed	Estimated Lot Completion Date	Responsible Party
Castroville	Monterey County	Off-street surface parking lot	249	2015	TAMC
Marina Green Drive	City of Marina	Off- and on-street parking along Del Monte Boulevard.	80	2010 to 2027	Developer of Mixed Use Project
Beach Road	City of Marina	Kiss-and-ride, on-street, along Del Monte Boulevard	10	2015	TAMC
Reservation Road	City of Marina	Kiss-and-ride, on-street, Del Monte Boulevard and at Marina Drive	10	2015	TAMC
Palm Avenue	City of Marina	Kiss-and-ride, on-street, along Marina Drive	10	2015	TAMC
Eighth Street	City of Marina	Park-and-ride lot	144	2015	Fort Ord Reuse Authority
First Street	Sand City	Maintenance Facility parking for employees only	50	2015	TAMC
Playa Avenue	Sand City	Park-and-ride lot, off-street	10	2015	Developer of “South of Tioga” project
Contra Costa Street	City of Seaside	No parking proposed	N/A	N/A	N/A
Casa Verde Way	City of Monterey	Park-and-ride lot, off-street	157	2017	TAMC
U.S. Naval Postgraduate School (Sloat Avenue)	City of Monterey	Surface parking lot at station, joint use	139	2017	City of Monterey
Custom House Plaza	City of Monterey	No parking proposed	N/A	N/A	N/A

Source: Parsons, 2011.

City of Marina – There is on-street parking available in the immediate vicinity of the proposed Marina Green, Beach, Reservation Road, and Palm Avenue stations. At Reservation Road, the city of Marina is considering improvements that would entail the provision of on-street parking in association with a reduction in through traffic capacity. In addition, between 44 and 50 parking spaces, depending upon the design and location selected, would be for employees and visitors at the proposed action’s Maintenance Facility site at the former Fort Ord military base.

Cities of Seaside and Sand City – A Park-and-Ride facility at the multi-modal proposed Eighth Street Station servicing California State University, Monterey Bay would accommodate 144 vehicles. Ten (10) new parking spaces are planned at the proposed Playa Avenue Station. At the proposed Contra Costa Street Station, no parking is planned in association with the proposed action; however, numerous

parking spaces are planned by others in association with a future Transit Plaza at the realigned West Broadway Avenue intersection with Del Monte Boulevard.

City of Monterey – City staff has indicated via comment letters received during the Notice of Preparation phase of the proposed action, the need to either replace any parking spaces lost due to the proposed action, or to show that demand would be reduced. At the proposed Casa Verde Way Station, 157 parking spaces would be constructed on a new surface parking lot. The

Downtown East and Downtown West parking garages provide a combined 819 parking spaces within walking distance of the proposed Custom House Plaza Station. However, despite the planned provision of 26 new parking spaces at the proposed Custom House Plaza Station (i.e., Monterey Transit Exchange) site, there would be a total potential net loss of up to 38 spaces within the city's Parking Enterprise Zone.

The proposed action would provide easy access from stations to bike paths, sidewalks and connecting bus service to minimize the need for parking. It would likely have a mixed effect on parking impacts at major termini, such as the Monterey Transit Plaza, by providing another transit alternative within the coastal corridor along Monterey Bay, with future linkage to planned TAMC commuter rail service at Castroville. Given the possibility that future demand may exceed supply at some stations over time, TAMC would periodically review the relationship between parking supply and demand and program resources to correct imbalances when they become apparent. Parking agreements would be made with potentially affected jurisdictions.

3.5 Non-motorized Traffic Conditions

3.5.1 Existing Conditions

Some local jurisdictions, including the cities of Monterey and Marina, have designated bicycle routes. Most bicycle routes are local in nature, with few routes passing through two or more jurisdictions. Another impediment to bicycle travel is the limited availability of secure bicycle storage at transit terminals, bus stops, and in the vicinity of workplaces (AMBAG, 2005). This lack of regional connectivity inhibits the use of this mode for work trips (AMBAG, 2010).

While there is a general lack of continuity in bike lanes on the region's street network, progress has been made in planning and funding these and other improvements. TAMC has worked closely with its Bicycle and Pedestrian Facilities Advisory Committee and 13 member agencies to identify gaps in the regional bikeways network and funding measures for associated bicycle improvement projects.

TAMC is developing the Monterey Bay Sanctuary Scenic Trail (MBSST), a 60-mile trail envisioned for both pedestrian and bicyclist access along the coast of Santa Cruz and Monterey counties. The plan calls for bridging the gaps between existing local trails to link them. The trail (presently known as the Monterey Peninsula Recreational Trail) currently extends for 18 miles from the city of Pacific Grove to the community of Castroville, which extends along the length of the proposed action corridor.[18]

AMBAG's Regional Transportation Plan includes policies for maximizing the transportation system to promote walking and bicycle travel, including development of bicycle and pedestrian facilities, safety programs, improved access and safety provisions, and improved linkages to bikeways and recreational

[18] The MBSST is a Class I bicycle facility as far north as the Highway 1/Neponset Road interchange. From Neponset Road into Castroville, the MBSST is a Class II bicycle route.

trail system. In recent years, State grant (AB2766) funding has been used to provide 185 bicycle racks and lockers and secured bicycle parking facilities for 506 bicycles. Due to the program's popular demand, the program received additional funding in 2010.

Each local jurisdiction within the proposed action corridor has transportation policies in their general plans in support of improved bicycle and pedestrian access and safety. The city of Monterey maintains an extensive network of Class I, II and III[19] bicycle facilities and pedestrian sidewalks (Monterey, City of, 2004). The city of Marina has developed a Pedestrian and Bicycle Master Plan (Marina, City of, 2009b). Monterey County has prepared the 2008 General Bikeways Plan. Both plans include goals to provide for a safe, convenient non-motorized transportation system integrated with other modes, and policies to encourage bicycle use, including in the public ROW where appropriate (Monterey County, 2010).

Walking to work is the third most popular way of commuting in the county, after driving alone and carpooling. Walking also is part of the intermediary trips between other transportation modes, such as work-bus stop, shop-car, and school-bike. TAMC is placing more emphasis on walking as a viable, inexpensive, non-polluting, and healthy way to travel (AMBAG, 2010).

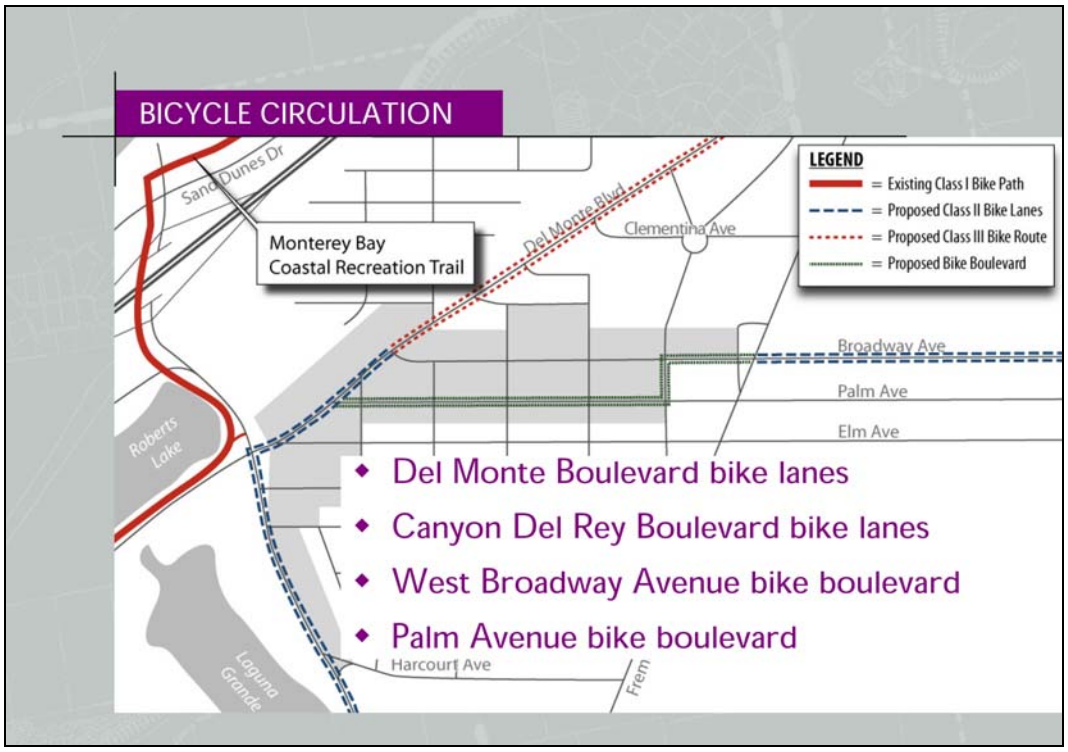
3.5.2 Horizon Year 2030 Non-motorized Transportation Facilities

No Action/No-Build Alternative

With the No Action/No-Build Alternative, rail transit along the project corridor would not be constructed although it is assumed that MST bus service would be expanded; hence, this alternative would not result in any impact to non-motorized transportation.

Nevertheless, there would be modifications to existing bicycle and pedestrian facilities under the No Action/No-Build Alternative condition, For instance, bicycle lane / path realignments as well as new bicycle facilities are proposed as part of the *West Broadway Village Specific Plan.* Bicycle lanes are also estimated for this analysis along Del Monte Boulevard west of Canyon del Rey Boulevard, and along Canyon del Rey Boulevard north of Del Monte Boulevard; the proposed plan is shown on Figure 3.1-11.

[19] Class I (bike path) – a paved path dedicated to bicycles, pedestrians and other non-motorized travel; Class II (bike lane) – a portion of the road is marked with pavement striping and signs for bicycles; Class III (bike route) – a shared road for motor vehicles and bicycles, marked by signs.



Source: City of Seaside, West Broadway Urban Village Specific Plan, July 17, 2008

Figure 3.1-11: Bicycle Circulation Plan in Roberts Lake Vicinity

Proposed Action Alternative

To accommodate LRT facilities, the proposed action would require that portions of bike paths or trails be adjusted at some locations within the proposed action corridor. Some of these changes would be implemented by others in conjunction with already planned improvement projects, as described above.

Other areas along the proposed action corridor where bicycle and/or pedestrian routes would need to be moved due to conflicting alignments are listed below:

1. Along the MBSST (i.e., Monterey Peninsula Recreational Trail) in Monterey between Park and Roberts avenues, minor path relocation required to move it off the centerline of the track. The need for such realignment was recognized in the purchase/funding agreement with Caltrans.

2. Along the MBSST at the intersection of Monterey Road to accommodate planned reconfiguration of the local intersection.

3. At the southern end of the Fort Ord Dunes State Park, a new bike path to be constructed by others is shown on the plans running along the coastal side of the track.

4. A temporary bike path crossing of the project corridor track at the north end of Fort Ord Dunes State Park is to be made permanent, and protected by crossing equipment.

5. The temporary use of the MBL industrial spur as a bike path under Highway 1 at Fifth Street is proposed to be vacated to accommodate the proposed action's maintenance facility if located on the east side of Highway 1.

6. At both Palm Avenue and Reservation Road, minor bike path realignments are required adjacent to the station platforms.

The proposed action as presently designed would be bicycle and pedestrian friendly. Station designs would include several features to provide a safe environment for both bicyclists and pedestrians accessing the facilities. These include, but are not limited to: concrete train crossing panels; crosswalks; decorative paver walkways; safety fencing where appropriate; automatic pedestrian sidewalk gates; wider sidewalks; and night lighting.

As with other similar light rail transit systems, bicyclists would be allowed to bring their bicycles on the train. Bicycle storage lockers are planned at all of the proposed stations. This alternative would not conflict with affected jurisdiction's adopted policies, plans, or programs supporting bicycle and pedestrian transportation. The proposed action is intended to have a beneficial impact by increasing accessibility and encouraging the use of bicycles in conjunction with rapid transit.

Based on the above analysis, impacts to non-motorized transportation due to the proposed action are not considered to be adverse.

3.6 Mitigation Measures

The following mitigation measures are applicable to the Locally Preferred Alternative:

TT-1: Implementing partial traffic signal priority for train movements in lieu of full preemption within the cities of Marina, Seaside, and Sand City.

TT-2: Perform partial reconstruction of the Highway 1/Fremont Boulevard interchange within the cities of Sand City and Seaside.

TT-3: During service operation, TAMC would maintain surveillance over parking supply and usage at its stations on an ongoing basis. TAMC will address the need for additional parking and/or access improvements as it becomes necessary and will coordinate with the effected jurisdiction.

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Chapter 4. Affected Environment, Impacts, and Mitigation

4.1 Aesthetics and Visual Resources

4.1.1 Introduction

This section addresses potential visual impacts that would result from development of the proposed action. The potential visual effects of the proposed action are evaluated from the perspective of public and private views, and they consider impacts to scenic vistas, and scenic corridor resources of the natural and built environment. This section has been prepared based upon the *Monterey Peninsula Light Rail Project, Draft Visual Impact Assessment*, January 2011 (available under separate cover). Existing visual conditions that occur within the proposed action alignment are described herein, and potential project-specific operational impacts to these resources are evaluated. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.1.2 Regulatory Setting

Federal Regulations

National Environmental Policy Act – The National Environmental Policy Act establishes that the federal government use all practicable means to ensure all Americans safe, healthful, productive, and aesthetically (emphasis added) and culturally pleasing surroundings (42 USC. 4331[b][2]). To further emphasize this point, the Federal Highway Administration (FHWA) in its implementation of NEPA (23 USC 109[h]) directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including among others, the destruction or disruption of aesthetic values.

State Regulations

California Environmental Quality Act – The California Environmental Quality Act establishes that it is the policy of the state to take all action necessary to provide the people of the state "with…enjoyment of *aesthetic*, natural, scenic and historic environmental qualities." (CA Public Resources Code Section 21001[b])

California Coastal Act – Section 30251 of the California Coastal Act indicates the following: The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alternation of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Local Regulations

The proposed action corridor is located within unincorporated Monterey County and the cities of Marina, Sand City, Seaside, and Monterey, and is subject to the land use planning requirements of these jurisdictions, as contained within their respective general plans and municipal codes. Each of the city general plans contains goals and policies related to the protection and enhancement of visual

resources, including scenic roads, highways, and other scenic resources. The proposed action would also traverse land located within the County of Monterey's North County Planning Area, Castroville Community Plan Area, and Greater Monterey Peninsula Planning Area.

4.1.3 Affected Environment

Regional Setting

The proposed action corridor extends along the Monterey Bay coast between the community of Castroville and the city of Monterey, California. The proposed action is located within an existing railroad ROW, which traverses rural agricultural uses north of the city of Marina and residential, commercial, open space, and light industrial uses from Marina south. The proposed action alignment generally parallels Highway 1, particularly south of Marina. The existing railroad ROW is visible from Highway 1 along the majority of the alignment; however, Highway 1 is not a designated state scenic highway in the vicinity of the proposed action alignment. The proposed action alignment is also visible from residences and commercial businesses within the cities of Marina, Sand City, Seaside, and Monterey.

The regional landscape is generally flat with some rolling topography along the dunes in the vicinity of the cities of Marina and Sand City. Vegetation within the proposed action corridor is predominantly ruderal / developed habitat, but also includes non-native grassland, coastal scrub, riparian forest, active dune, eucalyptus grove, emergent wetland, and aquatic habitats. Photographs of the alignment and station areas as they currently exist are provided in Appendix A of the *Monterey Peninsula Light Rail Project, Draft Visual Impact Assessment*.

Existing Visual Environment

The project corridor traverses an unincorporated area of Monterey County from the community of Castroville southerly through the cities of Marina, Sand City, Seaside, and Monterey. The Monterey County General Plan and each respective general plan for the affected cities include discussion of the existing visual environment for each jurisdiction.

For purposes of this visual impact assessment, the proposed action has been divided into segments to reflect the different visual characteristics within each of the four jurisdictions traversed by the proposed action corridor. The existing visual environment for each segment is described below. The existing visual environment description includes discussion of the existing visual character, visual quality, viewer groups, and the visual sensitivity for each segment of the proposed action.

Key observation points (KOPs) are used to describe existing visual conditions and to analyze the effects of a proposed action on visual resources. Twelve KOP locations were chosen representing the 12 proposed light rail stations. The KOP locations are depicted on aerial photographs in Chapter 2, Project Description/Alternatives Considered and contained in Figures 2.1-7 through 2.1-18.

- KOP-1: Blackie Road Station
- KOP-2: Marina Greens Drive Station
- KOP-3: Beach Road Station
- KOP-4: Downtown Marina Station (Reservation Road)
- KOP-5: Marina Civic Center Station (Palm Avenue)
- KOP-6: Eighth Street Station
- KOP-7: First Street Station
- KOP-8: Sand City Station (Playa Avenue)
- KOP-9: Downtown Seaside Station (Contra Costa Street)

- KOP-10: Casa Verde Way Station
- KOP-11: Naval Postgraduate Station (Sloat Avenue)
- KOP-12: Custom House Plaza Station

Segment 1: Blackie Road Station – Segment 1 encompasses the proposed Blackie Road Station site in the unincorporated community of Castroville (KOP-1). The proposed location of the light rail station itself is urban and characterized by light industrial and commercial uses. Views from this segment are limited to the surrounding industrial and commercial uses. Viewers within this segment are primarily employees of nearby commercial and light industrial uses. Visual quality: Low. Viewer Sensitivity: Low.

Segment 2: Blackie Road Station to Marina Green Drive Station – Segment 2 extends southerly for a distance of approximately five miles from the Blackie Road Station to the Marina Green Drive Station. A limited amount of commercial uses exist within this segment; however, the principal land uses are agricultural, in the form of active agricultural fields and grazing lands. This segment also traverses the Salinas River and associated truss railroad bridges. Views from this segment encompass the surrounding agricultural lands, Highway 1, and Monterey Bay. Viewers within this segment are primarily Highway 1 motorists, including residents and visitors to the Monterey Peninsula area. Visual quality: Medium. Viewer Sensitivity: Medium.

Segment 3: Marina Green Drive Station – Segment 3 encompasses the proposed Marina Green Drive Station in the City of Marina (KOP-2). The proposed light rail station site is currently located along the northern edge of urban development, with agricultural land to the north and light industrial and residential development to the south. The site itself is comprised of ruderal vegetation. Views from this site include agricultural lands to the north and east, and residential and light industrial uses to the west and south. Current viewers within this segment are primarily local residents. Visual quality: Medium. Viewer Sensitivity: High.

Segment 4: Marina Green Drive Station to Beach Road Station – Segment 4 extends from the Marina Green Drive Station southerly to the Beach Road Station. This segment is entirely surrounded by residential and commercial development within the city of Marina. Views within this area are characterized by these urban land uses. Viewers within this segment are primarily local residents. Visual quality: Low. Viewer Sensitivity: High.

Segment 5: Beach Road Station – Segment 5 encompasses the proposed Beach Road Station site in Marina (KOP-3). The proposed light rail station site is currently disturbed undeveloped land bordered by residential and commercial uses. Views from this site are of surrounding residential and commercial uses and these uses obscure views of Highway 1 and Monterey Bay. Viewers within this segment are primarily local residents. Visual quality: Low. Viewer Sensitivity: High.

Segment 6: Beach Road Station to Downtown Marina Station (Reservation Road) – Segment 6 extends from the Beach Road Station southerly to the Downtown Marina Station (Reservation Road). This segment is primarily developed with residential and commercial development uses within the city of Marina, but there is a large open space area at Locke Paddon Lake. The lake and open space are visible from the proposed alignment; however, views of Monterey Bay to the west are obscured by urban development. Viewers within this segment are primarily local residents. Visual quality: Medium. Viewer Sensitivity: High.

Segment 7: Downtown Marina Station (Reservation Road) – Segment 7 encompasses the proposed Downtown Marina Station (Reservation Road) site in the city of Marina (KOP-4). The proposed station site is currently disturbed undeveloped land bordered by residential and commercial uses. Views to the northwest include a portion of Locke Paddon Lake and associated vegetation. Views from this site are of surrounding residential and commercial uses and these uses obscure views of

Highway 1 and Monterey Bay. Viewers within this segment are primarily local residents. Visual quality: Medium. Viewer Sensitivity: High.

Segment 8: Downtown Marina Station (Reservation Road) to Marina Civic Center Station (Palm Avenue) – Segment 8 extends from the Downtown Marina Station (Reservation Road) southerly to the Marina Civic Center Station (Palm Avenue). This segment is developed with residential and commercial development within the city of Marina. Views within this area are characterized by the existing residential and commercial development. Views of Highway 1 and Monterey Bay to the west are obscured by residential development. Viewers within this segment are primarily local residents. Visual quality: Low. Viewer Sensitivity: High.

Segment 9: Marina Civic Center Station (Palm Avenue) – Segment 9 encompasses the proposed Marina Civic Center Station (Palm Avenue) site in the city of Marina (KOP-5). The proposed station site is currently disturbed, undeveloped land surrounded by residential and commercial uses. Views from this site are of the surrounding residential and commercial uses and these uses obscure views of Highway 1 and Monterey Bay. Viewers within this segment are primarily local residents. Visual quality: Low. Viewer Sensitivity: High.

Segment 10: Marina Civic Center (Palm Avenue) to Eighth Street Station – Segment 10 extends from the Marina Civic Center Station (Palm Avenue) southerly to the Eighth Street Station in the city of Marina. The northern end of this segment is developed with residential and commercial development. The majority of this segment traverses the former Fort Ord military base, and is characterized by vacant parcels and unoccupied buildings. Views from the project corridor to the east are of Highway 1 and areas of the former Fort Ord military base, while views to the west are of Fort Ord Dunes State Park and Monterey Bay. Viewers within this segment are primarily motorists on Highway 1, which includes residents and visitors to the Monterey Peninsula area. Visual quality: High. Viewer Sensitivity: High.

Segment 11: Eighth Street Station – Segment 11 encompasses the proposed Eighth Street Station site in the city of Marina (KOP-6). The proposed station site is currently disturbed, undeveloped land. Eastward views from the site are of Highway 1 and areas of the former Fort Ord military base, while westward views are of Fort Ord Dunes State Park and Monterey Bay. Viewers within this segment are primarily motorists on Highway 1, which includes residents and visitors to the Monterey Peninsula area. Visual quality: High. Viewer Sensitivity: High.

Segment 12: Eighth Street Station to First Street Station – Segment 12 extends between the Eighth Street Station site and the First Street Station site in the city of Marina. This segment is bordered by Highway 1 and former Fort Ord military base (comprised mostly of vacant parcels and unoccupied buildings) to the east and Fort Ord Dunes State Park on its western boundary. Views from the proposed action corridor to the east are of Highway 1 and areas of the former Fort Ord military base, while views to the west are of Fort Ord Dunes State Park and Monterey Bay. Viewers within this segment are primarily motorists on Highway 1, which includes residents and visitors to the Monterey Peninsula area. Visual quality: High. Viewer Sensitivity: High.

Segment 13: First Street Station – Segment 13 encompasses the proposed First Street Station site in the city of Marina (KOP-7). The proposed station site is currently undeveloped open space. Eastward views from the site are of Highway 1 and areas of the former Fort Ord military base, while westward views are of Fort Ord Dunes State Park and Monterey Bay. Viewers within this segment are primarily motorists on Highway 1, which includes residents and visitors to the Monterey Peninsula area. Visual quality: High. Viewer Sensitivity: High.

Segment 14: First Street Station to Sand City Station (Playa Avenue) – Segment 14 extends between the First Street Station site and the Sand City Station (Playa Avenue) site, from the city of

Marina boundary southerly into the city of Sand City. The portion of Segment 14 within the city of Marina traverses land with views similar to those described above for Segments 12 and 13. Eastward views from this segment are of Highway 1 and areas of the former Fort Ord military base, while westward views are of Fort Ord Dunes State Park and Monterey Bay. Within Sand City this segment traverses Highway 1 and is bordered by commercial development on its eastern and western boundaries. Views of Monterey Bay and Highway 1 are mostly obscured by commercial development. An alternative site for the maintenance facility is proposed within this segment. Viewers within this segment are primarily Highway 1 motorists, which includes residents and visitors to the Monterey Peninsula area. Visual quality: High. Viewer Sensitivity: High.

Segment 15: Sand City Station (Playa Avenue) – Segment 15 encompasses the Playa Avenue Station site in Sand City (KOP-8). The proposed station site is located in an area of disturbed vegetation and commercial and light industrial uses. Being surrounded by urban development, views from the site are restricted. Viewers within this segment are primarily employees and visitors doing business within the area. Visual quality: Low. Viewer Sensitivity: Low.

Segment 16: Sand City Station (Playa Avenue) to Downtown Seaside Station (Contra Costa Street) – Segment 16 extends between the Sand City Station (Playa Avenue) site and the Downtown Seaside Station site in the city of Seaside. This segment is developed with commercial and light industrial uses that restrict views. Viewers within this segment are primarily employees and visitors doing business within the area. Visual quality: Low. Viewer Sensitivity: Low.

Segment 17: Downtown Seaside Station (Contra Costa Street) – Segment 17 encompasses the proposed Downtown Seaside Station (Contra Costa Street) site on the border of the cities of Sand City and Seaside (KOP-9). The proposed station site is an area of disturbed vegetation and commercial and light industrial uses. Being surrounded by urban development, views from the site are restricted. Viewers within this segment are primarily employees and visitors doing business within the area. Visual quality: Low. Viewer Sensitivity: Low.

Segment 18: Downtown Seaside Station (Contra Costa Street) Casa Verde Way Station – Segment 18 extends between the Downtown Seaside Station (Contra Costa Street) site and the Casa Verde Way Station site, traversing the boundaries of the city of Seaside into the city of Monterey. This segment is primarily bordered by commercial development. Open space associated with Roberts Lake exists in the city of Monterey. Views of Monterey Bay are restricted by commercial development and/or topography. Viewers within this segment include employees and visitors doing business within the area, as well as motorists on Del Monte Boulevard. Visual quality: Medium. Viewer Sensitivity: Medium.

Segment 19: Casa Verde Way Station – Segment 19 encompasses the proposed Casa Verde Way Station site in the city of Monterey (KOP-10). The proposed station site is an area of landscaped vegetation adjacent to the Monterey Bay Sanctuary Scenic Trail (MBSST). Views of Monterey Bay from the site are restricted by topography. The station is disturbed. Viewers within this segment include employees and visitors doing business in the area, local residents and motorists along Del Monte Boulevard. Visual quality: Low. Viewer Sensitivity: Medium.

Segment 20: Casa Verde Way Station to Naval Postgraduate Station (Sloat Avenue) – Segment 20 extends between Casa Verde Way Station site and the Naval Postgraduate Station (Sloat Avenue) site in the city of Monterey. This segment is bordered by landscaped vegetation adjacent to the MBSST. Views of Monterey Bay from the site are restricted by topography. Viewers within this segment include employees and visitors doing business in the area, local residents, employees / students of the Naval Postgraduate School and motorists along Del Monte Boulevard. Visual quality: Low. Viewer Sensitivity: Low.

Segment 21: Naval Postgraduate Station (Sloat Avenue) – Segment 21 encompasses the proposed Naval Postgraduate Station (Sloat Avenue) site in the city of Monterey (KOP-11). The proposed site is bordered by landscaped vegetation adjacent to the MBSST. Views of Monterey Bay from the site are restricted by topography. Viewers within this segment include employees and visitors doing business in the area, local residents, employees / students of the Naval Postgraduate School and motorists along Del Monte Boulevard. Visual quality: Medium. Viewer Sensitivity: Medium.

Segment 22: Naval Postgraduate Station (Sloat Avenue) to Custom House Plaza Station – Segment 22 extends between the Naval Postgraduate Station site and the Custom House Plaza Station site in the city of Monterey. This segment is bordered by landscaped vegetation adjacent to the MBSST in the immediate area of the Naval Postgraduate Station site. Moving southwesterly, this segment is bordered by both commercial development and multi-family residential developments. Views of Monterey Bay from this segment are initially restricted by topography, then by multi-family residential units farther west, but prominent and uninterrupted for the majority of the segment. Going west along Del Monte Boulevard past the Park Avenue intersection there is an open expanse of the Monterey Peninsula and Monterey Bay open to view. Viewers within this segment include employees and visitors doing business in the area, local residents, motorists, and recreational users. Visual quality: High. Viewer Sensitivity: High.

Segment 23: Custom House Plaza Station – Segment 23 encompasses the proposed Custom House Plaza Station site in the city of Monterey (KOP-12). The proposed station site is currently a paved parking lot associated with visitor-serving uses along Monterey's waterfront. Views of the Monterey Peninsula and Monterey Bay from this site are partially obscured by buildings associated with commercial development and visitor-serving purposes. However, views of historic Monterey and Fisherman's Wharf are prominent. Viewers within this segment include employees and visitors doing business in this visitor-serving area of Monterey. Visual quality: High. Viewer Sensitivity: High.

4.1.4 Impact Analysis

Analysis of visual impacts and recommended mitigation measures for operation of the proposed action is presented below. Assumptions used to assess visual impacts are described in Chapter 5 of the *Monterey Peninsula Light Rail Project, Draft Visual Impact Assessment.*

Select pictorial depictions of improvements associated with the proposed action have been prepared in association with this analysis. See Figure 2.1-2 for illustrative cross sections of the track restoration and elevated recreational trail. Figures 2.1-3 and 2.1-4 are photographic renderings of an improved railroad track next to the recreational trail. Additional visual simulations are provided in Chapter 5 of the *Monterey Peninsula Light Rail Project, Visual Impact Assessment.*

Consistency with Applicable General Plan Requirements

Relevant aesthetic policies and the proposed action's consistency with these are discussed in Appendix A, Land Use and Planning Consistency Analysis of this EA/EIR. The analysis determined that, although the proposed action would introduce new features into the viewshed, impacts could be fully addressed through site design (e.g., stations, maintenance facility, etc.). Given this consideration, the proposed action is considered to be consistent with regional and local plans.

Visual Consistency and Key Observation Point Analyses

The existing conditions inventory describes the visual character of the viewshed in the project vicinity, identifies the types of viewer groups that would see the proposed modifications, describes their sensitivity to changes in the viewed environment (viewer sensitivity), and rates the existing visual

quality using a three criteria scale system based on the FHWA's *Visual Impact Assessment for Highway Projects*.

The visual quality criteria utilized included vividness, intactness, and unity for each segment evaluated, resulting in an overall visual quality determination (e.g., high, medium, or low). These are defined as follows:

- **Vividness** is the degree of drama, memorability, or distinctiveness of the landscape components. Vividness is composed of four elements—*landform, vegetation, water features, and human-made elements*—that usually influence the degree of vividness.
- **Intactness** is a measure of the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. This factor can be present in well-kept urban and rural landscapes, as well as in natural settings. High intactness means that the landscape is free of eyesores and is not broken up by features that appear to be out of place. Intactness is composed of two primary elements—*development and encroachment*—that *influence the degree of intactness.*
- **Unity** is the degree of visual coherence and compositional harmony of the landscape when it is considered as a whole. High unity frequently attests to the careful design of individual components and their relationship in the landscape.

Table 4.1-1 summarizes the outcome of the visual conditions inventory utilized to evaluate the existing visual quality of the proposed action by the segments described above. The information contained in Table 4.1-1 has been prepared utilizing a modified analytical approach and terminology derived from the FHWA's *Visual Impact Assessment for Highway Projects*. See Table 1 of the *Monterey Peninsula Light Rail Project, Draft Visual Impact Assessment* for more detailed information in this regard.

A wide variety of viewers would potentially be affected by future changes to the visual environment with implementation of the proposed action. Viewers can be categorized as having low, medium, or high sensitivity to changes in the viewed environment. Viewer sensitivity is strongly influenced by a viewer's activity, awareness of his or her surroundings, and amount of time spent looking at a view. For example, people such as residents or regular park users who have seen a landscape multiple times for long periods would be aware of changes in the landscape. These viewers would likely appreciate or be familiar with a landscape's aesthetic qualities and are assumed to have high viewer sensitivity. On the contrary, people who view a landscape infrequently, view it for short periods of time (often as they pass through it), or are not attentive to it while focusing on other activities (such as driving or working) would typically be less sensitive to changes and are assumed to have low viewer sensitivity. Viewers with average viewer sensitivity include workers and customers who expect a somewhat pleasant visual setting for the establishments they work in or frequent, but are occupied with activities / events other than enjoying its scenery or visual quality. The visual quality of an area can provide a good indication of how responsive an area's most sensitive viewers would likely be to changes in the visual environment. For example, viewers with high viewer sensitivity in areas that are categorized as having high visual quality would be expected to react more to changes in the visual environment than they would in areas that have medium or low visual quality. These concepts can help determine areas where a project might be expected to have its greatest impacts on visual resources.

Additional information about the methodology used for this impact evaluation is provided in the *Monterey Peninsula Light Rail Project, Draft Visual Impact Assessment.*

No Action/No-Build Alternative

Visual resources affected by the No Action/No-Build Alternative are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined not to result in impacts to visual resources.[20] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) would have no impacts on visual resources since these vehicles would be similar to the overall vehicle types currently travelling along the Highway 1 and 101 corridors.

Locally Preferred Alternative

Visual Consistency and Key Observation Point Analyses – As described in the previous subsection, a visual consistency and key observation point analysis was conducted for the proposed action to determine visual quality in terms of three criteria: vividness, intactness, and unity, for a pre and post-project setting.

Table 4.1-1: Existing Visual Quality Ratings and Category by Segment

Project Segment[1]	Vividness	Intactness	Unity	Visual Quality Category
Unincorporated County				
Segment 1: Blackie Road Station	Low	Low	Low	Low
Segment 2: Blackie Road Station to Marina Green Drive	Medium	Medium	Medium	Medium
City of Marina				
Segment 3: Marina Greens Drive Station	Medium	Medium	Medium	Medium
Segment 4: Marina Greens Drive Station to Beach Road Station	Low	Low	Low	Low
Segment 5: Beach Road Station	Low	Low	Low	Low
Segment 6: Beach Road Station to Down-town Marina Station (Reservation Road)	Medium	Medium	Medium	Medium
Segment 7: Downtown Marina Station (Reservation Road)	Medium	Medium	Medium	Medium
Segment 8: Downtown Marina Station (Reservation Road) to Marina Civic Center Station (Palm Avenue)	Low	Low	Low	Low
Segment 9: Marina Civic Center Station (Palm Avenue)	Low	Low	Low	Low
Segment 10: Marina Civic Center Station (Palm Avenue) to Eighth Street Station	High	High	High	High
Segment 11: Eighth Street Station	High	High	High	High
Segment 12: Eighth Street Station to First Street Station	High	High	High	High
Segment 13: First Street Station	High	High	High	High
Segment 14: First Street Station to Sand City Station (Playa Avenue)	High	High	High	High

[20] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Table 4.1-1: Existing Visual Quality Ratings and Category by Segment (cont.)

Project Segment[1]	Vividness	Intactness	Unity	Visual Quality Category
Cities of Sand City and Seaside				
Segment 15: Sand City Station (Playa Avenue)	Low	Low	Low	Low
Segment 16: Sand City Station (Playa Avenue) to Downtown Seaside Station (Contra Costa Street)	Low	Low	Low	Low
Segment 17: Downtown Seaside Station (Contra Costa Street)	Low	Low	Low	Low
Segment 18: Downtown Seaside Station (Contra Costa Street) to Casa Verde Way Station	Medium	Medium	Medium	Medium
City of Monterey				
Segment 19: Casa Verde Way Station	Low	Low	Low	Low
Segment 20: Casa Verde Way Station to Naval Postgraduate Station (Sloat Avenue)	Medium	Low	Low	Low
Segment 21: Naval Postgraduate Station (Sloat Avenue)	Medium	Medium	Medium	Medium
Segment 22: Naval Postgraduate Station (Sloat Avenue) to Custom House Plaza Station	High	High	High	High
Segment 23: Custom House Plaza Station	High	High	High	High

[1.] See Figure 4 of the *Monterey Peninsula Light Rail Project, Draft Visual Impact Assessment* for pictorial location of these segments.

Source: DD&A, 2011.

Visual quality assessments examine the composition of the character-defining features for selected views and determine how a proposed action might impact the features of the view. These assessments seek to ask the following questions:

- Is this particular view common or dramatic?
- Is this particular view a pleasing composition, with a mix of elements that seem to belong together, or not, with a mix of elements that either do not belong together or are eyesores and contrast with the other elements in the surroundings?

An analysis of the proposed action's potential effect on visual quality was conducted for each segment. In most cases, implementation of project features would affect the visual quality of an area, but would not change it enough to lower the visual quality rating. For this assessment an adverse impact would occur if the existing visual quality criteria would be expected to degrade by one or more levels (such as high to medium or medium to low).

As shown in Table 4.1-2, the proposed action would have an adverse effect on the visual character of two segments.

Table 4.1-2: Segments Expected to Experience a Change in Visual Quality Category

Project Segment	Vividness (Existing) with Proposed Action	Intactness (Existing) with Proposed Action	Unity (Existing) with Proposed Action	Visual Quality Category (Existing) with Proposed Action
Segment 11: Eighth Street Station	(High) Medium. Introduction of the station would break up the visual patterns of the landforms and vegetation at the site.	(High) Medium. Introduction of this station would result in encroachment on the natural landscape.	(High) Medium. Introduction of this station would reduce the coherent, harmonious visual pattern at the site.	(High) Medium.
Segment 13: First Street Station	(High) Medium. Introduction of the station would break up the visual patterns of the landforms and vegetation at the site.	(High) Medium. Introduction of this station would result in encroachment on the natural landscape.	(High) Medium. Introduction of this station would reduce the coherent, harmonious visual pattern at the site.	(High) Medium.
Source: DD&A, 2011.				

For each of these cases, the existing High rating (applicable to vividness, intactness, unity and overall visual quality rating) is estimated to be reduced to Medium, primarily because of the introduction of new visual elements into the existing setting. For other segments, these new elements would be consistent with surroundings, but a change in the viewers' experience would nonetheless still occur. No cases in which rating would be reduced to Low were found in the analysis. It should also be noted that the restoration of passenger rail service along the corridor would provide new vistas and positive visual experiences for future rail transit users, including area residents and visitors.

Lighting and Glare – The proposed action would include new lighting sources at stations, parking lots, pedestrian accessways, and platforms, as described in the *Conceptual Plans for Track Restoration,* October 2010 (available under separate cover). As described above, the proposed lighting would be shielded from offsite areas and downward directed. There would be little, if any, offsite glare and no lighting intrusion into offsite areas; therefore, light and glare impacts would not be adverse.

Scenic Highways – As stated previously, there are no scenic highways within the proposed action alignment and as such, no impacts would result with its implementation.

4.1.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

The following mitigation measure is applicable to the Locally Preferred Alternative:

VIS 1: A landscape plan will be prepared during the project design stage to establish the number and pattern of new, replaced, and/or relocated tree species. Wherever feasible, mature or specimen street trees shall be preserved or relocated and incorporated into the landscape plan where

space permits. Mature and specimen trees removed shall be relocated and/or replaced at a minimum of 1:1 ratio. Trees shall be a minimum 36” box. The recommended landscape palette shall incorporate trees and shrubs that are native to the California region, other drought tolerant trees and shrubs, and trees and shrubs compatible with the existing landscape character.

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4.2 Air Quality

4.2.1 Introduction

The purpose of this section is to evaluate air quality impacts associated with the proposed action. This section is based on the *Monterey Peninsula Light Rail Project, Air Quality and Climate Change Assessment,* December 2010 (available under separate cover). This section reports the type and quantity of emissions that would be generated by operation of the proposed action. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.2.2 Regulatory Setting

Federal Regulations

Clean Air Act – The federal Clean Air Act (CAA), enacted in 1970 and amended twice thereafter (including the 1990 amendments), establishes the basis for the national air pollution control effort. The U.S. Environmental Protection Agency (USEPA) is the federal agency charged with administering the CAA and other air quality-related legislation. In accordance with the CAA, the USEPA has established the following: National Ambient Air Quality Standards (NAAQS) for criteria pollutants; hazardous air pollutants (HAPs) emission standards; state attainment plans; motor vehicle emissions standards and other air quality control measures; and enforcement provisions.

NAAQS exist for the following seven criteria pollutants that have been linked to potential health concerns: ozone (O_3), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), particulate matter less than 10 microns in diameter (PM_{10}), fine particulates less than 2.5 microns in diameter ($PM_{2.5}$), and sulfur dioxide (SO_2). The NAAQS, shown in Table 4.2-1, have two tiers: primary standards to protect human health and secondary standards to prevent environmental degradation, such as damage to vegetation, visibility reduction, etc.

The USEPA designates areas as meeting (attainment) or not meeting (nonattainment) the standards. The CAA mandates that the state submit and implement a State Implementation Plan (SIP) for areas not meeting the NAAQS. These plans must include pollution control measures that demonstrate how the standards will be met.

Title I of the CAA identifies attainment, nonattainment, and unclassifiable areas with regard to the criteria pollutants, and it sets deadlines for all areas to reach attainment for these pollutants. The North Central Coast Air Basin (NCCAB or Basin) where the project is located is classified as in attainment for all criteria pollutants based on federal standards (i.e., NAAQS).

Transportation Conformity Rule – All nonattainment areas are subject to a "transportation conformity" measure, which requires local transportation and air quality officials to coordinate their planning to ensure that transportation projects do not hinder an area's ability to reach its clean air goals. These requirements become effective 1-year after an area's nonattainment designation.

Table 4.2-1: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a,c]	Federal Standards [b,c]	
			Primary	Secondary
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	—	—
	8 Hour	0.07 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3) [d]	—
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	Annual (AAM)	20 µg/m^3	— [e]	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard	35 µg/m^3 [f]	Same as Primary
	Annual (AAM)	12 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	—
	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	
Nitrogen Dioxide (NO_2)	Annual (AAM)	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	—	
Sulfur Dioxide (SO_2)	Annual (AAM)	—		—
	24 Hour	0.04 ppm (105 µg/m^3)		—
	3 Hour	—	—	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	—
Lead (Pb)[g]	30-Day Average	1.5 µg/m^3	—	—
	Calendar Quarter	—	1.5 µg/m^3	Same as Primary
	Rolling 3-Month [h]	—	0.15 µg/m^3	Same as Primary
Visibility-Reducing Particles	8 Hour	In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 %	No Federal Standards	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		

Table 4.2-1: Federal and State Ambient Air Quality Standards (cont.)

Pollutant	Averaging Time	California Standards [a,c]	Federal Standards [b,c]	
Vinyl Chloride [g]	24 Hour	0.01 ppm (26 µg/m^3)		

[a] *California standards for O_3, CO (except Lake Tahoe), SO_2 (1 and 24 hour), NO_2, suspended particulate matter (PM_{10}, $PM_{2.5}$), and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*

[b] *National standards (other than O_3, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3, is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.*

[c] *Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to these reference conditions; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.*

[d] *The new standard of 0.075 ppm (previously 0.08 ppm) was adopted on March 12, 2008 and became effective in June 2008.*

[e] *The annual standard of 50 µg/m^3 was revoked by USEPA in December 2006 due to lack of evidence linking health problems to long-term exposure to coarse particulate pollution.*

[f] *Based on 2004-2006 monitored data, USEPA tightened the 24-hour standard of $PM_{2.5}$ from the previous level of 65µg/m^3. The updated area designation became effective in 2010.*

[g] *The California Air Resources Board (CARB) has identified Pb and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

[h] *Final rule for the new federal standard was signed October 15, 2008.*

i On June 2, 2010 USEPA established a new 1-hr SO_2 standard, which is based on the 3-yr average of the 99th percentile of 1-hr daily maximum concentrations. USEPA also revoked both the existing 24-hr SO_2 standard of 0.14 ppm and the annual primary SO_2 standard of 0.030 ppm.

AAM – annual arithmetic mean; mg/m^3 – milligrams per cubic meter; µg/m^3 – micrograms per cubic meter; ppm – parts per million

Source: CARB, 2010.

The CAA Amendments of 1990 (CAAA) provide the framework to ensure conformity of transportation projects with SIP for air quality. The CAA amendments define conformity as: conformity with the plan's purpose in eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of these standards. Section 176 of the CAA, require that transportation plans, programs, and projects that are funded by or approved under Title 23 United States Code (U.S.C.) or the Federal Transit Act, conform to state or federal air quality plans for achieving NAAQS. In late 1993 the USEPA and the U.S. Department of Transportation promulgated a final *Transportation Conformity Rule* to implement the federal CAA conformity provisions. The final rule, contained in 40 CFR Parts 93 and 51, governs the conformity assessment for the proposed action.

AMBAG is the federally designated Metropolitan Planning Organization (MPO) responsible for transportation planning in the NCCAB. As the MPO, AMBAG is required to develop and maintain long-term and short-term plans and programs. AMBAG prepares the 25-year Metropolitan Transportation Plans (MTPs) and the four-year Metropolitan Transportation Improvement Programs (MTIPs) to

enhance regional mobility. These plans set forth transportation policies and programs and establish the connection between transportation planning and emission reductions from transportation sources.

The 2010 MTP is the latest approved regional transportation plan for the project area. The 2008 MTIP, which was adopted by AMBAG on June 11, 2008, is the latest approved short-range document from which federal transportation funds are programmed for the region. It contains transportation improvement projects including public mass transit, highway, local road, bicycle and pedestrian projects proposed for funding between federal fiscal years 2008-09 to 2011-2012, and that will receive federal funds or are subject to a federally-required action or are regionally significant. The MTIP must be financially constrained by year, and is updated at least every four years. The 2010 MTIP (FY 2010-11 to 2013-14) was approved by AMBAG on September 23, 2010 and by the Federal Highway Administration/Federal Transit Administration (FHWA/FTA) on December 14, 2010. It has also been forwarded for state approval.

To be in conformance, a project must be included in the list of projects of the federally approved transportation plans and programs. The proposed action is included in the 2010 MTP and 2008 MTIP which have been found by the FTA and FHWA to conform to the Clean Air Act. It should be noted that on November 6, 2009, USEPA approved the Monterey Bay Region's Maintenance Plan for O_3.

Funding for this component of the Regional Transportation Plan (RTP) was analyzed in the *Supplemental Final EIR for the 2010 Monterey County RTP*. Project emissions have been determined to neither result in any adverse impacts due to violations of an air quality standard nor substantially contribute to an existing or projected air quality violation.

Project-level Conformity is required for projects in CO, PM_{10}, and $PM_{2.5}$ nonattainment and maintenance areas. A region is considered to be 'nonattainment' if one or more monitoring stations in the region fail to attain the NAAQS. Areas that were previously designated as nonattainment, but have recently met the California Ambient Air Quality Standards (CAAQS) or NAAQS, are called maintenance areas. In general, projects must not cause the CO standard to be violated, and in nonattainment areas, the project must not cause any increase in the number and severity of violations.

Furthermore, in March of 2006, the Transportation Conformity Rule was updated to include regulations for performing qualitative analysis of PM_{10} and $PM_{2.5}$ hot-spot impacts. Only projects that are considered "Projects of Air Quality Concern" (POAQC) are required to perform an analysis. POAQC are defined, generally, as: 1) new or expanded highway projects that have a significant number of or significant increase in diesel vehicles; 2) projects affecting intersections that are Level of Service D, E, or F with a significant number of diesel vehicles; 3) new or expanded bus and rail terminals and transfer points with a significant number of diesel vehicles congregating in a single location; and 4) projects in or affecting locations, areas or categories of sites, which are identified as sites of possible violation in the PM_{10} or $PM_{2.5}$ applicable implementation plan.

The NCCAB where the proposed action is located is in attainment for all NAAQS and thus is not subject to project-level conformity requirements.

Code of Federal Regulations – DMU railcars are subject to air quality regulation under 40 CFR Part 89, relative to nonroad and heavy-duty highway engines, as distinct from locomotive regulation under 40 CFR Part 92. On May 11, 2004, the USEPA announced the comprehensive Clean Air Nonroad Diesel Rule to reduce emissions from non-road diesel engines by integrating engine and fuel controls as a system.

In June of 2004, the USEPA adopted Tier 4 standards for nonroad diesel engines of all horsepower ratings. These standards are technology-neutral in the sense that manufacturers are the responsible

party in determining which emission control technologies will be needed to meet the requirements. Applicable emissions standards are determined by model year for each of five engine power band categories (i.e., < 25 hp, 25 ≤ hp < 75, 75 ≤ hp < 175, 175 ≤ hp < 750, hp > 750).

Mobile Source Air Toxics Rule – Controlling air toxic emissions became a national priority with the passage of the CAAA, whereby Congress mandated that the USEPA regulate 188 air toxics, also known as HAPs. Mobile Source Air Toxics (MSATs) are a subset of the 188 air toxics. MSATs are compounds emitted from roadway vehicles and non-road equipment. The USEPA has assessed and identified six compounds with significant contributions from mobile sources (FHWA, 2006) that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment (NATA) (http://www.epa.gov/ttn/atw/nata1999/). The identified priority MSATs are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter (FHWA, 2009). Of these pollutants, DPM, 1,3-Butadiene, and benzene account for approximately 89 percent of the total toxic air pollutants for potential excess cancer risk. DPM accounts for 71.2 percent of the total toxic air pollutants for potential excess cancer risk (FHWA, 2006; CARB, 2000).

FHWA released interim guidance in 2006, determining when and how to address MSAT impact for transportation projects. The guidance document was updated in 2009 (FHWA, 2009). FHWA has developed a tiered approach for analyzing MSAT, depending on specific project circumstances. The FHWA has identified three levels of analysis:

1. No analysis for exempt projects or projects with no potential for meaningful MSAT effects;
2. Qualitative analysis for projects with low potential MSAT effects; and
3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

State Regulations

California Clean Air Act – The State of California established CAAQS in 1969 under the mandate of the Mulford-Carrell Act. In 1988, the State Legislature adopted the California Clean Air Act (CCAA), which required each nonattainment district in the state to adopt a plan showing how the CAAQS would be met and maintained in their area of jurisdiction by the earliest practicable date. Table 4.2-1 shows the CAAQS currently in effect for each of the criteria pollutants, as well as the other pollutants recognized by the state. The CAAQS are more stringent than the NAAQS for most of the criteria air pollutants. In addition, the CAAQS include standards for other pollutants recognized by the state.

Table 4.2-2 provides the Basin's attainment status with respect to federal and state standards. Based on the CAAQS, the NCCAB complies with the state standards for all pollutants except PM_{10} and ozone.

Green House Gas (GHG) Regulations – On June 1, 2005, Governor Schwarzenegger signed Executive Order (EO) S-3-05, thereby establishing GHG emissions reduction targets and the Climate Action Team. The goal was to reduce California's GHG emissions to: (1) 2000 levels by 2010, (2) 1990 levels by the 2020 and (3) 80 percent below the 1990 levels by the year 2050.

In 2006, this goal was further reinforced with the passage of AB 32, the California Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals outlined in EO S-3-05 while further mandating that the California Air Resources Board (CARB) create a plan, which include market mechanisms, and implements rules to achieve "real, quantifiable, cost-effective reductions of GHGs."

Table 4.2-2: North Central Coast Air Basin Attainment Status

Pollutant	Attainment Status Basis	
	National Standard	California Standard
Ozone (O_3), 1-hour average	N/A [a]	Nonattainment
Ozone (O_3), 8-hour average	Attainment/Maintenance [b]	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Unclassified/Attainment	Attainment
PM_{10}	Attainment	Nonattainment
$PM_{2.5}$	Unclassified/ Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Sulfates (SO_4^{2-})	N/A	Attainment

[a] *N/A = not applicable. The National 1-hr Ozone standard was revoked on June 15, 2005.*

[b] *On November 6, 2009, USEPA approved the Monterey Bay Region's Maintenance Plan for 8-hour O_3. The Plan, prepared by the MBUAPCD and CARB (MBUAPCD, 2007), shows the area will continue to maintain the 8-hour O_3 national standard through the year 2014 (*http://www.epa.gov/region9/air/actions/ca.html*).*

Source: USEPA, 2010; CARB, 2010.

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. The order mandates the following: 1) establish a statewide goal to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020; and 2) establish a Low Carbon Fuel Standard (LCFS) for transportation fuels for California.

In December 2008, the CARB approved a Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit (CARB, 2008a). This Scoping Plan proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, among other benefits. The measures in the Scoping Plan are currently being developed and will be in place by 2012. Although climate change and GHG reduction is a concern at the federal level, currently there are no regulations or legislation that have been enacted specifically addressing GHG emissions reductions and climate change at the project level. Climate change and its associated effects are being addressed through various efforts at the federal level to improve fuel economy and energy efficiency, such as the "National Clean Car Program" and Executive Order 13514- *Federal Leadership in Environmental, Energy and Economic Performance*.

Local Regulations

Authority for air quality control within each basin has been given to local districts to regulate stationary source emissions and develop local plans for achieving and maintaining attainment. At the regional level, the Monterey Bay Unified Air Pollution Control District (MBUAPCD or District) is the agency responsible for attaining / maintaining state and federal clean air standards in the NCCAB. MBUAPCD works directly with AMBAG, and county transportation commissions; and it cooperates actively with all states and federal government agencies. MBUAPCD regulates stationary source emissions and has been given the authority to regulate mobile emissions as an indirect source. As such, it also has developed transportation programs aimed primarily at reducing the number of cars on the road and promoting the use of cleaner fuels and vehicles.

Air Quality Management Plan – The District adopted an Air Quality Management Plan (AQMP or Plan) in 1991 with subsequent updates every three years, to address land use and development practices associated with attainment of the state air quality standards. Projects directly related to population growth (e.g., residential projects) have been forecast in the AQMP. In general, projects that are consistent with these forecasts are consistent with the AQMP, since emissions for projects have been analyzed and mitigated on a regional level through implementation of control measures identified in the Plan.

The latest update to the District's Plan is the 2008 AQMP, in which the focus has shifted from achieving the 1-hour ozone CAAQS to the 8-hour standard, which was revised in 2006. The 2008 AQMP includes the following:

- Current air quality data and updated analysis of air quality trends;
- Revised emission inventory and emission forecasts;
- Updated analysis of emission reductions needed to meet and maintain the state O_3 standard;
- Adoption of emission control measures for five specific stationary sources.

The 2008 AQMP also includes updated transportation control measures (TCMs). Some of the adopted TCMs include the following:

- Improved public transit service – new service and operations to increase ridership – thirteen projects are identified in the MTIP that would implement this TCM in the Air Basin;
- Expanded transportation demand management (TDM);
- Signal synchronization;
- New and improved bicycle facilities;
- Alternative fuels;
- Selected operational intelligent transportation systems (ITS).

The 2008 AQMP demonstrates that, despite a projected 59 percent population increase of over 360,000 persons between 1990 and 2030, emissions are expected to decrease by over 130 tons/day, a 55% decrease. This demonstrates a major success for regional control strategies. This is largely due to reductions in tail-pipe emissions from motor vehicles as well as the application of clean air technologies at power plants.

MBUAPCD rules relevant to the proposed action include the following:

- **Rule 425** –Emissions of ozone precursors (specifically, reactive organic gases or "ROG") from sources related to the proposed action include Rule 425 (Use of Cutback Asphalt) and Rule 426 (Architectural Coatings).
- **Rule 402** – MBUAPCD regulates the creation of air pollutant emissions that would cause public nuisances while operating within the District under Rule 402. This rule states: "No person shall discharge from any source whatsoever such quantities of air contaminants or other materials which cause injury, detriment, nuisance, or annoyance to any considerable number of people or to the public; or which endanger the comfort, repose, health or safety of any such person or the public; or which cause, or have a natural tendency to cause, injury or damage to business or property." (HSC Section 41700)

4.2.3 Affected Environment

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

Climate change is a global problem. Among the prominent greenhouse gases contributing to the greenhouse effect are carbon dioxide (CO_2), methane (CH_4), O_3, water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). These gases are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are of regional and local concern, respectively. In California, the transportation sector is the largest emitter of greenhouse gases. Carbon dioxide, a byproduct of fossil fuel combustion, accounts for approximately 85% of total emissions from human sources. Methane and nitrous oxide emissions account for almost 14% (CEC 2007).

Description of Proposed Action Area

The NCCAB includes Monterey, Santa Cruz, and San Benito counties. The northwest sector of the NCCAB is dominated by the Santa Cruz Mountains. The Diablo Range marks the northeastern boundary. The Santa Clara Valley extends into the northeastern tip of the basin. Farther south, the Santa Clara Valley becomes the San Benito Valley, which runs northwest-southeast, with the Gabilan Range as its western boundary. To the west of the Gabilan Range is the Salinas Valley. The coastal Santa Lucia Range defines the western side of the valley.

A semi-permanent high pressure cell in the eastern Pacific, the Pacific High, is the controlling factor affecting the climate of the NCCAB. In the summer, the Pacific High is dominant and causes persistent west and northwest winds over the entire California coast. Air descends in the Pacific High, forming a stable temperature inversion of hot air over a cool coastal layer. The onshore air currents pass over cool ocean waters to bring fog and relatively cool air into the coastal valleys. The warmer air aloft acts as a lid and inhibits vertical air movement. Surface heating in the interior portion of the Salinas and San Benito Valleys creates a weak low pressure that intensifies the onshore air flow during the afternoon and evening. Summer temperatures generally remain between a low of 40°F and a high of 70°F along the coastal areas.

In the fall, the surface winds weaken, and the marine layer grows shallow, dissipating altogether on some days. The air flow is occasionally reversed in a weak offshore movement, and the relatively stationary air mass is held in place by the Pacific High, which allows pollutants to accumulate over a period of a few days. It is most often during this season that the north or east winds develop to transport pollutants from either the San Francisco Bay Area or the Central Valley into the NCCAB.

During the winter, the Pacific High migrates southward and has less influence on the NCCAB. Air frequently flows in a southeasterly direction out of the Salinas and San Benito Valleys, especially during night and morning hours. The general absence of deep, persistent inversions and the occasional storm systems usually result in good air quality for the basin as a whole in winter and early spring. Winter temperatures along the coast generally range between low of 30°F and a high of 65°F.

Existing Air Quality

The characteristics, health effects, and typical sources of the air pollutants regulated by NAAQS and CAAQS are described in the *Monterey Peninsula Light Rail Project, Air Quality and Climate Change Assessment*. MBUAPCD monitors air quality at ten monitoring stations in the NCCAB. The Salinas monitoring station most represents the air quality in the vicinity of the project site due to microclimatic

conditions. Pollutants monitored on a continuous basis at the Salinas monitoring site include ozone and PM_{10}.

Regional Pollutant Emissions – Table 4.2-3 summarizes the most recent emissions inventories for Monterey County and the NCCAB as a whole. On-road motor vehicles represent only one of many categories of emissions sources within the county and NCCAB. However, such vehicles account for nearly half of total human-generated CO and oxides of nitrogen (NO_x) emissions. Both area-wide and mobile sources contribute substantially to emissions of reactive organic gases (ROG). For PM_{10}, emissions from "miscellaneous processes" are dominant. Construction-related activities also contribute to regional air pollutant emissions.

Table 4.2-3: 2008 Estimated Annual Average Emissions of Selected Air Pollutants for the NCCAB and Monterey County (NCCAB Portion) (in tons/day)

	TOG	ROG	CO	NOX	PM10	PM2.5
North Central Coast Air Basin (NCCAB)						
Area-Wide Sources						
Solvent Evaporation	16.8	15.9	-	-	-	-
Miscellaneous Processes	58.5	11.7	177.7	6.1	71.5	25.4
* TOTAL AREA-WIDE SOURCES	75.3	27.6	177.7	6.1	71.5	25.4
Mobile Sources						
On-road Motor Vehicles	19.2	17.5	179.9	39.7	1.7	1.3
Other Mobile Sources	9.8	9.0	65.3	13.2	1.1	0.9
* TOTAL MOBILE SOURCES	29.0	26.4	245.2	53.0	2.8	2.2
NATURAL/NON-ANTHROPOGENIC SOURCES	82.0	73.4	43.5	1.5	4.5	3.8
GRAND TOTAL FOR NCCAB	425.0	136.9	493.6	79.9	83.2	33.6
Monterey County portion of NCCAB						
Area-Wide Sources						
Solvent Evaporation	10.8	10.3	-	-	-	-
Miscellaneous Processes	34.6	7.1	117.0	3.9	44.2	16.3
* TOTAL AREA-WIDE SOURCES	45.5	17.4	117.0	3.9	44.2	16.3
Mobile Sources						
On-road Motor Vehicles	10.2	9.2	103.0	21.3	1.0	0.7
Other Mobile Sources	6.4	5.9	43.1	7.3	0.7	0.6
* TOTAL MOBILE SOURCES	16.6	15.1	146.1	28.5	1.7	1.3

Notes: TOG = Total Organic Gases; ROG = Reactive Organic Gases

Source: CARB, 2009, "Almanac Emission Projection Data" (http://www.arb.ca.gov/ei/maps/basins/abnccmap.htm)

Toxic Air Contaminants (TACs) – Table 4.2-4 summarizes estimated countywide emissions of TACs[21] relevant to the project. Note that "Other Mobile" sources are estimated to account for about 80

[21] According to Section 39655 of the California Health and Safety Code, a toxic air contaminant is "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health".

percent of County-wide emissions of diesel particulate matter, while countywide lead emissions are primarily attributed to "area-wide" sources which, for the latter, could include demolition-related activities.

Table 4.2-4: 2008 Estimated Annual Average Emissions of Selected Toxic Air Contaminants for Monterey County

Pollutant	Emissions (tons/year) by Source Category					
	Stationary[1]	Area-wide	On-road Mobile[2]	Other Mobile[3]	Natural	Total
Diesel engine exhaust, particulate matter	3.25	--	145.1	677.7	--	826.0
Lead	0.00	3.20	0.01	0.12	0.07	3.42

Source: CARB, 2008b.
NOTES:
(1) Stationary includes the sum of Stationary Point and Stationary Aggregate
(2) On-Road Mobile includes gasoline and diesel
(3) Other Mobile includes Gasoline, Diesel, and Other Fuels

Greenhouse Gas Emissions

Transportation sources (passenger cars, light duty trucks, other trucks, buses and motorcycles) in the state of California make up the largest source (second to electricity generation) of greenhouse gas emitting sources. Conversely, the main source of GHG emissions in the United States is electricity generation followed by transportation. The dominant GHG emitted is CO_2, mostly from fossil fuel combustion.

There are four primary strategies for reducing GHG emissions from transportation sources: 1) improve system and operation efficiencies, 2) reduce growth of vehicle miles traveled (VMT) 3) transition to lower GHG fuels and 4) improve vehicle technologies. To be most effective all four should be pursued collectively.

Carbon dioxide equivalents (CO_2e) are a measurement used to account for the fact that various greenhouse gases have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a greenhouse gas, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. In 2004, global anthropogenic emissions of GHGs totaled 49 gigatons CO_2 equivalent per year according to the Intergovernmental Panel on Climate Change. This compares to 28.7 gigatons CO_2 equivalent per year in 1970. Additional information about this topic is provided in the *Monterey Peninsula Light Rail Project, Air Quality and Climate Change Assessment*.

Table 4.2-5 shows the air basin and countywide mobile source greenhouse gas emissions for 2010.

Table 4.2-5: EMFAC Modeling Results for Mobile Source Emissions of Greenhouse Gases, Calendar Year 2010

	2010 NCCAB[1]	2010 Monterey County[1]
Vehicles (per day)	571,623	289,657
Vehicle miles traveled (VMT, per day)	21,330,000	12,245,000
Trips (per day)	3,854,700	1,988,670
CH4 (in CO2e kilo-metric tons/year)	8.76	5.08
CO2 (in CO2e kilo-metric tons/year)	4,049.93	2,314.15
N2O (in CO2e kilo-metric tons/year)	98.87	57.46
TOTAL (in CO2e kilo-metric tons/yr)	**4,156.57**	**2,376.68**
LBS CO2e per VMT	1.18	1.17
(1) Source: MCUAPCD, 2010		

4.2.4 Impact Analysis

No Action/No-Build Alternative

For the No Action Alternative, regional air quality would not differ from projections under the 2010 Monterey County RTP. This alternative would involve continued use of buses within the corridor as the sole mode of public transit. Unlike the Locally Preferred Alternative, the No Action/No-Build Alternative would not result in beneficial operations emissions related to reduction in vehicle miles traveled on Highways 1 or 101 and the associated reduction in regional pollutants. In addition, greenhouse gas emissions would not be reduced. No new adverse operational impacts would result, however, because it is assumed that existing laws and regulations would serve to reduce emissions for the benefit of human health and the environment. Climate change effects on the region for the No Action/No-Build Alternative would be similar to its effects on the Locally Preferred Alternative.

Locally Preferred Alternative

Compliance with Air Quality Plans – For the following analysis of operational impacts, emissions directly attributable to the proposed light rail where derived from USEPA's Clean Air Non-road Diesel Rules (40 CFR Parts 9, 69, 80, 86, 89, 94, 1039, 1048, 1051, 1065, and 1068) that will be in effect and imposed on the proposed DMU light rail transit vehicles selected for project operations. The analysis conducted herein is considered a worst-case analysis using the proposed standards and assumptions about the total number of light rail cars and hours of operation. In addition, the analysis includes reductions in emissions due to reduced trips and vehicle miles resulting from LRT riders not using passenger vehicles.

Operation of the proposed action would generate the release of combustive emissions from railcars. Engine manufacturers (as proposed, Stadler) are currently required to produce engines in compliance with the aforementioned Risk Reduction Plan. The proposed action would employ self-propelled DMU vehicles (a Stadler-manufactured model GTW 2/6 has been assumed for analysis purposes only), with current plans calling for a total of four (4) railcars consists to begin the system. Initially, trains would operate Monday through Friday during morning and evening peak commute. At buildout (2030), it is assumed that six (6) trains would operate seven days a week from 5 AM to midnight with 10 to 30 minute headways and a roundtrip time of 2 hours (Parsons, 2010).

For engines of 175 to 750 horsepower (hp), including the TAMC-proposed diesel-electric hybrid DMU, the aforementioned USEPA Tier 4 standards would be 0.01 grams per brake horsepower-hour (g/bhp-hr) for PM, 0.30 g/bhp-hr for NO_X and 0.14 g/bhp-hr for non-methane hydrocarbons (NMHC) starting in 2011, with the NO_X and NMHC standards phased in over a period of three to four years in order to address lead time, workload, and feasibility considerations. These PM, NO_X, and NMHC standards and phase-in schedules are similar in stringency to the 2007 highway diesel standards and are expected to require the use of high efficiency after-treatment systems to ensure compliance[22]. For the purpose of this analysis Tier 4 standards are assumed to be in place.[23]

In order to achieve a reasonable, conservative estimate of emissions, the analysis employed a load factor of 0.7, which assumes that the train engines are operating at a net average 70 percent of maximum energy demand over each day of operation. The output of the Stadler railcar is approximately 298 kW per engine; with two engines powering each train, the resultant output would be 596 kW per train. This analysis assumes that upon Phase I start-up in 2015, each of four (4) trains would be operating 14 hours per day for a total combined of 56 hours per day, and that by Phase II start-up in 2035 each of six (6) trains would operate for 18 hours per day. This is considered a conservative schedule for the emissions estimate. The analysis and results are presented in Table 4.2-6. Projected emissions from the Proposed Action Alternative's use of rail cars that would meet either the Tier 2 or 4 Clean Air Non-Road standards (as required by 2015) and without accounting for vehicle trip or mileage reductions, would be below thresholds; therefore, the project would not result in adverse operational air quality impacts related to regional pollutants.

Emissions would also be limited by the associated reduction in personal vehicle use by passengers who currently commute using personal vehicles, but would be expected to ride the commuter rail in the future. Table 4.2-7 shows the net emissions attributable to the project under the various scenarios.

In addition, the proposed Maintenance Facility may use paints, solvents, and other chemicals for maintenance activities. These chemicals may cause a slight increase in hydrocarbon (volatile organic compound) emissions; however, this potential is minimal, as heavy maintenance would not be performed at this site. No aboveground storage tanks or underground storage tanks are proposed for this maintenance facility. For the initial system, tankers carrying diesel fuel would be used to fill railcars.

Carbon Monoxide 'Hot Spot' Analysis – Two methodologies were applied to analyze whether project-generated traffic would result in an impact related to potential exceedance of the carbon monoxide threshold. First, proposed action traffic conditions were compared to MBUACPD screening thresholds based upon intersection levels of service and other operational parameters. Secondly, the proposed action was analyzed with respect to methodology recommended in the "Transportation Project-Level Carbon Monoxide Protocol" (Caltrans, 1997).

[22] 40 CFR Parts 9, 69, et al. Control of Emissions of Air Pollution From Non-road Diesel Engines and Fuel; Final Rule and Federal Register / Vol. 69, No. 124 / Tuesday, June 29, 2004 / Rules and Regulations

[23] The Nonroad Diesel Rule Tier II standards mandate that the engines will meet or exceed the following emissions factors: 3.5 g/kW-hr for CO, 0.19 g/kW-hr for non-methane hydrocarbons (NMHC), 0.40 g/kW-hr for NOx, and 0.02 g/kW-hr for PM.

Table 4.2-6: DMU Emissions Calculations (Assumptions and Results)

		Phase I (2015)	Phase II (2035)
Number of trains/day	A	4	12
Hours of operation/ train-day	B	14	18
Total operating hours/day	C = A*B	56	216
Max kW/engine (Stadler DMU 2/5) fact sheet	D	470	470
Max kW/train (2 engines/train)	E = D*2	940	940
Average kW/train (assumes 0.7 load factor)	F = E*0.7	658	658
Total kW-hrs/day	G = C*F	36,848	142,128

	unit	Pollutant			
		CO	NMHC(1)	NOx	PM(2)
Clean Air Nonroad Diesel Rule (Tier 4 emission factor)	g/kW-hr	3.5	0.19	0.4	0.01
Phase I Emissions from Railcars	lbs/day	284	15	33	1.1
Phase II Emissions from Railcars	lbs/day	1,094	59	126	4.2
MBUAPCD Thresholds of Significance	lbs/day	Note(3)	137	137	82

Notes:

(1) OG is the main component of NMHC; therefore, the portion of the NMHC emissions that would be ROG would also be below relevant thresholds.

(2) M_{10} is a component of PM; therefore, the portion of the PM emissions that would be PM_{10} would also be below relevant thresholds.

(3) BUCAPD's threshold for direct CO emissions does not apply to the rail car emissions (Getchell, personal communication). The relevant CO impact analysis addresses elevated concentrations near congested roadways and intersections in compliance with the Transportation Project-Level CO Protocol (Caltrans, 1997).

Source: DD&A, 2010.

Table 4.2-7: Estimated Net Change in Selected Air Pollutants (pounds per day)

Key Criteria Pollutants	ROG[1]	NOx	PM_{10}[2]
Phase I – (initial operation in 2015) [2]			
Emissions from DMU Railcars	15	33	1.1
On-Road Vehicle Emission Reductions	7	20	7
Net Change in Emissions	**8**	**13**	**-6**
Phase I (2030) [2]			
Emissions from DMU Railcars	15	33	1
On-Road Vehicle Emission Reductions	7	7	7
Net Change in Emissions	**8**	**26**	**-6**
Phase II (2030)			
Emissions from DMU Railcars	59	126	4
On-Road Vehicle Emission Reductions	7	20	7
Net Change in Emissions	**52**	**106**	**-3**
MBUAPD Thresholds of Significance	137	137	82

Notes:

(1) Analysis using the Nonroad Diesel Rule results in a measure of non-methane hydrocarbons (NMHC) which is assumed to be the same as ROG for the purpose of comparing to the federal and regional thresholds of significance and inventories.

(2) Analysis using the Nonroad Diesel Rule results in a measure of particulate matter which is considered a conservatively high estimate of PM_{10} for the purpose of comparing to the federal and regional thresholds of significance and inventories.

Source: DD&A, 2010.

One intersection, Reservation Road / Del Monte Boulevard, met the screening thresholds; therefore, a screening-level CO dispersion modeling analysis based on CALINE4 [24] was performed for this intersection to estimate worst-case ambient concentrations of CO that sensitive receptors may be exposed to with implementation of the proposed action. According to the *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update, this intersection would degrade from LOS C in the existing PM peak hour to LOS D under the No Action/No-Build Alternative and LOS E under the Proposed Action Alternative. Table 4.2-8 shows the results of the CALINE4 model analysis which demonstrated that CO levels would remain well below relevant ambient air quality standards at this intersection with the proposed action alignment.

[24] CALINE4 is a dispersion model for predicting localized CO concentrations and is the MBUAPCD-preferred method of estimating pollutant concentrations at sensitive receptors near congested roadways and intersections. For each intersection analyzed, CALINE4 adds roadway specific CO emissions calculated from peak-hour turning volumes to the existing ambient CO air concentrations.

Table 4.2-8: Worst-case Carbon Monoxide Concentrations (ppm); Reservation Road / Del Monte Boulevard Intersection

	1-Hour	8-Hour*
State Carbon Monoxide Standard	20	9
Reservation Road / Del Monte Boulevard – Build 2030	4.6	3.2
Reservation Road / Del Monte Boulevard – No Action/No-Build 2030	4.5	3.1
Note: *Modeling included worst-case assumptions to develop conservatively high concentrations. 8-hour concentrations were developed using a 0.7 persistence factor in accordance with the CO Protocol (December 1997)		

Mobile Source Air Toxics – At the present time, technical shortcomings of emissions and dispersion models and uncertain science with respect to health effects prevent meaningful or reliable estimates of MSAT emissions and effects of the proposed action. While reliable quantification methods do not exist to accurately estimate the health impacts of MSATs at the project level, it is possible to qualitatively assess the levels of future MSAT emissions. Although a qualitative analysis cannot identify and measure health impacts from MSATs, it can give a basis for identifying and comparing the potential differences among MSAT emissions, if any, among the alternatives.

Research into the health impacts of MSATs is ongoing. For different emission types, epidemiological studies show that MSATs are statistically associated with adverse health outcomes (frequently based on emissions levels found in occupational settings). Epidemiological studies also show that animals demonstrate adverse health outcomes when exposed to large doses.

The USEPA is in the process of assessing the risks of various kinds of exposures to these pollutants. The USEPA's Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment (for more information see http://www.epa.gov/iris). The following toxicity information for the six prioritized MSATs was taken from the IRIS database titled, Weight of Evidence Characterization. This information is taken from USEPA's IRIS database and represents the USEPA's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures.

- **Benzene** is characterized as a known human carcinogen for all routes of exposure.
- The potential carcinogenicity of **acrolein** cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- **Formaldehyde** is a probable human carcinogen based on limited evidence of carcinogenicity in humans, and sufficient evidence in animals.
- **1,3-butadiene** is characterized as carcinogenic to humans by inhalation.
- **Acetaldehyde** is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- **Diesel engine exhaust** is likely to be carcinogenic to humans by inhalation from environmental exposures. Diesel exhaust as reviewed in this document is the combination of diesel particulate matter and diesel exhaust organic gases.

- **Diesel exhaust** also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures may impair pulmonary function and could produce symptoms such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

Some recent studies have reported that proximity to roadways is related to adverse health outcomes, particularly respiratory problems.[25] Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, they do not provide information that would be useful to alleviate the uncertainties listed above and enable a more comprehensive evaluation of the health impacts specific to the proposed action.

It is acknowledged that the proposed action may result in increased exposure to MSAT emissions in certain locations, although the concentrations and duration of exposures are uncertain. Because of this uncertainty, the health effects from these emissions cannot be estimated. However, overall emissions associated with the proposed action would likely be lower than future design year levels as a result of USEPA's national control programs that are projected to reduce MSAT emissions by 57 to 87 percent between 2000 and 2020. Local conditions may differ from these national projections in terms of fleet mix and turnover, vehicle miles travelled (VMT) growth rates, and local control measures. However, the magnitude of the USEPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

The proposed action would ultimately remove five (5) million annual vehicle miles of travel from corridor roadways. The reduction in VMT would reduce regional MSAT emissions from on-road vehicles. As such, the proposed action would result in lower region-wide future MSAT levels than today's levels.

Greenhouse Gas Emission Impacts – As with other individual projects, increases in GHG emissions that would result from the proposed action would not be expected to individually have an adverse impact on global climate change (CAPCOA, 2008). However, the primary concerns would be whether implementation of the proposed action would conflict with California's goals for reducing GHG emissions and whether the proposed action would have a cumulatively considerable impact on global climate change (see Section 4.17.1 for discussion of cumulative air quality impacts).

In absence of development of quantitative GHG emission thresholds by CARB, Monterey County or MBUAPCD, the following considerations were used to evaluate whether the proposed action's emissions could conflict with state goals for reducing GHG emissions as set forth in AB32:

- The potential for the project to conflict with the ARB's Climate Change Scoping Plan's GHG Reduction Measures (ARB, December 2008, at: http://www.arb.ca.gov/cc/scopingplan/document/adopted_scoping_plan.pdf)

[25] South Coast Air Quality Management District, Multiple Air Toxic Exposure Study-II (2000); Highway Health Hazards, The Sierra Club (2004) summarizing 24 Studies on the relationship between health and air quality; NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

- The amount of project GHG emissions in comparison to the Bay Area Air Quality Management District's (BAAQMD's) Proposed Air Quality Thresholds Guidance for projects other than stationary sources of 1,100 metric tons per year.[26]

- The aforementioned Scoping Plan was reviewed in light of the proposed action. Key to this discussion is the long-term beneficial emission reductions that could be attributable to this project. In particular, the proposed action would implement one of the Scoping Plan strategies, which states, "Enhanced public transit service combined with incentives for land use development that provides a better market for public transit will play an important role in helping to reach regional targets." In addition, the proposed action could be considered implementation of one of the AB 32 Scoping Plan early action measures, specifically, #T-3 Regional Transportation-Related Greenhouse Gas Targets. The proposed action would contribute to the implementation of this measure by providing increased access to and encouraging use of alternatives to private vehicle transportation. Given these considerations, the proposed action would be considered consistent with this Plan.

- **Quantitative Analysis** – Operation of the proposed action may cause a small increase in GHG emissions from vehicle travel to and from the LRT stations, including employee trips (approximately 19 employees would be required to operate, maintain, and conduct inspections of the proposed rail line facilities at full buildout in 2035); however, these emissions would be relatively low compared to the power requirements of the vehicles and stations proposed in the proposed action. Emissions associated with electricity use (assumed to be off of the Pacific Gas and Electric [PG&E] grid) and diesel fuel use for the operation of the proposed action would be the primary sources of GHG emissions associated with the proposed action. On an annual basis at full buildout, the proposed action would have the potential to consume up to 1,775 MWh (megawatt hours) of electricity and 2,500 gallons of diesel fuel per day. This amount of fuel and electricity use would result in approximately 9,900 metric tons (MT) of CO_2e per year. A reduction in passenger vehicle miles traveled resulted in a reduction of approximately 2,700 MT/year of CO_2e for a net GHG emissions of 7,200 MT per year.

- For perspective on this amount of emissions, this is above the BAAQMD's threshold for non-stationary sources of 1,100 MT per year (or 4.6 MT per year per service population); however this threshold applies to development projects and is not considered applicable to the proposed action. The BAAQMD's threshold for stationary sources of 10,000 MT per year is also not considered applicable to the proposed action due to the type of project proposed (i.e., a transit project).

- The total estimated GHG emissions that would be associated with operation of the proposed action would not be considered adverse because the proposed action as a whole would facilitate transit infrastructure improvements that would ultimately be expected to reduce greenhouse gas emissions in the Monterey Bay region.

- **Nuisances and Odors** – Assuming compliance with Clean Air Non-road Diesel Rules, the proposed DMUs would emit negligible ROG's in the vicinity of sensitive receptors. Hence, there would be only negligible nuisance odors associated with the future operation of the proposed action.

[26] Although the project is not located with the BAAQMD's jurisdiction, the CEQA thresholds being developed by MBUAPCD may take into consideration those of neighboring jurisdictions, therefore, this is a reasonable assumption given the lack of local thresholds to apply to this analysis.

4.2.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

4.3 Biological Resources

4.3.1 Introduction

This section addresses the potential project-specific operational impacts to plant communities, wildlife, wetlands and other sensitive habitats, and special-status species that may occur within the proposed action alignment. This section is based upon information contained within the *Draft Biological Resources Report*, January 2011 (available under separate cover). Consult this document for information about scientific methodology, survey dates and times, and a more detailed analytical discussion. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.3.2 Regulatory Setting

Federal Regulations

Endangered Species Act (ESA) – Provisions of the ESA of 1973 (16 USC 1532 et seq., as amended) protect federally listed threatened or endangered species and their habitats from unlawful take. The ESA is administered by the U.S. Fish and Wildlife Service (USFWS) or National Oceanic and Atmospheric Administration (NOAA) Fisheries. In general, NOAA Fisheries is responsible for the protection of ESA-listed marine species and anadromous fish, whereas other listed species are under USFWS jurisdiction.

Section 9 of ESA prohibits the take of any fish or wildlife species listed under ESA as endangered. Take, as defined by ESA, is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." Harm is defined as "any act that kills or injures the species, including significant habitat modification." If there is the potential for incidental take of a federally listed fish or wildlife species, take of listed species can be authorized through either the Section 7 consultation process for federal actions or a Section 10 incidental take permit process for non-federal actions.

Biological assessments are required under Section 7(c) of the ESA if listed species or critical habitat[27] may be present in the area affected by any major construction activity as defined in 50 CFR 404.02. Under Section 7(a)(3) every Federal agency is required to consult with USFWS or NOAA Fisheries on a proposed action if the agency has reason to believe that a threatened or endangered species may be present in an area affected by the proposed action and that implementation of the action will likely affect the species.

The ultimate goal of the ESA is the recovery and conservation of endangered and threatened species and the ecosystems on which they depend. A variety of methods and procedures are used to recover listed species, such as protective measures to prevent extinction or further decline, consultation to avoid adverse impacts of federal activities, habitat acquisition and restoration, and other on-the-ground activities for managing and monitoring endangered and threatened species.

[27] Critical habitat is a USFWS-designated specific geographic area that contains features essential for the conservation of a threatened or endangered species and that may require special management and protection. Critical habitat may include an area that is not currently occupied by the species but that will be needed for its recovery.

Migratory Bird Treaty Act (MBTA) – The MBTA of 1918 prohibits killing, possessing, or trading migratory birds except in accordance with regulation prescribed by the Secretary of the Interior. Actions that result in taking or in permanent or temporary possession of a protected species constitute a violation of the MBTA. The USFWS is responsible for overseeing compliance with this Act.

Clean Water Act (CWA) – The U.S. Army Corps of Engineers (ACOE) and Environmental Protection Agency (EPA) regulate discharge of dredged and fill material into "Waters of the United States" (Waters of the U.S.) under Section 404 of the CWA. Waters of the U.S. are defined broadly in 33 CFR 328.3 as waters susceptible to use in commerce (including waters subject to tides, interstate waters, and interstate wetlands) and other waters (such as interstate lakes, rivers, streams, mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds). In January 2001, the Supreme Court determined in Solid Waste Agency of Northern Cook County (SWANNC) vs. U.S. Army Corps of Engineers that CWA jurisdiction over waters of the United States does not extend to non-navigable, isolated, intrastate waters.

The Federal definition of a wetland requires that three wetland identification parameters be met: hydrology, hydrophytic vegetation, and hydric soils must all be present. USFWS defines hydrophytic vegetation as "plant life growing in water or on a substrate that is at least periodically deficient in oxygen as a result of excessive water content" (Cowardin *et al.*, 1979). An area in which hydrophytes represent greater than 50 percent of the plant cover is considered to contain a predominance of hydrophytic vegetation. Hydric soils are defined by the Natural Resources Conservation Service as those soils that form under conditions of saturation, flooding, or ponding for long enough during the growing season to allow anaerobic conditions to develop in the upper part of the soil profile.

In reviewing projects involving impacts to wetlands, ACOE requires no net loss of wetland functions and values. Compensatory mitigation for unavoidable impacts to wetlands permitted by ACOE requires replacement acreage, preferably in-kind and in the same watershed, sufficient to achieve the goal of no net loss. Replacement acreage is determined by ACOE based on the functions and values of the area being filled, the functions and values of the proposed mitigation site, and the likelihood of success of the proposed mitigation. Wetland mitigation may include restoration, creation, and/or preservation.

Executive Order 13112 (Invasive Species) – This Order requires the prevention of introduction and spread of invasive species. Invasive species are defined as "alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health." Among other provisions, and to the extent practicable and permitted by law, this Order requires that each federal agency whose actions may affect the status of invasive species, use relevant programs and authorities to: 1) prevent the introduction of invasive species; 2) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; 3) monitor invasive species populations accurately and reliably; and 4) provide for restoration of native species and habitat conditions in ecosystems that have been invaded.

Executive Order 11990 (Protection of Wetlands) – This Order calls for 'no net loss' of wetlands. For the regulatory process, the ACOE and EPA jointly define wetlands as follows: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." Federal agencies are required to implement the following procedures for any federal action that involves wetlands: 1) provide an opportunity for early public involvement; 2) consider alternatives that would avoid wetlands, and if avoidance is not possible, measures to minimize harm to wetlands must be included in the action; and 3) prepare a "Wetlands Only Practicable Alternative Finding" for actions that require an environmental impact study.

State Regulations

Native Plant Protection Act (NPPA) – The NPPA of 1977 directed the California Department of Fish and Game (CDFG) to carry out the legislature's intent to "preserve, protect and enhance rare and endangered plants in the state." The Act prohibits importing rare and endangered plants into California, taking rare and endangered plants, and selling rare and endangered plants. The California Endangered Species Act (CESA) and NPPA authorized the California Fish and Game Commission to designate endangered, threatened and rare species and to regulate the taking of these species (§2050-2098, Fish and Game Code). Plants listed as rare under the NPPA are not protected under CESA.

California Endangered Species Act – The CESA, enacted in 1984, requires state agencies to comply with endangered species protection and recovery and to promote conservation of these species. The California Code of Regulations (Title 14, Section 670.5) lists animal species considered endangered or threatened by the state. Section 2080 of the Fish and Game Code prohibits "take" of any species that the Fish and Game Commission determines to be an endangered or threatened species. "Take" is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." It does not include habitat destruction in the definition of take. A Section 2081 Incidental Take Permit from the CDFG is required to authorize "take" of any State-listed species.

California Fish and Game Code – Section 3503 of the Fish and Game Code prohibits the killing, possession, or destruction of bird eggs or bird nests. Section 3503.5 and 3513 prohibit the killing, possession, or destruction of all nesting birds. Section 3503.5 states that it is "unlawful to take, possess, or destroy the nest or eggs of any such bird except otherwise provided by this code or any regulation adopted pursuant thereto." Section 3513 prohibits the take or possession of any migratory nongame birds designated under the federal MBTA. Section 3800 prohibits take of nongame birds.

The classification of 'fully protected' was the state's initial effort in the 1960's to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish (Section 5515), mammals (Section 4700), amphibians and reptiles (Section 5050), and birds (Section 3511). Most fully protected species have also been listed as threatened or endangered species under the more recent endangered species laws and regulations. Fully protected species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock.

Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify the CDFG before beginning construction. If the CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. The CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider.

CDFG also maintains a list of animal 'species of special concern,' most of which are species whose breeding populations in California may face extirpation if current population trends continue. Although these species have no legal status, CDFG recommends considering these species during analysis of proposed action impacts to protect declining populations and avoid the need to list them as endangered in the future.

Porter-Cologne Water Quality Control Act – The Central Coast Regional Water Quality Control Board (RWQCB) protects all 'Waters of the State,'[28] but has special responsibility for wetlands, riparian areas, and headwaters, including isolated wetlands and waters that may not be regulated by the Corps under Section 404 of the CWA. 'Waters of the State' are regulated by the RWQCB under the State Water Quality Certification Program, which regulates discharges of fill and dredged material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act.

Local Regulations

Monterey County Code – Title 16, Chapter 16.60, Monterey County Code, provides for the preservation of oaks and other protected tree species within the unincorporated areas of the county. As defined in Section 16.60.040 C, removal of more than three protected trees on a lot in a one-year period triggers preparation of a Forest Management Plan by a qualified forester. Chapter 16.060.040 D requires that the applicant relocate or replace each removed tree on a one-to-one ratio, unless a variance is obtained.

City of Marina Municipal Code, Chapter 12.04 – This chapter of the city's Municipal Code, titled Tree Removal, Preservation, and Protection, outlines the policies regarding tree removal and relocation. The policies applicable to this project include Section 12.04.030 (Unlawful Action upon Trees) and Section 12.04.060 (Tree Removal Permit). If it is determined by the city that adverse effects of tree removal can be mitigated, conditions shall be imposed on the removal, including, but not limited to, one or more of the following: 1) compensation plan, 2) site restoration plan, and/or 3) tree protection plan and program.

City of Seaside Municipal Code, Chapter 8.54 – Policies regarding tree removal and planting are contained in the city's Municipal Code, Chapter 8.54 (Trees). The policies applicable to this project include Section 8.54.030 (Permit—Required for certain tree removal, alteration or planting), Section 8.54.060 (New Construction, Development, Subdivisions and Site Plans), and Section 8.54.070 (Replacement of Trees). As outlined in Section 8.54.070, if removal of a tree from a site has been authorized on an undeveloped parcel, then the developer shall replace the tree with a minimum five-gallon specimen tree of a species and in a location approved by the board of architectural review, if applicable, or other individual or body responsible for the approval of applicant's plans.

City of Monterey Municipal Code, Chapter 37 – This chapter of the city's Municipal Code, titled Preservation of Trees and Shrubs, outlines the policies regarding tree removal. The policies applicable to this project include Section 37-2.5 (Protection of Trees During Construction), Section 37-8 (Removal or Damaging Trees on Private Property), and Section 37-11 (Conditions of Removal/Mitigation Measures). As outlined in Section 37-11 (D), if it is determined by the city that adverse effects of tree removal can be mitigated, specific conditions shall be imposed on the removal, including planting of replacement trees, payment in lieu of replacement, and replacement tree maintenance.

4.3.3 Affected Environment

Description of Proposed Action Project Area

The proposed action alignment is dominated by ruderal habitat and/or developed areas. These areas range from regularly disturbed open space, dominated by non-native herbaceous species, to areas with buildings and pavement. The proposed action alignment north of the Salinas River is mostly

[28] The term "Waters of the State" is defined by the Porter-Cologne Water Quality Control Act as "any surface water or groundwater, including saline waters, within the boundaries of the state."

characterized by disturbed land within the Castroville area plus ruderal areas associated with agricultural fields that are nearly devoid of native vegetation. Non-native grassland dominates the alignment as where it extends across Armstrong Ranch (located north of the city of Marina) to the south of the Salinas River. Throughout the former Fort Ord military base, the majority of the ruderal habitat is dominated by iceplant (*Carpobrotus* sp.); however, native species from surrounding coastal scrub and dune scrub habitats are also present. Land to the south of Fort Ord along the proposed action alignment is largely developed and includes buildings, roads, parking lots, and the recreation trail. Special-status plant species identified within the ruderal areas of the proposed action alignment include Hooker's manzanita (*Arctostaphylos hookeri* ssp. *hookeri*), sandmat manzanita (*A. pumila*), Monterey ceanothus (*Ceanothus cuneatus* var. *rigidus*), Monterey spineflower (*Chorizanthe pungens* var. *pungens*), and Kellogg's horkelia (*Horkelia cuneata* ssp. *sericea*).

From a wildlife standpoint, the proposed action alignment provides little to no habitat due to the disturbance regime and lack of cover. However, special-status wildlife species that may inhabit these areas include California legless lizard (*Anniella pulchra*), coast horned lizard (*Phrynosoma blainvillii*), and Smith's blue butterfly (*Euphilotes enoptes smithi*). Raptors, including white-tailed kite (*Elanus leucurus*), may also nest within trees that occur within ruderal areas. Globose dune beetle (*Coelus globosus*) may be found where the ruderal areas of the former Fort Ord military base present dune-like habitat. The host plants for the Smith's blue butterfly, coast buckwheat (*Eriogonum latifolium*) and dune buckwheat (*E. parvifolium*) were also identified within this habitat type during the 2009 surveys.

Resources in the Proposed Action Area

Plant Communities – Plant communities are assemblages of plant species occurring together in the same area, and they are defined by species composition and relative abundance. The generalized vegetation classification schemes for California described by Holland (1986) and Sawyer and Keeler-Wolf (1995) were consulted in classifying the vegetation of the proposed action alignment. All plants observed within the project site were identified to species or subspecies using keys and descriptions in Hickman (1993) for scientific nomenclature and Matthews (1997) for common names. The following plant communities were observed:

- **Non-native Grassland.** Throughout California, non-native grassland typically occurs in open areas of valleys and foothills, usually on fine-textured clay or loam soils that are somewhat poorly drained (Holland, 1986). These grasslands are dominated by non-native annual grasses and forbs along with scattered native grasses and wildflowers. As mentioned, this habitat type occurs in the vicinity of Armstrong Ranch. The non-native grassland habitat is highly disturbed and includes many of the same species found in ruderal habitat. However, instead of herbaceous species, annual grasses are dominant, such as ripgut brome (*Bromus diandrus*), soft chess (*B. hordeaceus*), rattail rescue (*Vulpia myuros*), barnyard foxtail (*Hordeum murinum* spp. *leporinum*), and perennial ryegrass (*Lolium perenne*). Three special-status plant species were identified within this habitat type during the 2009 surveys: Monterey spineflower, Kellogg's horkelia, and sandmat manzanita. There are approximately 14.42 acres of non-native grassland habitat within the proposed action alignment's area of potential effect (APE).

- **Central Coastal Scrub.** Holland (1986) describes central coastal scrub habitat as an area with dense shrubs, approximately one to two meters tall, which lacks grassy openings and is often integrated with other habitat types. Central coastal scrub habitat within the proposed action alignment occurs throughout the former Fort Ord military base where shrubs become more dominant than the herbaceous species of the surrounding ruderal habitat. Large expanses of this habitat type are also present adjacent to the proposed action alignment at the former Fort Ord military base. However, these areas also include several of the same herbaceous understory

species found in ruderal areas, such as iceplant. Dominant shrub species in the coastal scrub habitat include coffeeberry (*Rhamnus californica*), coyote bush (*Baccharis pilularis*), California lilac (*Ceanothus rigidus*), poison oak (*Toxicodendron diversilobum*), and California sagebrush (*Artemisia californica*). Special-status sandmat manzanita and Monterey ceanothus are also dominant in some areas. Additional special-status plant species identified within the coastal scrub habitat include Monterey spineflower and Kellogg's horkelia. Approximately 11.28 acres of coastal scrub is present within the proposed action alignment's APE.

- **Riparian Forest (Central Coast Arroyo Willow).** Holland (1986) describes this habitat type as a dense, low, closed-canopy, broadleaved, winter-deciduous riparian forest dominated by Arroyo willow (*Salix lasiolepis*) that occurs on moist to saturated sandy or gravelly soil, especially on bottomlands. Within the project site, riparian forest habitat occurs on the north side of the Salinas River, surrounding Locke Paddon Lake in Marina, and surrounding Robert's Lake. No special-status plant species were identified within this habitat type. There are approximately 2.70 acres of riparian forest habitat within the proposed action alignment's APE.

- **Active Dune.** Within the proposed action alignment, active dunes are present immediately south of the former Fort Ord military base, near the Fremont Street exit off of Highway 1. The dunes are nearly devoid of vegetation and in some places nearly cover the existing railroad tracks; however, there are some patches dominated by iceplant. Special-status plant species were identified within this habitat type, including Monterey spineflower, Monterey ceanothus, and sandmat manzanita. Approximately 3.80 acres of active dune habitat is present within the proposed action alignment's APE.

- **Eucalyptus Grove.** A grove of non-native eucalyptus trees is present within the proposed action alignment, across from the Naval Postgraduate School in the city of Monterey. This small grove extends along the recreation trail and has a maintained understory. Eucalyptus trees are also present within the proposed action alignment within ruderal areas of the former Fort Ord military base; however, these trees either occur singly or in very small groups that do not constitute a grove. No special-status plant species were identified within this habitat type during the 2009 surveys. The eucalyptus grove is approximately 3.71 acres.

Wildlife Habitats – The following literature and data sources were reviewed while conducting research on wildlife in the project area: CDFG reports on special-status wildlife (Remsen, 1978; Williams, 1986; Jennings and Hayes, 1994; Thelander, 1994); California Wildlife Habitat Relationships Program species-habitat models (CDFG, 2009; Zeiner et al., 1988; and Zeiner et al., 1990); and general wildlife references (Stebbins, 1985).

- **Non-native grasslands.** This habitat is used by a number of wildlife species, including rodents and reptiles, such as the Botta's pocket gopher (*Thomomys bottae*), California ground squirrel (*Spermophilus beecheyi*), western rattlesnake (*Crotalus oreganus* ssp. *oreganus*), gopher snake (*Thamnophis sp.*), and western fence lizard (*Sceloporus occidentalis*). Raptors are also known to forage in this habitat. Special-status wildlife species that have the potential to occur within non-native grasslands include the American badger (*Taxidea taxus*), western burrowing owl (*Athene cunicularia*), California horned lark (*Eremophila alpestris actia*), California legless lizard, and coast horned lizard. Additionally, several special-status raptor species may forage within this habitat type, including the white-tailed kite.

- **Central Coastal Scrub.** Coastal scrub habitats provide cover and food for a number of wildlife species, including songbirds, snakes, lizards, rodents, and small mammals. Special-status wildlife species with the potential to occur within this habitat type include California legless lizard and coast

horned lizard. As mentioned, the host plants for the Smith's blue butterfly were also identified within this habitat type during the 2009 surveys.

- **Riparian Forest (Central Coast Arroyo Willow).** Riparian areas provide habitat for many wildlife species, particularly birds and herpetofauna. The riparian habitat at Robert's Lake is highly disturbed, creating only a thin ring around the lake, and is, therefore, unlikely to provide suitable habitat for special-status species. However, riparian habitat at the Salinas River and Locke Paddon Lake may provide suitable habitat for the Monterey dusky-footed woodrat (*Neotoma macrotis luciana*), Monterey ornate shrew (*Sorex ornatus salarius*), Cooper's hawk (*Accipiter cooperii*), tricolored blackbird (*Agelaius tricolor*), and two-striped garter snake (*Thamnophis hammondii*). Additionally, California red-legged frog (*Rana draytonii*) may use the riparian habitat at the Salinas River for upland refugia and movement.

- **Active Dune.** One of the host plants for the Smith's blue butterfly, dune buckwheat, was identified within this habitat type during the 2009 surveys. The nearest western snowy plover (*Charadrius alexandrinus nivosus*) nesting site was identified approximately 650 feet away west of the alignment and behind the active dunes. The active dunes do not provide suitable habitat for the western snowy plover.

- **Eucalyptus Grove.** An occurrence of monarch butterfly (*Danaus plexippus*) is known within the eucalyptus grove mentioned above; however, only flying butterflies were observed. Additionally, raptors may nest within these trees. No other special-status wildlife species are expected to occur within the eucalyptus habitat type.

Wetland Resources – Approximately 0.52 acre of emergent vegetation occurs within the proposed action alignment's APE. Emergent wetland is present at the north side of the Salinas River, along a small branch of Tembladero Slough, and within a drainage channel located south of Nashua Road (between Castroville and the Salinas River). These are discussed separately below:

- **Salinas River.** Emergent wetland vegetation is stratified into two levels based on proximity to the river. Closest to the river is a sandbar, dominated by brass buttons (*Cotula coronopifolia*), cut-leaved plantain (*Plantago coronopus*), spearscale (*Atriplex triangularis*), and seep-weed (*Suaeda moquinii*). The area farther from the river is dominated by bulrush (*Scirpus acutus*), seep-weed, beardless ryegrass (*Leymus triticoites*), and sandbar willow (*Salix exigua*).

- **Branch of Tembladero Slough.** Emergent wetland vegetation along this small channel is different on each side of Highway 183. North of the highway, the channel is dominated by tall cyperus (*Cyperus eragrostis*), bulrush, poison hemlock (*Conium maculatum*), cattail (*Typha latifolia*), California willow-herb (*Epilobium cilatum*), rabbitfoot grass (*Polypogon monspeliensis*), and bristly ox-tongue (*Picris echoides*). South of the highway, closer to Tembladero Slough, poison hemlock and black mustard (*Brassica nigra*) dominate the swale between the railroad tracks and the channel. Bulrush, California blackberry (*Rubus ursinus*), and silverweed (*Potentilla anserina*) also dominate the lower depressions within this swale.

- **Nashua Road Drainage Channel.** The northernmost portion of the channel is dominated by bulrush. As the channel narrows towards the south, rabbitfoot grass also becomes dominant, and where the channel passes through a culvert under the railroad tracks and the channel sides are less steep, salt grass (*Distichlis spicata*) and scouring rush (*Equisetum* sp.) become dominant. Duckweed (*Lemna* sp.) covers all of the water at this location.

- **Aquatic.** Aquatic habitat within the proposed action alignment includes Tembladero Slough, Salinas River, and Robert's Lake. Additionally, Locke Paddon Lake is immediately adjacent to the project

site. Tembladero Slough and Locke Paddon Lake are freshwater resources, while Robert's Lake and the Salinas River, at least within the project site, are brackish water resources that are influenced by both the tide and freshwater inputs. No special-status plant species were identified within the aquatic areas of the proposed action alignment. All four of these aquatic resources may provide habitat for the western pond turtle. The Salinas River also provides habitat for steelhead (*Oncorhynchus mykiss irideus*), California brackish water snail (*Tryonia imitator*), and California red-legged frog (breeding). Robert's Lake may also provide habitat for the California brackish water snail and Tembladero Slough may also provide habitat for steelhead. Appropriate breeding habitat for coast range newt (*Taricha torosa torosa*) may be present within Locke Paddon Lake. Approximately 1.79 acres of aquatic habitat is present within the proposed action alignment's APE.

Critical Habitat – The proposed action alignment is located within critical habitat for the following species:

- **Steelhead.** The Salinas River and Tembladero Slough are designated critical habitat for steelhead (70 FR 52487- 52627).The lateral extent of critical habitat for steelhead is the width of the stream channel, defined as the ordinary high-water mark as defined by ACOE in 33 CFR 329.11. Approximately 1.23 acres of steelhead critical habitat occur within the proposed action alignment's APE.

- **Monterey Spineflower.** Approximately 1.26 acres of Monterey spineflower critical habitat occur within the proposed action's APE in the area of the former Fort Ord military base (73 CFR 1525). With regard to the project area, the primary constituent elements of critical habitat for Monterey spineflower include: sandy soils associated with active coastal dunes; plant communities that support associated species; little or no cover by non-native species; and physical processes that support natural dune dynamics. These constituent elements are present within about 1.26 acres of critical habitat within the proposed action alignment's APE.

Special Status Species

Plant Species – The project site and adjacent areas were evaluated and surveyed for the presence of special-status plant species. For each species, the California Natural Diversity Database (CNDDB) was researched for an area encompassing 16 topographic quadrangles. A total of 58 species were identified and are described in Appendix D of the *Draft Biological Resources Report*. Described below and included on Table 4.3-1 are the five special-status plant species identified by the USFWS (2009a) and in the *Online Inventory of Rare and Endangered Vascular Plants of California* (CDFG, 2009) as occurring within the project area or vicinity. Those species determined by project biologists as being out of geographic or elevational range, or to have extremely low potential for occurrence within the proposed action alignment's APE, are not presented in Table 4.3-1. No special-status plant species were identified within emergent wetland habitat along the proposed action alignment.

- **Hooker's Manzanita.** A CNPS List 1B species, the CNDDB reports 18 occurrences. This species was identified within the proposed action alignment near the former Fort Ord military base.

- **Sandmat Manzanita.** A CNPS List 1B species, the CNDDB reports 12 occurrences, two of which include portions of the proposed action alignment. This species was identified within the proposed action alignment throughout the former Fort Ord military base and Armstrong Ranch areas.

- **Monterey Ceanothus.** A CNPS List 4 species, the CNDDB does not report any occurrences of this species; however it is known to occur and was identified within the proposed action alignment in the former Fort Ord military base area.

Table 4.3-1: Special-Status Plants that Occur within the Proposed Action APE

Species	Federal	State	CNPS	Habitat Description	Bloom Period	Potential to Occur within the Project APE
Hooker's manzanita *Arctostaphylos hookeri* ssp. *hookeri*	--	--	1B	Closed-cone coniferous forest, chaparral, cismontane woodland, and coastal scrub on sandy soils at elevations of 85-536 meters. Evergreen shrub in the Ericaceae family	January-June	High: Approximately 0.003 acre plus one individual were observed near the Fort Ord area during focused botanical surveys in May 2009
Sandmat manzanita *Arctostaphylos pumila*	--	--	1B	Closed-cone coniferous forests, maritime chaparral, cismontane woodland, coastal dunes, and coastal scrub on sandy soils at elevations of 3-205 meters. Evergreen shrub in the Ericaceae family	February-May	High: Approximately 1.1 acres plus 19 individuals were observed within the Fort Ord and Armstrong Ranch areas during focused botanical surveys in May 2009
Monterey ceanothus *Ceanothus cuneatus* ssp. *rigidus*	--	--	List 4	Closed cone coniferous forest, chaparral, and coastal scrub on sandy soils at elevations of 3-200 meters. Evergreen shrub in the Rhamnaceae family	February-April	High: Approximately 1.02 acres plus 12 individuals of Monterey ceanothus were observed within the Fort Ord area during focused botanical surveys in May 2009
Monterey spineflower *Chorizanthe pungens* var. *pungens*	FT	--	1B	Maritime chaparral, cismontane woodland, coastal dunes, coastal scrub, and valley and foothill grassland on sandy soils at elevations of 3-450 meters. Annual herb in the Polygonaceae family	April-June	High: Approximately 3.93 acres plus 163 individuals of Monterey Spineflower were observed within the Fort Ord and Armstrong Ranch areas during focused botanical surveys in May 2009
Kellogg's Horkelia *Horkelia cuneata* ssp. *sericea*	--	--	1B	Closed-cone coniferous forests, maritime chaparral, & openings in coastal scrub on sandy or gravelly soils at elevations of 10-200 meters. Perennial herb in the Rosaceae family	April-September	High: Approximately 0.97 acre plus 23 individuals of Kellogg's horkelia were observed within the Fort Ord and Armstrong Ranch areas during focused botanical surveys in May 2009

Table 4.3-1: Special-Status Plants that Occur within the Proposed Action APE (cont.)

Species	Federal	State	CNPS	Habitat Description	Bloom Period	Potential to Occur within the Project APE
STATUS DEFINITIONS **U.S. Fish and Wildlife Service (USFWS)** FE = listed as Endangered under the federal Endangered Species Act FT = listed as Threatened under the federal Endangered Species Act FC = federal Candidate under the federal Endangered Species Act -- = no listing **California Department of Fish and Game (CDFG)** SE = listed as Endangered under the California Endangered Species Act ST = listed as Threatened under the California Endangered Species Act SC = state Candidate under the California Endangered Species Act SR = listed as Rare under the California Endangered Species Act SSC = California Department of Fish and Game Species of Special Concern CFP = California Fully Protected Animal -- = no listing CNDDB = This designation is being assigned to animal species that are not assigned any of the other status designations defined in this table. These animal species are included in the DFG's CNDDB "Special Animals" list (July 2009), which includes all taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." The CDFG considers the taxa on this list to be those of greatest conservation need. **California Native Plant Society (CNPS)** 1B = List 1B species; Rare, Threatened or Endangered in California and elsewhere 2 = List 2 species; Rare, Threatened, or Endangered in California, but more common elsewhere 3 = List 3 species; plants about which more information is needed 4 = List 4 species; plants of limited distribution -- = no listing **POTENTIAL TO OCCUR** Present = known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys. High = known occurrence of species in the vicinity from the CNDDB or other documentation; presence of suitable habitat conditions. Moderate = known occurrence of species in the vicinity from the CNDDB or other documentation; presence of marginal habitat conditions within the site. Low = species known to occur in the vicinity from the CNDDB or other documentation; lack of suitable habitat or poor quality. Unlikely = species not known to occur in the vicinity from the CNDDB or other documentation, no suitable habitat is present within the site. Not Present = species not identified during focused surveys. Source: DD&A, 2010.						

- **Monterey Spineflower.** A federally threatened, CNPS List 1B species, this plant is a small, prostrate annual herb. The CNDDB reports 27 occurrences, four of which include portions of the proposed action alignment. This species was identified within the site at the former Fort Ord military base and Armstrong Ranch areas.
- **Kellogg's Horkelia.** A CNPS List 1B species, the CNDDB reports 18 occurrences, three of which include portions of the proposed action alignment. This species was identified within the proposed action alignment at the former Fort Ord military base and Armstrong Ranch areas.

Animal Species – The proposed action alignment's APE were evaluated and surveyed for the presence of special-status animal species. A total of nine mammal, 20 bird, 11 reptile, two fish, and six invertebrate species were identified. Nineteen special-status animal species are discussed below and listed in Table 4.3-2 due to their known or potential presence within the proposed action alignment. For each species, the CNDDB was researched for an area encompassing 16 topographic quadrangles. Those species determined by project biologists as being "unlikely to occur" and/or "unlikely to be impacted" for species-specific reasons are not presented in Table 4.3-2.

Special-status wildlife species are unlikely to occur within the emergent wetland near Tembladero Slough and the channel south of Nashua Road as these areas are highly disturbed as a result of agricultural activities and channel maintenance. However, the emergent wetland habitat at the Salinas River may provide habitat for the Salinas harvest mouse (*Reithrodontomys megalotis distichlis*), Monterey ornate shrew, tricolored blackbird, western pond turtle (*Actinemys marmorata pallida*), California red-legged frog, and two-striped garter snake.

- **Monterey Dusky-footed Woodrat.** A CDFG species of special concern, the Monterey dusky-footed woodrat is a subspecies of the dusky-footed woodrat *(Neotoma macrotis)*, which is common to oak woodlands throughout California. The CNDDB does not list any occurrences; however, this species is known to occur throughout Monterey County. The Monterey dusky-footed woodrat has a high potential to occur within the proposed action alignment's APE.

- **Salinas Harvest Mouse.** The subspecies of the western harvest mouse is included on the CNDDB "Special Animals" list. It is known only to occur in the Monterey Bay region in fresh and brackish water wetlands, and probably in the adjacent uplands around the mouth of the Salinas River. The CNDDB lists seven occurrences, two of which include portions of the project site within the cities of Marina and Sand City. This species has a high potential to occur within the proposed action alignment's APE.

- **Monterey Ornate Shrew.** The Monterey ornate shrew is a CDFG species of special concern. This shrew occupies mostly moist or riparian woodland habitats and also occurs within chaparral, grassland, and emergent wetland habitats where there is thick duff or downed logs. The CNDDB does not list any occurrences within the project vicinity. This species has a moderate potential to occur within the proposed action alignment's APE.

- **American Badger.** A CDFG species of special concern, the American Badger occupies a diversity of habitats within California. Grasslands, savannas, and mountain meadows near timberline are preferred. The CNDDB lists 13 occurrences. This species has a moderate potential to occur within the proposed action alignment's APE.

- **Tricolored Blackbird.** A CDFG species of special concern, this species is common locally throughout the Central Valley and in coastal districts from Sonoma County south. The CNDDB lists 13 occurrences. Tricolored blackbird has a high potential to occur within the proposed action alignment's APE.

- **Western Burrowing Owl.** A CDFG species of special concern, western burrowing owls are a year-round resident of open, dry grassland and desert habitats, and grass, forb and open shrub stages of pinyon-juniper and ponderosa pine habitats. The CNDDB lists 14 occurrences. This species has a moderate potential to occur within the proposed action alignment's APE.

Table 4.3-2: Special-Status Wildlife Species that may Occur within the Proposed Action APE

Species	Federal	State	Habitat Description	Potential to Occur within the Project Area
Mammals				
Monterey dusky-footed woodrat *Neotoma macrotis luciana*	--	CSC	Forest and oak woodland habitats of moderate canopy with moderate to dense understory. Also occurs in chaparral habitats.	High: Suitable habitat is present within project boundaries near the Salinas River and Locke Paddon Lake. However, no woodrat nests were observed during surveys in 2009. The riparian habitat at Robert's Lake is likely not dense enough to provide woodrat habitat and the species is unlikely to occur there.
Salinas harvest mouse *Reithrodontomys megalotis distichlis*	--	CNNDB	Known only to occur from the Monterey Bay region. Occurs in fresh and brackish water wetlands, and probably in the adjacent uplands around the mouth of the Salinas River.	High: Two CNDDB occurrences of this species are recorded within the project site, near Seaside and Marina. Suitable habitat present within and surrounding emergent wetland areas within the project site, where the project alignment crosses the Salinas River and in the areas surrounding Robert's Lake and Locke Paddon Lake.
Monterey ornate shrew *Sorex ornatus salarius*	--	SSC	Mostly moist or riparian woodland habitats, and within chaparral, grassland, and emergent wetland habitats where there is a thick duff or downed logs.	Moderate: Marginal quality habitat is present within project boundaries near the Salinas River, Locke Paddon Lake, and Robert's Lake. The CNDDB does not report any occurrences within the 16 Quads analyzed and Figure B-18 in the Fort Ord HMP does not identify the project site as containing potential habitat for this species; however, this species is known to occur within the vicinity of the project site.
American badger *Taxidea taxus*	--	SSC	Dry, open grasslands, fields, pastures savannas, and mountain meadows near timberline are preferred. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated grounds.	Moderate: One CNDDB occurrence of this species is recorded within the project site, near Seaside. However, this is a historic occurrence and the area has since been developed. Only marginal habitat is now present within the project site, located within the non-native grassland and ruderal habitats near Armstrong Ranch.

Table 4.3-2: Special-Status Wildlife Species that may Occur within the Proposed Action APE (cont.)

Species	Federal	State	Habitat Description	Potential to Occur within the Project Area
Birds				
Cooper's hawk *Accipiter cooperii*	--	CNNDB	Resident throughout most of the wooded portion of the state. Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently. Seldom found in areas without dense tree stands, or patchy woodland habitats.	Low: Low quality habitat for this species is present at Locke Paddon Lake and surrounding the Salinas River. Nearest CNDDB occurrence is approximately nine miles from the project site.
Tricolored blackbird *Agelaius tricolor*	--	SSC	Nest in colonies in dense riparian vegetation, along rivers, lagoons, lakes, and ponds. Forages over grassland or aquatic habitats.	High: The CNDDB reports occurrence of this species at Locke Paddon Lake. May also occur within suitable habitat surrounding the Salinas River.
Western Burrowing owl *Athene cunicularia*	--	SSC	Year round resident of open, dry grassland and desert habitats, and in grass, forb and open shrub stages of pinyon juniper and ponderosa pine habitats. Frequent open grasslands and shrublands with perches and burrows. Use rodent burrows (often California ground squirrel) for roosting and nesting cover. Pipes, culverts, and nest boxes may be substituted for burrows in areas where burrows are not available.	Moderate: A CNDDB occurrence of this species is recorded within the project site near Armstrong Ranch in Marina and DD&A biologists have observed this species there on several occasions. This occurrence includes a portion of the project alignment; however, only marginal habitat is present within project boundaries.
White-tailed kite *Elanus leucurus*	--	CFP	Open groves, river valleys, marshes, and grasslands. Prefer such area with low roosts (fences etc.). Nest in shrubs and trees adjacent to grasslands.	High: Appropriate nesting and foraging habitat present within project boundaries, particularly within the vicinity of Armstrong Ranch. Nearest CNDDB occurrence is approximately three miles from the project site; however, this species has been observed within Armstrong Ranch, immediately adjacent to the project site.

Table 4.3-2: Special-Status Wildlife Species that may Occur within the Proposed Action APE (cont.)

Species	Federal	State	Habitat Description	Potential to Occur within the Project Area
California horned lark *Eremophila alpestris actia*	--	CNNDB	Variety of open habitats, usually where large trees and/or shrubs are absent. Found from grasslands along the coast to deserts at sea-level and alpine dwarf-shrub habitats are higher elevations. Builds open cup-like nests on the ground.	Moderate A CNDDB occurrence of this species is recorded within the project site near Armstrong Ranch in Marina; however, only marginal habitat is present within project boundaries in this area. Low quality habitat is also present within the agricultural areas north of the Salinas River.
Reptiles and Amphibians				
Western pond turtle *Actinemys marmorata* (includes *A. m. pallida* and *A. m. marmorata* as recognized by the CDFG)	--	CSC	Associated with permanent or nearly permanent water in a wide variety of habitats including streams, lakes, ponds, irrigation ditches, etc. Require basking sites such as partially submerged logs, rocks, mats of vegetation, or open banks.	High: Suitable habitat is present within the project site near Locke Paddon Lake, Salinas River, Robert's Lake, and Tembledero Slough. The nearest CNDDB occurrence is less than 100 feet from the project alignment.
California legless lizard *Anniella pulchra* (includes *A. p. nigra* and *A. p. pulchra* as recognized by the CDFG)	--	CSC	Requires moist, warm habitats with loose soil for burrowing and prostrate plant cover, often forages in leaf litter at plant bases; may be found on beaches, sandy washes, and in woodland, chaparral, and riparian areas.	High: Suitable habitat present along project alignment south of the Salinas River. The CNDDB reports 36 occurrences within six of the 16 Quads analyzed. This includes the non-native grassland and ruderal habitats; however, the coastal scrub habitat within the Fort Ord site provides the most suitable habitat for this species. Figure B-16 in the Fort Ord HMP identifies portions of the project site as containing potential habitat.
Coast horned lizard *Phrynosoma blainvillii*	--	SSC	Associated with open patches of sandy soils in washes, chaparral, scrub, and grasslands.	High: A CNDDB occurrence is recorded within the project site near Armstrong Ranch and DD&A biologists have observed this species there several times. Suitable habitat is present within project boundaries near Armstrong Ranch and Fort Ord.

Table 4.3-2: Special-Status Wildlife Species that may Occur within the Proposed Action APE (cont.)

Species	Federal	State	Habitat Description	Potential to Occur within the Project Area
California red-legged frog *Rana draytonii*	FT	SSC	Lowlands and foothills in or near permanent or late-season sources of deep water with dense, shrubby, or emergent riparian vegetation. During late summer or fall adults are known to utilize a variety of upland habitats with leaf litter or mammal burrows.	High: The nearest CNDDB occurrence is located approximately two miles from the project site along the Salinas River, where they were breeding in 2009. Appropriate breeding habitat also includes Robert's Lake, Locke Paddon Lake, and Tembledero Slough, although Robert's Lake and Locke Paddon Lake are likely outside of the species' dispersal range.
Coast Range newt *Taricha torosa torosa (Monterey Co. south only)*	--	CSC	Occurs mainly in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral but is known to occur in grasslands and mixed conifer types. Seek cover under rocks and logs, in mammal burrows, rock fissures, or man-made structures such as wells. Breed in intermittent ponds, streams, lakes, and reservoir.	Moderate: The nearest CNDDB occurrence is approximately eight miles from the project site. Marginal habitat is present for this species at Locke Paddon Lake. This species is unlikely to utilize the Salinas River or Tembladero Slough, as flows in these resources are likely too high to support breeding, or Robert's Lake, due to the brackish water conditions.
Two-striped garter snake *Thamnophis hammondii*	--	SSC	Associated with permanent or semi-permanent bodies of water bordered by dense vegetation in a variety of habitats from sea level to 2400m elevation.	High: Suitable habitat is present within project boundaries near the Salinas River, Locke Paddon Lake, and Robert's Lake. The nearest CNDDB occurrence is approximately 12 miles from the project site.
Fish				
South-central coast steelhead *Oncorhynchus mykiss irideus*	FT	SSC	Coastal perennial and near perennial streams, with suitable spawning and rearing habitat and no major barriers.	High: Although the CNDDB does not report any occurrences of steelhead within the Salinas River, other sources (71 FR 833-862) suggest that they may be present in limited numbers. Additionally, the Salinas River and Tembledero Slough are designated steelhead Critical Habitat. Steelhead are unlikely in Locke Paddon Lake and Robert's Lake.

Table 4.3-2: Special-Status Wildlife Species that may Occur within the Proposed Action APE (cont.)

Species	Federal	State	Habitat Description	Potential to Occur within the Project Area
Invertebrates				
Monarch butterfly *Danaus plexippus*	--	CNNDB	Overwinters in coastal California using colonial roosts generally found in Eucalyptus, pine, and acacia trees. Overwintering habitat for this species within the Coastal Zone represents Environmentally-Sensitive Habitat Areas (ESHA). Local ordinances often protect this species as well.	High: A CNDDB occurrence of this species is reported within the project site, located within the Eucalyptus grove across from the Naval Post-graduate School in Monterey. No other suitable habitat is present within project boundaries.
Smith's blue butterfly *Euphilotes enoptes smithi*	FE	--	Most commonly associated with coastal dunes and coastal sage scrub plant communities in Monterey and Santa Cruz Counties. Plant hosts are *Eriogonum latifolium* and *E. parvifolium*.	High: The CNDDB reports an occurrence of this species that ranges from Seaside to Monterey and includes portions of the project site. Additionally, the host plants for this species were identified along the project alignment south of the Salinas River, particularly in the Armstrong Ranch and Fort Ord areas.
California brackish water snail *Tryonia imitator*	--	CNNDB	Inhabits coastal lagoons, estuaries and salt marshes. Found only in permanently submerged areas in a variety of sediment types. Tolerant of a wide range of salinities.	High: Suitable habitat present within project boundaries at the Salinas River. Documentation by the USFWS for the Salinas River National Wildlife Refuge suggests that this species occurs within this area. Suitable habitat may also be present within Robert's Lake; however, no occurrences are known for this resource. The nearest CNDDB occurrence is approximately two miles from the project site within Elkhorn Slough.

Table 4.3-2: Special-Status Wildlife Species that may Occur within the Proposed Action APE (cont.)

Species	Federal	State	Habitat Description	Potential to Occur within the Project Area
STATUS DEFINITIONS **U.S. Fish and Wildlife Service (USFWS)** FE = listed as Endangered under the federal Endangered Species Act FT = listed as Threatened under the federal Endangered Species Act FC = federal Candidate under the federal Endangered Species Act -- = no listing **California Department of Fish and Game (CDFG)** SE = listed as Endangered under the California Endangered Species Act ST = listed as Threatened under the California Endangered Species Act SC = state Candidate under the California Endangered Species Act SR = listed as Rare under the California Endangered Species Act SSC = California Department of Fish and Game Species of Special Concern CFP = California Fully Protected Animal -- = no listing CNDDB = This designation is being assigned to animal species that are not assigned any of the other status designations defined in this table. These animal species are included in the DFG's CNDDB "Special Animals" list (July 2009), which includes all taxa the CNDDB is interested in tracking, regardless of their legal or protection status. This list is also referred to as the list of "species at risk" or "special-status species." The CDFG considers the taxa on this list to be those of greatest conservation need. **California Native Plant Society (CNPS)** 1B = List 1B species; Rare, Threatened or Endangered in California and elsewhere 2 = List 2 species; Rare, Threatened, or Endangered in California, but more common elsewhere 3 = List 3 species; plants about which more information is needed 4 = List 4 species; plants of limited distribution -- = no listing **POTENTIAL TO OCCUR** Present = known occurrence of species within the site; presence of suitable habitat conditions; or observed during field surveys. High = known occurrence of species in the vicinity from the CNDDB or other documentation; presence of suitable habitat conditions. Moderate = known occurrence of species in the vicinity from the CNDDB or other documentation; presence of marginal habitat conditions within the site. Low = species known to occur in the vicinity from the CNDDB or other documentation; lack of suitable habitat or poor quality. Unlikely = species not known to occur in the vicinity from the CNDDB or other documentation, no suitable habitat is present within the site. Not Present = species not identified during focused surveys. Source: DD&A, 2010b.				

- **California Horned Lark.** California horned lark is included on the CNDDB "Special Animals" list. These birds are a common to abundant resident in a variety of open habitats and are frequently found in grasslands with low, sparse vegetation. The CNDDB lists three occurrences. This species has a moderate potential to occur within the proposed action alignment's APE, near Armstrong Ranch.

- **Western Pond Turtle.** A CDFG species of special concern, western pond turtles are uncommon to common in permanent or nearly permanent aquatic resources in a wide variety of habitats west of the Sierra-Cascade crest. Their home range is typically quite restricted; however, ongoing research indicates that turtles may leave the watercourse in late fall and move into upland habitats where they burrow into duff and/or soil and overwinter (Holland, 1994). The CNDDB lists 31 occurrences. This species has a high potential to occur at the proposed action alignment's APE.

- **California Legless Lizard.** The CDFG has recognized two subspecies of the California legless lizard as species of special concern: black-legless lizard (Anniella pulchra ssp. nigra) and silvery-legless lizard (A. p. ssp. pulchra). For the purposes of the analysis in this environmental document, the California legless lizard will be discussed on a species level and not at the CDFG-recognized subspecies level. Additionally, both subspecies and all lineages will be considered CDFG species of special concern. The CNDDB lists 36 occurrences. California legless lizard has a high potential to occur within the proposed action alignment's APE.

- **Coast Horned Lizard.** A CDFG species of special concern, the coast horned lizard occurs in valley-foothill hardwood, conifer, and riparian habitats, as well as in pine-cypress, juniper, chaparral, and annual grass habitats. The CNDDB lists five occurrences. Because suitable habitat for this species is present within the proposed action alignment's APE, there is a high potential for this species to occur.

- **California Red-legged Frog.** The California red-legged frog is listed as a federally threatened species and is also a CDFG species of special concern. Critical Habitat has been designated for this species. Adults generally inhabit aquatic habitats with riparian vegetation, overhanging banks, or plunge pools for cover, especially during the breeding season (Jennings and Hayes, 1988). During the non-breeding season, a wider variety of aquatic habitats are used (USFWS, 1996) and frogs may move up to 300 feet from aquatic habitats into surrounding uplands, especially following rains (Bulger et al., 2003). The CNDDB lists 104 occurrences. This species has a high potential to occur on the proposed action alignment's APE.

- **Coast Range Newt.** A CDFG species of special concern from Monterey County south (CDFG, 2010) the Coast Range newt occurs commonly in the Coast Ranges from central Mendocino County south to northern San Diego County, primarily in valley-foothill hardwood, valley-foothill hardwood-conifer, coastal scrub, and mixed chaparral, but is also known from annual grassland and mixed conifer habitat types. The CNDDB lists one occurrence, located eight miles from the site. There is a moderate potential for this species to occur within the proposed action alignment's APE.

- **Two-striped Garter Snake.** A CDFG species of special concern, the two-striped garter snake is distributed throughout the South Coast Range and the Transverse Range, from the eastern slope of the Diablo Range to the Mexican border. This species is associated with permanent or semi-permanent bodies of water in a variety of habitats, including perennial and intermittent streams with rocky riverbeds, large sandy-bottom river beds, and natural and artificial ponds (Jennings and Hayes, 1994). The CNDDB lists one occurrence located 12 miles from the project site. There is a moderate potential for two-striped garter snake to occur within the proposed action alignment's APE.

- **South-Central California Coast Steelhead.** Steelhead trout are currently designated as federally threatened in all naturally spawned populations (and their progeny) in streams from the Pajaro River in Santa Cruz County south to the Santa Maria River in San Luis Obispo County. The designation of critical habitat for steelhead became effective on January 2, 2006. Primary constituent elements include freshwater spawning sites, freshwater rearing sites, freshwater migration corridors, estuarine areas, nearshore marine areas, and offshore areas. The south-central California coast steelhead is also a CDFG species of special concern. The CNDDB lists five occurrences, none of which include the Salinas River. However, other documentation suggests that steelhead may be present in limited numbers (71 FR 833-862). Steelhead have a high potential to occur within the proposed action alignment's APE.

- **Monarch Butterfly.** The monarch butterfly is included on the CNDDB "Special Animals" list. Each fall monarch butterflies fly west and south to the same overwintering sites in coastal California conifer and eucalyptus groves and high altitude Mexican conifer forests. Monarch butterflies generally overwinter in stands of eucalyptus or Monterey pine. The CNDDB reports 20 occurrences, one of which is located within the project site at the aforementioned eucalyptus grove. This occurrence represents the only suitable monarch habitat along the project alignment. This species has a high potential to occur within the proposed action alignment's APE.

- **Smith's Blue Butterfly.** Listed as a federally endangered species on June 1, 1976, Smith's blue butterfly has historically ranged in scattered populations from Monterey Bay south through Big Sur to near Point Gorda in association with coastal dune, coastal scrub, chaparral, and grassland habitats. The primary limiting factor for Smith's blue butterfly populations is the occurrence of their host plants, dune buckwheat and coast buckwheat. The CNDDB lists 36 occurrences. This species has a high potential to occur within the proposed action alignment's APE.

- **California Brackish Water Snail.** Included on the CNDDB "Special Animals" list, the California brackish water snail lives in soft mud or fine sand in the uppermost layers of the substratum in brackish lagoons and estuaries. This species ranges from Sonoma County south to San Diego County. Most populations of this species are now extinct as it is estimated that less than eight populations survive (CDFG, 1981). The CNDDB lists six occurrences, the nearest of which is located approximately two miles from the project site. This species has a high potential to occur within the proposed action alignment's APE.

Nesting Raptors and other Protected Avian Species – Raptors and their nests are protected under Fish and Game Code and the MBTA. Stands of live oak, riparian deciduous, or other forest habitats, as well as open grasslands, are used most frequently for nesting. Many raptor species hunt in open woodland and habitat edges. Various species of raptors, such as red-tailed hawk (*Buteo jamaicensis*), red-shouldered hawk (*Buteo lineatus)*, great horned owl (*Bubo virginianus*), American kestrel (*Falco sparverius*), and turkey vulture (*Cathartes aura*), have a potential to nest within any of the large trees present within the project site. No trees are present north of the Salinas River. South of the Salinas River, several individual trees or small clusters of cypress, Monterey pine, and eucalyptus trees are present that may provide nesting habitat for raptors.

Additionally, avian species identified as CDFG species of special concern or fully protected species, or on the CDFG watch list (such as the white-tailed kite and Cooper's hawk) have the potential to occur within the project site. Suitable nesting and foraging habitat for the white-tailed kite is present within the former Fort Ord and Armstrong Ranch areas of the project site. White-tailed kite may forage over open areas and nest in any of the trees within these two areas. Low quality habitat for Cooper's hawk is present at Locke Paddon Lake and surrounding the Salinas River.

4.3.4 Impact Analysis

No Action/No Build Alternative

Biological resources affected by the No Action/No-Build Alternative are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to result in potential impacts to biological resources both during construction (i.e., impacts to western burrowing owl and increased potential for non-native plant species) and operation (i.e., train strikes to wildlife, although considered rare events).[29] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) may result in animal strikes along the Highway 1 and 101 corridors, but this would be considered a rare event and is not expected to result in adverse impacts.

Locally Preferred Alternative

Special Status Plant Species – The operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts to special-status plant species beyond the construction phase. All vegetation within the 100 foot ROW would be removed during project construction and ongoing maintenance activities would involve periodic removal of vegetation.

Special Status Animal Species – The operation of the proposed action would result in the potential loss of special status animals through direct mortality or injury due to train collision. Installation of fences or other barriers for safety could increase the frequency of collisions by obstructing escape routes for wildlife. However, these safety barriers would also have the potential to prevent some collisions as they would obstruct access to the railway. However, train collision is considered a rare event and would not substantially impact special-status species populations. Therefore, this impact is not considered to be adverse.

Sensitive Habitats – The operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts to sensitive habitats beyond the construction phase. All vegetation within the 100 foot ROW would be removed during project construction and ongoing maintenance activities would involve periodic removal of vegetation.

Natural Communities – The operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts associated with the portions of the proposed action alignment within and which are within areas designated as critical habitat for Monterey spineflower.

Fish or Wildlife Migration – The operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts to any identified fish or wildlife migration corridor.

Adopted Conservation Plans – The operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts associated with any adopted habitat management plans.

Wetlands and Other Waters – Beyond the construction phase, operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts associated with wetlands or Waters of the U.S.

[29] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Invasive Species – The operation and maintenance activities associated with the proposed action are not anticipated to result in potential impacts associated with invasive species.

4.3.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

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4.4 Cultural Resources

4.4.1 Introduction

This section discusses the archaeological and historic architectural resources potentially affected by operation of the proposed action. Information contained within this section has been summarized from technical reports prepared for the proposed action including the following: *Historic Resources Inventory and Evaluation Report for the Monterey Peninsula Light Rail Project,* 2010, *Draft Finding of Effect and CEQA Impact Analysis, Monterey Southern Pacific Passenger Depot,* January 2011) [30] , and *Archaeological Survey Report for the Monterey Peninsula Light Rail Project*, 2010 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.4.2 Regulatory Setting

Federal Regulations

The National Environmental Policy Act (NEPA) (Public Law [PL] 91-190, 42 USC 4321-4347, January 1, 1970, as amended) recognizes the continuing responsibility of the federal government to "preserve important historic, cultural, and natural aspects of our national heritage...." (Section 101 [42 USC Section 4331]).

The National Historic Preservation Act (NHPA) of 1966, as amended (16 USC. Section 470f), is the primary federal statute addressing the management of cultural resources. It establishes federal policy on preservation of cultural resources and provides the framework by which the nation's cultural resources preservation program has been developed. Properties of traditional religious and cultural importance to Native Americans are considered under Section 101(d)(6)(A) of the NHPA.

The provision of the NHPA most applicable to the proposed action is Section 106, which protects properties that are listed or determined eligible for inclusion in the National Register of Historic Places (National Register). Section 106 requires that prior to conducting activities classified as federal undertakings, the effects of undertakings on historic properties must be taken into account and comment afforded from the public, consulting partners, and tribal historic preservation programs administered by a Tribal Historic Preservation Officer, the State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP). The requirements of Section 106 are implemented under Title 36, Section 800 of the CFR, "Protection of Historic Properties."

Other federal laws applicable to cultural resources include the Archaeological Data Preservation Act of 1974, the American Indian Religious Freedom Act of 1978, the Archaeological Resources Protection Act of 1979, and the Native American Graves Protection and Repatriation Act of 1989. In addition, Section 4(f) of the Department of Transportation Act of 1966, as amended (49 USC Section 303) protects historic and cultural resources from any action for which there is at least one prudent and feasible alternative.

[30] Note: Both the Historic Resources Inventory and Evaluation Report and Draft Finding of Effect and CEQA Impact Analysis reports are awaiting concurrence by the California State Historic Preservation Officer.

State Regulations

CEQA states that a project that may cause a substantial adverse change in the significance of a historical resource is a project that may have a significant effect on the environment (PRC 21084.1). Section 15064.5 of the California *CEQA Guidelines* prescribes a methodology for identifying and evaluating cultural resources to determine if said cultural resources can be considered historical resources for the purposes of CEQA (15064.5(a)). Furthermore Sections 15064.5(b) and (c) identifies criteria with which to assess if a project may result in substantial adverse change to historic architectural and archaeological historical resources.

4.4.3 Affected Environment

Ethnographic Context

At the time of Euro-American contact, the proposed action study area (study area) was inhabited by speakers of the Costanoan (or Ohlone) language family. Although Costanoan/Ohlone people were first described during the Vizcaino expedition in 1602, very little was known of them until the arrival of overland explorers beginning in 1769. The present understanding of them relies on the records and diaries kept by these explorers and the missionaries who followed them, as well as knowledge shared by living Costanoan/Ohlone descendants.

Rumsen speakers occupied most of the study area, and their territory extended from Point Sur northward to the lower Pajaro River, and included the present-day cities of Monterey, Seaside, Marina, and Carmel. Identification of the group or groups who held the area north of Salinas River in the Elkhorn Slough/Castroville area is less certain due to conflicting eighteenth-century documents as well as the historical migration of the Salinas River.

As missions became established in the study area (e.g., Mission of San Carlos Borromeo de Carmelo in 1770, Mission Santa Cruz in 1790, and Mission San Juan Bautista in 1797), the local population began to decline, due in large part to introduced diseases. Environmental changes were also a significant factor, as the Spanish altered the landscape into one more suitable for livestock grazing and farming. Traditional resources were increasingly curtailed; not only was wild game forced to compete with the great Spanish cattle herds, but the damage done by overgrazing had severe consequences for vegetal and freshwater resources (Milliken 1995). Local streams and creeks near missions were likely diverted and claimed for the ranches, farms, and orchards. Eventually, population decline and landscape alteration forced people into the mission system, and the survivors learned to adapt to the new economy.

Archaeological Context

Although the chronological ordering of California's central coast archaeology has undergone several revisions, five general time periods are recognized and consist of:

Paleoindian Period (13,500-8500 Before Present [BP]) – Very little evidence has been found on the central coast for human occupation during this interval, but many researchers believe that the physical changes wrought on the coastline and interior valleys by rising sea water have buried or obliterated early sites (Bertrando 2002; Breschini and Haversat 1992; Jones 1991).

Millingstone Period (8500-5500 BP) – These sites are located near ancient estuaries and are characterized by shell middens which contain more abundant ground and battered stone implements relative to flaked stone tools.

Early Period (5500-3000 BP) – This period ushered in new land-use and social organization patterns, as well as new tool forms. Settlement continued at most estuaries, but also expanded into a variety of open coast locales, likely spurred by environmental fluctuations and population growth (Glassow et al. 1988).

Middle Period (3000-1000 BP) – Adaptive strategies from the Early Period continued to intensify during the Middle Period with a heavy reliance on acorns. The large size of sites dating to this period argues for significant population growth. Typical tools from Middle Period sites consist of mortars and pestles, handstones and millingstones, and contracting-stemmed, square-stemmed, side-notched, and concave base projectile point forms.

Middle/Late Transition (1000-700 BP) – By 1000 BP, use of coastal areas appears to have reached peak intensity, after which central and southern California experienced several severe drought cycles (Graumlich 1993; Stine 1994), which coincided with the abandonment of large coastal sites in the Monterey Bay region.

Late Period (post-700 BP) – During this period, local populations maintained an inland focus, concentrating on acorns and other terrestrial resources and living in villages in valley bottoms and beside lakes or rivers (Breschini and Haversat 1992; Hildebrandt and Mikkelsen 1993). Although coastal sites of this period demonstrate continuing use of marine resources, they appear to represent short-term processing camps used by inland residents due to the nearly pure presence of shell and low artifact representation. Within the inland sites, abundant ground stone tool assemblages and a high diversity of plant remains attest to the continuing emphasis on plant processing.

Historic Context

European contact with Native people began with the arrival of Spanish explorers in the sixteenth century, but was sporadic initially and included visits by Juan Rodriguez Cabrillo (1542), Sebastian Vizcaino (1602), and Gaspar de Portolá (1769) who established the Royal Presidio at Monterey, which eventually became the capital of Alta California. Padre Juniperro Serra was part of de Portolá's expedition and founded Mission San Carlos Borromeo. Other missions in the region were built later, including Santa Cruz in 1791 and San Juan Bautista in 1797. During this period, the Spanish government began making concessions of land to various people, permitting the accumulation of large parcels of land by a small group of individuals. These concessions became formalized as land grants once Mexico achieved its independence from Spain in 1821 and asserted its authority over Alta California. The study area extends across five of these landgrants: Bolsa del Potrero y Moro Cojo or La Sagrado Familia, Bolsa Nueva Moro Cojo, Las Salinas, Noche Buena, and Rincon de las Salinas.

The extensive ranchos were gradually broken up following the signing of the Treaty of Guadalupe Hidalgo in 1848 which ended the Mexican-American War and ceded control of a large part of what is now the western United States. The original land grantees and their descendants were required to defend their titles before the United States Land Commission and the often lengthy confirmation process and new property taxes frequently forced land sales. As the ranchos were broken up, American-era communities took their place.

Cattle ranching continued to be the dominant economic activity in the region until the early 1860s, when cycles of drought and flooding destroyed the cattle industry. Agriculture became increasingly dominant, and is still prominent in the Salinas Valley. The railroads played an enormous role in determining the success or failure of farmers in these communities. In 1867, Southern Pacific Railroad (Southern Pacific) built a rail line to Castroville from the San Francisco Bay Area, later extending the line to Salinas in 1872. A narrow-gauge rail line was built just two years later from Salinas to Monterey and

helped to stimulate its economy. The rail line subsequently helped to stimulate an influx of tourists which spurred residential development of Monterey Peninsula and Seaside.

The origins of Monterey's fishing economy predated the introduction of the rail line by some 30 years. As early as the 1850s, a substantial number of Chinese settlers established fishing camps along the coast, first at Point Lobos, and subsequently Pescadero (Stillwater Cove) and China Point (Point Alones). In addition to the thriving Chinese camps, a number of Southern European fisherman flocked to the area throughout the latter half of the nineteenth century. Portuguese whalers established the Monterey Whaling Company and Italians established a number of fishing fleets, making the area one of the prominent fisheries of the Pacific Coast and establishing the foundations for the famed twentieth century "Cannery Row" of Monterey.

In 1901 San Franciscan H.R. Robbins built the waterfront's first cannery. The facility processed sardines and reduced fish offal into oil and fertilizer. Within a short time Roberts was joined by Frank E. Booth, who tapped into a growing international market for canned sardines. The cannery industry continued to grow during World War I, with an increased demand for canned sardines both domestically and abroad for the world's troops. By 1917 the city of Monterey had five fish plants, a number which would rise to twelve by 1934. The plants were largely situated in a dense corridor along Ocean View Avenue, later designated Cannery Row. The stretch of cannery warehouses and related industrial buildings abutted the MBL tracks, with two small loading spurs leaving the mainline at Irving and Hoffman avenues.

After World War II the sardine catch plummeted to levels that were a mere fraction of the wartime highs. By 1952, fisherman extracted only 49 tons of sardines from the waters of the bay. One-by-one, Ocean View Avenue's canneries shut their doors. At the end of the 1950s only five canneries remained in operation and the once thriving fishery was largely an industrial relic.

In addition to its teeming bay, the Monterey Peninsula area abounded with large dunes, deposited over thousands of years from the meandering Salinas and Pajaro Rivers. The MBL hauled immense amounts of this sand from Monterey's coastline. Beginning almost immediately upon construction in the late nineteenth century and continuing until the rail's demise in the late twentieth century, the railroad supported a thriving sand mining industry that produced both glass and building materials from the high-purity quartz sand found along the Peninsula's shore. At the industry's height, between 300,000 and 400,000 cubic yards of sand were removed annually from the region, most of which left in MBL freight cars.

In 1917, the War Department acquired a 200-acre parcel from lands formerly designated part of the city of Monterey Tract No 1, and built Camp Clayton (Swernoff 1982:3-8; Waite 1995:24). In the same year, an additional 15,609 acres were acquired and became known as the Gigling Field Artillery Target Range. Camp Gigling was located near the East Garrison at the intersection of present-day Reservation and Inter-Garrison roads, about four miles east of the proposed action corridor. In 1940, the Army began acquiring more land, including parcels that contain the current proposed action corridor, and in the summer of the same year the installation became a permanent army facility and was renamed Fort Ord (Swernoff 1982:3-9; Waite 1995:24). The facility continued to expand between the 1940s and 1980s, and eventually covered more than 28,600 acres. It was closed under recommendation by the Base Realignment and Closure Committee in 1994 and its land was transferred to the Fort Ord Reuse Authority. The area is currently being redeveloped for civilian use, including the campus of California State University Monterey Bay and the University Villages project.

Areas of Potential Effect

The proposed action's Area of Potential Effect (APE) for archaeological resources includes the proposed action corridor (i.e., MBL), bridge replacements/reinforcements, stations, street/grade crossings, recreation trails, drainage improvements, utilities, and storage (see Figure 3 of the *Archaeological Survey Report for the Monterey Peninsula Light Rail Project*, 2010).

The proposed action's APE (see Appendix A of the *Historic Resources Inventory and Evaluation Report for the Monterey Peninsula Light Rail Project*) for historic architectural resources is generally aligned with the outside edge of the existing MBL ROW, except at those locations where proposed action construction activities would occur outside of this area. At these locations, the APE is extended to include the areas affected by the proposed action.

Native American Consultation

The Native American Heritage Commission (NAHC) was contacted regarding the proposed action and a review of sacred lands files and list of tribal representatives and organizations who might have information concerning cultural resources within the archaeological resources APE was requested. The NAHC indicated that no known Native American cultural resources were located within the immediate project area, but cautioned that the lack of information did not indicate the absence of resources. A list of potentially interested Native American individuals and organizations was also provided by the NAHC and these individuals were contacted. Follow-up phone calls and/or emails were made to each individual; in most cases, messages were left informing them of the letters and requesting they contact Far Western if the letter did not arrive or if they had any concerns or questions. Four individuals were reached by phone; all voiced concerns about the project and provided recommendations concerning the treatment of cultural resources and two specifically requested they be updated as the project progressed, which was done. A letter dated February 15, 2010, was sent by one individual representing the Ohlone/Coastanoan-Esselen Nation detailing the concerns voiced during the earlier phone conversation. All comments and correspondence are detailed in the Tracking Log provided in Appendix B of the *Archaeological Survey Report for the Monterey Peninsula Light Rail Project*, 2010).

Archaeological and Historic Architectural Resources

Archaeological Resources – The western-most portion of the archaeological resources APE lies within an area rich in both prehistoric and historic period resources. Previously recorded resources include the historic Presidio of Monterey as well as several large prehistoric sites located on the southern and western end of the APE, including the National Register-listed site El Castillo (CA-MNT-101/H), and dual component site MNT-108/H, a large prehistoric habitation and the landing site of Spanish explorer Sebastian Vizcaino. The Monterey Custom House, first built in the early 1820s, is just east of the proposed action corridor, and the Spanish Plaza is situated at the proposed action's south terminus.

A records search of previously recorded archaeological resources for the APE indicates that some resources are located one-quarter or a mile from this area, while a total of four resources are either within or likely to be within the APE. A brief description of these four previously recorded resources is provided below.

P-27-1207 (CA-MNT-1154) – This site contains midden, chert flakes, shell fragments, and historic-period glass artifacts. A human burial may have been removed from this site, within the project area, during construction of the MBL in 1879.

P-27-2417 (CA-MNT-2080H) – This site consists of portions of the abandoned Monterey-Salinas narrow-gauge rail line north of Marina. The rail line was built in 1874 between Salinas and Monterey but was only briefly used. This portion of the rail line was subsequently abandoned when Southern Pacific completed its Castroville to Monterey line in 1880.

P-27-2923 – This resource consists of the abandoned MBL railroad tracks that comprise the proposed action corridor.

Washington Street Shipwreck – This resource includes ship remains and artifacts that appeared to date between 1850 and 1890, along with large whale bones. An archival search by Seavey and Thomas (in Breschini and Haversat 1999) failed to locate any documents providing additional information concerning ownership, usage, or dates, and as such, it was concluded that the debris had no historical value.

In addition to the resources noted above, there are potentially unknown buried resourced located within the archaeological resources APE. Tables 4.4-1 and 4.4-2 provide the likely potential for encountering these resources within the archaeological resources APE.

Table 4.4-1: Age, Nature, Extent and Buried Site Potential of Geological Deposits in the Archaeological Resources APE

Unit	Deposit Type	Age (Calibrated Years Before Present[1])	Buried Site Potential	Acres in APE	Percent of Acres
H_2O	Water	Modern	Low	2.45	1.1%
Qbef	Beach, estuary, and artificial fill	Historical to Modern (<150 cal BP)	Low	7.38	3.2%
Qal	Basin and floodplain	Holocene (11,500-150 cal BP, most <2000 cal BP)	Moderate	33.15	14.5%
Qhds	Dune sand	Holocene (11,500-150 cal BP, most <2000 cal BP)	Moderate	177.13	77.6%
Qct	Marine terrace (uplifted)	Older Pleistocene (1.8 million years-25,000 cal BP)	Very Low	5.15	2.3%
pQbr	Bedrock	Pre-Quaternary (>1.8 million years)	Very Low	3.02	1.3%
TOTAL				228.28	100.0%

Notes: 1) Present is 1950 AD; spatial extent determined using geographic information system data.

Table 4.4-2: Estimated Area and Potential for Buried Sites in the Archaeological Resources APE

	Estimated Buried Site Potential				
	High	Moderate	Low	Very Low	Total
Total Acres	37.82	178.81	3.47	8.17	228.28
Percent of Total Acres	16.6%	78.3%	1.5%	3.6%	100.0%
Cumulative Percent (right to left)	100.0%	83.4%	5.1%	3.6%	-

Note: Spatial extent determined using geographic information system data.

Field surveys conducted for the proposed action within the archaeological resources APE identified the following resource:

P-27-1207 (CA-MNT-1154) – Fragments of weathered clamshell, a couple of chert flakes, and some historic-period broken glass (including cobalt and solarized colors) and ceramics (white improved earthenware) were noted on the surface in the APE for this location. These materials probably represent a portion of MNT-1154 which is located within close proximity.

Historic Architectural Resources – The historic architectural resources APE includes 14 resources associated with the following category types: (1) railroad; (2) military; and (3) commercial. Brief descriptions of these resources are provided below and noted in Table 4.4-3.

Table 4.4-3: Historic Architectural Resources Located in the APE

Name	Year Built	Resource Type
Monterey Branch Line	1879-ongoing	Railroad
Fort Ord Building 2071	1953	Military
Fort Ord Building 2060-2065	1941, 1952	Military
Fort Ord Building 2058	1941	Military
Fort Ord Building 2056	1941	Military
1965 Del Monte Boulevard (Seaside)	1956	Commercial
2101-2107 Del Monte Avenue (Monterey)	1962, 1964	Commercial
1299 Del Monte Avenue (Monterey)	1956-1961	Commercial
1231 Del Monte Avenue (Monterey)	1928	Commercial
1187 Del Monte Avenue (Monterey)	1959	Commercial
1179 Del Monte Avenue (Monterey)	Ca. 1960-ongoing	Commercial
1101 Del Monte Avenue (Monterey)	Ca. 1926	Commercial
1099 Del Monte Avenue (Monterey)	Ca. 1952-1962	Commercial
Monterey Southern Pacific Passenger Depot (Passenger Depot)	1890s, (alterations in 1904, 1915, 1942)	Railroad
Source: JRP Historical Consulting, 2010.		

Railroad Resource Type – These resources include track ties and rails; five small timber and concrete ballast deck trestles; a steel Warren Truss bridge crossing the Salinas River**;** rail line spur, balloon track, and loading platform at the former Fort Ord military base; and several small commercial rail spurs, including one at the Dole Food Company Plant in Neponset and at the former Lapis sand quarry just north of the city of Marina. Associated signaling devices and two small service sheds are found along the route, most of which have been partially dismantled.

While the MBL alignment was established in 1879, none of the existing railroad features appear to date from that period. The ties and rails surveyed along the line date from a number of periods, ranging from 1910 to 1966. The range in dates reflects the infrastructural development of the railroad, as rails and ties were continuously removed and replaced. In addition, large portions of the rail line have been removed or covered in the modern period. Between the cities of Seaside and Monterey, much of the railroad ROW has been covered with pavement and fill, and none of the original railroad features are evident. Additional examples of continual modifications include the trestles located at Tembladero Creek (MP 111.05), Alisal Slough (MP111.93), and several small drainage channels (MP112.54, MP112.80, MP113.04), which date from 1909 and 1910 when the original wood trestles were replaced with the existing timber and concrete trestles. Similar to the trestles, the Salinas River Bridge the does not date from the original construction period, but is instead a steel replacement of the original wood trestle.

A number of spurs, signaling devices, and service sheds were developed along the MBL throughout the historic period. However, initial construction accounts do not indicate that the MBL was constructed with any spurs; although the route is now lined with small spurs that access commercial operations and the loading facilities of the former Fort Ord military base. The signals and sheds along the alignment appear to date from the mid-20th century period and later.

Similarly, a number of utility poles remain along the alignment in isolated clusters. The development of such poles along the railroad ROW was common along Southern Pacific lines, and supported the line's telegraph systems as well as railroad power, signaling, and internal communications abilities. The poles are of a standard and common design and like the remainder of the line, appear to have been removed and replaced at periodic intervals, with the remaining fragments of the system dating from a number of periods. Although few of the poles are fully intact, several feature what appear to be late nineteenth or early twentieth century glass insulators while others feature modern rubber insulators dating to the 1960s. Other poles feature modern power supply boxes and appear to date from the modern period. Most are missing all identifying transmission features. All of the associated transmission lines have been removed, and as a system these standard utility poles lack integrity to the historic period.

The final extant railroad related historic architectural resource is the Passenger Depot. The Passenger Depot is located at Del Monte Avenue and Lighthouse Avenue near Custom House Plaza. The resource is the sole remaining MBL depot in the APE. While portions of the Passenger Depot may date to the 1879 construction period, the building has been remodeled several times, and was moved from its original location east of Figueroa Street to its current location in 1915. A 1915 remodeling of the building altered its original mixed-use freight and passenger capabilities, and converted the building to exclusive passenger use. A 1942 remodel removed an original second story and extended the length of the building. In addition, the remodel included cladding the wood frame building in stucco in the locally dominant "Monterey Style." Moreover, the adjacent track was removed in the midcentury period and the building currently is surrounded by a parking lot.

With the exception of the Passenger Depot which was previously evaluated and determined eligible for listing in the National Register as an individual property in 2005, there are no railroad resources type properties evaluated as part of the proposed action that appear to be eligible for listing in the National Register or the California Register of Historical Resources (California Register).

Military Resource Type – These resources are associated with military buildings related to the former Fort Ord military base. The military base developed adjacent to the MBL beginning in 1917 and utilized the railroad for freight and personnel services throughout the historic period. These buildings were constructed between 1941 and 1953, and were part of the military buildup for both World War II and continuing conflicts in Korea and Vietnam. Two of the buildings were erected as receiving buildings and warehouses, and stored military material. An additional building served as a post bakery, and a fourth building was built as a lavatory. All of the buildings were basic service facilities designed to support the massive training and enlistment mission of the base during this time period, and all except one were designed as temporary facilities.

There are no military resource type properties evaluated as part of the proposed action that appear eligible for listing in either the National Register or the California Register, either because they lack significance under National Register or California Register criteria, or lack integrity.

Commercial Resource Type – These resources are associated with utilitarian buildings located adjacent to the proposed action corridor. The historic architectural resources APE includes eight commercial buildings, all of which are located between the ROW of the MBL and Del Monte Avenue/Boulevard. Two of the buildings were constructed in the 1920s, one as a general neighborhood retail and apartment building, and one as a wholesale grocery warehouse. The remaining six buildings

were constructed as light industrial and automotive facilities between 1952 and 1964. All of the commercial buildings are largely utilitarian in design and plan, and all have been substantially altered. Alterations include additions, infill of original features, and replacement of original materials including windows, doors, and storefronts. These alterations diminish the integrity of the commercial properties and largely sever any relationship to the historic period.

There are no commercial resource type properties evaluated as part of the proposed action that appear eligible for listing in either the National Register or the California Register, either because they lack significance under National Register or California Register criteria, or lack integrity.

4.4.4 Impact Analysis

No Action/No-Build Alternative

Cultural resources affected by the No Action/No-Build Alternative are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to result in potential impacts to cultural resources during construction (i.e., limited to archaeological resources). No operational impacts to cultural resources were identified.[31] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors is not anticipated to result in adverse impacts since these activities would not disturb potential cultural resources.

Locally Preferred Alternative

Implementation of the proposed action would not result in operational-related impacts to archaeological resources because no earth moving activities would occur in order to operate the proposed action. Further, implementation of the proposed action would not result in operational-related impacts to historic architectural resources because the proposed action is in keeping with the historic use of the Passenger Depot. Therefore the proposed action will not have any operational-related direct, indirect, or cumulative adverse effects on this historic property located within the APE under Section 106, and will not cause any operational-related direct, indirect, or cumulative substantial adverse changes under CEQA (see Chapter 5 for a discussion of construction-related impacts).

Because the LPA would not result in an operational-related adverse effect to a historic property, the LPA would not result in a “use” as defined by Section 4(f) of the Department Transportation Act of 1966.

4.4.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

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[31] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

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4.5 Geology, Soils, and Seismicity

4.5.1 Introduction

The purpose of this section is to evaluate potential geology, soils, and seismic impacts of the proposed action, as it relates to public safety and project design. This section has been prepared based on the *Final Geotechnical Evaluation Report for Conceptual Engineering Phase, Monterey Peninsula Light Rail Project*, November 16, 2010 (available under separate cover). This section also evaluates potential impacts related to paleontological resources and is based upon information contained in the *Paleontological Resources Assessment Report for the Monterey Peninsula Light Rail Project, November 2010* (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.5.2 Regulatory Setting

Federal Regulations

NEPA provides for protection of significant paleontological resources when such data may be destroyed or lost due to a federal, federally licensed, or federally funded project.

State Regulations

Uniform Building Code – The Uniform Building Code (UBC) was first enacted by the International Conference of Building Officials (ICBO) on October 18-21, 1927. Revised editions of this code are published approximately every three years (ICBO, 1997). The California Building Code (CBC) was approved and incorporated into the UBC in 1988. The regulatory environment for design and construction consists of building codes and standards covering local, state, federal, land use, and environmental regulations which are developed specifically for the purpose of regulating the life safety, health and welfare of the public. Once adopted, building codes become law.

Alquist-Priolo Earthquake Fault Zoning Act – California regulations for zoning faults with ground rupture potential are provided in the Alquist-Priolo Earthquake Fault Zoning Act of 1972 (PRC Section 2621 et seq.; APEFZ Act). According to the APEFZ Act, an active fault is a fault that has experienced seismic activity during historic time (since roughly the early 1800s) or exhibits evidence of surface displacement during Holocene time, approximately the last 11,000 years.

Seismic Hazards Mapping Act – The Seismic Hazards Mapping Act of 1990 (PRC. Section 2690–2699.6) focuses on hazards related to strong ground shaking, liquefaction, and seismically induced landslides. Under its provisions, the state is responsible for identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. These maps are to be used by cities and counties in preparing their general plans and adopting land use policies in order to reduce and mitigate potential hazards to public health and safety.

Local Regulations

Monterey County General Plan – The Monterey County General Plan (Monterey, County 2010) includes a Safety Element which addresses minimization of risk associated with development within areas of known geologic, seismic or floodplain hazards.

4.5.3 Affected Environment

Regional Geology

The proposed action is located along the southern portion of Monterey Bay, and lies within the Coast Ranges Geomorphic Province, which is comprised of a discontinuous series of northwest-southeast-trending mountain ranges, ridges, and intervening valleys characterized by complex folding and faulting. Geologic structures within the Coast Ranges Province are generally controlled by the San Andreas fault system, which is at the boundary between the North America and Pacific tectonic plates.

The main local geologic structure is the Salinian block, a large wedge of basement rock comprised of Cretaceous Age (about 140 to 65 million years old) granitic and high-grade metamorphic rocks. The Salinian Block is bounded by the San Andreas fault on the east and the Sur-Nacimiento fault zone on the west. Major physiographic features within the Salinian Block in the Monterey Bay area include the Gabilan Range on the northeast and the Santa Lucia Range on the southwest, which are separated by the Salinas Valley.

Overlying these basement rocks within the project corridor are Cretaceous- and Tertiary-age (about 65 to 1.6 million years old) marine and continental sedimentary rocks and occasional Tertiary volcanic rocks. These rocks are typically folded and faulted into a series of generally northwest-southeast trending blocks.

Geologic formations found along the project corridor are all of Quaternary age (1.6 million years old to current) and vary from recent and older sand dune deposits to fine-grained Salinas Valley alluvial deposits. Man-made fills are also present along the proposed action alignment, most notably associated with Monterey Harbor and Roberts Lake at the south end plus gravel and other fill materials placed during construction and historic maintenance of the MBL rail line.

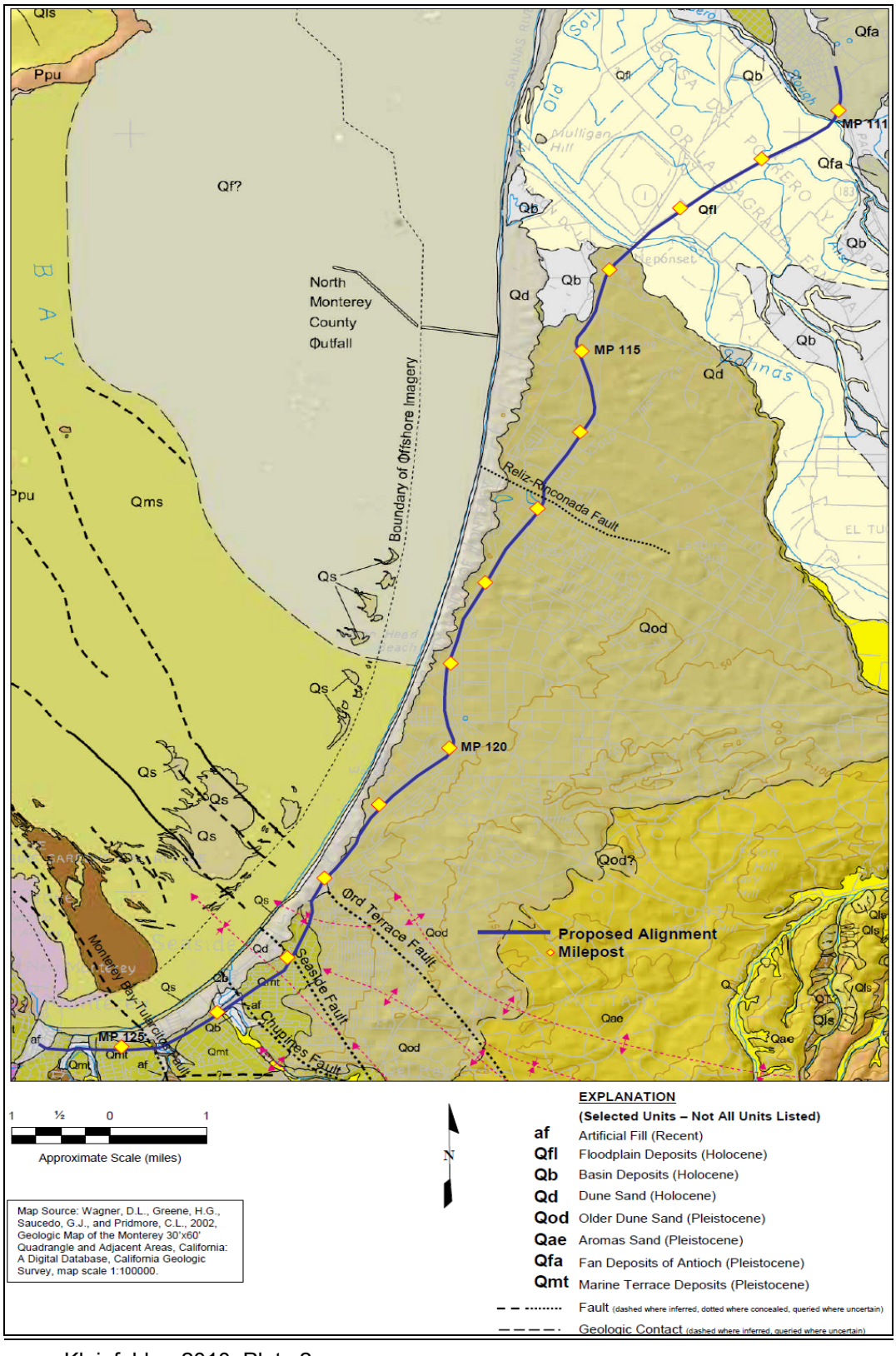
Local Geology

Geologic units described below are shown on Figure 4.5-1. These units are presented from youngest to oldest, along with their relative distribution along the alignment.

Artificial Fill (Map Symbol: af). Artificial fills associated with MBL rail line (proposed action alignment) construction include the embankment fills typical of areas where the rail bed is elevated above the surrounding area by a few feet to higher embankments associated with the Salinas River bridge. Composition of the fill materials vary from silt and clay to sand and gravel and in thickness from a few feet to tens of feet.

Flood Plain Deposits (Map Symbol: Qfl). Holocene age flood plain deposits associated with the Salinas River Valley occur between Tembladero Slough and the Salinas River (MP[32] 111+00 to about MP 113+70). These deposits consist of fine-grained layers of silt and clay with variable amounts of fine sand. These soil units typically contain highly expansive clays and variable amounts of organic material.

[32] Mile post locations can be found within the *Conceptual Plans for Track Restoration*, November 2010, available under separate cover.



Source: Kleinfelder, 2010, Plate 2.

Figure 4.5-1: Geologic Map of the Monterey Bay Region

Dune Sand (Map Symbol: Qd). Holocene age dune sand deposits form a belt of parabolic dunes directly parallel to the Monterey Bay shoreline and within the project corridor extending south from the Salinas River vicinity to Sloat Avenue (about MP 114 to MP 125). These deposits directly underlie the project corridor at two separate locations: 1) on the former Fort Ord military base north of the proposed Playa Avenue Station, between approximately MP 121 and MP 122; and 2) portions of the proposed action alignment north of the proposed Eighth Street Station, between MP 118 and 119. The dune deposits consist of poorly graded sand, and are prone to wind erosion if not stabilized with vegetation.

Older Dune Sand (Map Symbol: Qod). Late Pleistocene age older dune sand deposits underlie the majority of the proposed action alignment and extend from just south of the Salinas River south to the proposed Playa Avenue Station vicinity (MP 113+70 to MP 122+50). These deposits lie on the leeward side of the aforementioned active or younger dune sand deposits and consist of silty sand and poorly graded sand. Qod deposits are prone to erosion unless stabilized.

Fan Deposits of Antioch (Map Symbol: Qfa). Middle Pleistocene age fan deposits of Antioch (Dupre and Tinsley, 1980) occur from Castroville to just south of MP 111 at Tembladero Slough. These deposits consist of semi-consolidated layers of well to poorly graded sand and silty sand with variable amounts of fines.

Marine Terrace Deposits (Map Symbol: Qmt). Late Pleistocene age marine terrace deposits underlie the southern portions of the proposed action alignment from the proposed Playa Avenue Station vicinity to west of Sloat Avenue (MP 122+50 to MP 125). These deposits consist of semi-consolidated layers of sand with variable amounts of fines, and are strongly cemented by alluvial silica. Therefore, they can be difficult to excavate.

Seismicity

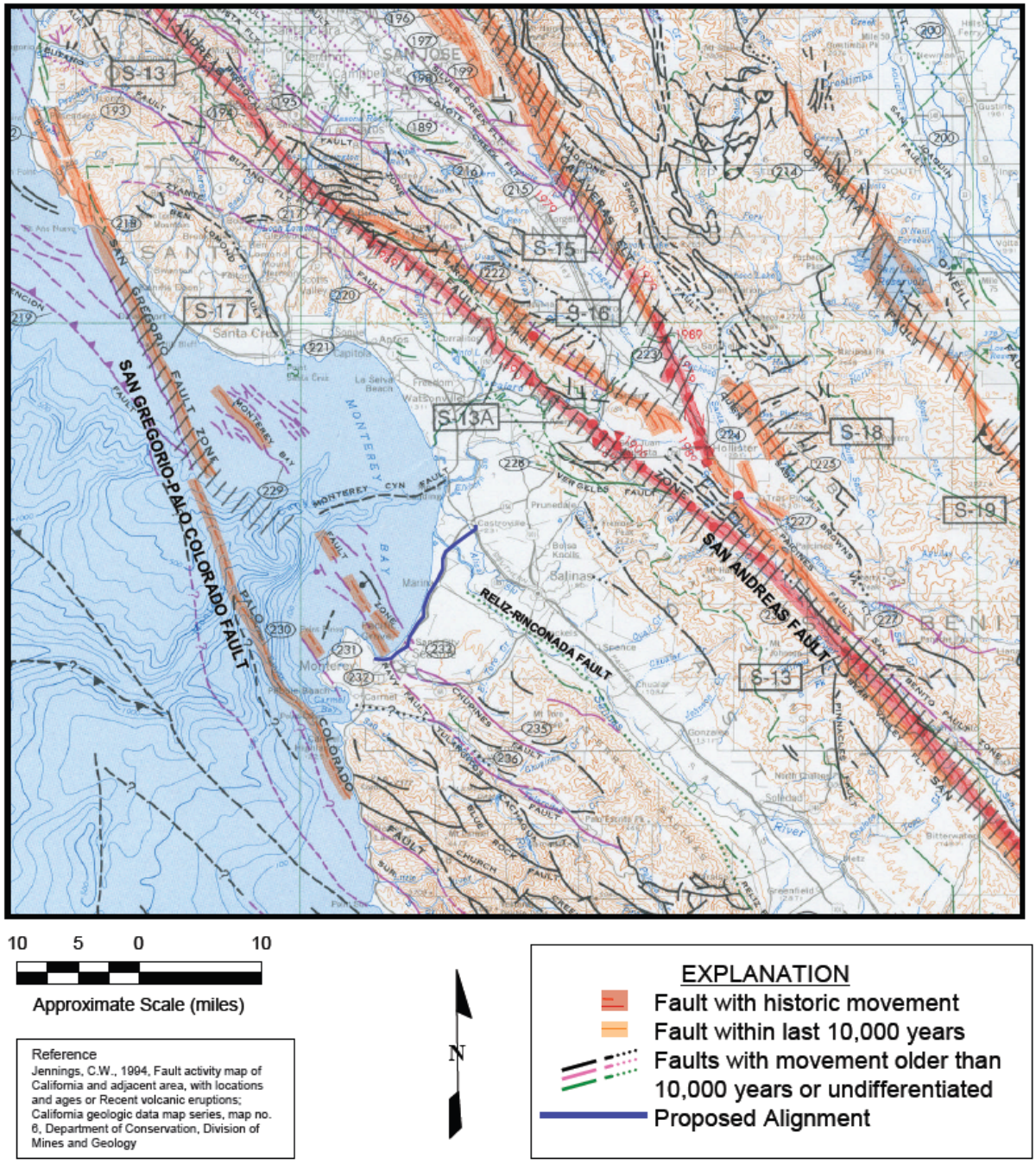
The Monterey Bay Region is considered to be one of the most seismically active regions in the United States. The Monterey Bay / Salinas Valley area is bounded by major earthquake faults, as shown on Figure 4.5-2 and listed in Table 4.5-1.

Moderate and large magnitude earthquakes, with moment magnitudes ranging from 6 to 8, have occurred periodically throughout the Monterey and San Francisco Bay regions in historic time. As shown in Table 4.5-1, several faults capable of generating moderate to large magnitude earthquakes are located within 100 kilometers (km) (i.e., approximately 62 miles) of the proposed action alignment. For example, considerable damage occurred in Monterey County during the 1989 Loma Prieta earthquake that was centered on the San Andreas fault system in the Santa Cruz Mountains.

Much of the seismicity is associated with the San Andreas fault, a right-lateral strike-slip fault forming a portion of the boundary between two global tectonic plates. In the Monterey Bay vicinity, the Pacific plate moves north relative to the North American plate, which is located east of the transform boundary. Deformation along this plate boundary occurs across a wide zone that is referred to as the San Andreas fault system.

Liquefaction

Soil liquefaction is a phenomenon in which saturated, cohesionless or granular soils undergo a substantial loss in strength due to excess build-up of pore water pressure during cyclic loading such as that induced by earthquakes. The occurrence of liquefaction is generally limited to saturated soils located within about 50 feet of the ground surface. Soils most susceptible to liquefaction are generally clean, loose, fine-grained sands that are saturated and uniformly graded. However, silty and clayey sands have also been known to be susceptible to liquefaction.



Source: Kleinfelder, 2010, Plate 3.

Figure 4.5-2: Fault Map for the Monterey Bay Region

Table 4.5-1: Faults[33] within the Monterey Bay Region

Fault Name	Fault Length (km)	Closest Distance to North End (km)	Closest Distance to Center (km)	Closest Distance to South End (km)	Magnitude of Maximum Credible Earthquake***
Monterey Bay-Tularcitos*	84	18	9	1.3	7.3
Rinconada**	190	9.5	4.7	14	7.5
Zayante-Vergeles	58	13	23	34	7.0
San Gregorio (SGS + SGN)	176	32	23	12	7.4
San Andreas (SAS + SAP + SAN + SAO)	473	19.6	30	41	7.9
Calaveras (CS + CC +CN)	123	32	40	51	6.9
Monte Vista–Shannon	45	47	56	64	6.7
Quien Sabe	23	38	48	59	6.4

* The Monterey Bay-Tularcitos fault crosses the project corridor east of MP 125

** The Reliz Segment of the Rinconada Fault crosses the project corridor near MP 117

*** Moment magnitude: An estimate of an earthquake's magnitude based on the seismic moment.

Source: Kleinfelder 2010; Cao, et al. 2003; Working Group on California Earthquake Probabilities 2007.

Liquefaction potential of the soils underlying the proposed action alignment varies from low to high (Monterey County 2010). Areas with moderate to high potential for liquefaction are located in the Salinas Valley from approximately MP 111 to 114. Liquefaction occurred in the Salinas Valley during the 1906 San Francisco and 1989 Loma Prieta earthquakes (Dupre, 1990; Dupre and Tinsley, 1980; Youd and Hoose, 1978). Hence, low lying areas along the proposed action alignment are susceptible to liquefaction.

Lateral spreading and lurching are potential secondary seismic effects commonly associated with liquefaction, where extensional ground cracking and settlement results from the lateral migration of liquefied material. These phenomena typically occur adjacent to free faces such as creek channels. During the aforementioned earthquakes lateral spreading occurred along the banks of the Salinas River causing some damage to the Salinas River Bridge.

Sea Level Rise and Coastal Recession

Regional studies along the Monterey Bay coastline suggest a future sea level rise. The Climate Change Center and Pacific Institute project a rise of 3.25 to 4.5 feet under medium to medium-high GHG emissions scenarios by the year 2100 (Pacific Institute, 2009). Local studies of coastal regression indicate that the city of Marina portion of the Monterey Bay coast has been receding at a rate of about five feet per year (Rogers E. Johnson, 2004). During heavy storm years, such as the 1982/1983 winter

[33] See Plate 2 of the *Final Geotechnical Evaluation Report for Conceptual Engineering Phase, Monterey Peninsula Light Rail Project*, November 16, 2010 for the location of these faults.

storm season, the amount of coastal bluff recession can be much greater. Based on these factors, it is possible that the coastline could recede on the order of 250 to 300 feet in the next 50 years.

Soils

Regional studies indicate that the majority of the proposed action alignment, from approximately MP 114 to its southern terminus in Monterey Harbor (i.e., proposed Custom House Plaza Station) is located in areas where moderate to high rates of soil erosion are likely to occur (Monterey County 2010). The highest rates of erosion are likely to occur in younger dune sand deposits, especially where they are not covered by vegetation.

Compressible soils are typically saturated, fine-grained soils that possess low density and are incapable of supporting significant vertical loads without excessive settlement. These soils tend to coincide with poorly consolidated or unconsolidated Holocene age deposits. Compressible soils likely occur within the Salinas Valley, from about MP 111 to MP 114.

Expansive soils have the capacity to undergo large volume changes with variations in moisture content, and typically are associated with moderate to high plasticity clays. Expansive soils are also known to be present within the Salinas Valley from approximately MP 110 to MP 114, but could also exist elsewhere within the proposed action alignment.

According to the proposed action's *Final Geotechnical Evaluation Report for Conceptual Engineering Phase, Monterey Peninsula Light Rail Project,* scouring has historically occurred near the Salinas River Bridge. Scour is a fluvial process through which an established channel increases its depth of incision through removal and transport of sediment bed load material during periods of moderate to high flow. Unanticipated or excessive scour at a structure location

Topography

Slope instability is not a concern within the majority of the project corridor. However, the potential for landslides and slope instability exists at the abutment slopes for the Salinas River bridge and along the aforementioned portion of the proposed action alignment where slopes comprised of dune sand are present adjacent to the track. These slopes are considered moderately stable when covered with vegetation, but are prone to failure when lacking vegetation cover and during moderate to large magnitude earthquakes on nearby active faults or during heavy rain.

Paleontological Resources

Most of the fossils found in Monterey County are of marine life forms that have produced a record of the region's geologic history of advancing and retreating sea levels (Monterey County, 2006). Fossils are found throughout the county because of the widespread distribution of marine deposits (Monterey County, 2006). Locations of heightened paleontological sensitivity along the proposed action alignment appear to be limited to the cities of Monterey and Seaside. However, due to the complex geology of the area, Table 4.5-2 includes an assessment of paleontological resource sensitivity for the proposed action alignment.

Table 4.5-2: Paleontogical Assessment and Resource Sensitivity

Geologic Unit	Age	Map Abbreviation	Known Fossil Types	Paleontological Sensitivity
Monterey Formation*	Miocene	Tm	Marine invertebrates and vertebrates	High
Santa Margarita Sandstone*	Miocene	Tsm	Marine invertebrates and vertebrates	High
Continental Deposits, undivided	Pleistocene	Qtc(3)	None	Low to High
Aromas Sands and Older Dunes	Pleistocene	Qa(3)	None	Low to High
Youngest Terrace Deposits of Antioch	Pleistocene	Qfa(2)	None	Low to High
Ocean View Coastal Terrace	Pleistocene	Qcto(1)	None	Low to High
Lighthouse Coastal Terrace, Undivided	Pleistocene	Qctl(1)	None	Low to High
Older Coastal Dunes	Pleistocene	Qod(2)	None	Low to High
Basin Deposits	Holocene	Qb(2)	None	Low to High
Flandrian Dune Deposits	Holocene	Qfd(1)	None	Low to High
Floodplain Deposits, undifferentiated	Holocene	Qfl(2)	None	Low to High
Artificial Fill	Holocene	Qaf(1)	None	Zero

Notes: * Not mapped at surface; (1) Clark, Dupre' and Rosenberg (1997); (2) Wagner et al. (2002); (3) Rosenberg (2001).

Museum collections maintained by the University of California, Museum of Paleontology recorded two vertebrate fossil localities within or near the paleontological resources APE (defined as a one-mile radius from the proposed action alignment). These two are within the city of Monterey. Locality V6226 is within one-mile of the proposed action alignment and Locality V68140 is approximately 1.8 miles to the southwest and outside the one-mile radius of the proposed action alignment (Holroyd, 2010). Both of these sites contain cranial and post cranial skeletal elements of fish collected from the Miocene-age Monterey Formation.

4.5.4 Impact Analysis

No Action/No-Build Alternative

Geology, soil, and seismicity affects under the No Action/No-Build Alternative would be anticipated to be similar to those identified for the proposed action. However, impacts could vary depending on site specific conditions and the type of project proposed. As such, these proposed projects, would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to result in adverse impacts (i.e., operational), but which could be mitigated. Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors is not anticipated to result in adverse impacts since these activities would occur on existing roadways and structures designed to meet local and state building safety criteria.

Locally Preferred Alternative

Hazards associated with geologic conditions include the following: ground rupture, ground shaking, liquefaction, and other effects due to earthquakes; erosion and sedimentation; compressible ground; land subsidence; expansive soils; landslides; tsunami run-up; and sea level rise. Geologic and seismic hazards and impacts pose potential constraints to development and require mitigation measures to reduce risks associated with the proposed action.

Fault Rupture – No known active faults, as defined by the Alquist-Priolo Earthquake Fault Zone Act (Bryant and Hart, 2007), transect the proposed action alignment. As defined by the California Geological Survey (CGS) in accordance with the APEFZ Act, the proposed action alignment is not located within an Earthquake Fault Zone.

Several faults that are considered capable of generating earthquakes, but whose ground rupture potential is not well established, cross the proposed action alignment (Working Group on California Earthquake Probabilities, 2007). The mapped traces of these faults cross the proposed action alignment where the track is at grade. These faults include segments of the Reliz-Rinconada, Ord Terrace, Seaside, Chupines, and Monterey-Tularcitos faults. If one or more of these faults were to offset the ground surface, it could cause track and ballast section settlement, displacement, and/or separation, resulting in disruption or termination of active service. While this potential impact is unavoidable, the surface rupture potential of these faults is poorly constrained and is considered to be low to very low.

A design-level geotechnical investigation report would be prepared, and its seismic design parameter recommendations incorporated into the proposed action design. This report would include a probabilistic, risk-based seismic hazard analysis to evaluate the likelihood of certain peak ground accelerations being exceeded. Measures to be incorporated into the project design could include ground improvement such as soil mixing, jet grouting, soil densification, pile supported structures. The use of specific measures will depend on soil type and stratigraphy. In addition, widening the track railbed and ballast section in the vicinity of active fault traces would be considered in order to provide sufficient area for track repair with minimal re-grading, should rupture occur during a major earthquake. In order to limit the potential for damage to trackage, stations and passenger platforms, these facilities would be placed at least 50 foot setback from the currently-mapped fault locations, insofar as the alignment will allow. The potential for adverse impacts due to active fault creep (i.e., measurable surface displacement along a fault in the absence of notable earthquakes) and surface rupture cannot be avoided.

Seismic Ground Shaking – Data presented by the Working Group on California Earthquake Probabilities (2007) suggests the likelihood of a Magnitude 6.7 or greater seismic event to occur within the greater San Francisco Bay region in the next 30 years is approximately 63 percent. The proposed action alignment is expected to experience strong seismic ground shaking resulting from future earthquakes on the San Andreas and other active faults in the region. Time, location, and magnitude of earthquakes are not accurately predictable with existing technology. It is, however, generally agreed that the intensity of ground shaking from future earthquakes depends on several factors including distance from the site to the earthquake focus, magnitude and duration of the earthquake, and response of the underlying soil and bedrock.

Structures that are not engineered or constructed to account for seismic ground shaking are likely to suffer substantial distress and/or collapse. The railroad track is equally susceptible to the effect of differential settlement, potentially resulting in track irregularity, displacement and/or separation, as well as disruption or termination of active service. As the proposed action alignment is underlain by potentially liquefiable alluvial deposits in some segments, the impact would be compounded because:

1) shaking is typically amplified in areas comprised of relatively thick unconsolidated sediments; and 2) consolidation and settlement of alluvium can occur at an irregular and accelerated rate, particularly when under vertical load. Measures to address potential land settlement due to seismic activity would be incorporated into the project design, as outlined in the *Final Geotechnical Evaluation Report for Conceptual Engineering Phase, Monterey Peninsula Light Rail Project.* The potential for adverse impacts due to seismic ground shaking would be minimized by adhering to design standards contained in the National Engineering Handbook, American Railway Engineering and Maintenance-of-Way Association Manual (used for railroad trackway structures) and the California Building Code (for buildings and similar features).

Seismically-induced Flooding – Flooding within the proposed action alignment is possible due to tsunami, seiche, or seismically-induced dam failure. The project corridor parallels the Monterey Bay coast and is relatively low lying, making it susceptible to these hazards. Tsunami can be generated by offshore earthquakes, submarine landslides, volcanic eruptions, and bolide (meteor) impacts. Recent studies by the CGS in conjunction with the University of Southern California Tsunami Research Center and the California Emergency Management Agency (CEMA, 2009) indicate that portions of the project corridor could be inundated by tsunami run-up. The approximate inundation limits are depicted in Plates 5 and 6 of the *Final Geotechnical Evaluation Report for Conceptual Engineering Phase, Monterey Peninsula Light Rail Project*.

Seiches, which are water waves generated in smaller bodies of water like lakes or dams, could affect the proposed action alignment during earthquakes as well. The main locations where a seiche could occur are located in the area of Roberts Lake and Laguna Grande. The potential impacts due to tsunami and/or seiche inundation include flooding and displacement of track, resulting in temporary disruption or termination of active service.

Low lying areas of the Salinas Valley are susceptible to flooding due to unlikely but potential failure of upstream dams (Monterey County 2010).

Landslides – Portions of the abutment slopes on both sides of the Salinas River Bridge are mantled with rip-rap. These slopes could potentially be unstable given current site conditions. The stability of the abutment slopes will be evaluated using analytical methods during detailed project design.

Shallow failure of drainage channel banks, ballast sections, cut slopes and natural slopes in close proximity to the track bed could result in debris inundation of the rail line, or loss of rail line confinement and support. Both impact scenarios would result in temporary disruption or termination of active service and could also pose a threat to rail and adjacent traffic safety.

The potential for a seismically-induced landslide to affect the proposed action alignment is limited to the area between the Roberts Lake vicinity and Sloat Avenue (MP 124 to MP 125), and at the abutment slopes for the Salinas River Bridge. There is a low to moderate potential that the dune sand slopes between about MP 124 and MP 125 could fail under seismic (pseudo-static) conditions and cover the rail alignment. Such an occurrence would bury the track and could result in disruption or termination of active service. In addition, there is a moderate to high potential that the abutment slopes for both approaches of the Salinas River Bridge could become unstable during an earthquake. Failure of the abutments would cause damage to the bridge.

Soil Erosion – Erosion of soil deposits along the proposed action alignment in addition to redeposition of sediment, or sedimentation, has the potential to affect the long-term performance of the rail line. These processes are most likely to occur in areas where the proposed action alignment transects the younger and older dune sand deposits, and especially where deposits are not covered by vegetation.

Redeposition of these deposits could result in temporary disruption or termination of active rail transit service.

Bank scour is a concern along the Salinas River at the existing bridge crossing (Shannon & Wilson, 2001). Scour and/or erosion could result in the undermining of structures, track bed and ballast sections, resulting in structure distress and possible collapse, as well as track settlement and disruption. Any of these factors could cause temporary termination of service at a minimum.

The guideway (i.e., rail track) and station designs would include erosion control measures to address site soil stabilization and reduce the potential for sedimentation or track damage. Typical measures include the application of soil stabilizers such as hydroseeding, netting, erosion control mats, rock slope protection and others. As discussed in Section 4.7 (Hydrology and Water Quality), a hydraulic study will be prepared to determine required bridge openings and address potential scour effects at the Salinas River Bridge.

Sea Level Rise and Coastal Recession – The projected rise in sea level could also increase the liquefaction potential of sediments bordering the coastline, and the susceptibility of low lying coastal areas to flooding. Considering these projections, there is a low to moderate risk for portions of the project corridor within 300 to 500 feet of the current coastline to be affected by a regional rise in sea level and related coastal recession. The segment of the proposed action alignment within the city of Monterey from about Sloat Avenue (MP 125) to its western terminus at the proposed Custom House Plaza Station appears to be most susceptible to a possible future sea level rise. Rise in sea level could possibly inundate the alignment in some areas, potentially requiring raising or relocation of the rail bed. However, determining the potential future effect of sea-level rise on the proposed station site, and government actions in response (e.g., seawall and levee construction), are considered speculative for the purpose of this analysis.

Landslides – The potential for landslides to occur under seismic conditions were previously described. A landslide due to slope instability between the Roberts Lake vicinity and Sloat Avenue (about MP 124 to 125) could also potentially occur during static (i.e., not in physical motion) conditions.

Liquefaction – Liquefiable aeolian (wind blown) deposits and alluvium would be subject to differential settlement due to the previously discussed ground effects during a seismic event, particularly under the load of the track bed and structures. A liquefaction susceptibility map is presented as Plate 4 in the *Final Geotechnical Evaluation Report for Conceptual Engineering Phase, Monterey Peninsula Light Rail Project*. The effects of seismically-induced differential settlement would be track settlement, structure distress and/or collapse. The effects are likely to be immediate, potentially resulting in disruption or termination of active service, and could also pose a threat to rail traffic safety.

Lateral Spreading – As the proposed action alignment crosses creek channels and the Salinas River, located in zones characterized as susceptible to liquefaction, the potential for lateral spreading and lurching to occur along or in close proximity to the rail line near channel boundaries is considered to be high.

Compressible Soils and Subsidence – When loaded by fill placement and/or structural loads, compressible soil undergoes settlement due to consolidation of the soil. This effect could potentially result in both vertical and lateral displacement due to plastic deformation. Settlement can cause cracking in walls and floor slabs of structures as well as misalignment and/or differential settlement of the rail. Compressible soils underlying the rail line can also cause soft track conditions, especially where poor surface drainage conditions exist.

Land to the north of the city of Marina, where the potential for settlement is greatest, should be well compacted/settled given a 100-plus year history of ballast/rail load. The design of the proposed action would include adding ballast along the project corridor in this area for all new or replacement track. In addition, the passenger train loads associated with the proposed action would be much lighter than the freight train loads experienced in the past. Proposed station sites within this region would be evaluated for compressible soils during design.

Expansive Soils – If not properly handled, the shrink-swell potential of expansive soils can cause distress and failure of structures, platforms, asphaltic and concrete pavements, slabs-on-grade, and other surfaces. In areas where the track bed is supported by a minimum of two to three feet of non-expansive ballast, the effects of expansive soils are expected to be marginal. Lightly loaded structures founded on shallow spread footing foundations may be subject to comparable effects.

Paleontological Resources – The proposed action would not result in operational-related impacts to paleontological resources.

4.5.5 Mitigation Measures

No Action No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

The following mitigation measures are applicable to the Locally Preferred Alternative:

GEO 1: Design considerations will include providing a procedure to be used in the event of an earthquake that will take the system to a safe temporary termination of operations until such time as an evaluation of potential damage can be made.

GEO 2: To reduce the potential for liquefaction, where appropriate, a subsurface investigation within the proposed action alignment will be conducted during project design, and should include Standard Penetration Test borings, laboratory grain size analysis and liquefaction analysis.

GEO 3: One or more standard mitigation options to address the potential effects of liquefaction, cyclic softening, lateral spreading and lurching on surface improvements and structures will be incorporated into the proposed action design. These include, but are not limited to, the following methods:

- Ground improvement, including techniques such as pressure or jet grouting, etc.
- Deep soil mixing of liquefiable soils with cement or lime for their full depth.
- Construction of proposed structures on mat type foundations, or deep foundation elements (such as driven piling).

Geotechnical design recommendations shall be incorporated into final proposed action designs and verified by a qualified geotechnical consultant during construction activities. See above mitigation related to operating procedure in the event of an earthquake.

GEO 4: The stability of the dune sand slopes adjacent to portions of the proposed action alignment will be verified by slope stability analysis for both static and seismic conditions during the proposed action design. Existing and proposed cut and fill slopes will be stabilized where required through establishment and maintenance of vegetation, re-grading of the slopes

utilizing industry accepted grading techniques, and construction of retaining structures. If the Salinas River Bridge abutment slopes are determined to be unstable, then results of a slope stability analysis during design will be implemented.

GEO 5: The impact of compressible soil deposits on structures will be mitigated, where necessary, using methods comparable to those described for liquefiable soils. Alternatively, advance mitigation of post-construction settlement to be considered includes use of lightweight fill material such as EPS Geofoam, lightweight aggregates (volcanic pumice or tuff), or light weight Tire-Derived Aggregate (TDA) to raise site grades.

GEO 6: Areas within the proposed action alignment with suspected expansive soils will be investigated during project design by performing site-specific subsurface investigation, laboratory analysis and engineering evaluations. Proposed mitigation to address the potentially adverse effects due to expansive soil action on surface improvements and structures include, but are not limited to, the following:

- chemical (lime) treatment of the expansive soil within the zone (depth) of influence to reduce its plasticity and expansion potential to an acceptable level
- removal of the expansive soil within the zone of influence, and replacement with non-expansive import soil
- construction of subsurface moisture barriers along the perimeter of improvements, which extend to depths below the zone of influence
- construction of foundation elements which inherently resist the differential uplift pressures of expansive soils, such as post-tensioned slabs, cast in place pier foundations, and driven pile foundations.

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4.6 Hazardous Waste

4.6.1 Introduction

This section describes and evaluates the potential risks to human health and safety associated with the transportation, use, storage and disposal of hazardous materials during operation of the proposed action. It also evaluates potential incidents of upset (e.g., accidental spills) involving hazardous materials and their potential impact on area residents and businesses. This section identifies and discloses the status of parcels along the proposed action corridor as it relates to their status as identified hazardous materials sites (if applicable) on state or federal agency databases. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

The information and analysis provided in this section is derived from the following hazardous materials reports (available under separate cover):

- *Preliminary Corridor Environmental Assessment, Transportation Agency of Monterey County (TAMC), Monterey Branch Line, Monterey County, California dated November 17, 2010.*
- *Phase I Environmental Site Assessment Fort Ord Transfer Parcels, L20.16.1, L20.16.2, L20.16.3, and Portions of E2B3.2 and L2.1, Monterey County, California dated December 13, 2010.*
- *Phase I Environmental Site Assessment, 1965 Del Monte Boulevard and Adjacent Lot (Parcel Numbers 011-101-015-000 and 01-101-117-000) dated November 17, 2010.*
- *Phase I Environmental Site Assessment, TAMC- Casa Verde Way Park & Ride, 2101 & 2107 Del Monte Avenue, APNS: 011-41-023, 011-441-024, 011-467-002, Monterey California dated November 17, 2010.*

4.6.2 Regulatory Setting

Federal Regulations

The USEPA defines a “hazardous” material as one “which because of its quantity, concentrations, or physiochemical or infectious properties, may either increase mortality or produce irreversible or incapacitating illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed (United States Public Health and Welfare Code Section 6903).” Materials and wastes that exhibit hazardous properties require special handling and management. Their treatment, storage, transport and disposal are highly regulated by federal, State and local governments, which minimizes the risk to the public presented by these potential hazards.

The federal hazardous waste laws are generally known as the Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The purpose of CERCLA, often referred to as “Superfund,” is to clean up contaminated sites so that public health and welfare are not compromised. These laws provide for the “cradle to grave” regulation of hazardous wastes. Any business, institution or other entity that uses hazardous materials and generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused or disposed. The USEPA has primary responsibility for implementing RCRA but individual states are encouraged to seek authorization to implement some or all RCRA provisions. California received authorization to implement RCRA in August 1992.

Other federal laws include:

- Community Environmental Response Facilitation Act of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act
- Atomic Energy Act
- Toxic Substances Control Act
- Federal Insecticide, Fungicide, and Rodenticide Act

In addition, Executive Order 12088, Federal Compliance with Pollution Control, mandates that necessary actions be taken to prevent and control environmental pollution when federal activities or federal facilities are involved.

State Regulations

The California Environmental Protection Agency's (CalEPA's) Department of Toxic Substances Control (DTSC) is responsible for implementing RCRA. The DTSC is also responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. The California Hazardous Waste Control Law and its associated regulations are similar to RCRA but regulate a larger number of chemicals because they define hazardous waste more broadly. Hazardous wastes regulated by California but not by USEPA are called non-RCRA hazardous wastes.

Chapter 6.95, Section 25503(a), of the California Health and Safety Code and Title 19 of the California Code of Regulations Section 2729, *et seq*., requires any business that handles a hazardous material or mixture containing a hazardous material in reportable quantities to establish and implement a Hazardous Materials Business Plan for emergency response to a release or threatened release of a hazardous material. The State's minimum reportable quantities are 500 pounds for a solid, 55 gallons for a liquid, and 200 cubic feet for a gas at standard temperature and pressure. Some acutely hazardous materials are reportable at much lower quantities.

4.6.3 Affected Environment

A hazardous material and waste survey covering the proposed action alignment, the location of the proposed maintenance facility, and three park-and ride locations were conducted in March 2010. The survey included locations within the guidelines of the American Society for Testing and Materials (ASTM) Designation E 1527, "*Standard Practice for Environmental Project Site Assessments: Phase I Environmental Property Assessment Process*." Environmental issues were defined using the ASTM definition of a recognized environmental condition (REC). REC means "the presence or likely presence of hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property." The scope of the hazardous material and waste survey included site reconnaissance; historical research related to use, storage, disposal, or release of hazardous materials or petroleum hydrocarbons; review of environmental databases; and a summary of findings.

Proposed Action Alignment

The environmental databases identified 855 sites within the required search distances from the proposed action alignment. There were several on-site and off-source locations which may have

contributed to potential contamination identified for the proposed action alignment and which included the following:

Hydrocarbon and Metal Releases from Previous Rail Operations – Leakage from running locomotive engines can over time release a significant amount of oil within the ballast material, particularly on sidings where engines idle or are parked. This waste oil may also contain heavy metals such as cadmium, chromium, copper, nickel, and lead. Over time these heavy hydrocarbons and metals may be driven by rainfall into the upper soil surface and shallow groundwater.

Treated Rail Ties – Wooden rail ties are commonly treated with creosote to prevent degredation. Less commonly, and in the past, other methods of treatment included the application of arsenic-based preservatives, copper azole, and pentachlorophenol. The Department of Toxic Substances Control (DTSC) has determined that treated wood waste (TWW) may cause an impact to soil and groundwater if not managed properly. As a result, in-place treated rail ties may affect shallow soil and groundwater from exposure to rainfall.

Herbicides – FRA regulations require vegetation control within fifteen feet of the tracks for fire suppression. Vegetative control is commonly conducted by herbicide application using rail mounted equipment that sprays herbicides within the prescribed width. As a result, repeated application of herbicides may have affected soil and groundwater resources within the proposed action alignment.

Potential Disposal Areas behind Auto Shops – Numerous auto repair, tire shops, car dealers, and commercial and industrial businesses were observed within fifty feet of the proposed action alignment in the areas of the cities of Sand City, Seaside and Monterey. Historically, auto repair facilities use and dispose of hazardous substances related to their operations. Based on site observations, potential disposal and dumping behind the businesses, adjacent to the rail line may pose a concern to shallow soil within proposed action alignment.

Petroleum Hydrocarbons in Soils and Groundwater at former Bulk Terminal Area – According to database findings and historical research a crude oil and refined petroleum bulk terminal previously operated immediately north of the proposed action alignment within the city of Monterey at approximately MP 705+00 to 714+00. The tank farm and terminal were constructed in 1926 and operated until 1976. This tank farm formerly included six 80,000-barrel (3,360,000-gallon) crude oil and light crude oil tanks, one 2,960,000-gallon gasoline tank, one 315,000 gallon crude balance tank, and an oil warehouse/loading area. The tanks were removed from 1983 through 1996. According to information available from State Water Resources Control Board, in the past, crude oil was poured into the sand to stabilize the sand and to form a partial water vapor barrier to prevent rusting of the bottom of the above ground storage tanks. This property is currently monitored semi-annually and is listed on the Spills-Leaks-Investigations and Cleanup (SLIC) database do to the presence of petroleum hydrocarbons within groundwater. The most recent semi-annual report, prepared by Science Applications International Corporation (SAIC) indicated that a plume of petroleum-affected groundwater exists beneath the proposed action alignment and across Del Monte Avenue to the south. It is possible that residual petroleum hydrocarbons are also present within shallow soils beneath the proposed action alignment.

Lead-based Paints on Existing Rail Structures – Three types of bridges currently exist along the proposed action alignment. Steel structures, such as the Salinas River Bridge, as well as components of the concrete bridges or timber trestles potentially have been painted using lead-containing or lead-based paints. Over time and exposure to weather, these paints may degrade and fall onto soil or into adjacent drainages. It is possible that elevated lead concentrations may remain in soils or sediments near these structures.

The following off-site sources were identified during site reconnaissance for the proposed action alignment:

Dole Processing Plant – The Dole Processing Plant is located adjacent to the proposed action alignment (north of the city of Marina). Although no spills, leaks, or underground storage tanks (USTs) were reported in the database report, several areas of dumping were observed during the site reconnaissance. One open, rusty 55-gallon drum was observed along the eastern side of the proposed action alignment. The contents of the drum are unknown, however a tree was observed to be growing through the drum, indicating that vegetation in the area is not likely stressed due to the former contents of the drum.

Buried Utilities – Based on site observations and information obtained from Cal-American Water, California Water, and the Marina Coast Water District, various water-related utility chases (piping, storm water drains) intersect the proposed action. PG&E maintains subsurface electrical and natural gas pipelines alongside the segment of proposed action alignment that extends from the city of Marina to the city of Monterey. The approximate location of the natural gas pipeline is identified by PG&E markers along the alignment; however subsurface electrical corridors are not identified.

Flange Lubricators – Although not observed during the site reconnaissance, many railroads use automatic flange lubricators to prevent flange and rail wear at curves. The lubricators commonly consist of a metal box adjacent to the tracks filled with grease, and a pump system that extrudes the grease as the rail cars travel over it. Over time, a significant amount of grease can be released to the soil, particularly if the lubricators are not maintained properly. Since no lubricators were observed in the field, it is not known if they were used in the past.

Fort Ord Transfer Parcel (Maintenance and Park-and-Ride Site)

The environmental databases identified four sites within the required search distances from the parcels associated with the Fort Order Transfer Parcel and park-and-ride site. The former Fort Ord military base facility was listed as two of the four sites. This site is on the Final National Priorities List and has United States Engineering Controls and Institutional Controls to restrict groundwater use due to contamination plumes. Building 4493 on Fort Ord was specifically singled out for a leaking underground storage tank; the file for this leaking underground storage tank has been closed. The fourth site was the University Villages. It was a former Superfund site and has a "No Further Action" letter from the Department of Toxic Substances Control (DTSC). The following RECs were identified:

Former Gasoline Station – A former gas station containing eleven 12,000-gallon underground storage tanks (USTs) were in operation in the northwest corner of the proposed maintenance facility and park-and-ride site. This site has the potential for leaked petroleum hydrocarbons to be present in site soils and groundwater. Although the former Fort Ord military base documents indicate that the tanks were removed under regulatory guidance, letters of closure were not available.

Rail Spurs – Three rail spurs are located on the proposed maintenance facility and park-and-ride site. Potential contamination associated with railroad operations includes petroleum hydrocarbons, polychlorinated biphenyls (PCBs), pesticides, herbicides, polynuclear aromatic hydrocarbons (PAHs), and metals.

Historic Groundwater Plume – There is a groundwater monitoring well located on the proposed maintenance facility and park-and-ride site. This monitoring well is used to monitor groundwater affected by the Operational Unit (OU)-2 plume, which has migrated under this area. In addition, the site is located within a restricted land use zone that prohibits drilling wells for drinking water or landscape use.

The following other environmental concerns were identified:

Petroleum Hydrocarbon Leaks – A portion of the proposed maintenance facility and park-and-ride site is currently used for vehicle parking and storage. Minor leaks may have occurred from parked vehicles.

Lead Based Paint and Asbestos Containing Material – Based on the age of the structures on the proposed maintenance facility and park-and-ride site, it is possible that paint and coatings may contain lead. There may also be materials which contain asbestos.

No additional environmental concerns were noted during the site reconnaissance for the maintenance facility and Park-and-Ride parcels located at Fort Ord.

Casa Verde Way Station and Park-and-Ride Parcels

The environmental databases identified nineteen discreet sites within the required search distances from the parcels. Many of these sites are listed in more than one database. However, the majority of these sites were listed in the leaking underground storage tank (LUST) database, along with being listed in the underground storage tank (UST) database. A few of the sites were listed as Resource Conservation and Recovery Act (RCRA) hazardous materials generators. The following RECs were identified:

Unknown Materials – There were two aboveground storage tanks (ASTs) with unknown contents located at the proposed Casa Verde Way Station and associated park-and ride site.

Petroleum Hydrocarbons – There was a gasoline leak to soil and groundwater in February 1987. Residual hydrocarbons and benzene, toluene, and xylenes appear to be left in the soil and groundwater. The case was reported closed in September 1987, but a letter of closure was not on file.

There was a release of gasoline at the Phil's Exxon located at 2100 Del Monte Avenue which resulted in residual concentrations of petroleum hydrocarbons in groundwater which may have migrated underneath the proposed Casa Verde Way Station and associated park-and ride site.

Rail Spur – There was a rail spur located on the proposed Casa Verde Way Station and associated park-and ride site. Potential contamination associated with railroads (including rail spurs) includes petroleum hydrocarbons, polychlorinated biphenyls (PCBs), pesticides, herbicides, polynuclear aromatic hydrocarbons (PAHs), and metals.

Trichloroethylene (TCE) – The Naval Auxiliary Air Station Monterey has a reported release of TCE that could affect groundwater underneath the proposed Casa Verde Way Station and associated park-and ride site.

The following other concerns were identified:

Lead Based Paint and Asbestos Containing Material – Based on the age of the structures on the proposed Casa Verde Way Station and associated park-and-ride site, it is possible that paint and coatings may contain lead. There may also be materials which contain asbestos.

Petroleum Hydrocarbons – The proposed Casa Verde Way Station and associated park-and ride site is bordered to the east by a past petroleum terminal that supported a former tank farm located northeast of the site. The former terminal property has many groundwater wells on it which are monitored semi-annually. While the monitor reports indicate the groundwater flow direction is toward the north-northwest, away from the proposed Casa Verde Way Station and associated park-and ride site, there may be contaminated groundwater at this location.

Various Chemical Releases – Several facilities around the proposed Casa Verde Way Station and associated park-and ride site have reported chemical releases. Due to the contaminants involved, the media affected, the distance from this location, and/or the presumed groundwater flow direction, these facilities are not expected to affect the proposed Casa Verde Way Station and associated park-and ride site.

No additional environmental concerns were noted during the site reconnaissance for the parcels located at the proposed Casa Verde Way Station and park-and-ride location. 1965 Del Monte Boulevard and Adjacent Lot Park-and-Ride Parcels (Playa Park-and-Ride location)

The environmental databases identified twenty-one discreet sites within the required search distances from the parcels. Many of these sites are listed in more than one database. However, the majority of these sites were listed in the LUST database, the UST database and the RCRA hazardous materials generators database. The following RECs were identified:

Various Hazardous Materials – The northern part of the proposed Playa Avenie Station and associated park-and-ride lot is currently used as a vehicle repair shop. Vehicle repair shops routinely use, store, and/or dispose of batteries, tires, new and used motor oil, gasoline and diesel fuels, and other hazardous chemicals such as petroleum hydrocarbons and solvents. Used tires and chemical containers are also stored onsite.

Multiple automotive shops and other light industrial/heavy commercial facilities are located along Del Monte Boulevard, including facilities immediately adjacent to the proposed Playa Avenue Station and associated park-and-ride site. Petroleum hydrocarbon releases at off-site facilities have the potential to affect the sub-surface at this location.

The following other environmental concerns were identified:

Petroleum Hydrocarbon Leaks – A portion of the proposed Playa Avenue Station and associated park-and-ride site is currently used for vehicle parking and storage. Minor leaks may have occurred from parked vehicles.

Historical evidence indicates that the southern portion of the proposed Playa Avenue Station and associated park-and-ride site was used as an unpaved road. There is the potential for petroleum hydrocarbon contamination to be present where the unpaved road was located.

Lead and Asbestos Containing Material – Based on the age of the structures at the proposed Playa Avenue Station and associated park-and-ride site, it is possible that paint and coatings may contain lead. There may also be materials which contain asbestos.

Historical evidence indicates that the southern portion of the proposed Playa Avenue Station and associated park-and-ride site was used as an unpaved road which may contain aerially deposited lead.

No additional environmental concerns were noted during the site reconnaissance for the parcels located at the proposed Playa Avenue Station and associated park-and-ride location.

4.6.4 Impact Analysis

No Action/No-Build Alternative

Hazardous materials and hazardous waste affects under the No Action/No-Build Alternative would be anticipated to be similar to those identified for the proposed action. However, impacts could vary depending on site specific conditions and the type of project proposed. As such, these proposed

projects would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to result in potential impacts associated with hazardous materials during construction (i.e., limited to excavation and building demolition). No operational impacts associated with hazardous waste were identified.[34] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors would be anticipated to contribute to the presence of hazardous materials or waste associated with motor vehicle use (e.g., heavy metals and petroleum products) landscape maintenance (e.g., pesticides and herbicides) and other urban pollutants (e.g., litter) normally associated with roadways.

Locally Preferred Alternative

A proposed TAMC Maintenance Facility would be constructed to maintain and fuel the locomotives and associated coaches. Fueling of locomotives would occur from this facility using standard fueling machinery and techniques and which employ safety measures. Normal maintenance and monitoring would ensure that the locomotives and coaches are operated correctly and safely and will reduce the potential for leaks of hazardous materials substances.

Cleaning of the locomotives and coaches would likely require the use of some chemicals (e.g., household cleaners, solvents) which are considered hazardous. However, all hazardous materials used and/or generated from this facility would comply with applicable local, state and federal regulations concerning their transport, storage, handling and disposal. In addition, a Business Plan (i.e., hazardous materials management and emergency response plan) would also be prepared and kept on-site for review and use by employees. A copy of the Business Plan would also be provided to the local fire departments and other applicable agencies. No impacts to the proposed action alignment are expected from operations and maintenance activities or fueling of the rail vehicles for the proposed action.

New park-and-ride facilities will not require the use or storage of hazardous materials or hazardous wastes. Street-sweeping equipment would be used to clean the parking lots. Trash receptacles would be routinely emptied by contracted sanitary hauling services. No impacts to the proposed action alignment are expected from maintenance and cleaning of the park-and-ride facilities associated with the project action.

4.6.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

[34] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

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4.7 Hydrology and Water Quality

4.7.1 Introduction

This section analyzes proposed action-related surface and groundwater hydrology, floodplain, and water quality impacts that may result due to operational activities. A detailed presentation of the technical data and calculations is provided in the *Hydrology, Floodplain, Water Quality, and Stormwater Runoff Impact Analysis for the Monterey Peninsula Light Rail Project*, November 2010 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.7.2 Regulatory Setting

Federal Regulations

Clean Water Act – The primary federal law governing water quality is the Clean Water Act (CWA) of 1972. This Act provides for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. The CWA emphasizes technology-based (end-of-pipe) control strategies and requires discharge permits to allow use of public resources for waste discharge. The Act also limits the amount of pollutants that may be discharged and requires wastewater to be treated with the best treatment technology economically achievable regardless of receiving water conditions. The control of pollutant discharges is established through National Pollutant Discharge Elimination System (NPDES) permits that contain effluent limitations and standards.

The 1987 amendments to the CWA included Section 402(p), which establishes a framework for regulating municipal and industrial stormwater discharges. The amendment also provided a framework for regulating stormwater runoff from construction sites. On November 16, 1990, USEPA) published final regulations that established requirements for stormwater permits.

In 1998, Section 303(d) of the CWA was amended, requiring the state to identify and maintain a list of water bodies that do not meet water quality objectives through the control of point source discharges under NPDES permits. For these water bodies, states are required to develop appropriate Total Maximum Daily Loads (TMDLs). TMDLs are the sum of the individual pollutant load allocations for point sources, nonpoint sources, and natural background conditions, with an appropriate margin of safety for a designated water body. The TMDLs are established based upon a quantitative assessment of water quality problems, the contributing sources, and load reductions or control actions needed to restore and protect an individual water body (USEPA, 2000). As opposed to the NPDES programs, which focus on reducing or eliminating non-stormwater discharges and reducing the discharge of pollutants to the maximum extent practicable, TMDLs provide an analytical basis for planning and implementing pollution controls, land management practices, and restoration projects needed to protect water quality.

USEPA defines a Municipal Separate Storm Sewer System (MS4) as any conveyance or system of conveyances (roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, human-made channels, and storm drains) owned or operated by a state, city country or other public body having jurisdiction over storm water, that are designed or used for collecting or conveying storm water. As part of the NPDES program, USEPA initiated a program requiring that entities having MS4 apply to their local Regional Water Quality Control Board (RWQCB) for storm water discharge (municipal) permits. The program proceeded in two phases: Phase 1 program initiated permit requirements for municipalities with populations of 100,000 or greater; Phase II expanded the program to municipalities with populations less than 100,000. The program also contains standard requirements for planning and design best management practices (BMPs) including minimum requirements for

treatment of runoff from new development. These standards are incorporated into Standard Urban Stormwater Mitigation Plans.

Establishment of the NPDES regulations in 1987, under Section 402(p) of the CWA, required that USEPA delegate the responsibility of the NPDES program to the State. In California, the State Water Resources Control Board (SWRCB) was given the responsibility to enforce the regulations of the NPDES program and did so in the form of the NPDES Permit for General Construction Activities (Order No. 2009-0009-DWQ) (General Construction Permit), adopted in 2009 to supersede the previous Order No. 99-08-DWQ. The purpose of the General Construction Permit is to ensure that the land owners (1) eliminate or reduce non-stormwater discharges to storm drains and receiving waters; (2) develop and implement a Storm Water Pollution Prevention Plan (SWPPP); (3) inspect the water pollution controls specified in the SWPPP; and (4) monitor stormwater runoff from construction sites to ensure that the BMPs specified in the SWPPP are effective.

Projects involving construction activities with more than 1-acre of soil disturbance must comply with the General Construction Permit. The newly-adopted permit separates projects into Risk Levels 1 to 3. Requirements apply according to the risk level determined. For example, a Risk Level 3 (highest risk) project would require compulsory storm water runoff pH (i.e., a measure of the acidity or alkalinity) and turbidity monitoring. Risk levels are determined during the design phase and are based on potential erosion and transport to receiving waters.

Industrial Storm Water General Permit Order 97-03-DWQ (General Industrial Permit) is an NPDES permit that regulates discharges associated with certain industrial activities. "The General Industrial Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable and best conventional pollutant control technology. The General Industrial Permit also requires the development of a SWPPP and a monitoring plan. Through the SWPPP, sources of pollutants are to be identified and the means to manage the sources to reduce storm water pollution are described. The General Industrial Permit requires that an annual report be submitted each July 1." (SWRCB, 2011)

Executive Order 11988 (Floodplain Management) – Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. FRA requirements for compliance are outlined in their "Procedures for Considering Environmental Impacts" which references U.S. Department of Transportation (USDOT) Order 5650.2. In order to comply, the following must be analyzed:

- Base floodplain limits
- Risks of the action
- Impacts on natural and beneficial floodplain values
- Support of incompatible floodplain development
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.

The 100-year floodplain is considered the "Base" floodplain[35]. An encroachment is defined as "an action within the limits of the base floodplain."

[35] Base floodplain is defined as the area subject to flooding by a flood or tide having a one percent chance of being exceeded in any given year.

State Regulations

Porter-Cologne Water Quality Control Act – The Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne Act) is the major water quality control law for California. The Act authorizes the state to implement the provisions of the CWA. The Porter-Cologne Act establishes a regulatory program to protect the water quality of the State and the beneficial uses of State waters. Under this act, the SWRCB provides policy guidance to its RWQCBs, which then implement and enforce the provisions of the Act.

Under the CWA, the state of California was originally required to develop comprehensive drainage basin plans as a prerequisite to receiving federal funding for the construction of municipal wastewater treatment plants. The Central Coast RWQCB, Region 3 developed the Central Coast Region – Basin Plan in 1994. The Basin Plan is intended to help preserve and enhance water quality and to protect the beneficial uses of State waters. The Basin Plan designates beneficial uses for both surface and groundwaters and sets qualitative and quantitative objectives that must be attained or maintained to protect the designated beneficial uses and conform to the State's anti-degradation policy. The Plan also describes implementation programs to protect the beneficial uses of all waters in the region and surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan (RWQCB, 1994).

Local Regulations

Monterey County – Monterey County has enacted an Erosion Control Ordinance No. 2806 (Chap. 16.12) to eliminate and prevent conditions of accelerated erosion which could lead to the degradation of water quality, loss of fish habitat, damage to property, loss of topsoil or vegetative cover, disruption of water supply, and increased danger from flooding. The Erosion Control Ordinance contains provisions for the regulation of project design, an erosion control plan for runoff control, for land clearing, and winter operations.

There are two ordinances that regulate floodplain development in Monterey County. Countywide floodplain Ordinance No. 3272 includes the minimum Federal requirements for participation in the regular phase of the National Flood Insurance Program and has been codified in Chapter 16.16 of the Monterey County Code. Development within Special Flood Hazard Areas (i.e., within 100-year floodplain, within 200 feet of a river, or within 50 feet of a watercourse) is subject to permit review by the Monterey County Floodplain Administrator (Monterey County, 2003). As defined in Monterey County Code, development means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation, or drilling operations.

4.7.3 Affected Environment

Regional Hydrology – The Monterey Bay region is divided among numerous watersheds, or basins, that eventually consolidate at the Salinas River, Pajaro River, and Elkhorn Slough for release into Monterey Bay. The proposed action alignment is located within the Salinas River watershed, as depicted on Figure 4.7-1. Subwatersheds within the Salinas River Basin are described below.

Moro Cojo Slough – The Moro Cojo Slough subwatershed lies within the northernmost region of the Salinas River watershed. The watershed includes an area of approximately 17 square miles that drains to the south and west through Moro Cojo Slough to Moss Landing Harbor, and Monterey Bay (PUC, 2009).

Salinas River – The Salinas River is the largest water system in the county, delivering approximately 282,000 acre-feet per year to the Pacific Ocean at Moss Landing. The direction of flow within the watershed is generally to the northwest. However, from Monterey northerly to Marina, runoff generally drains from east to west into Monterey Bay. The Salinas drainage basin is bounded on the south by the La Panza Range, on the southwest by the Santa Lucia Range, on the northwest by the Sierra de Salinas, and on the northeast by the Diablo Range and the Gabilan Range.

Sources: NOAA, 2001, Monterey Bay Sanctuary, Citizen Watershed Monitoring Network

Figure 4.7-1: Salinas River Watershed

To help increase the utilization of Salinas River flows for groundwater recharge and to provide flood control benefits, Nacimiento and San Antonio Reservoirs were developed and began operations in 1957 and 1967, respectively. These reservoirs have been operated to optimize Salinas River recharge by storing winter runoff and making releases in a timely manner during the irrigation season, when the potential for recharge is highest.

Reclamation Canal – A series of ditches, known collectively as the Reclamation Canal, drain the area that stretches from just south of Salinas to Castroville. The Reclamation Canal watershed encompasses both rural and urban lands in northern Monterey County and a small portion of southern San Benito County (Monterey County Water Resources Agency [MCWRA], nd).

Laguna Seca and Canyon del Rey – The Laguna Seca watershed is located between Monterey and Salinas. Surface flows in the watershed drain to the Salinas River or Monterey Bay. The Canyon del Rey watershed is relatively small and is located in the Seaside/Del Rey Oaks/Highway 68 Corridor (PUC, 2009).

From north to south the proposed action alignment traverses the following Hydrologic Units and Planning Areas: the Bolsa Nueva Hydrologic Unit (HU); the Salinas HU Lower Salinas Valley Hydrologic Area 309.10; and the Salinas HU Monterey Peninsula Hydrologic Area 309.50 (RWQCB, 1994).

Groundwater

The Salinas Valley overlies a single common aquifer that is divided into four hydrologically interconnected subareas known as the Pressure Area, the East Side Area, the Forebay Area, and the Upper Valley Area. The Pressure Area subarea underlies the proposed action alignment.

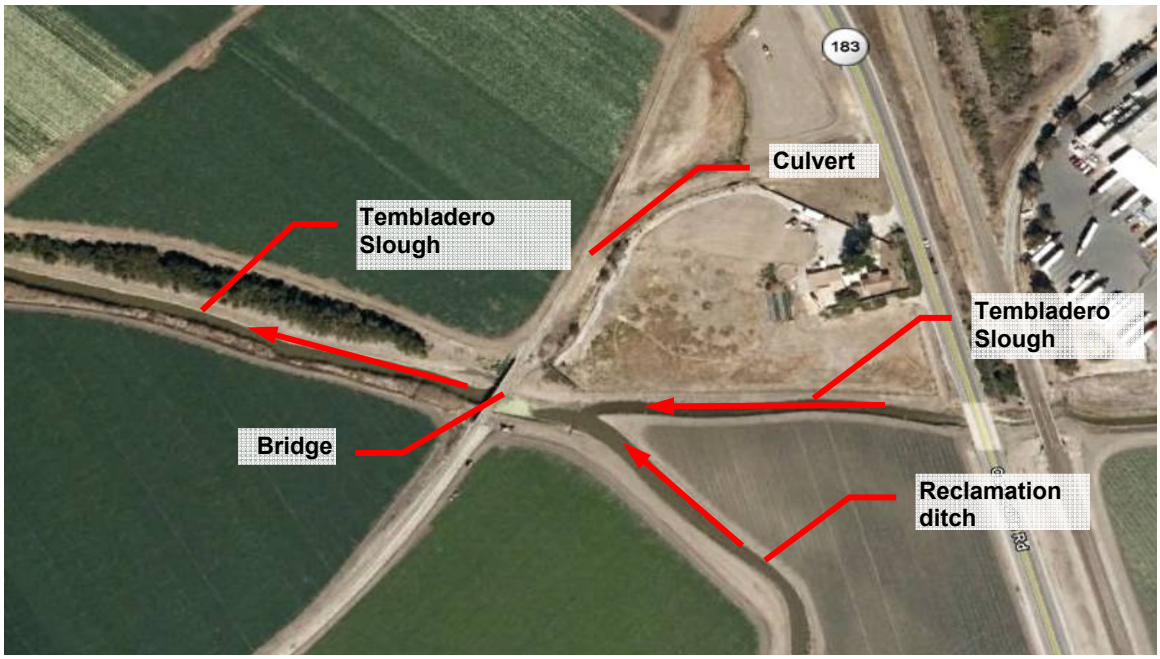
The Pressure Area is located near the coast and covers an estimated surface area of 342 square kilometers. In the Pressure Area, three stratified aquifers exist under confined conditions. These aquifers are known as the Pressure 180-Foot, the Pressure 400-Foot, and the Deep Zone and are comprised of permeable sands and gravels separated by confining clay layers. Recharge to the Pressure Area occurs from surrounding unconfined units (Department of Water Resources [DWR], 2004). The proposed action alignment crosses Subbasin 3-4.01 (180/400 Foot Aquifer Subbasin) and Subbasin 3-4.08 (Seaside Subbasin).

Recharge to the groundwater basin occurs primarily from precipitation, return flows from irrigated lands, and surface water from the Arroyo Seco and Salinas River. It is estimated that stream recharge accounts for approximately half of the total basin recharge (MCWRA, 1997). MCWRA recently completed the Salinas Valley Water Project to alleviate chronic problems of overdraft, nitrate contamination, and seawater intrusion in the Salinas Valley. Recycled water already is being treated and used for farmland irrigation as part of the Castroville Seawater Intrusion Program. Adding the river water will further reduce pumping from groundwater wells that draw from the valley's water basin, with the goal of restoring its "water balance" and allowing the basin to recharge itself (Johnson, 2010).

Existing Drainage System

The proposed Castroville Station is on a slight ridge between Tembladero and Castroville Sloughs. The area south of Blackie Road drains into the Tembladero Slough. The area north of Blackie Road drains to either the Tembladero or Castroville Sloughs. Castroville Slough is the tributary of Moro Cojo Slough, which discharges to the Monterey Bay via Elkhorn Slough. The Castroville Slough begins at a retention pond located on the east side of Castroville near the overpass of Highway 156 and railroad tracks.

The aforementioned Reclamation Canal flows into Tembladero Slough at the Tembladero bridge crossing in the vicinity of Castroville. Tembladero Slough ultimately drains northwesterly to Moss Landing Harbor. Both the Tembladero and Castroville sloughs are influenced by tides, which in turn impact the storm drain system of Castroville (County of Monterey, 2004). Drainage features at the proposed action alignment crossing of Tembladero Slough are shown on Figure 4.7-2.



Source: Parsons, 2011

Figure 4.7-2: Drainage Features near Tembladero Slough

In general, drainage conditions within the area to the north of the Salinas River can be characterized as poor due to level topography and clay loam soils. Considerable surface water ponding was observed adjacent to the tracks during the rainy season. Field investigations indicate significant sediment deposition in the existing culverts, reducing the design capacity of the overall drainage system. A culvert filled with sediment is shown on Figure 4.7-3.

Extending south from the Salinas River to the aforementioned Laguna Seca/Canyon del Rey, there are very few defined drainage channels because the ground is characterized by sandy and highly permeable soils. Water courses that discharge to El Estero and Robert's lakes have been historically controlled in association with development activities, including construction of the original MBL (i.e., proposed action alignment) rail line. Existing drainage facilities within the regional system either cross perpendicular to or run longitudinally along the proposed action alignment. The drainage systems crossing within the alignment are located in easements maintained and operated by the respective utility owner.

Source: Parsons, 2011

Figure 4.7-3: Culvert at Tembladero Slough

Floodplain

Floodplain Controls – The Federal Emergency Management Agency (FEMA) designates Special Flood Hazard Areas according to zones. The Base Flood Elevation is the water-surface elevation of the one percent annual chance of flood. The zones are described as follows:

- Zone A – No Base Flood Elevations determined
- Zone AE – Base Flood Elevations determined; areas having a one percent chance of being exceeded in a given year
- Zone AO – Areas subject to inundation by one-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet
- Zone X – Areas with minimal flood hazard located between the limits of the base flood and the 0.2-percent-annual-chance (or 500-year) flood
- Zone V – Areas along the coastline subject to inundation by the one-percent-annual-chance flood event with additional hazards associated with storm-induced waves; detailed hydraulic analyses have not been performed and no base flood elevations or flood depths have been prepared
- Zone VE – Areas along the coastline subject to inundation by the one-percent-annual-chance flood event with additional hazards associated with storm-induced waves; detailed hydraulic analyses have been performed. (FEMA, 2010)

Local Floodplains – Flood Insurance Rate Maps (FIRMs) prepared by FEMA (2010) were reviewed to identify the locations of 100-year floodplains within the proposed action alignment. FIRMs for the alignment are provided in the *Hydrology, Floodplain, Water Quality, and Stormwater Runoff Impact Analysis for the Monterey Peninsula Light Rail Project*, Figures 4-1 through 4-10 of that report. Several miles of the 15.2-mile proposed action alignment are located within or adjacent to 100-year floodplains. Figures showing the most substantial encroachments into the 100-year floodplain are depicted as Figures 4.7-4 and 4.7-5 and occur at the following locations: on both sides of Tembladero Slough and the Salinas River; south of Roberts Lake; north of Del Monte Lake; and north of El Estero Lake.

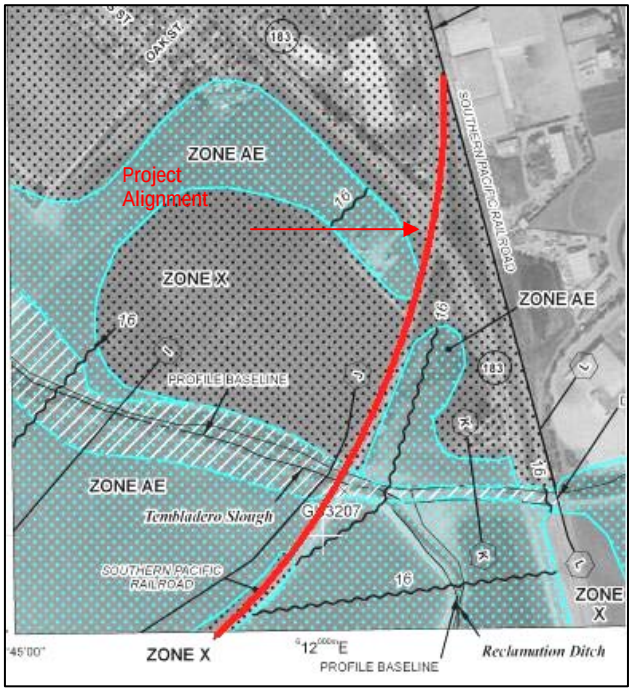
As shown on Figure 4.7-4 the segment from the beginning of the proposed action alignment near Blackie Road (Castroville area) southerly to the Salinas River traverses land designated both as Zone X and Zone AE. The alignment crosses Tembladero Slough just south of the SR 183 crossing. Further south, as shown on Figure 4.7-5, the proposed action alignment crosses Zone AE floodplain associated with both the Tembladero Slough (north of Nashua Road) and the Salinas River (South of Nashua Road).

Moving south and traversing the city of Marina and adjacent unincorporated land, there are isolated locations of flood-prone land designated both Zone AE and Zone X. However, most of the proposed action alignment is elevated above these scattered flood-prone areas. Near Reindollar Avenue, about 300 feet of the proposed action alignment is in vicinity of the Flood Zone AE.

From First Street to Olympia Avenue, in and adjacent to the city of Seaside, the proposed action alignment represents the western boundary of Flood Zone X. From Olympia Ave to the east end of Roberts Lake, the alignment is located within Flood Zone X. As shown on Figure 4.7-6, the alignment, both in the vicinity of Roberts Lake and across Canyon Del Rey, is designated as Flood Zone AE.

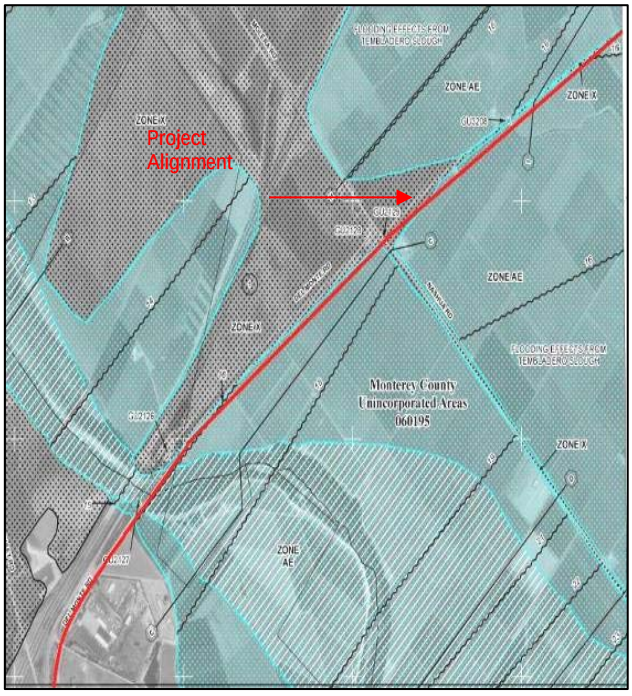
Figure 4.7-7 shows the proposed action alignment from Casa Verde Way in the city of Monterey westerly to the project terminus at proposed Custom House Plaza Station is predominantly located

within the Flood Zone X. The area where the alignment traverses north of El Estero Lake from Park Avenue to Cortes Street is within Flood Zone AE.



Sources: FEMA, 2010

Figure 4.7-4: Flood Map 06053C0088G



Sources: FEMA, 2010

Figure 4.7-5: Flood Map 06053C0185G

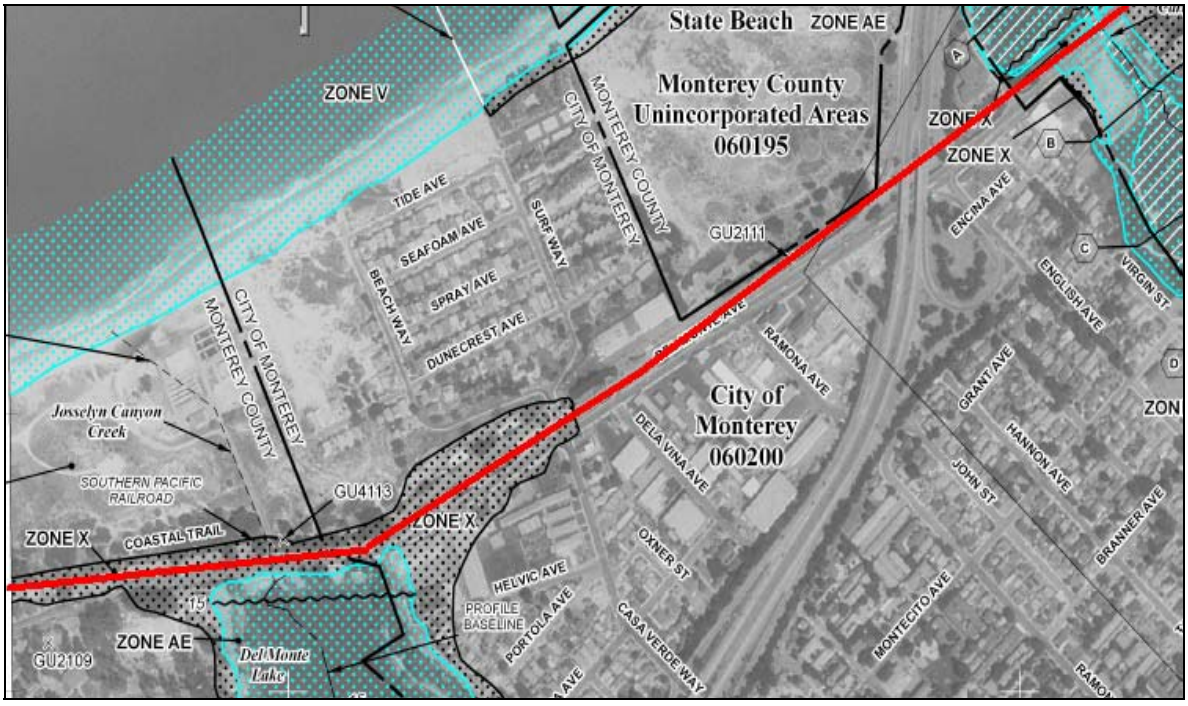


Figure 4.7-6: Flood Map 06053C0326G

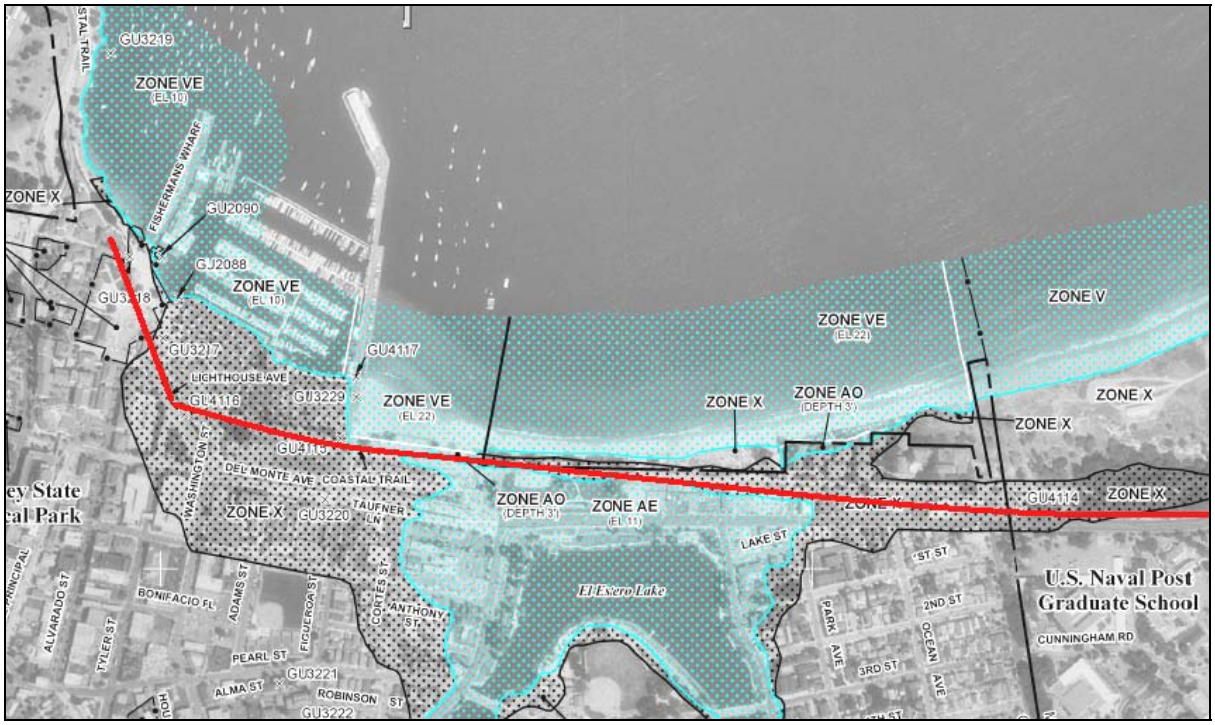


Figure 4.7-7: Flood Map 06053C0307G

Surface Water and Groundwater Quality

Surface Water Quality – As described above, the Central Coast RWQCB has adopted a Basin Plan and established water quality objectives to ensure the reasonable protection of beneficial uses and a program of implementation for achieving the water quality objectives within the basin. In California, the beneficial uses and water quality objectives are the State's water quality standards. Beneficial uses identified by the Central Coast RWQCB for water bodies within the proposed action alignment are identified on Table 4.7-1.

Water quality objectives are the limits or levels of water quality constituents or the characteristics of a waterbody that are established for the protection of the beneficial uses. Water quality objectives are either numeric limits or narrative objectives designed to ensure that bodies of water can support their designated beneficial uses. At concentrations equal to or greater than numeric objectives, constituents (or pollutants) are considered to have impaired the beneficial uses of the state's water.

As previously described above, CWA Section 303(d) mandates that states identify waters that do not meet, or are not expected to meet during the next listing cycle, applicable water quality standards after application of certain technology-based controls. Table 4.7-2 lists fresh water receiving bodies in the vicinity of the subject project that are listed by the SWRCB under Section 303(d). The year for proposed TMDL completion by water body is also provided in the table.

Table 4.7-1: Beneficial Uses of Potentially-Affected Water Bodies Located along the Proposed Action Alignment

Waterbody	Basin Plan Uses[1]															
	MUN	GWR	REC1	REC2	WILD	COLD	WARM	MIGR	SPWN	BIOL	RARE	EST	NAV	COMM	AQUA	SHELL
Elkhorn Slough			X	X	X	X	X	X	X	X	X	X	X	X	X	X
Moro Cojo Slough		X	X	X	X	X	X		X	X	X	X		X		X
Old Salinas River Estuary			X	X	X	X	X	X	X	X	X	X		X		X
Tembladero Slough			X	X	X		X		X		X	X		X		X
Robert's Lake	X		X	X	X	X	X							X		
Del Monte Lake	X		X	X	X		X							X		
El Estero Lake	X	X	X	X	X	X	X		X					X		
Salinas River Lagoon (N)			X	X	X	X	X	X	X	X	X	X		X		X

1. MUN = Municipal; GWR = Groundwater Recharge; REC1 = Water Contact Recreation; REC2 = Non-contact Water Recreation; WILD = Wildlife Habitat; COLD = Cold Freshwater Habitat; WARM = Warm Freshwater Habitat; MIGR = Migration of Aquatic Organisms; SPWN = Spawning, Reproduction and/or Early Development; BIOL = Preservation of Biological Habitats; RARE = Rare, Threatened or Endangered Species; EST = Estuarine Habitat; NAV = Navigation; COMM = Commercial and Sport Fishing; AQUA = Aquaculture; SHELL = Shellfish Harvesting

SOURCE: RWQCB 1994.

Table 4.7-2: Section 303(d) Listed Water Bodies

Water Body	Calwater Watershed	Pollutant/ Stressor	Potential Sources	Estimated Size Affected	Proposed TMDL Completion
Alisal Creek (Salinas)	30970093	Fecal Coliform	Agriculture	7.4 miles	2007
			Urban Runoff/Storm Sewers		
			Natural Sources		
			Nonpoint Sources		
		Nitrate	Source Unknown	7.4 miles	2007
Elkhorn Slough	30600014	Pathogens	Natural Sources	2034 acres	2015
			Nonpoint Source		
		Pesticides	Agriculture	2034 acres	2008
			Irrigated Crop Production		
			Agricultural-storm runoff		
			Agricultural Return Flows		
			Erosion/Siltation		
			Contaminated Sediments		
			Nonpoint Source		
		Sedimentation/ Siltation	Agriculture	2034 acres	2015
			Irrigated Crop Production		
			Agriculture-storm runoff		
			Channel Erosion		
			Nonpoint Source		
Lower Salinas River	30917000	Fecal Coliform	Source Unknown	31 miles	2007
		Nitrate as Nitrate (NO_3)	Source Unknown	31 miles	2019
		Nutrients	Agriculture	31 miles	2007
Tembladero Slough	30911010	Ammonia (Unionized)	Source Unknown	5 miles	2019
		Fecal Coliform	Agriculture	5 miles	2007
			Pasture Grazing-Riparian and/or Upland		
			Urban Runoff/Storm Sewers		
			Natural Sources		
		Nutrients	Agriculture	5 miles	2006
			Irrigated Crop Production		
			Agriculture-storm runoff		
			Agriculture-irrigation tailwater		
			Agricultural Return Flows		
			Nonpoint Source		

SWRCB, 2010

Groundwater Quality – The groundwater quality in the Salinas Valley basin is generally acceptable for most uses, with dissolved solids generally less than 800 miligrams (mg)/liter (Planert and Williams, 1995). However, the groundwater basins have been overdrafted due to intensive agricultural practices and urban growth. The water needs of the northern Salinas Valley currently exceed the natural recharge of the underlying aquifer, thus affecting both groundwater quantity and quality. Pumping in excess of replenishment has gradually lowered the ground water table, consequently decreasing the pressure gradient in the confined portion of the aquifer near the coast. The decreased pressure gradient has resulted in a landward hydraulic gradient, resulting in seawater intrusion. This effect has degraded the ground waters of the Pressure 180-Foot, and 400-Foot aquifers along the Coastal areas of the valley. High chloride levels have rendered the seawater-intruded ground waters too salty for municipal and agricultural use.

Efforts to halt the advancement of seawater intrusion have been implemented by the local water resources agency charged with management of the ground water resources. Some of the measures in place designed to help with the seawater intrusion problem, for example, include the implementation during the summer months of scheduled flow releases from two reservoirs located upstream on the Salinas River. The water releases are designed to augment the natural ground water recharge to the aquifers. Also, in lieu of ground water, growers are now using recycled water to irrigate crops farmed near the coastal areas of the valley. The purpose of using recycled water is to reduce or cease ground water pumping near the coast. The reduction in pumping is expected to raise the ground water levels of the aquifer and thus, stop and/or reverse the movement of seawater intrusion by maintaining the ground water hydraulic gradiet seaward.

Seawater intrusion into the Pressure Subarea was occurring at an annual rate of approximately 14,000 acre-feet per year (AFY) prior to initiation of operations of the Monterey County Water Recycling Projects (MCWRP). The MCWRP delivers recycled water as irrigation water for the Castroville Seawater Intrusion Project. As the MCWRP becomes fully operational, delivering approximately 13,300 AFY of recycled water, the annual rate of seawater intrusion is projected to decrease to approximately 8,800 AFY. (MCWRA, 2001)

4.7.4 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, hydrology and water quality impacts are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined not to result in potential impacts associated with hydrology or water quality.[36] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors already contributes to degraded water quality, but required operational BMPs implemented by Caltrans address these impacts.

Locally Preferred Alternative

Hydrology and Storm Drain Plans – The proposed action would require grading approximately 75 acres of which approximately 60 acres would be associated with track work. In this regard, it is noted that about 60 acres of the site would not reduce surface percolation, since no impervious surfaces

[36] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

(excluding rail and rail ties) would be constructed. In addition, improvements within the 15.2-mile-long proposed action alignment would involve only minor increases in impervious surfaces associated with the maintenance facility, stations and associated parking lots. Similarly, groundwater recharge would not be considerably affected during project operations.

Since the proposed action would entail upgrading of the existing MBL (i.e., proposed action alignment), it is anticipated that existing drainage flow patterns would be only slightly modified with the proposed action. The railroad track design would be used to address drainage conveyance and direct stormflows to culvert locations. The typical single ballasted track cross section is shown on Figure 4.7-8 while a typical double track ballasted track cross section is shown on Figure 4.7-9. As shown in these figures, since the center of the track is the high point, runoff percolates into the ballast to the compacted sub-ballast, where it flows longitudinally towards the swales on both sides of the tracks. The ballast is rock underlain by a sub-base that drains to perforated plastic pipes located on the outer sides of the tracks. The perforated plastic pipes are surrounded by permeable material, making the system act as an infiltration and conveyance trench. Water from the underdrains would then enter the local storm drain system and drain to area water bodies

The typical retained track cross section is shown in Figure 4.7-10. Figure 4.7-11 shows a typical ballasted double track section at an underpass. For these track types, an underdrain is proposed to be installed at both ends of the retained track. Since the center of the track is the high point, runoff percolates into the ballast to the compacted sub-ballast, where it flows longitudinally towards the far end and into the underdrains. The underdrain is connected to the outside drainage system to a runoff discharge point.

The proposed action would be designed so that runoff from the maintenance facility and stations and associated park-and-ride sites would not exceed pre-project conditions. Permanent BMPs would be implemented at these locations to retain and treat runoff before discharge to the storm drain system. With these controls in place during project operation, it is not anticipated that stormwater discharges from these sites would not exceed the capacity of existing or planned stormwater drainage facilities. Proposed drainage and stormwater BMPs may include media filters in the storm drain system, infiltration basins or infiltration trenches; however, these may not be practical depending upon site-specific soil and groundwater considerations and will be determined during final design.

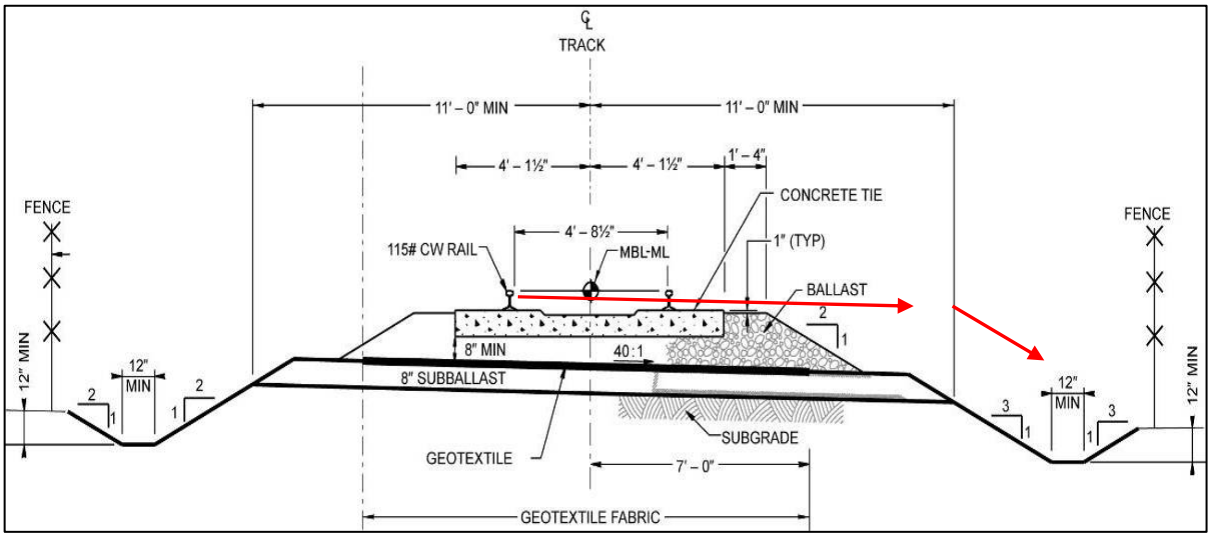


Figure 4.7-8: Single Track Ballasted Track Cross Section

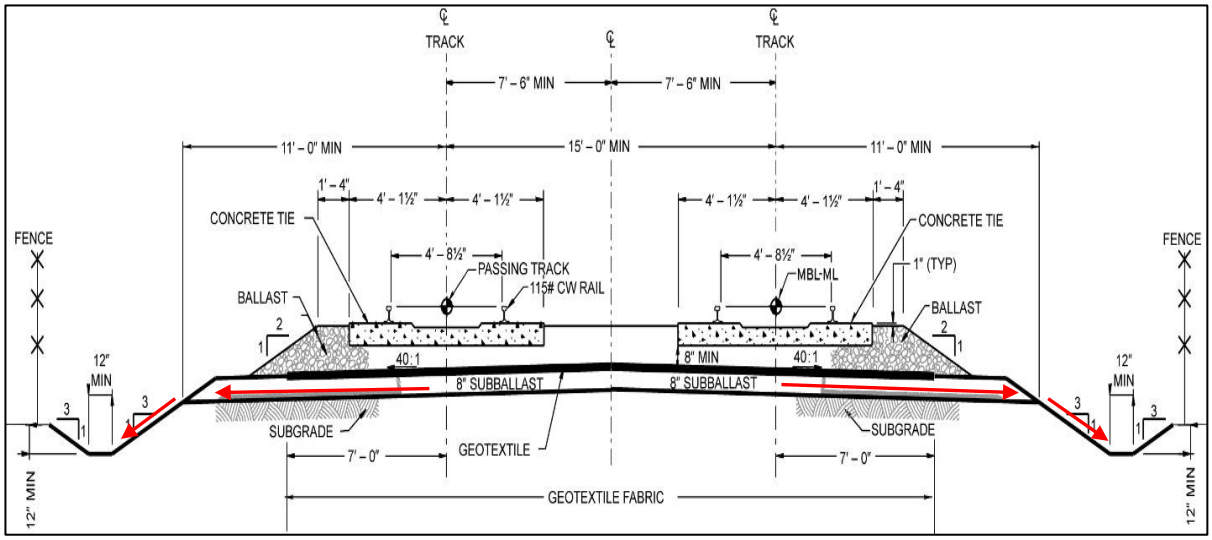


Figure 4.7-9: Double Track Ballasted Track Section

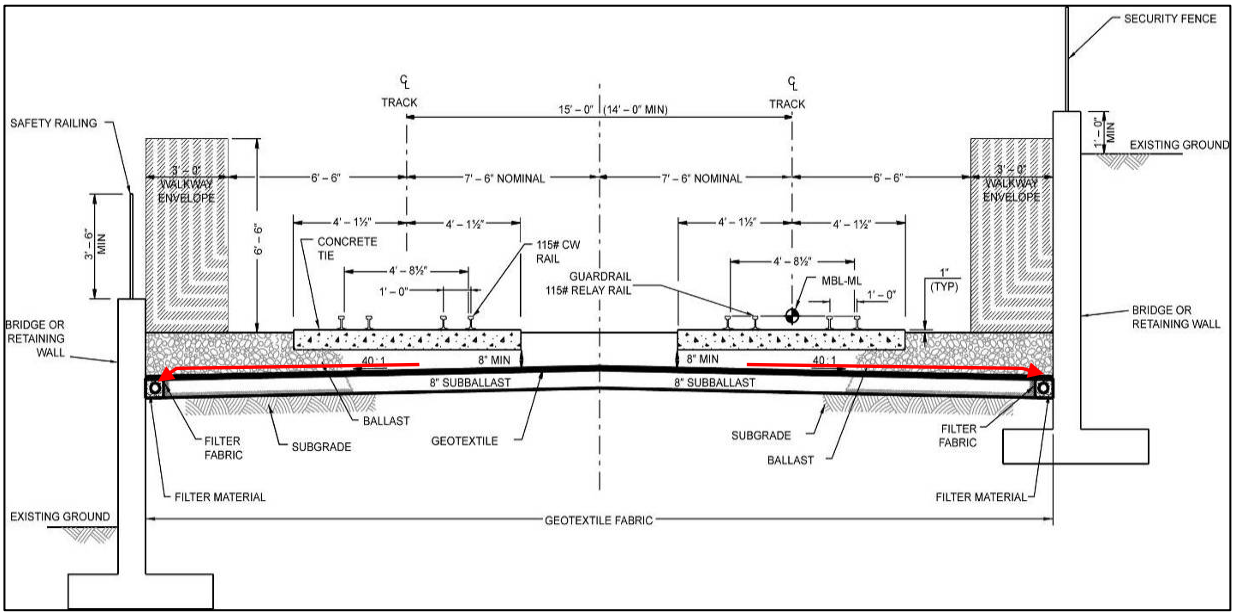


Figure 4.7-10: Typical Retained Track Section—Tangent

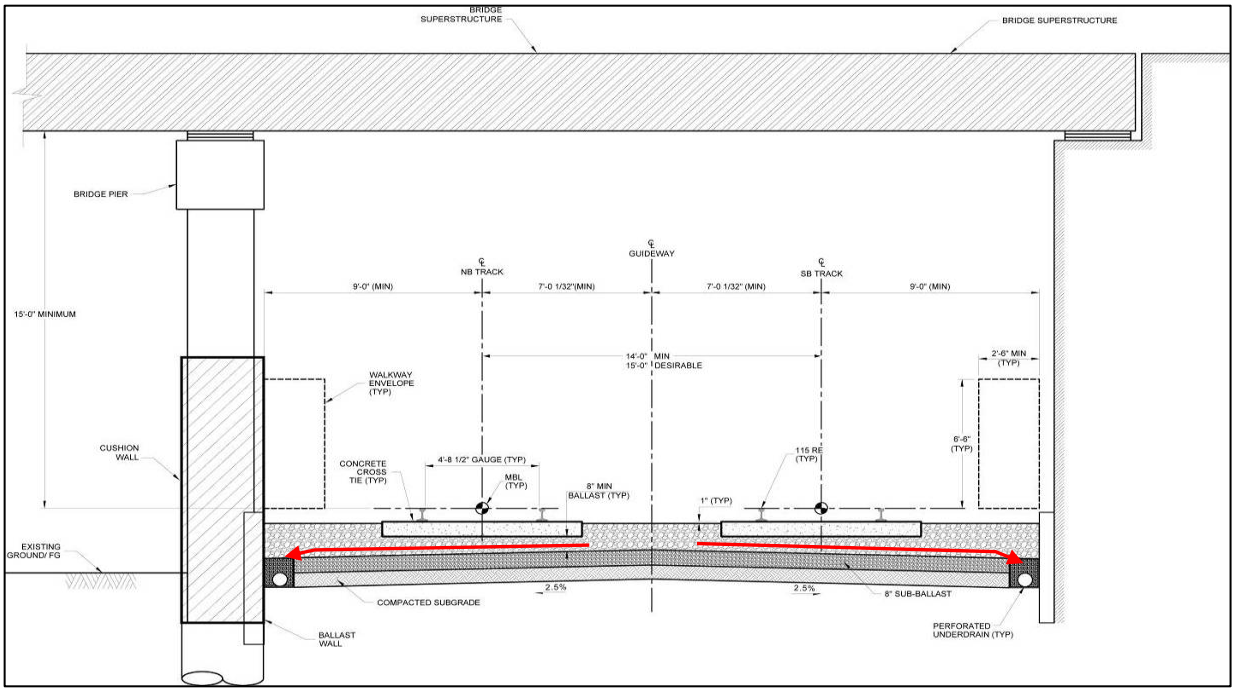


Figure 4.7-11: Ballasted Double Track Section at Underpass

New and replacement bridge and culvert crossings would be designed to accommodate storm event flows without increasing upstream water surface elevations. Culverts will be sized to accommodate the 100-year storm event with a time of concentration equal to the watershed time of concentration. The 100-year storm event would not overtop the embankment or headwall of the culvert. Specific drainage system upgrades would be determined during the project design stage. Given the considerations noted above, there would be no permanent hydraulic impact to the drainage network associated with the proposed action.

Floodplain and Flood Hazards – Regulations governing the NFIP (23 CFR 650, Subpart 6A, Section 650) were used as guidance for the evaluation of floodway impacts, which focuses on FEMA-defined floodways. As identified in Section 650.111, the following analysis follows the five location considerations to be examined for floodplain encroachments.

Risks associated with implementation of the action – The risks of flooding associated with the proposed action are very low. First, the floodplain areas affected by the proposed action are already occupied by a railroad facility; hence, existing drainage patterns would be retained and would not be affected by installation of new ballast, ties, or rail. In addition, the proposed maintenance facility, stations and associated parking lot, and passing track uses are all located either outside the floodplain or in Zone X. Furthermore, property protection measures as required by MCWRA, would be implemented prior to and during construction of any improvements within the floodplain. Given the above considerations, the proposed action would not be expected to expose people or structures to a significant risk of loss, injury or death due to flooding.

Impacts on natural and beneficial floodplain values – Major floodplains within the proposed action alignment are located across a 2.5 mile stretch between the Salinas River and Tembladero Slough. This area is proposed for existing facility (track and bridges) replacements only. Shorter floodplain crossings would occur at Roberts Lake and El Estero Lake in Monterey, and involve replacement track

and recreational trail relocation. Track replacement for restoration of train service across floodplains would neither alter the existing drainage regime nor result in any new encroachments. In accordance with the National Flood Insurance Program's (NFIP's) no-rise requirements, all bridge replacements would be designed to ensure that there is no increase in water surface elevation upstream. Therefore the proposed action would not impede or redirect flood flows. The proposed action would beneficially include the removal of sediment from several clogged culverts within the existing railroad right-of-way. The proposed action would incorporate both temporary and permanent BMPs as described above and in Chapter 5, Construction period Impacts. Based on this information, it is concluded that no long-term adverse impacts on natural beauty, outdoor recreation, aquaculture, natural moderation of floods, or water quality would result with implementation of the proposed action.

Support of probable floodplain development – The proposed action would restore passenger rail service along an existing rail line, which passes through or adjacent to several areas of 100-year floodplain. The existing railroad and recreational uses within floodplains along the railroad right-of-way would be retained. While the proposed action could induce development within the vicinity of the 12 planned stations, all of the station sites are located in urbanized areas and either outside of FEMA-designated floodplain area or in Zone X above the base flood elevation height. The design of the proposed facilities must conform to the requirements of the NFIP and policies established by the County Board of Supervisors, with the advice of the Monterey County Flood Control and Water Conservation District. Pre- and post-project hydraulic modeling of the project stations located either partially or entirely within Zone X (i.e., Blackie Road, Playa Avenue, Contra Costa Street, Casa Verde Way and Sloat Avenue) would be prepared during final design to evaluate the impact of the station platforms on the water surface elevations in the floodplains. Each station platform must be constructed to be at least one (1)-ft. above the base flood elevation. Given the above considerations, the proposed action would not increase the height or direction of flood flows due to the placement of structures within 100-year flood hazard areas. Work within the proposed action alignment would result in no substantial floodplain/floodway impacts.

Measures to minimize floodplain impacts associated with the action – At a number of locations (e.g., just south of Palm Avenue) where the proposed action alignment passes through narrow or isolated floodplains, TAMC would determine whether it is possible to avoid floodplain encroachment. In these areas, project designers would make an effort to adjust the locations of station platforms, recreational trails, and appurtenant railroad facilities. All bridge replacements would be designed to ensure that there is no increase in water surface elevation upstream. Therefore, the proposed action would not impede or redirect flood flows. The proposed action would beneficially include the removal of sediment from several clogged culverts within the existing railroad right-of-way. The proposed action would incorporate both temporary and permanent BMPs as described above and in Chapter 5, Construction Period Impacts. This would include measures for passive control and treatment of stormwater runoff from stations/stops, maintenance facility, and parking lots before discharge to the local storm drain system. Based on this information, it is concluded that the proposed action would not create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems.

Measures to restore and preserve the natural and beneficial floodplain values impacted by the action – The goal of hydraulic design for bridges and culverts is to convey surface and stream waters originating upstream of the drainage facility to the downstream side without causing objectionable backwater, excessive flow velocities, excessive scour, or unduly affecting traffic safety. The hydraulic drainage design criteria contained in the *Hydrology, Floodplain, Water Quality, and Stormwater Runoff Impact Analysis for the Monterey Peninsula Light Rail Project* have been developed to accomplish this goal.

Stormwater Runoff and Water Quality – Exposed soil and slopes could result in erosion and concentrated flow conveyance during storm events, resulting in on- and off-site erosion and downstream sedimentation into surface waters. The drainage designs would include erosion control measures to address site soil stabilization and reduce deposition of sediments in the adjacent surface waters. Typical measures include the application of soil stabilizers such as hydroseeding, netting, erosion control mats, rock slope protection and others.

Because of the nature of the light rail system, there would be very few pollutants of concern. Pollutants generated from the proposed action would be limited to the maintenance facility and stations and associated parking facilities and would include heavy metals, organic compounds (including petroleum hydrocarbons), sediments, trash and debris, and oil and grease. Without proper controls, diesel fuel during locomotive servicing at the maintenance facility could come into contact with stormwater. Process water such as steam cleaning, vehicle washing and floor wash-downs typically contain concentrations of oil and grease, detergents, chemicals, metals, and solid materials that could pass into the storm drain system. In accordance with the Municipal Permit and the General Construction Permit, Permanent BMPs would be designed into the project to control discharge of pollutants from the project site during operations. In addition, compliance with the General Industrial Permit would be required to be implemented to control discharges from the maintenance facility operation.

It should also be noted that placement of ballast and underdrains along the track would generally improve water quality since it would assist in filtering stormwater.

4.7.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

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4.8 Land Use and Planning

4.8.1 Introduction

This section describes the current land uses and local plans and policies relevant to the proposed action. It also addresses changes in current land uses that would result from the direct conversion of land, as well as the consistency of these changes with regionally adopted land use plans and policies. Information for this section was obtained from the *Monterey Peninsula Light Rail Project, Draft Community Impact Assessment*, September 2011 and the *Draft Monterey Peninsula Light Rail Project Coastal Zone Study,* December 2010 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.8.2 Regulatory Setting

Federal Regulations

There are no federal regulations related to land use and planning that are applicable to the proposed action.

State Regulations

California Coastal Act of 1976 – The California Coastal Act (CCA) was enacted by the State Legislature in 1976 to provide long-term protection of the state's 1,100-mile coastline for the benefit of current and future generations. The CCA defines the "coastal zone" as the area of the state which extends three miles seaward and generally about 1,000 yards inland. In particularly important and generally undeveloped areas where there can be considerable effects on the coastline from inland development, the coastal zone extends to a maximum of 5 miles inland from mean high tide line. In developed urban areas, the coastal zone extends substantially less than 1,000 yards inland. The Coastal Act created a unique partnership between the State (acting through the California Coastal Commission) and local government entities (15 coastal counties and 58 cities) to manage the conservation and development of coastal resources through a comprehensive planning and regulatory program. Coastal Act policies, the heart of the coastal protection program, constitute the standards used by the Commission in its coastal development permit decisions and for the review of local coastal programs (LCPs) prepared by local governments and submitted to the Commission for approval. Portions of the proposed action are located in the Coastal Zone and are therefore subject to the requirements of the Coastal Act.

Local Regulations

2010 Monterey County General Plan – The 2010 General Plan is the second comprehensive update since a plan was first adopted in 1968. Planning efforts contained in the 2010 General Plan have resulted in growth primarily in or around existing population areas and cities. The main objectives, past and present, are to provide direction for growth that supports continued viability of agricultural production and preserves as much of the County's scenic and environmental resources as possible. The General Plan serves as a guide to achieving the type of physical, economic and social environment desired by the citizens of Monterey County as growth continues to take place. The County's General Plan also serves several other important purposes. Among other things, it provides a comprehensive and sound database for implementation, project evaluation, administration, and monitoring; and a basis for collaborative planning initiatives by cities, special districts, County Departments and other agencies. The Monterey County General Plan encourages the development of LRT.

Greater Monterey Peninsula Area Plan – The Greater Monterey Peninsula Area Plan is one of eight area plans of the Monterey County 2010 General Plan which address more localized issues for the unincorporated areas of Monterey County located within the Greater Monterey Peninsula area (see Figure 4.8-1). An area plan may be more specific than the General Plan due to its geographic focus. Development opportunities, constraints, and natural resources of the Greater Monterey Peninsula Planning Area are unlike those in other parts of the County; hence the policies for this planning area are more precisely adapted to the characteristics of this area than are the more general policies of the General Plan. Although the proposed action lies within the jurisdiction of this Area Plan, there are no policies that are directly relevant to community impacts, as discussed in this EA/EIR.

Greater Salinas Area Plan – The Greater Salinas Area Plan is one of eight area plans of the Monterey County 2010 General Plan which address more localized issues for the unincorporated areas of Monterey County located within the Greater Salinas Area (see Figure 4.8-1). The Greater Salinas Area Plan seeks to strengthen the agricultural economy. Policies allow greater flexibility in the size and use of agricultural parcels. Additionally, agricultural land previously designated for urban uses have been re-designated as farmlands. Although the proposed action lies within the jurisdiction of this Area Plan, there are no policies that are directly relevant to community impacts, as discussed in this EA/EIR.

North County Area Plan – Land use planning in North County is directed by two separate documents, the North County Area Plan and the North County Land Use Plan (LUP) segment of the Local Coastal Program (LCP). Figure 4.8-1 identifies the areas of Monterey County that are within the North County Area Plan. Land use activities within the coastal zone, which encompasses about half of the North County Planning Area, are covered by the North County LUP/LCP, while the North County Area Plan has jurisdiction over the rest of the Planning Area. The North County LUP/LCP, which includes a community plan for Moss Landing and vicinity, was adopted by the Board of Supervisors and certified by the California Coastal Commission in 1982. Both North County plans together establish the framework for development and resource conservation in North County. Although the proposed action lies within the jurisdiction of this Area Plan, there are no policies that are directly relevant to community impacts, as discussed in this EA/EIR.

Castroville Community Plan – The Monterey County Housing and Redevelopment Office prepared the Castroville Community Plan (2007) for the community of Castroville in unincorporated Monterey County. The Castroville Community Plan serves as a long-range plan designed to direct growth and development in a manner that enhances the quality of life in the community of Castroville. The Community Plan identifies several areas for future growth and redevelopment that have been designated as “Opportunity Areas,” which include: Merritt Street Corridor Opportunity Area, Cypress Residential Opportunity Area, Commuter Train Station Opportunity Area, North Entrance Opportunity Area, and New Industrial Opportunity Area. The restoration of passenger rail service to Castroville is considered at length in the Castroville Community Plan.

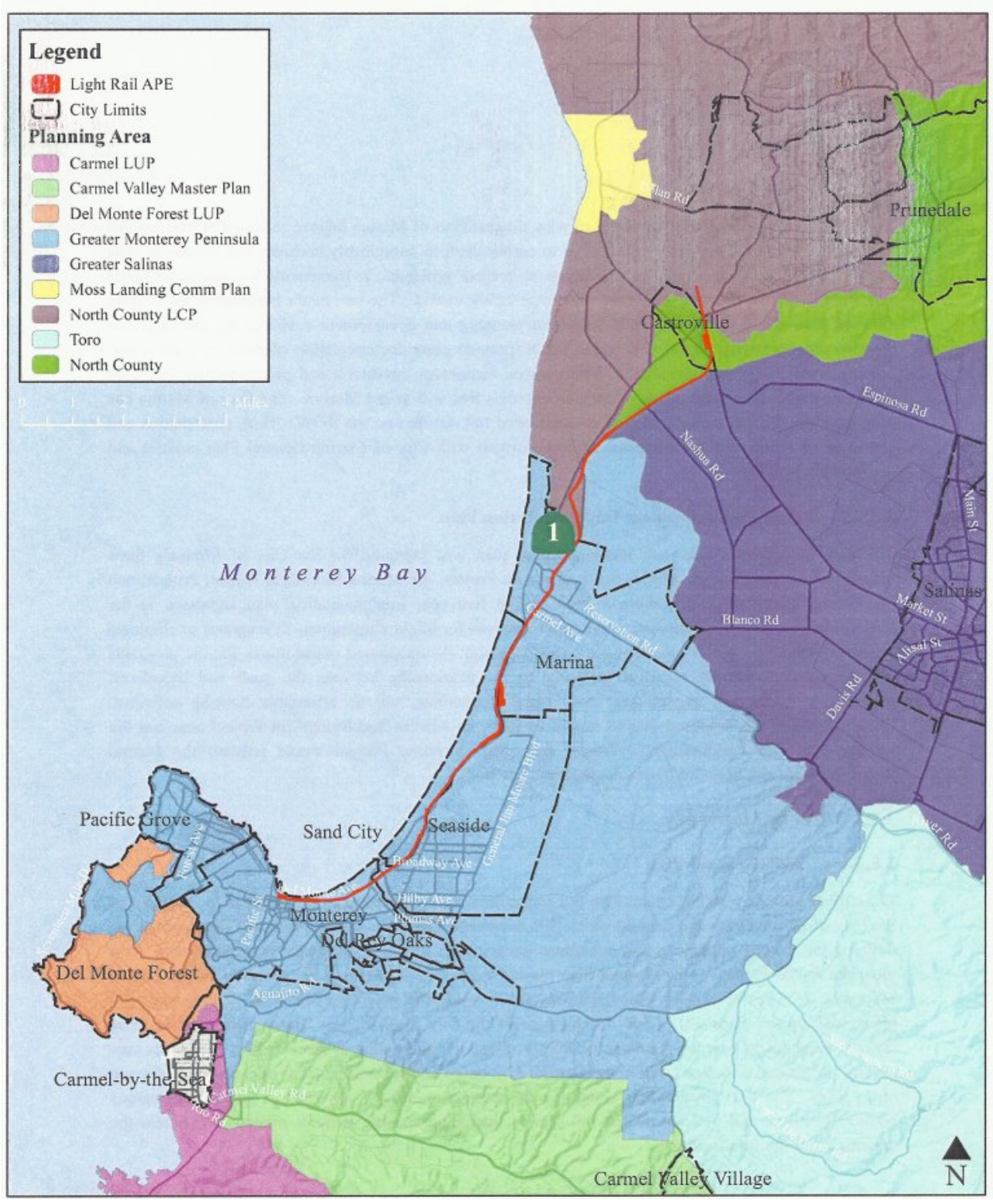


Figure 4.8-1: Monterey County Planning Areas

2006 City of Marina General Plan – The Marina General Plan is a statement of what the residents of Marina believe to be in the best interest of their community. Its primary purpose is to permit them to consciously consider and determine their future. Thus, the plan serves as a response to present problems, a framework for achieving future potentialities, and a means to conserve what is generally valued. The two major purposes of the Marina General Plan are to guide daily and long-term planning and development decisions by the City in a manner consistent with stated City goals and to provide clear documentation of the City's goals and commitments for private developers, homeowners, businesses, investors, and public entities that may want to carry on planning and development activities that will affect Marina. The City of Marina has long envisioned a rail terminal stop of restored rail services on the ROW. Thus, construction and operation of the project is anticipated to be consistent with City of Marina General Plan policies and surrounding land uses.

2006 City of Marina Redevelopment Implementation Plan – The City of Marina's five year implementation plan was prepared for the City of Marina's three redevelopment projects: the Marina Redevelopment Project, the Marina Municipal Airport Project, and the Former Fort Ord Redevelopment Project. The five year implementation plan addresses 1) the Redevelopment Agency's near-term goals and objectives for blight elimination; 2) programs to eliminate blight; 3) specific projects proposed for implementation; 4) anticipated expenditures for the programs including the specifically identified projects; 5) the relationship between the goals and objectives, projects, programs and expenditures and blight elimination; and 6) affordable housing activities. Development of the proposed action would transect the Marina Redevelopment Project area and the Former Fort Ord Redevelopment Project area. The proposed action would transect the Marina Redevelopment and Fort Ord Redevelopment project areas.

2005 City of Monterey General Plan – The City of Monterey 2005 General Plan is a comprehensive, long-term plan for physical development of the City of Monterey for the next 20 years. The document will act as a guide to future development by defining the location, intensity, and conditions under which future development is to take place. As a blueprint for development, the General Plan plays a major role in defining the character of the City of Monterey. A range of existing redevelopment plans, residential neighborhood plans, commercial area plans, and coastal plans also guide development in the City of Monterey. These plans provide more specific direction on how to implement general plan land use and policy in specific areas. The plans may modify the general direction given in the General Plan based on the specific needs of each area addressed in the plans. The 2005 General Plan anticipates the resumption of LRT services and contained numerous goals, objectives, and policies related rail service, including specific policies related to maintaining the existing MBL ROW for future rail use.

2003 City of Sand City General Plan – The Sand City 2003-2017 General Plan is a City Council development and redevelopment policy document that notifies the general public of the City's intent to become a contemporary Monterey Peninsula city, deserving of its gateway location on the southern portion of the Monterey Bay. The goals, policies, and implementation programs identified in the General Plan are intended gradually to phase-out heavy industrial uses in town with a preference for becoming a more pedestrian and residentially oriented community.

1987 City of Sand City Redevelopment Plan – The City of Sand City established adopted a Redevelopment Plan in 1987 with the goal of addressing past heavy industrial activities, including sand mining along the coastline. The Redevelopment Area analyzed in the 1987 Redevelopment Plan encompasses all of Sand City and provides the agency with powers, duties, and obligations to implement and advance redevelopment, rehabilitation, and revitalization of the "project area". The plan does not present a specific development plan; but rather, it presents a process and basic framework, including policies and goals, within which specific project plans can and will be presented and

considered on a case-by-case basis. The proposed action is located within the Sand City Redevelopment Area.

2003 City of Seaside General Plan – Seaside's 2003 General Plan serves as the 'blueprint' for future growth and development, containing policies and programs that provide the community's decision makers with a basis for decisions related to land use and development. In accordance with State law, the General Plan is the primary document that the City uses to guide and regulate the use of land within its boundaries. The General Plan consists of a Land Use Policy Map and eight mandatory Elements, or chapters. Seaside's General Plan also contains two non-mandatory Elements that assist in furthering the aesthetic quality and economic prosperity of the community: Urban Design and Economic Development. The 2003 General Plan recognizes the unique opportunities of restoring rail service within the City of Seaside along the existing MBL ROW.

1996 City of Seaside Merged Redevelopment Area Implementation Plan – The Redevelopment Agency of the City of Seaside's Merged Redevelopment Project Area includes a large portion of the community's original incorporated area or Seaside "proper". The Merged Area Implementation Plan was adopted in 1996 and authorizes the use of eminent domain powers in a limited portion of the merged project area. The Merged Redevelopment Project Area includes most of the downtown commercial areas along Fremont and Del Monte Boulevards and Broadway Avenue as well as many of the core residential neighborhoods east and west of Fremont Boulevard. This Plan sets forth the immediate goals and programs for the Merged Project Area with reference to specific projects and housing objectives. The proposed action would transect portions of the Merged Redevelopment Project Area.

2008 Seaside-Fort Ord Redevelopment Project Area Implementation Plan – The City of Seaside created the Former Fort Ord Redevelopment Project Area in 2002 in order to address issues associated with the redevelopment of portions of Seaside located in the former Fort Ord military base. The Fort Ord Redevelopment Project Area includes all of former Fort Ord military base lands (approximately 3,937 acres) within the jurisdiction of the city of Seaside. The primary intent of the Implementation Plan is to provide a coherent description of short-range redevelopment programs and activities, while also identifying how specific redevelopment activities and programs and reduce the incidence of blight. Components of the proposed action (proposed maintenance facility and station stops) would be located within the Former Fort Ord Redevelopment Project area and redevelopment projects would be within close proximity to the proposed action alignment and LRT stations.

4.8.3 Affected Environment

Existing Land Use

Figures 4.8-2 and 4.8-3 depicts generalized zoning and land use classifications within the proposed action study area. Table 4.8-1, provides a summary of land uses by local jurisdiction within the proposed action area.

County of Monterey – Land uses north of the city of Marina are agricultural. Within and around Castroville the land uses are primarily agricultural, low to medium density residential, and industrial uses (proposed station area).

City of Marina – Land uses adjacent to the proposed action corridor and proposed station areas include residential, commercial, industrial, and public uses.

City of Sand City – Land uses adjacent to the proposed action corridor and proposed station areas include residential, commercial, and industrial uses.

City of Seaside – Land uses surrounding the proposed action corridor and station areas include residential, commercial, and institutional uses.

City of Monterey –Land uses adjacent to the proposed action corridor and proposed station areas include predominately residential, visitor-serving commercial, institutional, and open space uses.

Developable Lands and Development Trends

AMBAG population, housing, and employment forecasts (2008) indicates that Monterey County is expected to experience continued growth, despite the current economic climate, over the course of the next 20 years. While population, housing, and employment growth will be contingent upon the rate of economic recovery, significant additional growth is anticipated to occur within the jurisdictions that would be served by the proposed action, particularly those areas within the former Fort Ord military base where significant developable land exists.

The rate and scale of future development, however, is likely to vary significantly due to environmental (i.e. water supply, traffic, infrastructure, etc.) and planning constraints. Full build-out on the Monterey Peninsula is significantly constrained by a lack of a reliable long-term water supply. The timing and rate of development will also be influenced by economic factors, such as the recovery of the housing market. In areas where environmental considerations (i.e. water supply, traffic, etc.) are not significant obstacles to development, economic factors will presumably influence the timing and rate of new development.

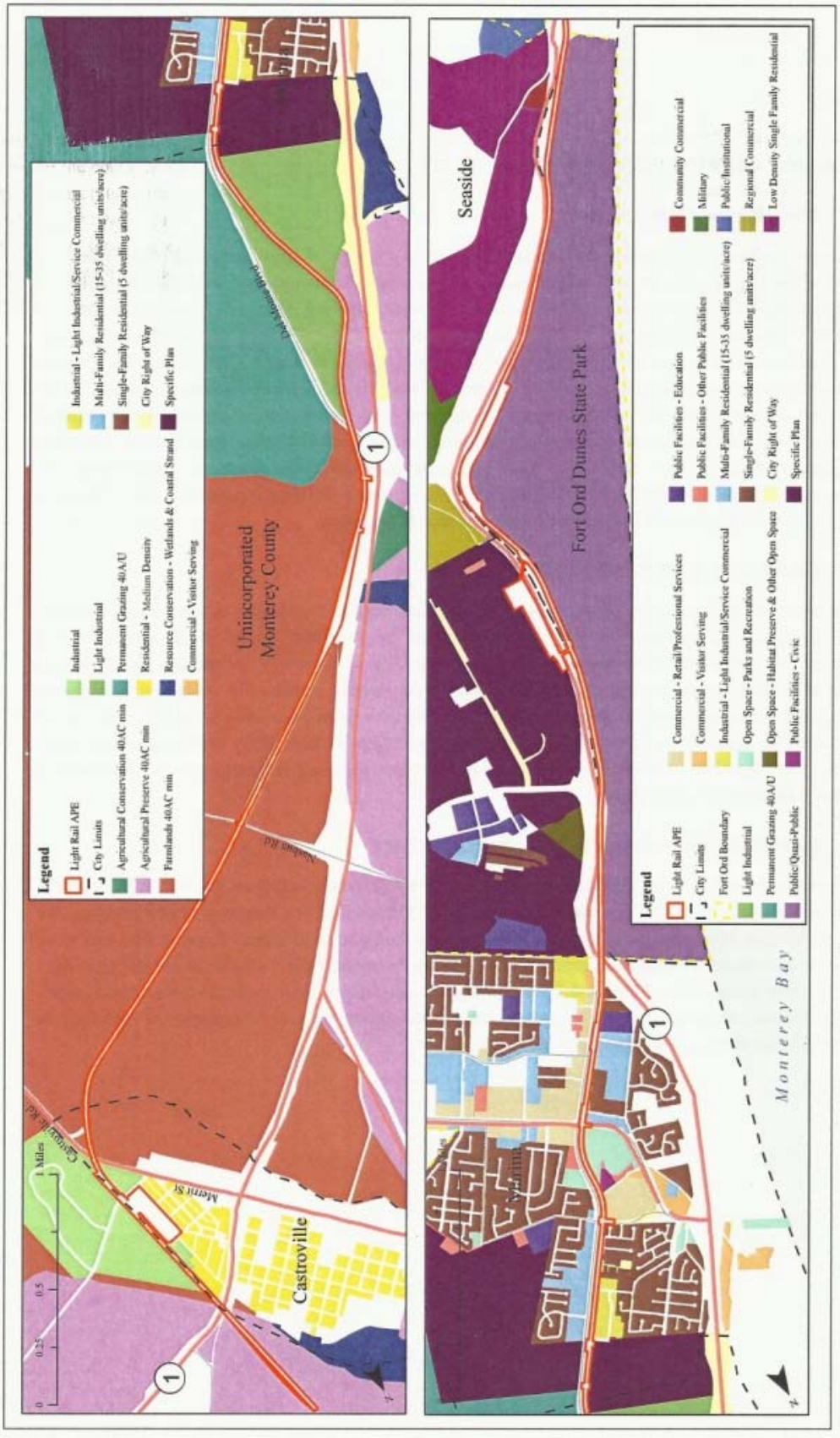


Figure 4.8-2: Surrounding Land Uses

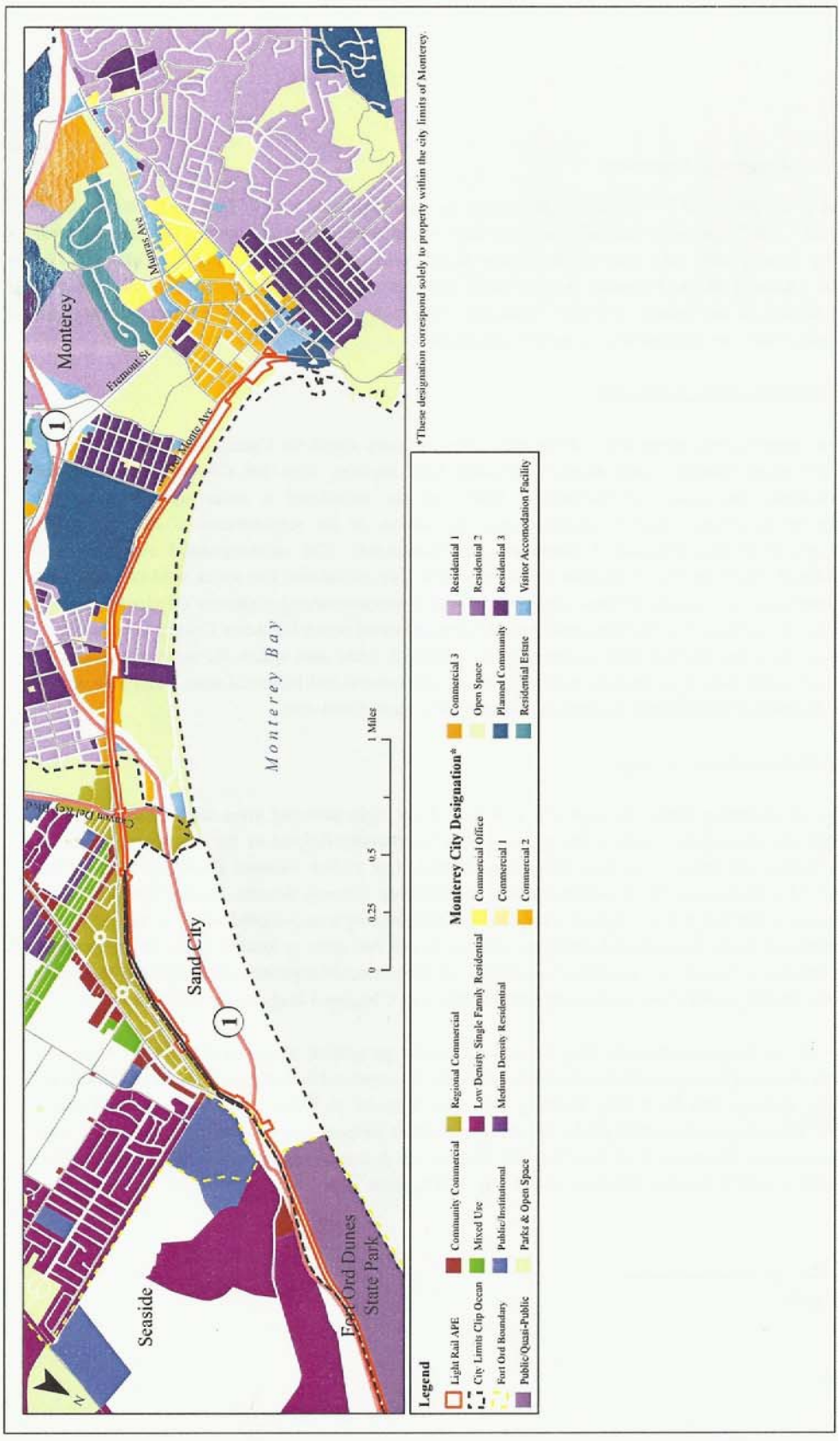


Figure 4.8-3: Surrounding Land Uses

Table 4.8-1: Summary of Land Uses within One-Half Mile of the Proposed Action Alignment by Jurisdiction

Jurisdiction	Land Uses
Castroville	• Medium-Density Residential • Farmlands • Resource Conservation • Industrial
Unincorporated Monterey County	• Farmlands • Agricultural Preserve • Agricultural Conservation • Resource Conservation • Permanent Grazing • Light Industrial
City of Marina	• Single-Family Residential • Multi-Family Residential • Public Facilities - Education • Commercial • Industrial • Public Facilities • Open Space
City of Sand City	• Public (State Park)
City of Seaside	• Regional Commercial • Community Commercial • Public Facilities • Military • Public/Institutional • Single-Family Residential • Mixed-Use • Medium Density Residential
City of Monterey	• Open Space • Commercial • Residential • Planned Community • Visitor Accommodation Facility • Residential Estate
Source: Denise Duffy & Associates, 2010.	

Major Approved and Pending Projects

Major approved and active projects in the project vicinity were previously indentified in Table 2.1-6. Significant additional residential, commercial, industrial, and institutional development is anticipated to occur within the project vicinity. As noted above, the rate of new construction has slowed significantly due to the current economic climate; therefore the timing of these projects may vary significantly.

4.8.4 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative land use and planning impacts would be anticipated to be similar to those identified for the proposed action and would also be subject to general plan, municipal code and California Coastal Commission consistency determinations. However, impacts could vary depending on site specific conditions and the type of project proposed. As such, these proposed projects would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to be consistent with land use planning goals and objectives of the applicable general plans and municipal codes. This project was not located within the coastal zone and as such, was not evaluated for Coastal Act consistency.[37] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors include limited stops and are located within existing bur or rail facilities. Any planned improvements associated with new or expanded facilities would be subject to local land use planning controls and processes.

Locally Preferred Alternative

Appendix A, Land Use and Planning Consistency Analysis contains a consistency analysis for the proposed action relative to applicable land use policies for the jurisdictions in which it is planned to be implemented.

As noted in Appendix A, the proposed action would be consistent with land use policies contained within the applicable general plans in which it is proposed. As such, no adverse impacts to land use and planning would result with implementation of the proposed action.

The *Draft Monterey Peninsula Light Rail Project Coastal Zone Study* (see Appendix A, Table 1), determined that the proposed action was consistent with Californian Coastal Commission goals, policies, and objectives. As such, no adverse impacts to land use and planning policies of the Coastal Act would result with implementation of the proposed action.

4.8.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

[37] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

4.9 Agricultural Resources

4.9.1 Introduction

This section describes the agricultural resources within the proposed action corridor that may be affected by operation of the proposed action. Information for this section was derived from the *Monterey Peninsula Light Rail Project, Draft Community Impact Assessment*, September 2011 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.9.2 Regulatory Setting

Federal Regulations

Farmland Protection Policy Act of 1981 – The Farmland Protection Policy Act (FPPA) is intended to minimize the impact Federal programs have on the irreversible conversion of farmland to nonagricultural uses. It assures that—to the extent possible—Federal programs are administered to be compatible with state and local units of government, and private programs and policies to protect farmland. Federal agencies are required to develop and review their policies and procedures to implement the FPPA every two years. The FPPA does not authorize the Federal Government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be used forest land, pastureland, cropland, or other land, but not water or urban built-up land.

State Regulations

California Land Conservation Act of 1965 (The Williamson Act) – The California Land Conservation Act of 1965—commonly referred to as the Williamson Act—enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments which are much lower than normal because they are based upon farming and open space uses as opposed to full market value. Local governments receive an annual subvention of forgone property tax revenues from the state via the Open Space Subvention Act of 1971.

Local Regulations

Monterey County Right-to-Farm Ordinance – The Monterey County Board of Supervisors adopted the Right-to-Farm Ordinance on July 10, 1990. This ordinance was established to ensure that agricultural operations performed in a manner consistent with proper and accepted customs and standards be allowed to continue. Those residents that choose to reside adjacent to these uses shall be prepared to accept such inconveniences when they occur. If there is an agricultural operation that does not appear to be consistent with accepted practices, any person may file a complaint with the Agricultural Commissioner.

4.9.3 Affected Environment

The majority of the proposed action alignment is located within the existing urbanized areas of the cities of Marina, Monterey, Sand City, and Seaside; agricultural uses are limited to the unincorporated areas of Monterey County. Phase 2 of the proposed action will extend LRT services from the northern portion

of the city of Marina to the unincorporated community of Castroville. The existing MBL ROW traverses or is located immediately adjacent to Prime Farmland, Farmland of Statewide Importance, and Grazing Land in the areas of Castroville and Armstrong Ranch (located north of the city of Marina) (see Figure 4.9-1).

These agricultural areas are characterized by cultivated strawberry and artichoke fields, as well as large expanses of grazing land. Produce grown and processed in the region is distributed nationwide and to 40 countries across the globe, primarily Canada, Mexico, Japan, and China. According to the California Department of Conservation Monterey County Williamson Act Lands Map (2007), there are no lands under Williamson Act contract within the proposed action corridor. However, a portion of the existing MBL ROW alignment (in the vicinity of the Armstrong Ranch area [see Figure 4.9-1]) is located adjacent to land currently enrolled under Williamson Act contracts.

Monterey County contains some of the most productive farmland in the United States. The County's agricultural economy ($3.8 billion in 2008) is the fourth largest in California (California Department of Food and Agriculture, California Agricultural Resource Directory, 2009). The Salinas Valley—stretching 150 miles long and running the length of the County accounts for nearly all the agricultural production in the County. The unique geography of the Salinas Valley allows for the production of cool-season vegetable crops due to the marine influence that produces abundant summer fog. The marine influence diminishes with distance from the ocean, producing a gradient of climate that allows for the production of a wide range of crops. Monterey County agriculture is notable for its diversity of crops, many of which are grown year-round. Approximately 45 commodities in the County have a gross value of more than $1 million each. The highest percentage of farmland acreage consists of cool-season vegetables, including lettuce, broccoli, spinach, cauliflower, artichokes, and celery.

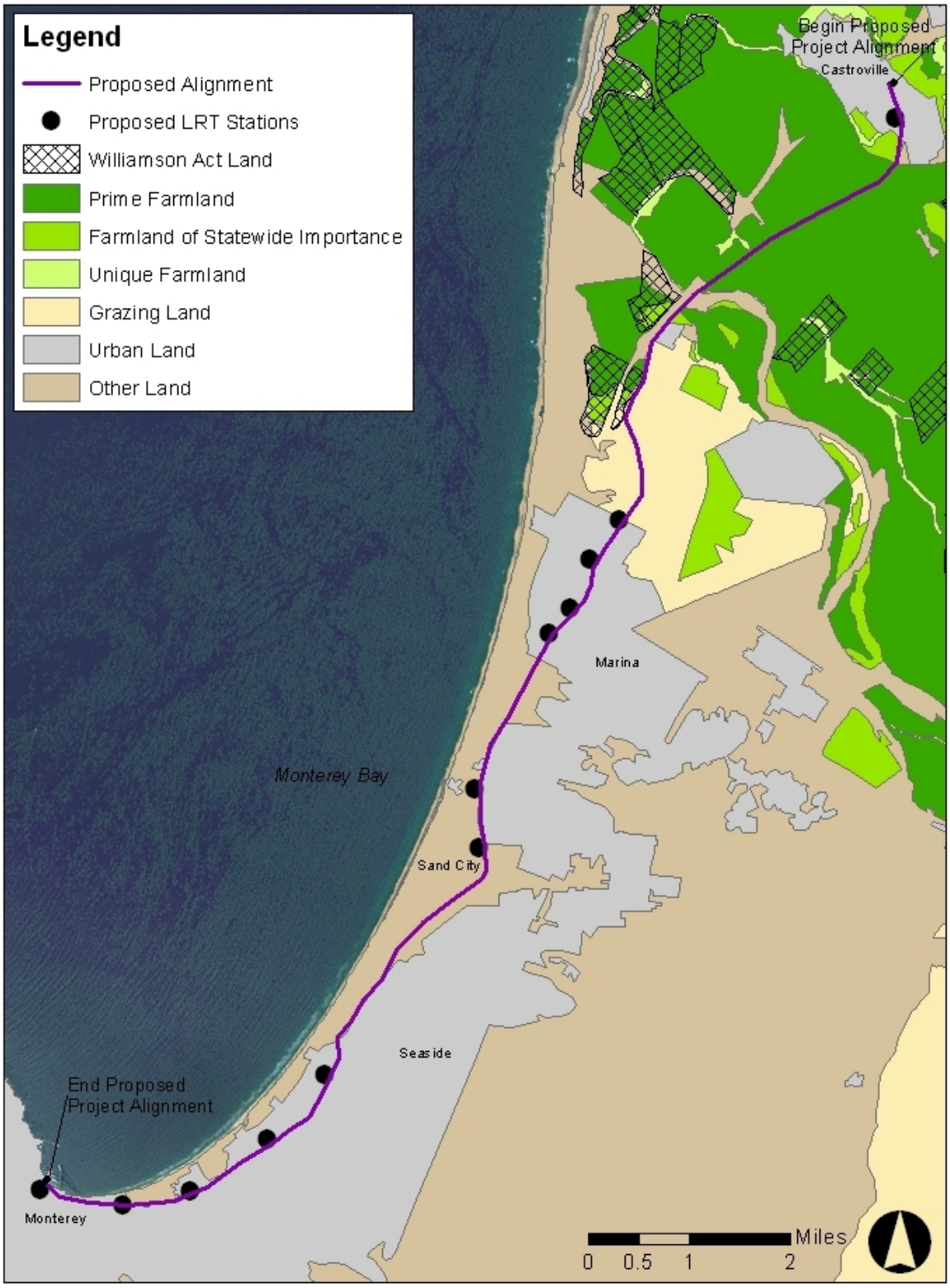
Farmland Mapping

The Farmland Mapping and Monitoring Program (FMMP) produce maps and statistical data that are used for analyzing impacts on California's agricultural resources. The FMMP produces Important Farmland Maps, which are a hybrid of resource quality (soils) and land use information. The Important Farmland Maps identify five agricultural-related categories, plus two non-agricultural listings: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban Land, and Other Land. Figure 4.9-1 shows Important Farmland along the proposed action alignment. Each category is summarized below:

Prime Farmland – Land that has the best combination of physical and chemical characteristics for crop production. It has the soil quality, growing season, and moisture needed to produce sustained high yields of crops when appropriately treated and managed.

Farmland of Statewide Importance – Land other than Prime Farmland that has a good combination of physical and chemical characteristics for crop production.

Unique Farmland – Land that does not meet the criteria for Prime Farmland or Farmland of Statewide Importance which has been used for the production of specific high economic value crops.



Source: Parsons and Department of Conservation, 2011

Figure 4.9-1: Important Farmland Map

Farmland of Local Importance – Land that is either currently producing crops, or has the capacity of production, and does not meet the criteria of the categories above.

Grazing Land – Land which the existing vegetation, grown naturally or through management, is suited for the grazing of livestock.

Urban Land – Land which is currently occupied by structures with a building density of at least one unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel.

Other Land – Land not included in any mapping category which may be low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry or aquaculture facilities; strip mines and borrow pits; and water bodies smaller than forty acres. Vacant and non-agricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

As of 2008, there were more than 1.3 million acres of agricultural lands in the County, representing more than 60 percent of the total land area; 234,669 acres are identified as Important Farmland and 1,066,494 acres are identified as Grazing Land by the California Department of Conservation (DOC, 2008). As of 2007, approximately 763,396 acres of Monterey County farmlands were protected under Williamson Act, Farmland Security Zone, or other enforceable restrictions.[38] During the past 20 years, the total acreage of land in agricultural use has remained relatively constant.

4.9.4 Impact Analysis

No Action/No-Build Alternative

Agricultural resources affected by the No Action/No-Build Alternative are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. No farmland impacts were identified for the Commuter Rail Extension to Monterey County.[39] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors is not anticipated to result in adverse impacts since these activities would likely not require the use of agricultural lands and would be subject to local land use regulations addressing farmland impacts.

Locally Preferred Alternative

The proposed action does not include station locations or activities within areas containing agricultural resources. Therefore, the operation of the proposed action would be compatible with nearby agricultural operations. In addition, no Williamson Act land would be directly affected by the proposed action.

4.9.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

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[38] According to the State of California Department of Conservation, a farmland security zone is an area created within an agricultural preserve by a board of supervisors upon request by a landowner or group of landowners.

[39] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

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4.10 Noise and Vibration

4.10.1 Introduction

This section addresses potential noise and vibration impacts due to operation of the proposed action. It is based upon information contained within the *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, January 2011 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.10.2 Regulatory Setting

NEPA establishes a broad mandate for federal agencies to incorporate environmental protection and enhancement measures into the programs and projects they help finance. To this end, FTA has established general policies and procedures to evaluate potential environmental affects which may result from transit projects and which are embodied in its *Transit Noise and Vibration Impact Assessment*, 2006. Similarly, CEQA establishes criteria for noise evaluation and analysis, as contained in Appendix G of the *California CEQA Guidelines*. Local noise ordinances are also evaluated in this section of the EA/EIR.

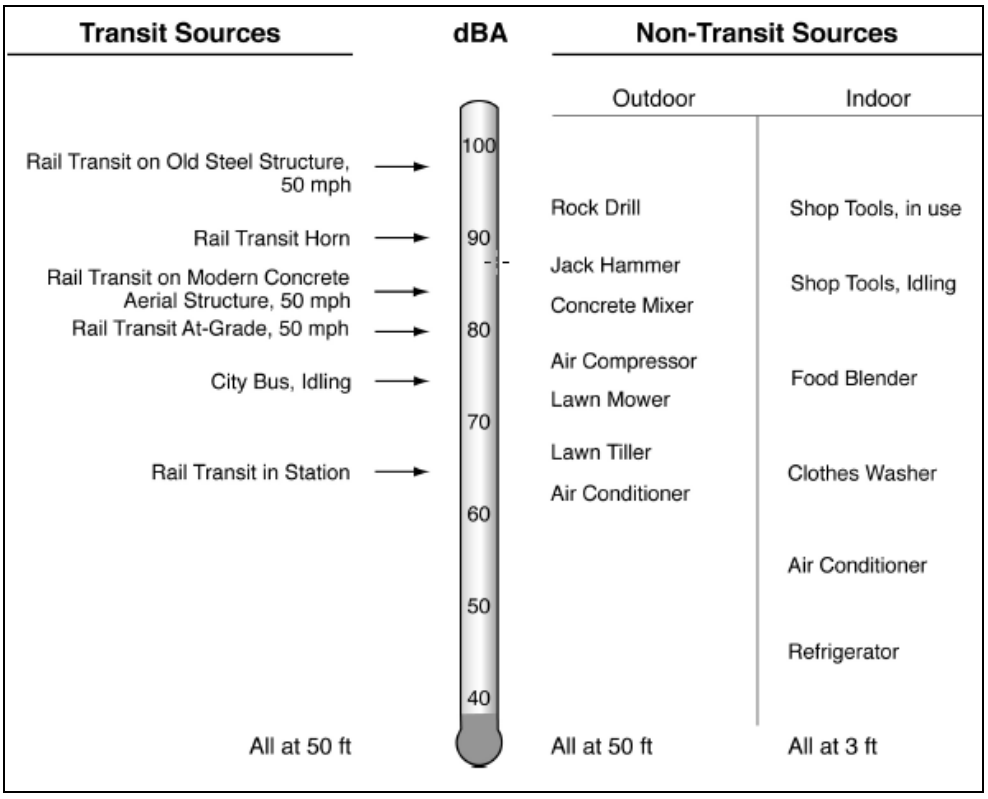
4.10.3 Noise and Vibration Characteristics and Measurement Standards

Noise is usually defined as sound that is undesirable because it interferes with speech communication and hearing, or is otherwise annoying. Under certain conditions, noise may cause hearing loss, interfere with human activities, and in various ways may affect people's health and well being.

The decibel (dB) is the accepted standard unit for measuring the amplitude of sound because it accounts for the large variations in sound pressure amplitude. When describing sound and its effect on a human population, A-weighted (dBA) sound pressure levels are typically used to account for the response of the human ear. The term "A-weighted" refers to a filtering of the noise signal in a manner corresponding to the way the human ear perceives sound. The A-weighted noise level has been found to correlate well with people's judgments of the noisiness of different sounds and has been used for many years as a measure of community noise. Figure 4.10-1 illustrates typical A-weighted sound pressure levels for various noise sources.

Another amplitude descriptor of sound, the day-night average sound pressure level (L_{dn}), was developed to evaluate the cumulative or total daily community noise environment. The L_{dn} is a 24-hour average sound pressure level with a 10-dB time-of-day weighting added to sound pressure levels in the nine nighttime hours from 10:00 p.m. to 7:00 a.m. This nighttime 10-dB adjustment is an effort to account for greater nighttime sensitivity to noise. The FTA uses L_{dn} to evaluate transit noise impacts on residential land uses for both construction and operation.

The descriptor for cumulative one-hour exposure is the Equivalent Sound Level L_{eq}. It is an hourly measure that accounts for the moment-to-moment fluctuations in A-weighted sound levels due to all sound sources during that hour, combined. The FTA uses L_{eq} to evaluate transit noise impacts on non-residential land uses for both construction and operation.



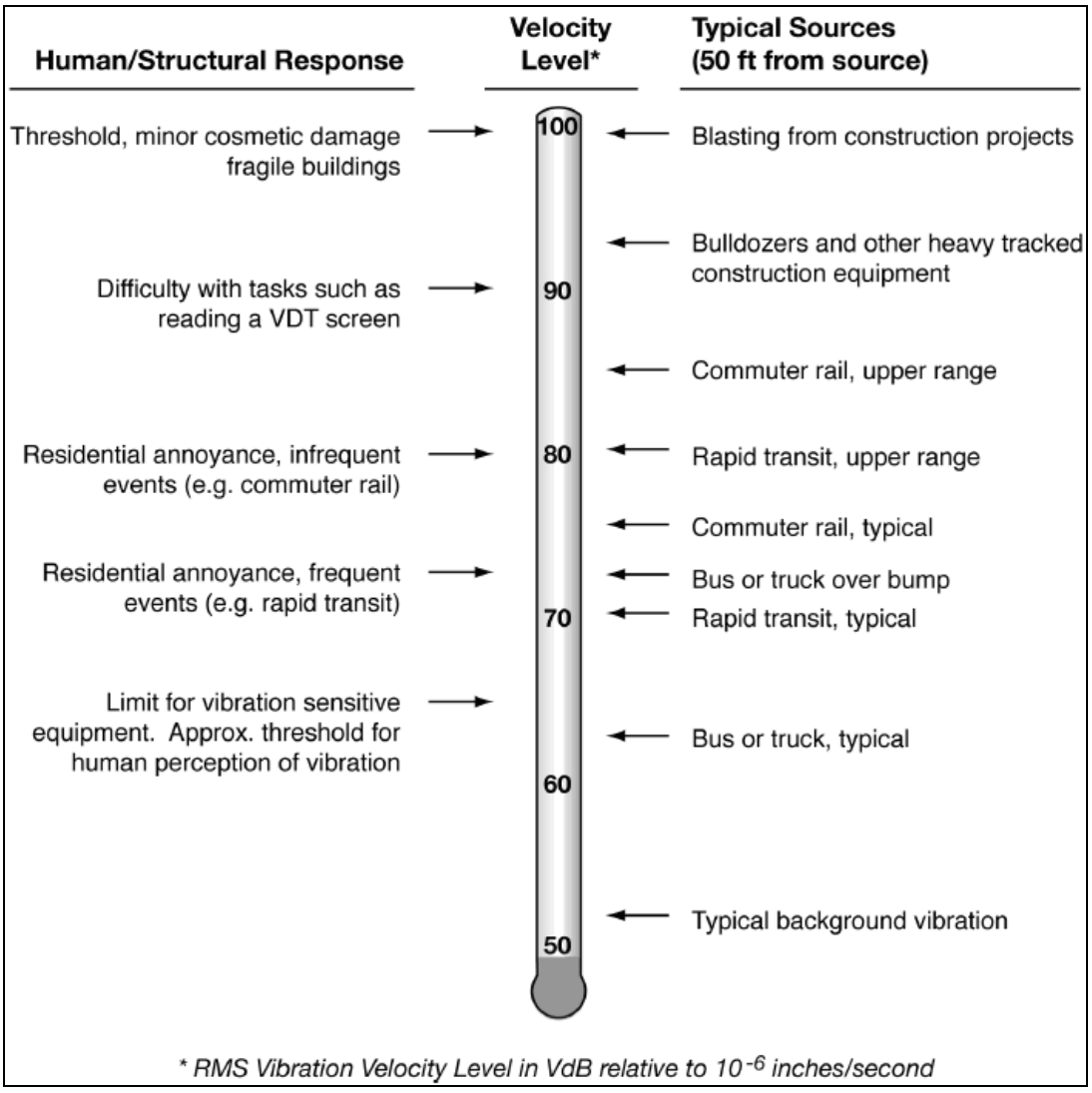
Source: FTA, 2006

Figure 4.10-1: Typical A-Weighted Sound Levels

Vibration is an oscillatory motion, which can be described in terms of displacement, velocity, or acceleration. Displacement, in the case of a vibrating floor, is simply the distance that a point on the floor moves up or down from its static position. Velocity is the instantaneous speed of the floor movement and acceleration is the rate of change of the speed. The response of humans, buildings, and equipment to vibration is normally described using velocity or acceleration.

Vibration amplitudes are usually expressed as either peak particle velocity (PPV) or the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous peak of the vibration signal. The RMS of a signal is the average of the squared amplitude of the signal. Although PPV is appropriate for evaluating the potential for building damage, it is not suitable for evaluating human response. Since it takes some time for the human body to respond to vibration signals, RMS amplitude is more appropriate to evaluate human response to vibration than PPV. The RMS vibration velocity level in decibels (VdB) is used to describe human annoyance criteria and impacts and uses a reference quantity of 1 micro-inch per second. Decibel notation acts to compress the range of numbers required in measuring vibration.

Figure 4.10-2 illustrates the typical levels of ground-borne vibration and associated sources and the human and building structural responses. As shown in Figure 4.10-2, the threshold of perception for human response is approximately 65 VdB; however, human response to vibration is not usually considered significant unless the vibration exceeds 70 VdB. Vibration tolerance limits for sensitive instruments, such as Magnetic Resonance Imaging or electron microscopes, could be much lower than the human vibration perception threshold.



Source: FTA, 2006

Figure 4.10-2: Typical Levels of Ground-borne Vibration

4.10.4 Noise and Vibration Sources

Transit noise is generated by transit vehicles in motion. Vehicle propulsion units generate: (1) whine from electric control systems and traction motors that propel rapid transit cars, (2) diesel-engine exhaust noise, from both diesel-electric locomotives and transit buses, (3) air-turbulence noise generated by cooling fans, and (4) gear noise. Additional noise of motion is generated by the interaction of wheels/tires with their running surfaces. Tire noise from rubber-tired vehicles is significant at normal operating speeds. The interaction of steel wheels and rails generates three types of noise: (1) rolling noise due to continuous rolling contact, (2) impact noise when a wheel encounters a discontinuity in the running surface, such as a rail joint, turnout or crossover, and (3) squeal generated by friction on tight curves.

Noise is generated by transit vehicles even when they are stationary. For example, auxiliary equipment often continues to run even when vehicles are stationary – equipment such as cooling fans on motors, radiator fans, plus hydraulic, pneumatic and air-conditioning pumps. Also, transit buses are often left idling in stations or storage yards. Noise is also generated by sources at fixed-transit facilities. Such sources include ventilation fans in transit stations, in subway tunnels, and in power substations, equipment in chiller plants, and many activities within maintenance facilities and shops.

Transit vehicles are equipped with horns and bells for use in emergency situations and as a general audible warning to track workers and trespassers within the right-of-way as well as to pedestrians and motor vehicles at highway grade crossings. Horns and bells on the moving transit vehicle, combined with stationary bells at grade crossings can generate noise levels of concern to nearby residents.

Most perceptible indoor vibration is caused by sources within the buildings themselves, such as operation of mechanical equipment, movement of people, or slamming of doors. Typical outdoor sources of perceptible ground-borne vibration are construction equipment, steel-wheeled trains, and traffic on rough roads. Ground-borne vibration, if not properly managed, can be a serious concern for neighbors adjacent to a transit system route or maintenance facility, potentially causing buildings to shake and rumbling sounds to be heard. The effects of ground-borne vibration include movement of the building floors, rattling of windows, shaking of items on shelves or hanging on walls, and rumbling sounds. In extreme cases, the vibration can cause damage to buildings. However, for a typical project, it is highly unlikely that building damage caused by train operations would occur.

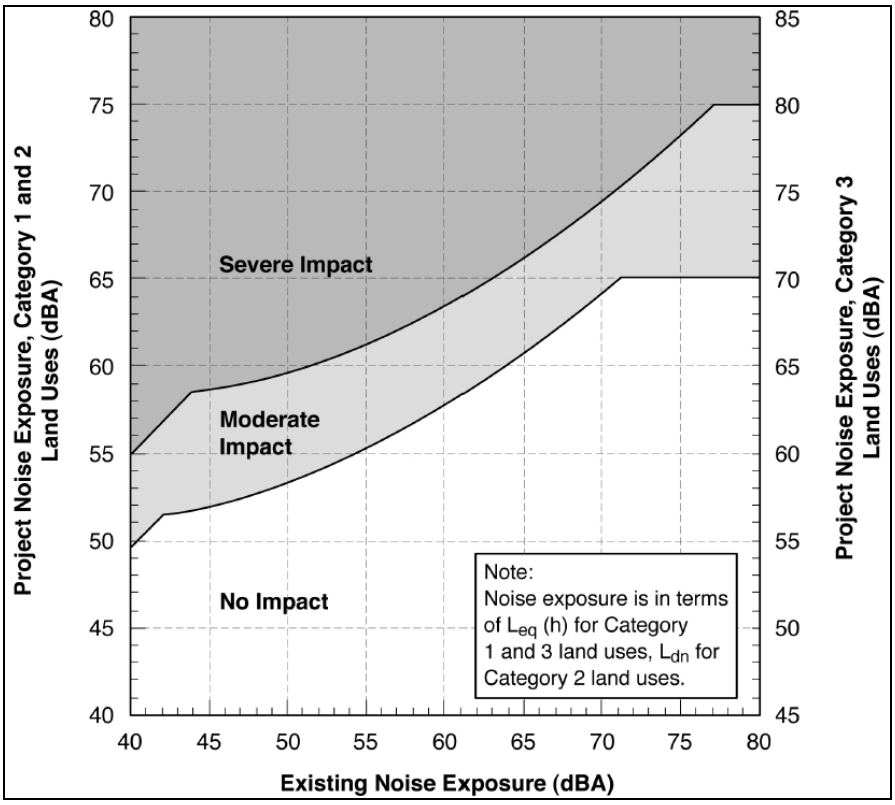
4.10.5 Operational Noise and Vibration Impact Criteria

Noise

No operational noise impact criteria were identified for jurisdictions located within the proposed action alignment. However, the FTA identifies criteria and methodologies to be used for assessing operational noise impacts from transit projects involving proposed rail or bus facilities, such as the proposed action. The noise impact criteria for these projects are shown in Figure 4.10-3 and are tabulated in Table 4.10-1.

The noise impact criteria contained in Figure 4.10-3 and Table 4.10-1 are based on comparison of the existing outdoor noise levels and the future outdoor noise levels from a proposed action. They incorporate both absolute criteria, which consider activity interference caused by the transit project alone, and relative criteria, which consider annoyance due to the change in the noise environment caused by the transit project. There are two levels of impact identified in the FTA criteria, as shown in Figure 4.10-2. The interpretations of these two levels of impact are summarized as follows:

- **Moderate Impact:** The change in the cumulative noise level is noticeable to most people, but it may not be sufficient to cause strong, adverse reactions from the community.
- **Severe Impact:** Project noise above the upper curve is considered to cause Severe Impact since a significant percentage of people would be highly annoyed by the new noise. This curve flattens out at 75 dBA for Category 1 and 2 land uses, a level associated with an unacceptable noise condition for sensitive environments (e.g., amphitheatres, residences, hospitals, and hotels).



Source: FTA, 2006

Figure 4.10-3: Noise Impact Criteria for Transit Projects

Table 4.10-1: Land Use Categories and Metrics for Transit Noise Impact Criteria

Land Use Category	Noise Metric, dBA	Description of Land Use Category
1	Outdoor Leq(h)*	Tracts of land where quiet is an essential element in their intended purpose. This category includes lands set aside for serenity and quiet, and such land uses as outdoor amphitheaters and concert pavilions, as well as National Historic Landmarks with significant outdoor use.
2	Outdoor Ldn	Residences and buildings where people normally sleep. This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
3	Outdoor Leq(h)*	Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material. Buildings with interior spaces where quiet is important, such as medical offices, conference rooms, recording studios, and concert halls fall into this category. Places for meditation or study associated with cemeteries, monuments, and museums. Certain historical sites, parks, and recreational facilities are also included.

Source: FTA, 2006

* Leq for the noisiest hour of transit-related activity during hours of noise sensitivity.

The horizontal axis in Figure 4.10-3 represents the existing noise exposure levels in terms of either L_{dn} or L_{eq}, based on land use Category type, with no project-related transit noise. The vertical axis on the left-hand side of the figure represents the transit project-related L_{eq} noise exposure for Category 1 land uses, and L_{dn} for Category 2 land uses. The vertical axis on the right-hand side of the figure represents the transit project-related L_{eq} noise exposure for Category 3 land uses only. This figure demonstrates that a proposed transit project's impact on a particular land use Category is variable and depends upon the existing noise exposure and the project related noise levels. As an example, a Category 2 receptor with an existing L_{dn} of 65 dBA would experience a "moderate impact" if the proposed transit project generated L_{dn} noise levels of 61 dBA or a "severe impact" if it generated an L_{dn} of 67 dBA.

It should also be noted that impact criteria contained in Figure 4.10-3 and Table 4.10-1 do not apply to most commercial or industrial uses because, in general, the activities within these buildings are compatible with higher noise levels. They do apply to business uses which depend on quiet as an important part of operations, such as sound and motion picture recording studios.

The FTA does not impose a quantitative noise limit specifically on rail warning devices. A bell noise criterion recommended by the Association of American Railroads' Signal Manual recommends that the noise levels of a warning bell should not be greater than 105 dBA and not less than 75 dBA at a point 10 feet from the source. The warning device must be clearly audible to alert pedestrians or drivers on the roadways of imminent train pass-bys.

Vibration

No operational vibration impact criteria were identified for jurisdictions located within the proposed action alignment. However, as presented in Table 4.10-2, the FTA has established vibration impact criteria for various land use categories and the frequency of occurrences at which ground-borne vibrations may cause potential human annoyance or interfere with the use of vibration-sensitive equipment.

Figure 4.10-2 previously identified vibration criteria and associated building structural response. However, it should be noted that it is extremely rare for vibration from train operations to cause building damage, even minor cosmetic damage. In cases involving fragile historic buildings, damage is unlikely except when the track will be very close to the structure.

4.10.6 Affected Environment

Noise and Vibration Sources

Local traffic is the existing dominant mobile noise source along the proposed action alignment. There are currently no freight or passenger rail operations along the existing MBL ROW, although rail activity has occurred in the past. Existing stationary noise sources are generated by commercial and light industrial activities or their associated building heating and cooling system.

There are no existing significant mobile vibration sources along the proposed action alignment. Typical bus or truck pass-bys occurring on rough surface areas along local roadways would be the only perceptible vibration source. Existing Amtrak and UPRR freight train operations which occur at the proposed Castroville Station are however, a perceptible vibration source.

Table 4.10-2: Ground Borne Vibration Impact Criteria for Human Annoyance

Land Use Category	Ground-Borne Vibration Impact Levels (VdB re 1 micro-in/sec)		
	Frequent Events[1]	Occasional Events[2]	Infrequent Events[3]
Category 1: Buildings where vibration would interfere with interior operations (e.g., hospitals, research operations, etc.).	65 VdB[4]	65 VdB[4]	65 VdB[4]
Category 2: Residences and buildings where people normally sleep.	72 VdB	75 VdB	80 VdB
Category 3: Institutional land uses with primarily daytime use.	75 VdB	78 VdB	83 VdB

Source: FTA, 2006.

Notes:

1. "Frequent Events" is defined as more than 70 vibration events of the same source per day. Most rapid transit projects fall into this category.
2. "Occasional Events" is defined as between 30 and 70 vibration events of the same source per day. Most commuter trunk lines have this many operations.
3. "Infrequent Events" is defined as more than 30 vibration events of the same kind per day. This category includes most commuter rail branch lines.
4. This criterion is based on levels that are deemed acceptable for most moderately sensitive equipment, such as optical microscopes. Vibration-sensitive manufacturing or research would require a more detailed evaluation to define the acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the heating, ventilation, and air conditioning (HVAC) systems and stiffened floors.

Noise and Vibration Sensitive Receptors

Noise and vibration sensitive receptors which were identified as located along the proposed action alignment include single- and multi-family residences, Marina Elementary School, Naval Post Graduate School, parks, and hotels.

Noise and Vibration Monitoring

Noise measurements were taken for Category 2 and 3[40] land uses at a total of 23 locations (see Appendix A of the *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*) along the proposed action alignment between December 4 and 6, 2007, and between

[40] Note: Category 2 land uses include residences and buildings where people normally sleep. This category includes homes, hospitals and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance. Category 3 land uses include Institutional land uses with primarily daytime and evening use. This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation and concentration on reading material. Places for meditation or study associated with cemeteries, monuments, museums, campgrounds and recreational facilities can also be considered to be in this category. Certain historical sites and parks are also included. Source: *Transit Noise and Vibration Impact Assessment*, FTA, 2006.

May 13 and 14, 2008. Short-term noise measurements were conducted at 16 locations for durations of 20 minutes each. Long-term noise measurements were conducted at 7 locations for durations of at least 20 hours. The results of the monitoring indicated that L_{dn} levels varied between 53 and 70 dBA and L_{eq} levels were between 61 and 68 dBA for the 23 locations analyzed.

A series of vibration measurements was carried out in San Marcos, California on May 1, 2008 to record the pass-by vibration emission from the Desiro Classic, a representative LRT vehicle which may be used for the proposed action and to serve as a starting point in the estimation of future vibration impacts from the proposed action. The measurement results were used to derive the vibration source strength of the vehicle. The transfer mobility along the proposed action alignment was estimated via measurement of Amtrak Coast Starlight pass-by in nearby Castroville, California on May 15, 2008. Using the field-measured vibration source strength and transfer mobility, LRT vibration levels at the sensitive receptors were calculated.

4.10.7 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, noise and vibration impacts are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to not result in potential impacts associated with noise or vibration.[41] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors could contribute to increased noise and vibration, although the extent to which these impacts may result is unknown.

Locally Preferred Alternative

As shown in Table 4.10-3, Receptors R13B and R19 would experience moderate mobile noise impacts due to operation of the train vehicles. These impacts would affect a total of eight single-family residences (i.e., three at Receptor R13B and five at Receptor R19). No severe noise impacts were identified for noise sensitive receptors located along the proposed action alignment.

The proposed stations would be outdoor facilities; therefore, HVAC noise due to heating or cooling operations would not occur. Public address (PA) systems are proposed and may generate sufficient noise to be heard at nearby residential neighborhoods. Except for the proposed Marina Green, Beach Road, Reservation Road, Palm Avenue, and Contra Costa Street Stations, all of the remaining proposed stations would be located in non-residential areas. For the above-mentioned proposed stations located near residential uses, noise associated with PA systems could exceed exterior noise criteria identified by the cities of Marina, Seaside, and Monterey, or be a source of annoyance for nearby residents. However, with proper strategic placement, tuning, and sufficient number of speakers, this should not be an issue.

[41] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Table 4.10-3: Operational Mobile Noise Levels for Proposed Action

Site No.	Land Use[1]	Distance to Receptor[2], feet	Train Speed, mph	Existing Noise, Ldn or (Leq), dBA	Train Noise Level, Ldn or (Leq), dBA	Criterion, Moderate/ Severe Impact, Ldn, dBA	Distance from Railway Centerline to Noise Impact Contours, feet		
							No Impact	Mod[3] Impact	Sev[3] Impact
ST1/R1	MFR	108	30	64	50	60/66	•	—	—
LT1/R2	SFR	71	30	61	52	58/64	•	—	—
R3	SFR	194	30	64	46	60/66	•	—	—
ST2/R4	SFR	194	30	64	46	60/66	•	—	—
LT2/R5	SFR	90	30	56	51	56/62	•	—	—
ST3/R6	MFR	179	30	66	46	61/67	•	—	—
ST4/R7	MFR	175	30	68	47	63/68	•	—	—
ST5/R8	MFR	175	30	68	47	63/68	•	—	—
LT3/R9	SFR	58	30	55	54	55/61	•	—	—
LT4/R10	SFR	250	30	56	44	56/62	•	—	—
ST6/R11	REC	265	30	(64)	(45)	65/71	•	—	—
ST7/R12	REC	116	30	(63)	(50)	65/70	•	—	—
ST8/R13	SFR	275	30	54	44	55/61	•	—	—
R13B	**SFR**	**50**	**30**	**53**	**55**	**54/60**	**-**	**52**	**21**
LT5/R14	SFR	121	30	53	49	54/60	•	—	—
ST9/R15	MFR	97	30	65	50	61/66	•	—	—
ST10/R16	School	155	30	(61)	(48)	63/69	•	—	—
ST11/R17	SFR	85	30	58	51	57/62	•	—	—
R18	SFR	121	30	56	49	56/62	•	—	—
ST12/R19	**SFR**	**45**	**30**	**56**	**56**	**56/62**	**-** [5]	**43**	**17**
ST13/R20	Hotel	179	30	70	46	64/69	•	—	—
ST14/R21	Hotel	58	30	65	54	61/66	•	—	—
LT6/R22	SFR	235	30	65	45	61/66	•	—	—
R23	SFR	204	30	65	46	61/66	•	—	—
ST15/R24	MFR	100	30	60	50	58/63	•	—	—
LT7/R25	SFR	195	30	60	46	58/63	•	—	—
R26	SFR	110	30	60	50	58/63	•	—	—
ST16/R27	REC	45	30	(68)	(56)	68/73	•	—	—

Notes:

1. SFR: single family residence; MFR: multi-family residence; REC: public parks or beaches.
2. Measured from the center of the railroad alignment to the receptor points.
3. Mod Impact = moderate impact; Sev Impact = severe impact.
4. The distances shown in the last two columns represent how far the noise impact extends away from the train tracks. Larger distances indicate a larger area of impacted land, shorter distances indicate a smaller impacted area. Dashes (—) shown in the last two columns indicate that the noise contour does not extend to the affected property.
5. Distance to the impact line is only 2 feet; therefore, this area is considered impacted.

Source: Parsons, 2011

Vehicle movement in/out of proposed stations with park-and-ride lots would generate a combination of car pass-by, car-horn, and door slamming noise. Noise from these stationary sources would fluctuate

significantly and occur unpredictably throughout daily operations of the proposed action. However, these stationary noises sources are not anticipated to affect sensitive uses at the proposed station locations, excepting the proposed Case Verde Way Station. At this location, four multi-family residences and a single family residence located on the north side of the park-and-ride lot (see Appendix A, Sheet A-26 of the of the *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study* for this location) are approximately 35 feet higher than the parking lot elevation. As such, these residences may experience sporadic noise generation emanating from this location, as previously described.

The proposed kiss-and-ride locations would not generate noise impacts at the nearby residences, as they are not located immediately adjacent to these sensitive receptors.

There are a total of 30 grade-crossings located along the proposed action alignment. At these locations, the existing safety gates with flashing signals and warning bells are proposed to be replaced and/or upgraded. Results of the noise analysis indicated that only three grade-crossings would moderately affect nearby sensitive receptors. Residences located in the vicinity of these three grade-crossings would be affected by the combined noise of the warning bell and the operational noise of the train vehicles. The three grade-crossings are located at Beach Road, Reservation Road, and Contra Costa Street/Olympia Avenue (considered together for noise impact purposes due to their proximity). In all, nine single-family residences (four represented by R9, four represented by R13B, and one represented by R19) and two multi-family residences (represented by R19) would be affected (see Appendix A, Sheets A-13 and A-26 in the *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study* for their specific locations).

The proposed action would include construction of a maintenance facility. Three potential locations have been identified and include: Site 1, located on the coastal side of Highway 1 and parallel to the proposed action alignment; and Sites 2 and 3 located on the inland side of Highway 1 at the former Fort Ord military base quartermaster warehouses site. Although the majority of the proposed maintenance facility operations would be conducted in an enclosed building, noise may escape through openings such as doors and windows. Typical stationary noise generation would include cleaning and maintenance activities. However, additional noise sources may include back up alarms, coupling/decoupling of cars, and operation of the HVAC and other air handling units.

Because there are no existing or planned noise sensitive receptors near the proposed maintenance facility at Site 1, no noise impacts are anticipated. However, future residences associated with the proposed transit oriented development at Sites 2 and 3 could be affected and therefore, additional analysis should be undertaken as part of the planning for the development projects at the time they are proposed.

No human annoyance impacts related to vibration is anticipated along the proposed action alignment. However, two single-family residences (i.e., receptor R19) abutting the proposed action corridor are located within a few feet of the vibration impact zone/contour line. The proximity of the residences to the track may cause annoying transient ground-borne excitation perceivable during a train pass-by. The potential for building damage to these structures (or other structures located along the proposed action alignment) due to vibrations associated with operation of the proposed action would be unlikely.

4.10.8 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

The following mitigation measures are applicable to the Locally Preferred Alternative:

NV-1: Table 4.10-4 lists soundwall locations to mitigate train pass-by noise levels at sensitive receptors expected to experience moderate impacts. With soundwalls reaching a minimum height represented by the train window line, noise impacts to affected residences will be fully mitigated. The height of the soundwalls can vary according to topography relative to receptors, distance of the walls from the source of noise and other factors. Approximate soundwall locations are shown in Appendix A, Sheet A-13 and A-26 of the *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*. The exact locations, lengths and heights of the soundwalls will be determined during final design in consultation with the municipalities and neighborhood groups.

Table 4.10-4: Proposed Soundwalls for Affected Sensitive Receptors

Identified Soundwall Station Numbers	Side[1]	Affected Receptors	Criteria, Moderate/ Severe, dBA	Impacted Structures without Mitigation[2,3]	Mitigated Noise Level, Ldn (Leq), dBA	Noise Impact after Mitigation	Mitigated Structures[2,3]	Impacted Structures after Mitigation[2,3,5]
331+75 to 333+50	West	R13B	54/60	3 SFR	50	N	3 SFR	-
672+20 to 676+50	West	ST12/R19	56/62	5 SFR	51	N	5 SFR	-

Notes:

1. Barrier location in relation to the proposed alignment.
2. SFR = single family residence; MFR = multi-family residence.
3. Number for impacted MFR is based on individual structures, not multiple units in the structures.
4. Operation noise level at a property line or the closest sensitive location to the alignment.
5. N = no impact; M = moderate impact; S = severe impact.

Source: Parsons, 2011

NV-2: The potential for noise impacts exists at the proposed maintenance facility Sites 2 and 3 due to exterior work and from openings in the building. Use of acoustical windows, doors, and louvers should be considered in the building design, where determined necessary to prevent noise impacts at the future residences across from the proposed transit oriented development. HVAC and air handling units will also need to be located such that there would not be noise impacts at the future residences.

NV-3: Use of low noise or directional warning devices instead of more traditional warning bells will be considered at Beach Road, Reservation Road, and Contra Costa Street/Olympia Avenue grade-crossings to reduce noise disturbances. Additionally, TAMC may consider requesting the PUC to allow modification of the operation of the automatic crossing warning device bells, such that they stop ringing after the gate arms reach a horizontal position.

NV-4: Relocation of Special Trackwork – Crossovers, turnouts, and other special trackwork that cause an irregular rail surface should be considered for relocation, if possible or practical, so that they occur more than 125 feet from residential structures. The use of special “spring-loaded rail frogs” should be considered at turnouts and crossovers that cannot be relocated away from a residential structure. The special frogs incorporate mechanisms that close the gaps between

running rails. Frogs with spring-loaded mechanisms and frogs with movable points can significantly reduce vibration levels near crossovers.

NV-6: During the final design phase of the proposed action, TAMC or its Contractor shall prepare a supplemental and more detailed vibration analysis for sensitive receptors associated with Receptor 19 in order to determine: (1) the soil characteristics and the efficiency at which the vibration propagates through the ground at various locations along the alignment, (2) the most appropriate method of vibration mitigation, and (3) the extent where mitigation would be required at specific locations. Vibration mitigation options may include ballast mat as well as shredded tire under the tracks, but will be determined pending the results of the supplemental analysis.

NV-5: The following measures shall be required by TAMC or its rail service Operator as part of regular maintenance activities associated with the proposed action:

- Rail grinding on a regular basis, especially on rails that tend to develop corrugations.
- Wheel truing to re-contour the wheel and remove wheel flats.
- Install wheel-flat detector systems to identify vehicles that are most in need of wheel truing.
- Implement vehicle reconditioning programs, particularly with components such as suspension systems, brakes, wheels, and slip-slide detectors.

4.11 Energy

4.11.1 Introduction

This section addresses potential long-term operational impacts of the proposed action on energy resources. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.11.2 Regulatory Setting

Energy consumption in California is regulated by Federal and State agencies through various laws, implementing regulations and policies. Federal agencies, such as the USDOT, U.S. Department of Energy, and USEPA regulate or have oversight over energy consumption in the transportation sector through the following means: fuel economy standards; funding for transportation infrastructure; and funding for energy-related research and development projects. At the State level, the California Energy Commission (CEC) collects and analyzes energy-related data, prepares state-wide energy policy recommendations and plans, promotes and funds energy efficiency programs, and regulates the siting process for power plants. Federal law prohibits California from setting state fuel economy standards for new on-road motor vehicles (CEC, 2007a).

Federal Regulations

Energy Policy and Conservation Act – The Energy Policy and Conservation Act of 1975 requires that all vehicles sold in the U.S. meet certain fuel economy goals. The Act gave the National Highway Traffic and Safety Administration (NHTSA) authority to establish additional vehicle standards and revise existing standards. The Act is intended to improve the average fuel economy of cars and light trucks sold in the U.S. The Corporate Average Fuel Economy (CAFE) program, administered by the USEPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

State Regulations

Energy Efficiency Standards for Residential and Non-Residential Buildings – CCR, Title 24, Part 6 promotes efficient energy use in new buildings constructed in California. The standards regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. The standards are enforced through the local building permit process. These standards are applicable to structures, such as the proposed action's maintenance building.

California Energy Commission Policy – The CEC's 2007 Integrated Energy Policy Report is the overall guiding document on energy policy. To meet Assembly Bill (AB) 1007 goals for reduction of petroleum fuels use and greenhouse gas emissions, this policy document recommends that the state increase alternatives fuels use to nine percent by 2012, 11 percent by 2017, and 26 percent by 2022.

4.11.3 Affected Environment

Energy Assumptions

Direct Energy – Energy consumed in the operation of transportation systems is typically referred to as direct energy, which is primarily used by vehicles transporting people or goods (i.e., propulsion energy). Direct energy consumption includes the fuel required for rail service, passenger vehicles (automobiles,

vans, and light trucks), heavy trucks (three or more axles), and transit buses. Direct energy is also used to operate facilities such as stations and station amenities, maintenance shops, yards, and other system elements.

Over the life of a transportation project, direct energy consumption is usually the largest component of total system energy use (Caltrans, 1983). In the current energy environment, the ongoing energy requirements of new activities, including their long-term impacts on energy supplies, are of chief concern. From an energy conservation standpoint, therefore, direct energy impacts are of more importance than indirect energy impacts.

Indirect Energy – Energy consumed in manufacturing, construction, and maintenance and periodic rehabilitation of the infrastructure is referred to as indirect energy. This section focuses only on maintenance impacts (see Chapter 5, Construction Period Impacts for consumption estimates due to construction and manufacturing). Energy use for project maintenance is calculated based on projected VMT, using energy consumption rate multipliers.

Consumption Trends

According to the CEC, California is the tenth largest worldwide energy consumer and is ranked second in consumption in the United States, behind Texas. Of the overall energy consumed in the state, the transportation sector represents the largest proportion at 46 percent, followed by the industrial sector at 31 percent, residential at 13 percent, and commercial at 10 percent. Petroleum (excluding natural gas) satisfies 54 percent of California's energy demand, natural gas 33 percent, and electricity 13 percent. Electric power and natural gas in California are generally consumed by stationary users (e.g., residential, commercial, etc.), whereas gasoline and diesel consumption is generally accounted for by transportation-related energy use (USDOT, 2008).

Table 4.11-1 displays the energy requirements for automobile, transit bus, and both diesel multiple units (DMU) and traditional diesel passenger rail modes of transportation. Transit buses have a higher British Thermal Units (BTU) per vehicle mile than passenger vehicles. However, transit buses transport substantially more people compared to passenger vehicles (on average, about nine people per bus as compared to 1.6 people per passenger vehicle), resulting in a proportionally lower BTU per passenger-mile.

Table 4.11-1: Transportation Energy Consumption Rates

Transport Mode	BTUs per Vehicle Mile	BTUs per Passenger Mile
Passenger Vehicles (autos)	5,465	3,437
Transit Bus (all vehicle types)	39,906	4,348
Proposed Passenger Rail Vehicle (DMU)	62,601	2,521
Traditional Passenger Rail Vehicle (diesel)	94,587	2,656
Source: Oak Ridge National Laboratory, 2010.		

Energy Resources

Energy resources used for transportation purposes within the project corridor include gasoline, diesel fuel, and natural gas. Fuel is distributed by many methods, including pipelines, railroads, and trucks.

Changes in energy supply and demand are affected by factors such as global energy prices, economic growth, advances in technologies, changes in weather patterns, and future public policy decisions.

Despite short-term volatility in diesel and gasoline fuel prices, the petroleum fuels market is competitive, with many potential suppliers and distributors, and long-term supply is not considered a critical issue. At some point, however, oil reserves will be depleted, and alternative fuels will become necessary.

California's gasoline and diesel markets are characterized by increasing demands. California imports more than 50 percent of its crude oil and more than 15 percent of its refined products. The State's dependence on this increasingly-expensive energy resource continues to grow. Energy consumption in California continues to be dominated by growth in passenger vehicles. California is the second largest consumer of transportation fuels in the world (behind the United States as a whole); more than 16 billion gallons of gasoline and four billion gallons of diesel fuel are consumed each year (California EPA, 2009). California's rapid population growth, with a projected population of over 44 million by 2020, is expected to result in substantial increases in transportation fuel demand. The CEC concludes that California must address its petroleum infrastructure problems to secure transportation fuels to meet the needs of a growing population by adjusting choices of transportation, implementing land use policies to reduce driving, and increasing use of alternative fuels (CEC, 2007a).

Natural gas is also consumed within the project corridor by buses and other motor vehicles, but it is more commonly a fuel used in heating facilities and manufacturing or processing. PG&E is the main gas utility in the study area. Natural gas distribution is primarily through PG&E's local network. Natural gas is purchased by distributors such as PG&E from various suppliers. The major natural gas interstate and intrastate pipelines are controlled by relatively few pipeline companies, but access to their pipelines is afforded to all qualifying suppliers.

Fuel and Energy Price Trends

The major propulsion energy proposed for the proposed action is diesel. MST (proposed rail system operator) purchases diesel fuel at wholesale rack prices; therefore, it is affected by market fluctuations. Diesel fuel prices in California were $1.99 per gallon in 2000. Fuel prices have considerably fluctuated over the past ten years. Prices peaked at approximately $4.90 per gallon in mid-2008. As of August 2011, diesel prices in California average approximately $3.87 per gallon (EIA, 2011).

Gasoline prices have also risen rapidly since 2000, when gas prices were $1.79 per gallon in California. Similar to diesel prices, gasoline prices peaked in mid-2008, at approximately $4.40 per gallon. As of August 2011, average cost for a gallon of reformulated gasoline is approximately $3.70 per gallon (EIA, 2011a).

Increased demand for oil products since 2000 has not been consistently filled by suppliers and is one of the reasons that prices have increased considerably; however, the market is quite volatile, and it is not possible to accurately forecast fuel prices even a few months into the future.

Average monthly retail price for electricity for transportation in United States peaked in August 2008 at 12.12 cents per killowatthour. As of May 2011, a killowatthour of electricity for transportation in United States costs approximately 10.80 cents. The corresponding May 2011 price in California was 7.92 cents per kilowatthour (EIA, 2011b).

Vehicle Miles Travelled

Transportation energy consumption reflects the types and numbers of vehicles, the extent of their use as VMT, and their fuel economy (miles per gallon). Urban growth patterns have caused California's VMT to increase at a rate of more than three percent per year between 1975 and 2004 (CEC, 2007b). In 2007, total VMTs for gasoline-powered vehicles in California was estimated at 300 billion (CalEPA, 2009). VMT is also important in determining the demand for infrastructure improvements.

AMBAG has projected the future daily VMT for purposes of preparing the 2010 Metropolitan Transportation Plan. AMBAG projections for Monterey County show a 43 percent increase in VMT from 2010 to 2030 (AMBAG, 2010). The number of VMT is directly related to energy use. A reduction in passenger vehicle VMT through alternative modes of transportation could commensurably lower energy consumption.

Energy Units

For the purpose of analysis, energy needs are measured in petroleum and equivalent BTUs.[42] BTU is used as a basis for comparing energy consumption associated with different resources. Table 4.11-2 shows comparisons of energy sources and their equivalent BTU units.

Table 4.11-2: Energy Comparisons

Energy Source	Energy Unit	Equivalent BTU Units
Electrical	Kilowatt-Hour	3,412
Natural Gas	Cubic Foot	1,034
Crude Oil	Barrel (42 Gallons)	5,800,000
Gasoline	Gallon	110,400
Diesel	Gallon	125,000

Source: CEC, 2007a.

4.11.4 Impact Analysis

No Action/No-Build Alternative

Energy resources affected by the No Action/No-Build Alternative are largely unknown since potential impacts would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. The Commuter Rail Extension to Monterey County did not evaluate this environmental parameter. However, it is anticipated that a beneficial impact would result provided inter- and intra-county commuters utilize the existing or planned expansion of MST and Amtrak systems along the Highway 1 and 101 corridors. It is also assumed that these service providers would utilize alternative fuel or hybrid vehicles which could reduce the overall fuel consumption levels needed by their fleets.

Locally Preferred Alternative

Hybrid diesel electric or DMU FRA-noncompliant light rail vehicles are proposed to be used during operation of the proposed action. DMUs are single-level, self-propelled passenger rail vehicles. The DMUs would provide service at lower costs and at a smaller scale compared with conventional passenger rail trains. However, the analysis below includes traditional diesel rail passenger vehicles for comparative purposes.

Annual rail miles were calculated based on worst-case 15-minute headways (i.e., frequency of service) for both peak and off-peak services between 5:30 AM and 2:00 AM. Average train trip lengths assume

[42] One BTU is the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level.

20 mile round-trip service. Annual train trips were based upon 290 days of service. Vehicle miles calculated include non-revenue operations such as deadheading (e.g., train operation to maintenance facility).

Annual bus miles under the No Action/No-Build Alternative are the current miles traveled by MST Route 20. As the most popular line in the MST system with an average of 2,030 weekday riders, this route parallels the project corridor between Monterey and Marina. In addition, Route 27 provides limited, two-hour headway service between Castroville and Marina on weekdays. When Phase 1 (2015) of the proposed action is operational, Route 20 service from Salinas would terminate in the city of Marina at Reindollar Avenue. Similarly, when Phase 2 (2030, although this phase is dependent upon available funding) is operational, Route 27 service between the community of Castroville and city of Marina is expected to be discontinued.

VMT by automobiles and trucks under the proposed action and No Action/No-Build Alternative were derived from the travel model (see *Traffic Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, September 2010 Update). The model covers Monterey County and is described in Chapter 3, Traffic & Transportation.

Projected annual operational energy consumption for different modes of travel under both the No Action/No-Build Alternative and proposed action is shown in Table 4.11-3. Because the new rail service associated with the proposed action would use diesel fuel for propulsion, this alternative would increase the annual diesel usage in the project corridor. However, DMUs consumes on average 25 percent fewer BTUs per vehicle mile than a conventional diesel locomotive. The DMU consumption rate assumes that the vehicle would continue to run while at station locations, but would be shut off overnight.

By providing an alternative to single-occupancy vehicles, the proposed action would attract riders seeking to avoid congested streets and highways; therefore, it would slightly reduce the consumption of energy by automobiles, vans and small trucks using gasoline or diesel fuel. These impacts would be considered beneficial as persons shift from less energy-efficient modes (i.e., autos, vans and trucks) to an energy-efficient mode (i.e., light rail transit). Projected overall energy consumption in 2035 is projected to be slightly (i.e., less than one percent) more with the proposed action compared to the No Action/No-Build Alternative. Relative to the 2035 No Action/No-Build Alternative condition, this increase in consumption would not be considered to be an adverse effect.

Maintenance under the proposed action combined with maintenance of passenger and other non-rail vehicles would also require approximately 0.9 million barrels of oil (5,314 billion BTUs) through 2035. Energy consumption for the proposed action maintenance would be comparable to the No Action/No-Build Alternative, because under the proposed action there would be a reduction in energy use for the maintenance of buses and passenger vehicles.

Implementation of the proposed action would not result in wasteful, inefficient, or unnecessary use of energy. Because the proposed action is projected to consume less than one percent more barrels of oil than the No Action/No-Build Alternative, and it would not place a significant demand on regional energy supplies or require substantial additional capacity.

Table 4.11-3: Annual Year 2035 Direct Energy Use by Alternative

Alternative	Mode[2]	Power Use per Mile[3]		Annual Vehicle Miles Traveled[4]	Power Consumed (000,000s)		Direct Energy Equivalent in BTUs (000,000s)[5]	Total Energy Usage Comparison[6]
No Action/No-Build Alternative[1]	Rail[7]	0.60	gal	0	0	gal	-	
	Bus[8]	0.24	gal	3,018,412	0.724	gal	120,453	
	Autos	0.03	gal	3,766,933,088	113	gal	20,586,289	
	Total Energy Usage (barrels of oil)							**3,570,128**
Proposed Action (DMU)	Rail[7, 9]	0.60	gal	1,055,700	0.633	gal	66,088	
	Bus	0.24	gal	2,958,961	0.710	gal	118,080	
	Autos	0.03	gal	3,762,019,700	113	gal	20,559,437	
	Total Energy Usage (barrels of oil)							**3,576,484**
	Percentage change from No-Project							**< 1.0**

Source: Parsons, 2010; Caltrans, 1983.

BTUs = British Thermal Units; gal = gallon

Notes:

1 No Action Alternative forms basis for comparison for other alternatives.

2 Rail and bus use diesel; autos/small trucks use gasoline.

3 Power use is average of simulated use for express trips (approaching 40% of daily vehicle miles) and local trips (60%) operated by Peninsula Corridor Joint Powers Board. Consumption is averaged over the number of passenger rail cars for diesel.

4 Basis for rail vehicle miles traveled (VMT) = Locally Preferred Alternative VMT; basis for auto and bus VMT = regional travel modes.

5 A gallon of diesel fuel has a direct energy content of 125,000 BTUs; a gallon of gasoline has a direct energy content of 110,400 BTUs.

6 Total energy includes the energy required to generate or refine a kilowatt hour or gallon of fuel and to transport it to the point of use. Total energy contents are as follows: Gallon of diesel fuel = 143,750 BTUs; Gallon of gasoline = 132,480 BTUs

7 For each alternative, 'Rail' shows increase in rail VMT when compared to No Action Alternative.

8 No Action Alternative bus VMT.

9 For Locally Preferred Alternative, DMUs, which are more energy-efficient than conventional passenger rail vehicles, are assumed to be used.

4.11.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

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4.12 Demographics, Neighborhoods, and Environmental Justice

4.12.1 Introduction

This section discusses the proposed action's potential operational effects on socioeconomics, including population, housing, and environmental justice communities. Information for this section was obtained from the *Monterey Peninsula Light Rail Project, Draft Community Impact Assessment*, September 2011 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.12.2 Regulatory Setting

Federal Regulations

Executive Order 12898 (Environmental Justice) – Executive Order 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations." *Title VI* states that "No person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." Executive Order 12898 requires each federal agency (or its designee) to take the appropriate and necessary steps to identify and address "disproportionately high and adverse" effects of federal or federally funded projects on minority and low-income populations. The Council on Environmental Quality's *Draft Guidance for Environmental Justice* (May 24, 1996) indicates that environmental justice concerns may arise from impacts on the natural or physical environment, such as human health or ecological impacts on minority and low-income populations, or from related social or economic impacts.

To the greatest extent practicable and permitted by law, and consistent with the principles set forth In the report on the National Performance Review, each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States and its territories and possessions, the District of Columbia, the Commonwealth of Puerto Rico, and the Commonwealth of the Marian islands. Establishes environmental justice as an integral part of the NEPA process: numerical analysis of environmental justice impacts; effective public participation by low income and minority groups in the decision making process; and mitigation strategies to address significant and adverse environmental justice impacts.

In support of EO 12898, the USDOT issued an Order on Environmental Justice (USDOT Order 5610.2) in 1997. This was followed by an FHWA Order on Environmental Justice (FHWA Order 6640.23), which was issued in 1998. The USDOT Order declares the Agency's policy to promote the principles of environmental justice, as embodied in the Executive Order, through the incorporation of those principles in all USDOT programs, policies, and activities. The Order further states that this policy should be realized by fully considering environmental justice principles throughout the planning and decision-making process using the principles of NEPA, Title VI of the Civil Rights Act of 1964, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 as amended, the Intermodal Surface Transportation Efficiency Act of 1991, and other USDOT statutes, regulations, and guidance that address infrastructure planning and decision making.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) – This Act placed additional emphasis on environmental stewardship, as well as consideration of environmental issues as a part of metropolitan and statewide transportation planning, and the linking of

planning and the environmental assessment process. Each of these aspects strengthens the linkages between planning and environmental protection and creates opportunities to examine the potential for environmental justice issues early on and throughout the project development process.

Title VI – Civil Rights Act – Title VI of the 1964 Civil Rights Act provides one of the principle legal underpinnings for environmental justice. It states that "No person…shall, on the grounds of race, color, or national origin, be excluded from participation in, or be denied benefits of, or be subjected to discrimination under any program or activity receiving federal financial assistance." Title VI prohibits recipients of federal funds from actions that reflect "intentional discrimination" or that exhibit "adverse disparate impact discrimination" on the basis of race, ethnicity, or national origin. EO 12898 effectively extended the provisions of Title VI to include minority and low-income populations and required agencies to proactively develop strategies to:

- Identify activities to promote enforcement of all health and environmental statutes in areas with minority and low-income populations;
- Improve public participation by minority and low-income populations;
- Improve data collection and research related to the health and environment of minority and low-income populations; and
- Identify differential consumption patterns of natural resources by minority and low-income populations.

Federal-Aid Highway Act of 1970 – This law established a further basis for ensuring the equitable treatment of communities affected by transportation projects. It requires agencies to assure that the adverse economic, social, and environmental effects of a federally supported highway project have been fully considered in developing the proposed action, and that the final decisions on the proposed action are made in the best overall public interest, taking into consideration the need for fast, safe, and efficient transportation; public services; and the costs of eliminating or minimizing such adverse effects.

4.12.3 Affected Environment

The 2000 U.S. Census [43] and the 2008 AMBAG forecasts provided data to characterize the demographics of the proposed action alignment. Within a 0.25-mile radius of the Corridor, 26 block groups were used to characterize the study area population characteristics.[44] This socioeconomic assessment of the proposed action alignment also analyzes demographic characteristics of the cities of Monterey, Sand City, Seaside, and Marina, and in unincorporated Monterey County areas, including the community of Castroville.

2008 AMBAG Forecast

These data provide a snapshot of the future population, housing units, and employment opportunities of the project study area from 2005 to 2035. Table 4.12-1 presents a summary of AMBAG growth forecasts for Monterey County, the cities Marina, Monterey, Sand City, Seaside, and unincorporated

[43] Complete data from the 2010 U.S. Census was unavailable for the geographies analyzed in this section was unavailable at the time of production; therefore, 2000 U.S. Census data was used.

[44] **Block Groups:** 103.02 BG 1, 103.02 BG 2, 104 BG 3, 126 BG 9, 127 BG 1, 127 BG 4, 130 BG 1, 130 BG 2, 130 BG 9, 133 BG 1, 133 BG 2, 133 BG 3, 133 BG 4, 137 BG 1, 139 BG 1, 139 BG 2, 140 BG 1, 140 BG 2, 140 BG 3, 141.02 BG 1, 141.02 BG 2, 141.03 BG 1, 142 BG 1, 143.01 BG 1, 143.01 BG 2, 143.02 BG 1.

Monterey County, which includes the community of Castroville. The table indicates how population, households, and employment are expected to change through 2035. Data in Table 4.12-1 indicate that the City of Sand City is expected to almost quadruple in population and almost sextuple in housing units by 2035. It is also anticipated to have the greatest employment growth (77 percent). The cities of Monterey and Seaside are expected to only increase in population by one percent between 2005 and 2035. The City of Monterey is anticipated to only expand its housing units by four percent by 2035. Unincorporated Monterey County is forecast to have the least amount of employment growth (13 percent).

Table 4.12-1: AMBAG Growth Forecasts

	Monterey County	City of Marina	City of Monterey	City of Sand City	City of Seaside	Unincorporated Monterey County (including Castroville)
Population 2005	422,632	19,051	30,467	302	35,173	106,117
Population 2035	530,362	32,942	30,836	1,498	35,549	114,052
% Change	26%	73%	1%	397%	1%	7%
Housing Units 2005	137,338	8,612	13,537	105	11,223	38,869
Housing Units 2035	182,082	13,562	14,095	670	12,334	48,688
% Change	33%	57%	4%	538%	10%	25%
Employment 2005	193,110	3,253	32,327	2,219	6,840	78,459
Employment 2035	235,460	4,696	40,696	3,923	10,848	88,928
% Change	22%	44%	26%	77%	59%	13%

Source: AMBAG, 2008.

2000 U.S. Census Data

Census tract and block group data were collected for the study area in the cities of Monterey, Sand City, Seaside, and Marina, and in unincorporated Monterey County areas, including the unincorporated community of Castroville. The data were collected from the U.S. Census Bureau to analyze the population composition. Along with population characteristics, housing and socioeconomic characteristics are also analyzed. For a closer examination of the proposed action Corridor, block group data are used primarily to analyze demographic characteristics in the project study area (i.e., proposed action alignment) (census tract-level data is available in the demographic tables for comparison purposes).

Racial Composition – The population characteristics of the project study area vary among the block groups located within the project area. There are block groups that contain large pockets of minority populations, and others that contain large nonminority populations. White and Hispanic or Latino populations constitute 75 percent of the total study area; the White population makes up 48 percent, while the Hispanic or Latino population makes up 27 percent. The remainder of the population consists of 6 percent Black and 11 percent Asian. A summary of population characteristics based on the cities of Monterey, Sand City, Seaside, Marina, Castroville, and block groups within the study area are presented in Table 4.12-2.

Table 4.12-2: Racial Composition

	Monterey County		City of Marina		City of Monterey		City of Sand City		City of Seaside		Castroville		Study Area (Block Groups)*	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Total Population	401,762	100	25,101	100	29,674	100	261	100	31,696	100	6,724	100	42,964	100
White	162,045	40	9,500	38	22,246	75	160	61	11,526	36	569	8	20,643	48
Black or African American	14,085	4	3,494	14	716	2	13	5	3,836	12	40	1	2,717	6
American Indian or Alaskan Native	1,782	<1	125	<1	122	<1	8	3	190	1	20	<1	247	<1
Asian	23,203	6	3,976	16	2,171	7	4	22	3,134	10	201	3	4,872	11
Native Hawaiian or Pacific Islander	1,543	<1	505	2	83	<1	0	<1	387	1	5	<1	459	1
Some Other Race	1,190	<1	265	1	64	<1	0	<1	106	<1	12	<1	106	<1
Two or More Races	9,945	2	1,414	6	1,050	4	4	2	1,588	5	75	1	2,262	5
Hispanic or Latino	187,969	47	5,822	23	3,222	11	72	28	10,929	34	5,802	86	11,658	27

Source: 2000 U.S. Census.

*See above text for block groups included in the study area.

Among the cities and county in the project study area, those with Hispanic or Latino backgrounds represent 86 percent of the population in the community of Castroville; while in the City of Monterey, the White population represents the largest proportion of residents (75 percent). The City of Marina contains the largest proportion of the Asian population (16 percent) and Black or African Americans (14 percent). American Indian, Alaska Natives, Native Hawaiian, Other Pacific Islander, and other unnamed races have low percentages ranging from zero to six percent of the total project area.

Income and Poverty – In the proposed action study area, the City of Sand City has the lowest median household income, while incomes in the City of Monterey are the highest, as shown in Table 4.12-3. The study area median household earnings are lower than most of the jurisdictions analyzed in this study, including Monterey County. Poverty trends follow income-level trends in the study area and the surrounding area. Compared to the county of Monterey as a whole, the study area has over 13 percent of its population living in poverty, according to 2000 U.S. Census data, which is comparable to the County's 14 percent. The City of Monterey contains the lowest percentage of residents below the poverty level at 8 percent. The City of Sand City has the highest number of residents living below the poverty level at 28 percent. The U.S. Department of Health and Human Services (HHS) establishes the poverty threshold on an annual basis. A family is considered "low-income" if its income is at or below the HHS poverty guidelines. The Year 2000 poverty threshold for an average family size of four was $17,603. Based on the HHS thresholds for poverty, the study area as a whole is not at the poverty level.

Table 4.12-3: Socioeconomic Characteristics

	Monterey County	City of Marina	City of Monterey	City of Sand City	City of Seaside	Castroville	Study Area (Block Groups)*
Total Population	382,680	19,194	26,942	204	31,453	6,613	39,788
Individuals below Poverty Level	51,692	2,518	2,105	57	3,808	1,267	5,171
Percent Individuals below Poverty	14%	13%	8%	28%	12%	19%	13%
Total Families	87,931	4,812	6,478	33	7,399	1,280	9,493
Average Family Size	3.7	3.3	2.8	3.4	3.6	4.8	3.2
Total Households	121,236	6,745	12,600	80	9,833	1,434	14,349
Average Household size	3.1	2.8	2.1	2.5	3.2	4.7	2.7
Median Household income	$48,305	$43,000	$49,109	$34,375	$41,393	$38,594	$40,793

Source: 2000 U.S. Census.

*See above text for block groups included in the study area.

Households and Families – There are 14,349 households in the study area, with an average household size of 2.7 persons, which is lower than the average household size of the other jurisdictions analyzed in the area. The City of Monterey has the lowest average household size of 2.1 persons, while the community of Castroville has the highest average household size of 4.7 persons. A similar conclusion is shown for families in the entire project action area. There are 9,493 families in the study area, and the average family size is 3.2 persons. The family size is lower than all the other areas, except for the City of Monterey that contains 6,478 and an average family size of 2.1. The community of Castroville has the highest average family size of 4.8 persons and contains 1,280 families.

Environmental Justice Considerations

In the transportation context, environmental justice ensures that under-served communities participate in the planning and decision making for transportation investments and that their concerns and needs are incorporated into plans and policies with the objective that the resulting system can better serve all of its users. Public agencies are also obligated to disclose any adverse impacts of transportation plans, programs, and projects that fall disproportionately on low-income and minority communities, to rigorously examine alternatives that could eliminate or reduce the severity of such effects, and to ensure that these communities receive an equitable distribution of the benefits of transportation investments.

Impacts and benefits of transportation projects result from the physical placement of such facilities, and also from their ability to improve or impede access to neighborhoods. The proposed action alignment, as a whole, consists of relatively comparable socioeconomic neighborhoods and a population composed mainly of White and Hispanic or Latino populations. Both low-income, ethnic minority and middle-income white populations live close to the proposed action alignment. Based on the census data, there is no incidence of disproportionate concentrations of low-income or non-white populations along the proposed action alignment.

The ethnic composition for the study area block groups, as tabulated in Tables 4.12-2 and 4.12-4, is generally comparable to the cities and county in which it is located. Approximately 52 percent of all study area residents are members of minority groups, including individuals of Hispanic/Latino origin. This is compared to a 60 percent minority population in Monterey County, a 25 percent minority population in the City of Monterey, and a 92 percent minority population in the community of Castroville. The minority population of these areas is compared to the White population: Monterey County (40 percent); City of Monterey (75 percent); community of Castroville (eight percent), and the study area (48 percent).

Table 4.12-4: Minority and Poverty Profile

Geographic Area	Population	Minority Population	% of Minority	Low-Income Population	% of Low-Income
Study Area*	42,964	22,321	52.0	5,171	12.0
Monterey County	401,762	239,717	59.7	51,692	12.9
City of Monterey	29,674	7,428	25.0	2,105	7.1
City of Marina	25,101	15,601	62.2	2,518	10.0
City of Seaside	31,696	20,170	63.6	3,808	12.0
City of Sand City	261	101	38.7	57	21.8
Castroville	6,724	6,155	91.5	1,267	18.8

Source: 2000 U.S. Census.

*See above text for block groups included in the study area.

The median household income of the study area, as shown in Table 4.12-3, ranges from $34,375 in the City of Sand City to $49,109 in the City of Monterey. The study area median household income is $40,793. The overall percentage of residents in the study area below the federal poverty level was 13 percent, which is equal to or higher than three of the jurisdictions analyzed (cities of Marina, Monterey and Seaside) but lower than the other three (Monterey County, city of Sand City and Castroville).

Most study area residents use their car to drive to work (78 percent), which is 10 percent lower than the county's 88 percent. Only four percent of study area residents use public transportation, compared to the City of San Monterey's three percent. Residents in the city of Seaside are the most likely to used public transportation at 6 percent, while those in the city of Marina are the least likely (two percent) of all the jurisdictions. The study area's public transportation decisions are comparable to the other areas studied for the proposed action.

4.12.4 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, socioeconomic or environmental justice impacts are largely unknown since these would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements to the Commuter Rail Extension to Monterey County Project are known and were determined not to result in adverse socioeconomic or environmental justice impacts.[45] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the

[45] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Highway 1 and 101 corridors would utilize existing roadways and would not be anticipated to result in new socioeconomic or environmental justice impacts. Planned improvements by project proponents would be required to analyze and determine if adverse impacts could result and provide corresponding mitigation measures.

Locally Preferred Alternative

Operation of the proposed action would not result in the displacement of people or housing. The proposed action area contains a skilled work population which would be anticipated to be able to perform the required operational activities. These individuals would likely be employed from the local and regional workforce and as such, would not result in an increased demand in housing or jobs. The proposed action is intended to increase transit and mobility opportunities for area residents by restoring passenger rail service along the existing MBL ROW.

The proposed action may encourage certain patterns of development, including TODs, which take advantage of proximity to transit sources, but any new and future development within the proposed action area and surrounding communities would be subject to applicable local planning requirements. This beneficial effect could decrease automobile usage, while decreasing other indirect impacts, such as worsened air quality and traffic congestion. Individual TODs are being considered by some jurisdictions in the project corridor.

Operation of the proposed action would not induce population growth since no residential land uses planned as part of its implementation.

4.12.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

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4.13 Acquisitions and Displacements

4.13.1 Introduction

This section describes potential property acquisitions and resulting displacements and relocations that would occur as a result of the proposed action. Since the proposed action is currently in the conceptual design stage, detailed information concerning potential ROW acquisition requirements remains preliminary and will be refined during final engineering and design. However, the conceptual engineering information currently available is sufficient to allow identification of properties that are likely to be affected and to evaluate the effects of full or partial acquisitions and potential displacements. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.13.2 Regulatory Setting

Federal Regulations

Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs – The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 USC. 4601–4655 (Uniform Relocation Act), established a program, which includes the payment of moving and related expenses, to assist persons who are displaced because of Federal or federally-assisted projects. The Act requires fair and equitable treatment of all property owners as well as business owners and residents displaced as a result of programs or projects. Its primary purpose is to ensure that people will not suffer disproportionate injuries as a result of programs and projects designed for the benefit of the public as a whole and to minimize the hardship for directly displaced people.

State Regulations

California Relocation Assistance Act – The California Relocation Assistance Act (PRC, Section 7260-7277: Chapter 16, Relocation Assistance) requires public entities to provide procedural protections and benefits when they displace businesses, homeowners, and tenants in the process of implementing public projects for public benefit.

4.13.3 Affected Environment

City of Monterey

Public and private properties along the north side Del Monte Avenue in the city of Monterey between Camino Aguajito and Ramona Avenue could be affected by the proposed action. Affected privately-owned properties along this portion of Del Monte Avenue are fully-developed with either buildings or pavement. All structures are single story. The potentially-affected businesses are as follows: plumbing and drain services business at 1099 Del Monte Avenue; and warehouse facility located at 2101 Del Monte Avenue.

City of Seaside

Two lots located on the northwest intersection of Del Monte Boulevard and Playa Avenue may be affected by the proposed action. One vacant corner parcel is owned by the city of Seaside and the other is developed with an automotive repair shop. The corner lot is currently used for parking.

Additional property anticipated to be acquired is associated with project improvement at the Highway 1/ Fremont Boulevard interchange. A conceptual plan for these improvements is provided as Figure 2.1-3. Two parcels would be involved in this regard, as follows: vacant commercial, privately-owned property; and an approximately 0.6 acre parcel owned by the Monterey County Unified School District.

4.13.4 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, acquisition and displacement impacts are largely unknown since these would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined to result in adverse impacts associated with acquisitions and displacements (i.e., limited to construction). No operational impacts associated with acquisitions and displacements were identified.[46] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors could result in acquisitions and displacements, provided new or expanded facilities are proposed. However, none are known of at this time and the individual project sponsor(s) would be required to address such impacts.

Locally Preferred Alternative

The property acquisitions described are based upon conceptual-level design and engineering plans (see *Conceptual Plans for Track Restoration*, October 2010 [available under separate cover]). In general, the proposed action would be built within the existing MBL ROW. Specific property acquisitions would be identified during more advanced stages of design and as such, the properties identified and analysis provided may need to be refined. It should be noted however, that the proposed action sponsor (i.e., TAMC) would coordinate with affected property owners in accordance with applicable, local, state, and federal laws. Moreover, all relocation services and benefits will be administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 USC 2000d, et seq.).

The estimates of impacts to property assumed that there would be potential for acquisition and/or displacement if part of a proposed transit facility (such as rails, station platforms, relocated traffic lanes, sidewalks or turn lanes) would physically touch a property, structure, or other improvement. Full acquisition means the entire parcel is expected to be used for transit purposes. With partial acquisition, only a portion of a parcel is needed, leaving a remainder usable portion intact.

Right-of-Way Easements – Permanent ROW easements may be required for utility and public land encroachment in areas outside of the MBL (i.e., proposed action alignment) railroad ROW, including proposed maintenance facility and stations with any associated parking facilities. There may be additional minor ROW requirements for the Phase 2 project (proposed for 2030, although this phase is dependent upon available funding) along Del Monte Avenue and south of the Castroville Station (Blackie Road). While, the potentially-affected properties are currently unknown, their acquisition should not have any effect on the conclusions reached in this impact analysis.

Property Acquisitions – As noted previously, the proposed action would be constructed and operated along the existing MBL ROW. However, limited property acquisition would be needed in areas along

[46] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

the proposed action alignment where development activity is required away from the alignment. These areas are generally required for station and parking lot purposes. Preliminary property acquisition information is provided in Table 4.13-1. It is assumed for this analysis that properties located along the north side of Del Monte Avenue between Ocean and Sloat Avenues in the city of Monterey would be acquired as part of a separate municipal road widening project.

Table 4.13-1: Potential Property Acquisitions

Local Jurisdiction	Address of Property	Assessor's Parcel Number (APN)	Type	Property (sq. ft.)	Current Land Use	Approx. Land Area Required (sq. ft.)	Purpose of Acquisition
City of Monterey	2101 Del Monte Avenue	011467002	Full	64,861	Industrial (vacant)	30,558	Parking Lot
		011441023	Full	Included above	Commercial, Industrial	Included above	
		011441024		Included above		Included above	
	1099 Del Monte Avenue	001801003	Full	15,198	Industrial	3,420	ROW
City of Seaside	1965 Del Monte Boulevard	011101015	Full	8,712	Public (vacant)	8,712	Parking Lot
		011101017	Full	9,875	Commercial	4,250	
	2081 Fremont Boulevard	011022014	Full	7,248	Commercial (vacant)	7,248	ROW
	2105 Noche Buena Street	011511003	Partial	2,516,700	Public	26,373	

Source: Parsons, 2010.

The proposed action as planned would not require removal of any residential properties.

Preliminary estimates indicate that the proposed action may require acquisition of four (4) parcels containing a total of two (2) businesses in the city of Monterey. The income-producing properties are used as: 1) plumbing and drain cleaning business at the Park Avenue intersection; and 2) commercial warehouse for hospital supplies at Casa Verde Avenue.

Three (3) full parcels and one partial parcel would be acquired in the city of Seaside. Of these, three (3) are vacant and one (1) parcel contains an automotive repair business.

Additional property anticipated to be acquired is associated with project improvement at the Highway 1/Fremont Boulevard interchange. A conceptual plan for these improvements is shown under separate cover and is contained within the *Conceptual Plans for Track Restoration*, October 2010 (available under separate cover). Two parcels would be involved in this regard, as follows: vacant commercial, privately-owned property; and an approximately 0.6 acre parcel owned by the Monterey County Unified School District.

As noted above, federal and state laws require consistent and fair treatment of owners of property to be acquired, including just compensation. Provisions of the Uniform Relocation Assistance and Real Property Acquisition Policies Act and the California Relocation Assistance Act would be followed in

association with required relocation of commercial / industrial businesses due to the proposed action. Therefore, the impact related to acquisition and relocation would not be adverse.

4.13.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

4.14 Public Services and Utilities

4.14.1 Introduction

This section evaluates the potential operational impacts of the proposed action related to public services and utilities. Information contained within the following section was derived from a variety of sources, including the *Conceptual Plans for Track Restoration Report*, October 2010 and the *Monterey Peninsula Light Rail Project, Draft Community Impact Assessment*, September 2011 (available under separate cover). Input from public service providers such as city police and fire departments as well as various utility providers within the immediate vicinity of the proposed action corridor were included to provide a complete assessment of available public services and existing utilities. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.14.2 Affected Environment

Law Enforcement Services

Monterey County – Law enforcement services for the unincorporated areas of Monterey County are provided by the Monterey County Sheriff's Office. Phase 2 of the proposed action includes facilities that would be located in the unincorporated area of Monterey County. This station is currently staffed with twenty-two sworn officers, which include sixteen deputies, four sergeants, one detective, and one commander. The station is responsible for the unincorporated areas of the Monterey Peninsula, including Carmel, Carmel Valley, and approximately 90 miles of the Big Sur coastline south of Monterey. Estimated response times are varied depending on the location, number of personnel on duty and time of the call, but generally range between five to ten minutes.

City of Marina – Law enforcement services within the City of Marina are provided by the Marina Police Department. The Department has a current staff of 36 sworn officers and eight non-sworn personnel. The City of Marina Police Department has an average emergency response time of three to four minutes. The proposed action would be served by the nearest police station, which is located at 211 Hillcrest Avenue.

City of Sand City – Law enforcement services within the City of Sand City are provided by the Sand City Police Department. The Department currently has 13 sworn officers and civilian employees. The Department has three shifts, with personnel coverage varying from one to three officers depending upon the time of day. The nearest police station to the Proposed Action is located at the intersection of Sylvan Park and California Avenue. As Sand City has a large commercial area along the project area, population varies from 500 in the nighttime to 40,000 during the daytime. Approximately two officers normally are on patrol within the project area and their response time to a call is approximately less than one minute.

City of Seaside – Law enforcement services within the City of Seaside are provided by the Seaside Police Department. The Department currently has 43 sworn officers and 13 civilian employees. The Department has three shifts, with coverage varying on each shift depending upon the time of day. The nearest station to the Proposed Action is located at 440 Harcourt Avenue. One to two officers patrol the project area and response time is approximately three minutes.

City of Monterey – Law enforcement services are provided within the City of Monterey by the Monterey Police Department. The Department serves approximately 30,000 local residents and visitors

every day. The nearest police station at 351 Madison Street is located within a half mile from the proposed Custom House Plaza Station.

Fire Protection services

County of Monterey – Fire protection services within the unincorporated areas of Monterey County are provided by the North County Fire Protection District. The Department provides both emergency response and prevention services to the community. The prevention activities include inspections of all fire investigations, public education presentations, and advice to the general public on fire protection systems, safety issues, and concerns. Emergency services provided include fire suppression (structural, vegetation, and vehicular fires), paramedic emergency medical response, vehicular accident response, hazardous materials, detection and removal, and rescue situations which include extrication and basic confined space rescue. Within the proposed action alignment, the nearest fire station is Station 1 located at 11200 Speegle Street in Castroville. At any given time, the department is able to provide an average of 11 personnel on the scene of a working fire and response times within 15 minutes of calls and less than nine minutes for EMS calls.

City of Marina – Fire protection services in the City of Marina are provided by the Marina Fire Department. The closest fire station to the project is located at 208 Palm Avenue in Marina. The department has three shifts per 24 hour coverage and each shift has a maximum of four personnel. Staffing may be supplemented by Reserve Firefights if needed. Response time varies from three to four minutes within central Marina, but would be greater to locations within the former Fort Ord.

City of Sand City – Fire protection services for the City of Sand City are provided by the City of Monterey Fire Department per a contractual arrangement between the City of Sand City and the City of Monterey Fire Department (see City of Monterey discussion below).

City of Seaside – Fire protection services in the City of Seaside are provided by the Seaside Fire Department. The Seaside Fire Department provides both emergency response and prevention services to the community. The prevention activities include inspections of all fire investigations, public education presentations, and advice to the general public on fire protection systems, safety issues, and concerns. Emergency services provided include fire suppression (structural, vegetation, and vehicular fires), paramedic emergency medical response, vehicular accident response, hazardous materials, detection and removal, and rescue situations which include extrication and basic confined space rescue. The Seaside Fire Department's response times vary based on the proximity of the incident in relation to the location of the fire station, although 90% of the service area is within the four minute travel time recommended by the National Fire Protection Association. The nearest fire station to the proposed action alignment is located at 1635 Broadway Avenue in Seaside. The Department is staffed with two fire companies consisting of three persons each and one duty Chief.

City of Monterey – Fire protection services within the City of Monterey are provided by the Monterey Fire Department. Emergency medical services are also provided by the Department. The mission of the department is to provide emergency medical aid, fire prevention, public education, suppression, disaster response, and related emergency services to the members and guests of our community. The nearest fire station to the proposed action alignment is located at 600 Pacific Street in Monterey.

Utilities

Utility agencies that have facilities within the existing MBL ROW have been identified and a horizontal record of these that facilities have been developed by San Benito Engineering & Surveying, Inc. from field investigation and record block maps provided by respective agencies. No vertical information (i.e. as-built drawings, potholing) have yet been obtained.

For a complete listing of all known utility facilities within the proposed action alignment, including action status, see Table 9-2 of the *Conceptual Plans for Track Restoration*, October 2010.

Public utilities that are present within the existing MBL ROW include water, wastewater, electricity, natural gas, and telecommunications (telephone, cable television, and fiber optic lines). These utilities are either crossing through or running longitudally to the MBL ROW. While the water, wastewater, and gas lines are running underground, the electric and telecommunications lines are either overhead or buried underground. The utilities crossing within the proposed action alignment are located in easements from TAMC and the respective utility owner.

Utility owners include public agencies, private owners, and municipal governments. Several water agencies control facilities throughout the proposed action alignment. The following is a summary of known utilities:

Telecommunications – The proposed action alignment is served by telephone facilities that are owned and provided by American Telephone & Telegraph (AT&T). Cable television facilities are owned and operated by Comcast. Fiber optic lines within the alignment are shared by MCI/Verizon, Sprint, and Qwest.

Electricity and Natural Gas – Throughout the entire proposed action alignment, electric and gas services are owned/provided by PG&E. PG&E owns, operates, and maintains aboveground and underground facilities within the alignment.

Water – In the community of Castroville and other unincorporated areas of Monterey County, water is distributed by MCWRA. In Marina, the Marina Coast Water District handles water distribution. In Seaside, Sand City, and Monterey, the California American Water Company handles water services.

Wastewater – The majority of wastewater services throughout the proposed action alignment are handled by Monterey Regional Water Pollution Control Agency. However, for the portion of the proposed action alignment within the city of Marina and the Fort Ord District (former Fort Ord military base), the Marina Coast Water District provides wastewater services.

4.14.3 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, public services and utilities impacts are largely unknown since these would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined not to result in adverse impacts associated with public services or utilities.[47] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors is not anticipated to result in adverse impacts since proposed improvements (if any) would need to be evaluated by service providers prior to their implementation and appropriate mitigation measures implemented.

[47] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Locally Preferred Alternative

The proposed action includes the construction of stations, park-and-ride, and related facilities within the existing MBL ROW. Transit ridership is expected to increase for the Monterey County area. However, transit patrons are most likely to be residents or employees in the proposed action alignment. It is unlikely that the proposed action would generate a substantial increase in demand for police and fire protection, as well as emergency medical services. Any increase in demand is expected to be marginal and would not result in overall demand beyond the capacity of public service providers.

A complete listing of utility services within the proposed action alignment is available within the *Conceptual Plans for Track Restoration Report*, October 2010 (available under separate cover). The following summarizes operational impacts to utilities associated with the proposed stations and maintenance facility:

Telecommunications – Public telephones would be available at the stations and maintenance facility and would be provided by local providers (e.g., AT&T or Verizon).

Electricity and Natural Gas – The proposed action would require basic utility services for stations and park-and-ride facilities. The provision of these services would not be beyond the capacity of PG&E and therefore would not result in adverse environmental consequences.

Water – Stations, related facilities, and the cleaning and maintenance of these facilities would require water services. The proposed action would not preclude the provision of water services by municipal agencies and therefore, would not result in adverse environmental consequences.

Wastewater – Wastewater collection services would be required for the proposed stations and maintenance facility. However, the provision of these services would not be beyond the capacity of the Monterey Regional Water Pollution Control Agency as well as the Marina Coast Water District.

4.14.4 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

4.15 Safety and Security

4.15.1 Introduction

This section presents information about existing safety and security within the proposed action corridor, as it pertains to transit patrons, pedestrians, and motorists that may be affected by operation of the proposed action. Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.15.2 Regulatory Setting

Federal Regulations

Pursuant to the Federal Railroad Safety Act, FRA promulgates railroad safety rules governing tracks, locomotives, train cars, braking systems, operating practices, locomotive engineer certification, control of alcohol and drug use, and regulation of transportation of hazardous materials via rail.

CFR includes requirements for railway safety measures and emergency response, including the following regulations under Title 49: Part 234, Grade Crossing Signal System Safety; Part 236, Rules, Standards, and Instructions Governing the Installation, Inspection, Maintenance, and Repair of Signal and Train Control Systems, Devices and Appliances; and Subtitle B, Chapter 11, FRA Regulations.

FTA has developed a Final Rule (FTA, 2005) for state oversight of rail fixed-guideway systems. Title 49, Part 659 identifies the minimum requirements for the state oversight agency's (i.e., PUC or Commission) development of its program standard and the rail transit agency's development of its system safety program plan (SSPP) and security plan. Under this rule, the PUC must require the rail transit agency to develop a hazard management process that includes: approach to the hazard management and resolution process, process by which identified hazards will be evaluated and prioritized for elimination or control, mechanism used to track identified hazards to resolution, and process for ongoing reporting of hazard resolution activities to the CPUC.

In addition, all passenger rail system operators are required to prepare and submit an Emergency Preparedness Plan (EPP) to the FRA. The EPP must be developed in concert with local emergency responders and submitted to FRA for approval prior to initiation of passenger rail service (FRA Passenger Train Emergency Preparedness Final Rule, Section 239.101).

State Regulations

The PUC has adopted several General Orders addressing rail safety. Under General Order 164-D, a Safety Certification Plan (SC Plan) must be submitted by the rail project proponent for PUC approval. According to PUC rules and regulations (PUC, 2007), a project-specific document must be prepared and approved by the State during project design to ensure "that (project) elements critical to safety are planned, designed, constructed, analyzed, tested, inspected, and implemented, and that employees are trained and rules and procedures followed, in compliance with Rail Fixed Guideway System and regulatory safety requirements." At the conclusion of PUC's review, a Safety System Verification Report is completed as the final certificate of compliance document verifying that the project complies with all safety requirements identified by the project proponent's SC Plan.

The PUC also requires the project proponent to provide detailed information during the preliminary engineering phase to obtain Commission authorization for all at-grade railroad crossing. This includes either of the following options: 1) filing a rail crossing hazard analysis report; or 2) filing a formal application in accordance with Commission Rules of Practice and Procedure (PUC, 2007).

Furthermore, FTA rules and General Order 164-D require that an SSPP be submitted for Commission review and approval. This plan details the task and activities of system safety management and system safety engineering required to identify, evaluate, and eliminate or control hazards (PUC, 2007). The SSPP provides for safety reviews of capital improvements, changes in equipment, and changes in operating practices and should include concrete methods for eliminating, minimizing or otherwise mitigating hazards. This document also identifies lines of responsibility and authority for addressing potential hazards, and establishes safety and security tasks for departmental units that have a lead or support role in those responsibilities (APTA, 2006).

Local Regulations

The recently-approved Monterey County General Plan (Monterey County, 2010) includes a Safety Element which contains an Emergency Preparedness section, including policies and procedures to "assure the County is prepared to anticipate, respond, and recover from emergencies."

The Monterey County Regional Transportation Plan incorporates goals and policies addressing transportation system safety. These include goals for grade-crossing safety (see Goal 1.4); safe pedestrian and bicycle travel (see Goal 1.2); and improved access and safety elements of project designs (see Goal 2.2) (TAMC, 2010).

4.15.3 Affected Environment

The proposed action alignment encompasses jurisdictions and agencies that have safety and security responsibilities during project operations, including TAMC, MST, County of Monterey, and the cities of Monterey, Seaside, Sand City and Marina. Existing motorized and non-motorized (pedestrian and bicycle) access within the proposed action alignment was described in Chapter 3, Traffic and Transportation of this EA/EIR. The following paragraphs provide a general description of the safety and security plans and programs pertinent to the proposed action alignment.

Safety

MST operates under a System Safety Management Plan to define activities, management controls, and monitoring processes that ensure patrons are adequately protected and local fire and police jurisdictions have appropriate and unimpeded access to the transit system in the event of an incident. MST is also a member of the Monterey County Emergency Medical Services system, consisting of over 100 fire and law enforcement agencies, ambulance providers, hospitals, and emergency communications.

As the local transit system operator, MST has operated an SSPP since March 13, 2007 to promote safety throughout its system. The SSPP is designed to integrate safety with MST's current operations.

MST is committed to maintaining a safe and healthful work environment for its employees. Safety is also fostered throughout the agency by implementation of a formal Injury and Illness Prevention Program (IIPP). The primary purpose of the IIPP is to ensure employee safety and health through provision of a safe and healthy work environment (Newman, personal communication).

Security

Through its Intelligent Transportation Systems Augmentation Project (FTA, 2009), MST has installed a modern security system to provide a high level of safety and security at transit facilities and onboard buses. Specific security components currently in place at MST transit system operations include, but are not limited to, the following:

- Video and audio equipment on MST buses for the protection of its employees and the public.
- A panic button to be used by coach operators to 'tag' incidents, after which the digital video recorder increases the speed of video recording.
- Direct communication services to connect all buses with MST Dispatch, who will contact local law enforcement, if necessary.
- Safety, Security, and Emergency Preparedness information communicated through posters, bus book information, bus cards, bus stop information signs, and the Internet.

MST trains its employees using the National Transit Institute System Security Awareness for Transit Employees. Each employee is provided with an Employee Security Handbook, first issued in June 2006 (Newman, personal communication). MST operators undergo an extensive six-to-eight week training program conducted by the Safety and Training Officer and three USDOT-certified trainers. The program integrates lectures, videos, field work and written materials. It covers a wide range of topics including customer relations, workplace violence, sexual harassment, safety and maintenance inspections, and dispatch procedures (MST, 2005).

MST does not employ transit police. It does, however, contract with a private security company to provide security at its Salinas Transit Center and Marina Transit Exchange locations.

In the event that an incident escalates beyond the control of a bus driver or security staff, MST's Dispatch staff then contacts the local law enforcement department serving the location in which the incident is or has occurred. For the proposed action alignment, local law enforcement includes the individual city (previously noted) police departments and the County of Monterey Sheriff's Department. Descriptions of local law enforcement facilities and services were provided in Section 4.14, Public Services and Utilities of this EA/EIR.

4.15.4 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, safety and security impacts are largely unknown since these would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. This issue was not addressed for the Commuter Rail Extension to Monterey County.[48] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors is not anticipated to result in adverse impacts since safety and security would be addressed by the individual service providers.

Locally Preferred Alternative

Pedestrian and motorist safety are evaluated below on a qualitative basis using the experience of other agencies operating light rail transit systems with similar types of service as that planned for the proposed action. As noted previously, the TAMC-approved rail system operator would be required to prepare and submit an EPP for review and approval by the FRA prior to system testing and operation.

[48] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

Bicyclist and Pedestrian Safety – Design and operation of the proposed action would be required to comply with Title 49 regulations and PUC General Orders for rail safety, particularly at grade crossings. Train speeds are also regulated, with slow (less than 20 mph) speeds required in areas where there would be no fencing, such as in the city of Monterey between Figueroa Street and the proposed Custom House Plaza Station.

The proposed action would be constructed predominantly, but not exclusively, along the existing MBL from the proposed Custom House Plaza Station in the city of Monterey northeasterly to the proposed Blackie Road Station in the community of Castroville. Fencing and signage would be installed in consultation with the PUC and affected jurisdictions. The signage and fencing plan would be developed during final engineering and design. However, the installation of these amenities would serve to visually and physically deter unauthorized and illegal access of the project corridor. Hence, pedestrian, bicycle and motorist crossings of the proposed action alignment would be limited to public and private at-grade road intersections, as well as a limited number of Monterey Peninsula Recreational Trail crossings. Controls described below to be applied at these crossings for vehicular travel are also applicable to motorists and pedestrians.

The proposed action as presently designed would be bicycle and pedestrian friendly. Station designs include several features to provide a safe environment for both bicyclists and pedestrians accessing the facilities. These include, but are not limited to: concrete train crossing panels; crosswalks; decorative paver walkways; safety fencing where appropriate; automatic pedestrian sidewalk gates; wider sidewalks; and night lighting. A two-foot wide tactile strip would be installed along the project corridor facing the platform edge. All stations and associated facilities would be constructed in compliance with requirements of the Americans with Disabilities Act.

Motorist Safety – Track intersections with cross streets would be controlled by gates for safety. Traffic signals at intersections adjacent to grade crossings of the track would be preempted to allow traffic to clear the crossings. In most cases this would involve adding preemption to existing traffic signals. The method of signal priority to be given (full or partial) would be determined as the result of detailed traffic analysis conducted during the project design phase.

As noted in Chapter 2 Project Description/Alternatives Considered, the PUC must approve the type of GCWDs to be installed. Pedestrian-only GCWDs usually consist of a post with a flashing light and bell. Gates are available for pedestrian crossings, but they are generally not used as people can duck under or go around them, and they pose a risk of trapping physically disabled people on the wrong side of the gate.

Safety devices (e.g., colored textured concrete, pavers, or embedded lights) would help to alert motorists to the presence of the train crossing. Following standard operational practices in mixed-flow traffic, and providing signal warnings, pavement separations, and signals would minimize the potential for adverse effects. Empirical studies of other light rail transit systems conclude that there is generally an initial time period of adjustment, followed by a steady-state long-term period of time in which drivers of private vehicles understand and obey the restrictions, separations and warning systems provided.

Security – The design of the light rail transit for the proposed action, including rail vehicles, maintenance facility and stations and associated parking lots, would provide a safe, secure, and comfortable transit system and would be compliant with applicable safety rules and guidelines. In this regard, maintenance facility and station designs would not include features that obstruct visibility or observation, nor provide discrete locations favorable to crime; pedestrian access at stations shall be ground-level with clear sight lines. A video surveillance system similar to the current system used for bus transit would be installed on light rail transit cars for the protection of its employees and the public. Stations would consist of raised platforms of sufficient length and width to accommodate passenger

loading. At the maintenance yard and all stations, including pedestrian pathways leading to / from sidewalks and parking facilities, would be designed to provide sufficient illumination to minimize shadows in accordance with current standards for security lighting. In addition to night lighting, platforms would include security amenities such as closed circuit television, information kiosk, public announcement systems, and public telephones.

The TAMC-approved light rail transit system operator would be responsible for security at stations and parking facilities, and would have in-place agreements with local police and sheriff departments, when necessary, to assist them during incidents at stations or on the passenger trains. In addition, the TAMC-approved light rail transit system operator would consult with the Monterey County Sheriff's Department, California State University Campus Police, and each local city police department to develop security plans for LRT operations within the proposed action alignment. Given the above considerations, there would be no adverse effect associated with the potential for increased crime with implementation of the proposed action.

4.15.5 Mitigation Measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

The following mitigation measure is applicable to the Locally Preferred Alternative:

SS-1: TAMC or its Contractor will coordinate with the city of Monterey and its waterfront design team (when formed) to ensure that future waterfront land uses are compatible with the proposed action operations, and that the PUC is involved with the design review of both projects to ensure compliance with safety orders.

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4.16 Parks and Recreation

4.16.1 Introduction

The following section describes parks and recreational facilities located within 0.5-mile from the proposed action alignment that may be affected by its operation. Information on existing parks and recreational facilities was obtained in part from the *Monterey Peninsula Light Rail Project, Draft Community Impact Assessment*, September 2011 (available under separate cover). Construction impacts are addressed in Chapter 5, Construction Period Impacts and cumulative impacts are covered in Section 4.17, Other NEPA Considerations.

4.16.2 Regulatory Setting

Parkland Standards

Parkland standards have been established for jurisdictions located along the proposed action alignment. These standards identify a ratio or formula for the required amount of park or recreational facility acreage within a jurisdiction. Table 4.16-1 identifies parkland standards for jurisdictions within the proposed action alignment.

Table 4.16-1: Municipal Parkland Standards

Jurisdiction	Park Type	Required Park Area per Resident
City of Marina	Playgrounds	1.3 acres per 1,000 residents
	Neighborhood parks or playfields	0.5 acres per 1,000 residents
	Community parks	0.25 acres per 1,000 residents
	Recreation trails	1,600 linear feet per 1,000 residents
City of Sand City	Any	130 square feet per person
City of Seaside	Mini-parks or neighborhood parks	2 acres per 1,000 residents
	Community parks	1 acre per 1,000 residents
City of Monterey	Any	5 acres per 1,000 residents
Source: Cities of Marina, Sand City, Seaside and Monterey Municipal Codes		

4.16.3 Affected Environment

County of Monterey

Monterey Peninsula Recreational Trail – The Monterey Peninsula Recreational Trail extends 18 miles beginning in the city of Pacific Grove and terminating in the Castroville area. It is located generally parallel to the proposed action alignment for much of its coastal segment. This asphalt-surface trail is wheelchair-accessible and used for walking, jogging, bicycling and skating. The facility is operated and maintained by the jurisdictions in which it is located.

Community of Castroville

Monterey Peninsula Recreational Trail – See description of the Monterey Peninsula Recreational Trail in the County of Monterey section.

Japanese School Park – Japanese School Park is located at the intersection of Union Street and Geil Street in Castroville, and is approximately 0.60-mile from the proposed Blackie Road Station. The facility includes a large baseball field, bleachers, landscaped area, and four buildings which includes a snack bar. The facility is operated and maintained by the North County Recreation and Park District.

City of Marina

Monterey Peninsula Recreational Trail – See description of the Monterey Peninsula Recreational Trail in the County of Monterey section.

Glorya Jean Tate Park – Glorya Jean Tate Park is located at 3254 Abdy Way in the city of Marina, and is approximately 0.33-mile from the proposed Marina Green Drive and Beach Road Stations. The facility includes soccer fields, a playground, and a scout house. The facility is operated and maintained by the City of Marina Recreation and Cultural Services.

Vince Dimaggio Park – Vince Dimaggio Park is located at 3200 Del Monte Boulevard in the city of Marina and is approximately 0.28 mile from the proposed Beach Road and Downtown Marina Stations. The facility includes a large open field, picnic tables and barbeque grills. The facility is operated and maintained by the City of Marina Recreation and Cultural Services.

Windy Hill Park – Windy Hill Park is located at 3240 De Forest Rd and Beach Rd in the city of Marina, and is approximately 0.60-mile from the proposed Beach Road and Downtown Marina Stations. The facility includes play equipment and walking track. The facility is operated and maintained by City of Marina Recreation and Cultural Services.

Locke-Paddon Wetlands Park – Locke-Paddon Wetlands Park is located at 132 Seaside Circle in the city of Marina and is approximately 0.07-mile from the proposed Downtown Marina Station. The facility is comprised of 17 acres and is one of the few protected wetlands in Monterey County. It has picnic tables and is a popular location for bird watching. The facility is operated and maintained by the City of Marina Recreation and Cultural Services.

Marina State Beach – Marina State Beach is located at the foot of Reservation Road in the city of Marina and is approximately 0.25-mile from the proposed Marina Civic Center Station. The facility encompasses 170 acres and serves an estimated 500,000 visitors each year. The beach is wheelchair accessible, with a boardwalk that winds through the Marina Dunes Natural Preserves. The facility is operated and maintained by the California State Parks Department.

Marina City Park – Marina City Park is located at the intersection of Zanetta Drive and Hillcrest Avenue in the city of Marina, and is approximately 0.33-mile from the proposed Marina Civic Center Station. The facility consists of two baseball fields and open space. The facility is operated and maintained by the City of Marina Recreation and Cultural Services.

Otter Soccer Complex – Otter Soccer Complex is located on Second Avenue within the California State University, Monterey Bay campus, and is approximately 0.43-mile from the proposed First Street Station. The facility consists of a single field with several soccer pitches and bleachers. The facility is operated and maintained by California State University Monterey Bay.

City of Sand City

Monterey Peninsula Recreational Trail – See description of the Monterey Peninsula Recreational Trail in the County of Monterey section.

Calabrese Park – Calabrese Park is located at the corner of Park Avenue and California Avenue in the city of Sand City and is approximately 0.3-mile from the proposed Downtown Seaside Station. Play equipment and picnic tables are available at this facility. The facility is operated and maintained by the City of Sand City.

City of Seaside

Monterey Peninsula Recreational Trail – See description of the Monterey Peninsula Recreational Trail in the County of Monterey section.

Bayonet and Black Horse Golf Course – The Bayonet and Black Horse Golf Course is located at 1 McClure Way in the city of Seaside and is approximately one mile from the proposed First Street and the Sand City Stations. The golf course is open to the public and is located on the former Ford Ord military base. The facility overlooks Monterey Bay and is a par 72 course encompassing 375 acres. The facility is operated and maintained by the City of Seaside.

David Cutino Park – David Cutino Park is located at the intersection of San Pueblo Avenue and Noche Buena Street in the city of Seaside, and is approximately 0.44-mile from the proposed Sand City Station, The facility consists of a baseball field and bleachers. The facility is operated and maintained by the City of Seaside.

Calabrese Park – Calabrese Park is located at the corner of Park Avenue and California Avenue in the city of Sand City and is approximately 0.3-mile from the proposed Downtown Seaside Station. Play equipment and picnic tables are available at this facility. The facility is operated and maintained by the City of Sand City.

Roberts Lake Park – Roberts Lake Park is located at Roberts Avenue and Canyon Del Rey Boulevard in the city of Seaside. It is approximately 0.25-mile from the proposed Downtown Seaside Station. The facility encompasses 5.7 acres and includes lake trails and picnic tables. The facility is operated and maintained by the City of Seaside.

Trinity Park – Trinity Park is located on Trinity Avenue between Fremont Boulevard and Hillsdale Street in the city of Seaside, and is approximately 0.40-mile from the proposed Downtown Seaside Station. Play equipment and open space are available at this facility. The facility is operated and maintained by the City of Seaside.

Laguna Grande Regional Park – Laguna Grande Regional Park is located at Canyon Del Rey Boulevard and Freemont Boulevard in the city of Seaside and is approximately 0.4-mile from the proposed Downtown Seaside Station. The facility encompasses 10.7 acres and includes several barbeque areas, picnic tables, public restrooms and playground equipment. The facility is operated and maintained by the City of Seaside.

Monterey State Beach – Monterey State Beach is located near the intersection of Canyon Del Rey Boulevard and Sand Dunes Drive in the cities of Monterey and Seaside and is approximately 0.16-mile from the proposed Casa Verde Way Station. The facility is Monterey's largest beach at a mile long and is a popular spot for surfing, ocean sports, and beachcombing. The facility is operated and maintained by the California State Parks Department.

Montecito Park – Montecito Park is located at the intersection of Montecito Avenue and Dela Vina Avenue in the city of Monterey, and is approximately 0.34-mile from the proposed Casa Verde Way Station. The facility is a neighborhood park with play equipment, a basketball court, and picnic facilities. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

City of Monterey

Monterey Peninsula Recreational Trail – See description of the Monterey Peninsula Recreational Trail in the County of Monterey section.

Del Monte Beach – Del Monte Beach is located at Tide Avenue and Surf Way in the city of Monterey, and is approximately 0.2-mile from the proposed Casa Verde Way Station. The facility is located just south of Monterey State Beach. It is a popular surfing and beachcombing spot. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Peter J Ferrante Park – Peter J Ferrante Park is located at the intersection of Encina Avenue and Palo Verde Avenue in the city of Monterey, and is approximately 0.3-mile from the proposed Casa Verde Way Station. The facility includes a one-acre softball diamond, bleachers, barbeque picnic area and play equipment. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Del Monte Lake – Del Monte Lake is located across the street from the Peter J Ferrante Park at Encina Avenue and Palo Verde Avenue at the Naval Postgraduate School in the city of Monterey, and is approximately 0.25-mile from the proposed Casa Verde Way Station. The facility includes a trail around the lake. The facility is operated and maintained by the Naval Postgraduate School.

El Estero Park – El Estero Park is located at the intersection of Del Monte Avenue and Camino Aquajito in the city of Monterey, and is approximately 0.3-mile from the proposed Naval Postgraduate Station. The facility is a 45-acre multi-use park that contains a lake with paddleboats, barbeque picnic area and exercise course. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

City of Monterey Dog Park – City of Monterey Dog Park is located at 777 Pearl Street in the city of Monterey, and is approximately 0.5-mile from the proposed Naval Postgraduate and Custom House Plaza Stations. The facility contains a walking track and a fenced open space. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Lagunita Mirada Park – Lagunita Mirada Park is located at the intersection of Via Mirada and Freemont Street in the city of Monterey, and is approximately 0.60-mile from the proposed Naval Postgraduate and Custom House Plaza Stations. The facility consists of a 1-acre hillside Rhododendron garden with ornamental bridge and shaded pathways. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Municipal Beach (Also Known as Monterey Bay Waterfront Park/Window on the Bay) – Municipal Beach (also known as Monterey Bay Waterfront Park/Window on the Bay) is located near Del Monte Avenue and Camino El Estero in the city of Monterey, and is approximately 0.2-mile from the proposed Custom House Plaza Station. This beach is located adjacent to the city's commercial wharf. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Jacks Park – Jacks Park is located at the intersection of Franklin Street and Figueroa Street, and is approximately 0.22-mile from the proposed Custom House Plaza Station. The facility is a 3.7-acre multi-use municipal sports park that contains a ball field with bleachers and a play area. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Monterey Tennis Center – Monterey Tennis Center is located at 401 Pearl Street in the city of Monterey, and is approximately 0.20-mile from the proposed Custom House Plaza Station. The facility consists of six courts and a pro shop. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Monterey State Historic Park – Monterey State Historic Park is located at 20 Custom House Plaza in the city of Monterey, and is approximately 0.30-mile from the proposed Custom House Plaza Station. Monterey State Historic Park is a collection of significant historic houses and buildings interspersed throughout Old Monterey. The facility is operated and maintained by California State Parks.

Friendly Plaza – Friendly Plaza is located at the intersection of Jefferson and Pacific streets in the city of Monterey, and is approximately 0.30-mile from the proposed Custom House Plaza Station. The facility is a 2-acre site containing a turf area, benches, ornamental plantings, and a fountain. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Larkin Park – Larking Park is located at the intersection of Clay and Larking streets in the city of Monterey, and is approximately 0.40-mile from the proposed Custom House Plaza Station. The facility is a 1-acre neighborhood park which contains play equipment, a multi-purpose play field, a basketball goal, and barbeque picnic areas. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Fishermans Shoreline Park – Fishermans Shoreline Park is located between Fishermans Wharf and Coast Guard Pier, and is approximately 0.30-mile from the proposed Custom House Plaza Station. The 5-acre facility contains turf areas, seating for viewing Monterey Bay, and a recreation trail. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

Presidio of Monterey – The Presidio of Monterey is located at 242 Fort Mervine Place, and is approximately 0.22-mile from the proposed Custom House Plaza Station. Lower Presidio Historic Park, which is the part of the Presidio located closest to the proposed action alignment, encompasses 26-acres on the Presidio of Monterey with scenic views of the bay and historic monuments. The facility is operated and maintained by the City of Monterey Recreation and Community Services Department.

4.16.4 Impact Analysis

No Action/No-Build Alternative

Under the No Action/No-Build Alternative, impacts to parks and recreation are largely unknown since these would be dependent on the nature of the proposed improvements (i.e., assumed to include funded existing roadway and transit improvements) and would need to be evaluated on an individual basis. However, planned improvements associated with the Commuter Rail Extension to Monterey County are known and were determined not to result in adverse impacts associated with parks and recreation.[49] Existing daily inter- and intra-county commuter service (i.e., MST and Amtrak) along the Highway 1 and 101 corridors is not anticipated to result in adverse impacts since these services do not stop at these locations.

Locally Preferred Alternative

The demand for park and recreational facilities is normally associated with residential land uses since these projects generate population increases and usage that can exceed their planned use and design of these facilities. Most cities have implemented open space or parkland requirements for new residential developments and that are addressed through the payment of fees and/or dedication of land. The proposed action does not include the development of residential land uses.

[49] Source: Commuter Rail Extension to Monterey County, Draft Environmental Assessment, August 2011.

The proposed action is not anticipated to significantly increase use of park and recreational facilities such that inadequate resources would be available to the community. The proposed action is located in the vicinity of many existing recreational resources and will provide public transportation to these facilities. Overall access to park and recreational facilities would improve throughout the proposed action study area. And as such, would result in a beneficial impact. The proposed action would not induce additional growth necessitating the construction of new or expanded recreational facilities.

The Monterey Peninsula Recreational Trail would generally be retained at the same height as the existing MBL ROW tracks. However, at two locations, one just west of the Highway 1 overpass and the other just west of Palo Verde Avenue, the trail would be elevated to avoid excavation into the adjacent sand dunes on the north side of the MBL ROW. In addition, the trail would be reconstructed at various points where its current location conflicts with the proposed railroad track alignment, such as in the city of Monterey between Roberts and Del Monte Avenues. The trail would be relocated to minimize grade crossings with the track. Pedestrian grade crossing warning signals would be installed at all the remaining crossings.

Between Canyon Del Rey Boulevard and Roberts Avenue in the city of Monterey, the existing trail would be relocated to cross the Roberts Lake estuary on a new pedestrian bridge over the estuary south of the railroad. The existing concrete bridge would be used for the new railroad track. The trail would cross to the north side of the railroad track at Roberts Avenue, where a new signalized grade crossing is proposed. From Roberts Avenue to the west end of the recreation trail at Camino Estero, the trail would be reconstructed where necessary so that it remains on the north side of the new track. Further, the Southern Pacific Railroad Right of Way Development Agreement Between the State of California Department of Transportation and the Cities of Seaside and Monterey (2000 Agreement) dated January 26, 2000 stipulates the City of Monterey agreed to restrict use and development adjacent to the existing Southern Pacific Railroad right-of-way to activities compatible with rail service or to activities readily relocated to accommodate it. Access and use of the trail would not be precluded with implementation of the proposed action and is in keeping with the 2000 Agreement, and as such, would not result in an impact.

Because the proposed action would not result in an impact to a park or recreation facility, it would not result in a “use” as defined by Section 4(f) of the Department Transportation Act of 1966. Therefore a Section 4(f) study is not required for this proposed action.

4.16.5 Mitigation measures

No Action/No-Build Alternative

There are no known mitigation measures applicable to the No Action/No-Build Alternative.

Locally Preferred Alternative

No mitigation measures for operational conditions are required since no adverse impacts were identified.

4.17 Other NEPA Considerations

4.17.1 Introduction

This section analyzes other NEPA considerations including: cumulative impacts, irreversible and irretrievable commitments of resources and the relationship between local short-term uses of the environment and maintenance and enhancement of long-term productivity.

4.17.2 Cumulative Impacts and Related Projects

NEPA defines cumulative effects as the impact on the environment resulting from the incremental impact of the project action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions. Cumulative impacts can result from individually minor but collectively significant actions occurring over time. NEPA provides the context and carries the mandate to analyze the cumulative effects of a federal action. The purpose of cumulative effect analysis is to ensure that federal decisions consider the full range of an action's consequences. A discussion of potential cumulative impacts is considered below for the No Action/No-Build and Proposed Action Alternatives. See Chapter 2, Project Description/Alternatives Considered for a detailed description of these alternatives.

Provided below is a brief summary of known or foreseeable future projects along or within close proximity to the proposed action corridor (see Section 2.6, Related Projects for a more in depth discussion of these projects).

Transit and Transportation Projects – There are a total of eight transit and transportation projects planned along or within close proximity of the proposed action corridor. These projects include the provision of commuter rail service from San Jose to Salinas, BRT service along the Monterey Peninsula (via Fremont Boulevard within the city of Monterey to city of Seaside), construction of a new MST maintenance facility (within the former Fort Ord military base), and pavement and street improvements within the cities of Marina, Seaside, and Monterey.

Mixed-Use, Residential, and Commercial Projects – There a total of eight mixed-use, residential, and commercial development projects planned along the proposed action corridor. These projects are in various stages of environmental review, entitlement, or construction. The types of projects are varied and include small restaurant retail uses (e.g., 4,000 square feet), large-scale developments such as The Dunes development (e.g., 430 acres of mixed-use development, including a 500 room hotel, 750,000 square feet of office/research), and Specific and Master Plans (e.g., Waterfront Master Plan) proposing large-scale urban villages or focused design guidelines for future developments.

Utility Systems – The California American Water (CalAm) proposes to implement its Coastal Water Project (CWP). The CWP would supply 12,500 acre-feet of water per year for urban users on the Monterey Peninsula, as well as for injection into the Seaside Groundwater Basin. The proposed project includes the construction and operation of a seawater desalination plant including intake and discharge facilities, water transmission pipelines, storage reservoirs, pump stations, and aquifer storage and recovery facilities.

4.17.3 Cumulative Impact Analysis and Determinations

Traffic and Transportation

No Action/No-Build Alternative – Increased transportation options under this alternative would help to alleviate highway and local street congestion by providing commuters with an option to the private automobile. However, overall reductions are anticipated to minor and would not be expected to adequately address planned growth within Monterey County. Development projects planned within the proposed action alignment may also contribute to reductions since they would be required to evaluate and mitigate traffic and circulation and bicycle and pedestrian-related impacts resulting from their implementation. These requirements include the provision of roadway, circulation, and safety improvements that are either constructed by the project proponent, or off-set through the payment of in lieu fees to the local jurisdiction. These well-established programs ensure that both individual and cumulative-related impacts are addressed. This alternative and associated proposed projects would be subject to similar requirements and as such, would not result in a potentially adverse cumulative impact.

Proposed Action – Impacts noted for the No Action/No Build Alternative would be similar for the proposed action. Based upon the analysis above, the proposed action would not result in an adverse traffic and transportation cumulative impact.

Aesthetic and Visual Resources

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. These ROWs are largely urbanized, but do contain some rural segments (e.g., Salinas, Castroville) which are scenic or views of the Pacific Ocean. However, the areas in which the related projects are planned (e.g., Marina, Sand City) are urbanized. The implementation of these projects combined are not anticipated to alter the visual quality of the area nor affect viewer groups since these changes would occur along existing transportation facilities, intended for these uses and within already urban areas. These projects are not anticipated to result in adverse impacts associated with light and glare since they would be subject to local jurisdictional regulations and transit vehicles would be designed to ensure that they safe to operate. It is unclear if the proposed projects would affect resources located along a scenic highway, although they would be subject to environmental review and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts to aesthetic or visual resources.

Proposed Action – As noted in Section 4.1, Aesthetics and Visual Resources, Phase 1 of the proposed action corridor is largely urbanized (excepting portions of the former Fort Ord military base). Phase 2 is largely rural, containing extensive agricultural lands. The proposed Blackie Road Station within the unincorporated Monterey County community of Castroville is urbanized and contains a mixture of light industrial and residential land uses. The proposed action and related projects include transportation and commercial and residential projects which would further contribute to urbanization within the Phase 1 portion of the corridor. However, because these projects would be similar in scope, use, and scale as adjacent land uses, viewer groups would not likely consider these changes substantial or adverse, when considered in the context of the area's urban environment. They would also not be expected to view these projects as contributing to the degradation of the visual quality of the area since they would be similar to existing land uses. Moreover, these projects would be subject to local land use planning and zoning regulations (including use, height, scale, massing, lighting, and other design guidelines), environmental review and mitigation (if necessary).

With the exception of the proposed Blackie Road Station, there were no related projects identified for the Phase 2 portion of the proposed action. The proposed station has been considered in the Castroville Community Plan and would be subject to its design guidelines and development standards and as such, viewer groups would not be adversely affected. Moreover, the visual quality of the area would be enhanced from its current light industrial use to a modern transportation facility, containing parking, lighting, landscaping, and other typical amenities.

Based upon the analysis above, the proposed action would not result in an adverse aesthetic or visual resources cumulative impact.

Air Quality

No Action/No-Build Alternative – Under the No Action/No Build condition, regional growth within the study area would result in an increase in the number of automobiles, trucks, buses, and trains operating on existing roadways or UPRR's Coast Mainline ROW. These increases could affect the air pollutants emission levels within the study area.

Proposed Action – The air quality analysis estimated emissions for the proposed action based upon the worst-case day (most intensive construction activities and highest number of equipment operating on construction site). Based on the analysis, construction activities would not result in violations of any air quality standard or substantial contribution to an existing or projected air quality violation. The related projects identified in Section 2.6 are planned to be constructed within the same locality as the proposed action. Since the project sponsor (i.e., TAMC) does not have control over the timing or sequencing of these related projects, any quantitative analysis to estimate the cumulative daily construction emissions would be speculative. Furthermore, any proposed project that might have a significant construction emission impact would be required to comply with applicable air quality requirements and implement appropriate mitigation measures to minimize or avoid any adverse impacts to air quality. In addition, it should be noted that one of the goals of the proposed project is to provide an alternative mode of transportation that will reduce roadway traffic volumes. As concluded in the air quality analysis, the proposed action would reduce roadway traffic volumes and provide congestion relief (e.g., see Table 4.2-7). As such, the proposed action would help reduce cumulative air pollutants emission associated with planned projects.

Based upon the analysis above, the proposed action would not result in an adverse air quality cumulative impact.

Biological Resources

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. These increases could affect biological resources by adding to incidental bus or train strikes. However, these marginally increased and infrequent strikes would not be expected to reduce existing populations beyond self-sustaining levels or result in their need to receive added protection, including listing under federal or State Endangered Species Acts. In addition, the majority of the proposed development projects are located within urbanized areas dominated by non-native plant communities. Wildlife species within these areas are largely habitat generalist or adapted to urban environments. Wetlands and jurisdictional drainages could be affected by these projects (e.g., roadwidening, bridge enhancements) and may result in impacts to the movement of native wildlife (e.g., steelhead trout). It is also possible that these projects could conflict with policies or ordinances protecting biological resources or provisions of an HCP (e.g., Fort Ord HCP) or NCCP. Overall, it is unlikely that these projects would result in adverse cumulative impacts related to biological resources since they would be subject to environmental review

and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts to biological resources.

Proposed Action – The area comprising Phase I of the proposed action and related projects is almost entirely urbanized and contains little if any habitat for biological resources. Most sensitive species and plant communities have been extirpated or replaced with non-native species, including ornamental landscaping. Wildlife that is present is largely comprised of non-native species which are common and adapted to urbanized environments. There are however, locations along the proposed action corridor which are known to contain sensitive habitats and associated species (e.g., Monterey spine flower) including the former Fort Ord military base. Wetlands and "waters of the U.S." are also present along the proposed action corridor. With the exception of a few select areas, potential effects to sensitive species and associated habitats from the proposed action or related projects would be minor and could be mitigated through standard biological compliance measures (e.g., Migratory Bird Treaty Act, raptor nest surveys prior to tree trimming), avoidance, implementation of BMPs, or project design features. Within the former Fort Ord military base, a Habitat Conservation Plan is currently under development to address impacts to sensitive biological resources.

Phase 2 is comprised of agricultural lands with the exception of the community of Castroville which is urbanized. Past projects have severely degraded the biological resources and values of these areas and provide limited habitat for sensitive species (although this area does serve as valuable foraging areas [primarily for raptors]). As with urban areas, many of the species found in Phase 2 are habitat generalists or are able to complete their life cycles within the urban/wildlands interface zones. There are however, a number of wetlands and "waters of the U.S." (e.g., Salinas River, Tembladero Slough) located along this portion of the proposed action alignment which are areas of heightened sensitivity or are important migratory routes (e.g. steelhead trout).

Planned projects and the proposed action would be subject to environmental review, including compliance with the federal Endangered Species Act and Clean Water Act. They would also be subject to state and local regulations (e.g., native tree ordinances, Streambed Alteration Agreement) intended to protect such resources. Moreover, should impacts to sensitive resources result, mitigation measures would be required in order to offset these effects, the details of which would presumably also consider potential cumulative effects.

Based upon the analysis above, the proposed action would not result in an adverse biological resources cumulative impact.

Cultural Resources

No Action/No-Build Alternative – The Monterey Peninsula contains a rich assemblage of important cultural resources which could be adversely affected by the proposed action and planned projects. These resources include buried archaeological and paleontological resources and historic architectural resources. Proposed improvements associated with transportation improvements would not likely affect these resources provided they were planned along existing roadways or railroad ROWs and assuming no earth-moving activities were proposed. In some rare instance damage to fragile buildings can result from heavy vehicle pass-bys due to ground-bourne vibration, Proposed development projects could also, affect cultural resources and result in the discovery of human remains or unknown archaeological or paleontological resources. It is unlikely that these projects would result in adverse cumulative impacts related to cultural resources since they would be subject to environmental review and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts to cultural resources.

Proposed Action – Impacts noted for the No Action/No Build Alternative would be similar for the proposed action. Based upon the analysis above, the proposed action would not result in an adverse cultural resources cumulative impact.

Geology, Soils, and Seismicity

No Action/No-Build Alternative – The Monterey Peninsula is located within a geologically active area and contains locations subject to erosion (e.g., cliffs), landslides, unstable geologic units (e.g., subject to liquefaction, subsidence), and other hazards (tsunami, etc.). Projects proposed under the No Action/No-Build alternative and related projects would be required to comply with standard building and safety standards. Compliance with these measures would reduce the potential for the exposure of people or structures to adverse effects, including the risk of loss, injury or death. As such, it is unlikely that these projects would result in adverse cumulative impacts related to geology, soils, or seismicity since they would be subject to environmental review and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with geology, soils, or seismicity.

Proposed Action – The Monterey Bay Region in which the proposed action and related projects are located is considered to be one of the most seismically active regions in the United States. Moreover, the Monterey Bay/Salinas Valley area is bounded by major earthquake faults including the San Andreas Fault. Moderate and large magnitude earthquakes, with moment magnitudes ranging from 6 to 8, have occurred periodically throughout the Monterey and San Francisco Bay regions in historic time. There are also other seismic or soil hazards which are known within the Monterey Bay Region including ground rupture and shaking, differential compaction/seismic settlement, and liquefaction. Past projects, depending on their age may not have employed construction techniques which considered soil and seismicity hazards (e.g., unreinforced masonry buildings). However, many jurisdictions have implemented retrofit programs to address these deficiencies and improve the safety of these structures. In addition, more recent and planned projects have or will be subject to stringent building codes which consider such hazards. Moreover, hazards mapping provisions require that the location of proposed structures be evaluated for their susceptibility to catastrophic risks, including seismic and geotechnical hazards. In addition, California building standards have also been developed to consider such risks. The combination of these provisions ensures that risks to these facilities and their inhabitants or visitors would be minimized. Therefore, facilities planned under the proposed action and related projects would also be required to adhere to these guidelines

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with seismic or geological hazards.

Hazardous Waste

No Action/No-Build Alternative – This Alternative could result in a marginal increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. Maintenance, cleaning, and operation of these vehicles would generate hazardous waste and the need for its disposal. In addition, petroleum products (e.g., grease, gas) may leak from these vehicles during their operation and would contribute to roadway and railroad ROW contaminants. However, the operators of these transit services would be required to properly maintain them in accordance with applicable laws and handle, store, and dispose of all hazardous waste, as required. Similarly, proposed development projects would also be subject to similar requirements and would need to ensure that applicable laws are followed. As such, it is unlikely that these projects would result in adverse cumulative impacts related to hazardous waste since they would be subject to environmental review and implementation of

mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with hazardous waste.

Proposed Action – The generation, use, and disposal of hazardous waste are regulated by numerous federal, state, and local laws. These laws and regulations ensure that safeguards (e.g., spill prevention and response plans) are in place to protect workers and the general public from unforeseen accidents involving these materials. In addition, local land use and planning regulations identify specific locations for the operation or use of such materials. However, there are some land uses and structures, which due to their age, past use, or construction materials may contain hazardous materials (e.g., asbestos containing materials, lead based paints) and which could pose a danger if disturbed or improperly removed. Other sources of hazardous materials contained within the proposed action corridor include those associated with light industrial manufacturing processes, railroads, and agricultural operations.

Past projects and associated land uses located within the proposed action corridor likely used or contain hazardous materials. Moreover, the proposed action and related projects would also use or be located in areas that may contain these materials. However, local planning and building regulations require that environmental studies be undertaken (e.g., Phase I Assessment) in order to determine if hazardous materials are likely present, prior to construction or building modification or demolition. Pending the outcome of these studies, remedial action (e.g., Phase II Assessment) or avoidance measures may be required as a condition of project approval or permit issuance. In addition, operational activities would be subject to compliance with hazardous waste laws and regulations and consultation with local fire departments to ensure appropriate safeguards are in place.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with hazardous waste.

Hydrology and Water Quality

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. However, these facilities have been designed or retrofitted to address hazards associated with flooding or other hydrology and drainage issues. Similarly, proposed development projects would be subject to requirements of the General Permit and associated BMPs during both construction and operation of the proposed land uses. Adherence to these requirements would ensure that both transit and development projects do not adversely affect the water quality of receiving waters (e.g., drainages). It should be noted that these requirements include the implementation of BMPs and other requirements intended to reduce the quantities of urban pollutants entering these resources. As such, it is unlikely that these projects would result in adverse cumulative impacts related to hydrology or water quality since they would be subject to environmental review and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with hydrology or water quality.

Proposed Action – There are a number of drainages (e.g., Salinas River) and water bodies (e.g., Robert's Lake, Pacific Ocean) adjacent to or within close proximity to the proposed action corridor and related projects. These waterways and associated water quality are regulated by numerous federal, state, and local laws. Past activities within the proposed action corridor have contributed to the degradation of surface and groundwater resources. However, the proposed action and related projects would be subject to applicable laws and regulations which help to protect these resources during both construction and operational activities. Construction activities would be subject to compliance with the Monterey County General Permit issued by the RWQCB – Central Coast and administered by the local jurisdictions. This permit requires that local jurisdictions ensure that construction activities include the preparation and implementation of a SWPPP and other similar plans to avoid or minimize impacts to

surface and groundwater resources. Similarly, development projects are also subject to the preparation and review of proposed drainage and hydrology plans by the local jurisdiction in which they are proposed. Moreover, FEMA and local requirements ensure that development proposed within the floodplain or floodway consider potential effects to buildings and their occupants or visitors prior to their approval and construction.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with hydrology or water quality.

Land Use and Planning

No Action/No-Build Alternative – Increased transit operation on existing roadways and railroad ROWs would not be anticipated to result in land use and planning impacts unless new facilities or station stops are proposed. Transit facilities, depending on their size and intensity can influence local land uses by encouraging TODS or other transit-related uses. Similarly, proposed developments can have similar influences by attracting new residences or businesses which in turn, can result in subsequent changes to local land uses. For instance, a new residential development may encourage the construction of retail commercial uses to serve this new population. However, it is unlikely that these projects would result in adverse cumulative impacts related to land use and planning since they would be subject to environmental review and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with land use and planning.

Proposed Action – Phase 1 of the proposed action corridor is largely urbanized (excepting portions of the former Fort Ord military base). Phase 2 is largely rural, containing extensive agricultural lands. The proposed Blackie Road Station within the unincorporated Monterey County community of Castroville is urbanized and contains a mixture of light industrial and residential land uses. Land uses and associated activities are governed by the jurisdictions in which they are located. The General Plan, a long-range planning document, serves as the vision for the community, while the municipal code regulates uses. The proposed action and related projects would be subject to environmental review and general plan and municipal code consistency analysis prior to the issuance of construction or building permits. Given these requirements, the proposed action and related projects would be required to include design and operational considerations which are consistent with these requirements.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with land use and planning.

Agricultural Resources

No Action/No-Build Alternative – Impacts associated with this alternative would be dependent on the types and intensity of planned projects. Increased transit operation on existing roadways or railroad ROWs would not be anticipated to adversely affect agricultural resources, unless new facilities or station stops are proposed in these areas. Similarly, new developments could also affect these areas if not properly planned and located. Agricultural resources within Monterey County are protected by land use regulations or farming policies administered by local and state agencies. General Plan and zoning designations afford added protection and intended to limit the conversion of these resources to non-agricultural land uses. As such, it is unlikely that these projects would result in adverse cumulative impacts related to agricultural resources since they would be subject to environmental review and implementation of mitigation measures, if applicable. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with agricultural resources.

Proposed Action – Agricultural resources are limited to the Phase 2 portion of the proposed action corridor and are located north of the city of Marina. Many of the areas containing agricultural lands have been designated as sensitive or unique due to their physical or chemical properties or because they are ideal for growing certain crops or agricultural activities. Monterey County and the Salinas Valley in particular are some of the most agriculturally productive areas of the United States. Produce grown and processed in this region is distributed nationwide and to 40 countries across the globe. Conversion of agricultural lands in the County to other uses has remained relatively low when compared to other counties.

Past projects within the proposed action corridor have resulted in the direct conversion of agricultural lands to urban uses. These activities have prompted the implementation of land use controls and policies, and the use of tax incentives (e.g., Williamson Act) intended to reduce the conversion of these important resources. The proposed action and related projects are planned within the urbanized portion of the Monterey Peninsula and would not require conversion of agricultural lands. Moreover, future projects would be subject to environmental review prior to construction or building permits and appropriate mitigation measures identified (if necessary) and implemented in order to offset impacts, based on both individual project and cumulative considerations.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with agricultural resources.

Noise and Vibration

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. Planned land uses would largely be residential and commercial in nature with few likely to employ machinery capable of exceeding local noise ordinance requirements. Moreover, these increases are not anticipated to result in elevated noise and vibration levels, the extent to which would require the provision of acoustical treatments (e.g., soundwalls). However, proposed projects would be subject to environmental review prior to construction and appropriate mitigation measures identified and implemented in order to offset impacts (if any). As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with noise and vibration.

Proposed Action – The existing noise and vibration environment of the Monterey Peninsula varies and is dependent upon many factors (e.g., characteristics of noise-producing sources of land uses, sensitive receptor location). Urban areas include noise and vibration sources generated by area roadways, construction activities, heating and air conditioning units, car alarms, and other similar sources. Rural and agricultural areas have limited sources of noise and vibration although these may include farm equipment (e.g., tractors), trucks, or processing plants.

Past projects within the proposed action corridor have resulted in the adoption of noise and vibration ordinances. These ordinances are generally applicable to both construction and operation of proposed projects or in some instances, existing land uses. In most instances, decibel level limits are identified, hours of permitted operation specified, or the use of some equipment prohibited. The proposed action and related projects are not proposed within agricultural or rural areas. They are planned within the urbanized portion of the Monterey Peninsula and would be subject to local noise and vibration ordinance requirements. In addition, many federal and state sponsored projects (e.g., transportation and roadway projects) are required to adhere to specific noise and vibration limits and include the implementation of mitigation measures (e.g., soundwalls) or other requirements to address potential impacts. Moreover, the proposed action and related projects would be subject to environmental review and limitation contained within the applicable noise and vibration ordinance prior to construction or building occupancy permits.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with noise and vibration.

Energy

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. It would also result in the construction and operation of planned projects, including residential and commercial land uses, all of which would have energy requirements. Both direct and indirect energy[50] would be consumed by these planned projects, including gasoline, diesel fuel, and natural gas. It is anticipated that this Alternative would result in a decrease in VMT (for the transit component) by providing commuters with viable transportation options to their automobiles. Moreover, transit operators would likely utilize alternative fuel or more fuel efficient vehicles which in turn could reduce their overall energy consumption demands. New developments would be subject to design guidelines which ensure increased energy efficiency or incorporate green building designs. As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with energy.

Proposed Action – Both direct and indirect energy are consumed by transportation infrastructure located within the Monterey Peninsula. Energy resources used for transportation purposes within the proposed action corridor include gasoline, diesel fuel, and natural gas. Transportation energy consumption reflects the types and numbers of vehicles, the extent of their use as VMT, and their fuel economy (miles per gallon). Urban growth patterns have caused California's VMT to increase by three percent since 1975. VMT is also important in determining the demand for infrastructure improvements. AMBAG projections for Monterey County show a 43 percent increase in VMT from 2010 to 2030. The number of VMT is directly related to energy use. A reduction in passenger vehicle VMT through alternative modes of transportation could commensurably lower energy consumption.

Past projects within the Monterey Peninsula have resulted in the consumption of both direct and indirect energy. In addition, land use patterns have developed over time such that many residents commute to work or other destinations located outside of the immediate location of their residences. Many of these commuters travel to areas including the city of Salinas or the San Jose and San Francisco Bay areas. These commute patterns and limited public transit options have increased VMT. The proposed action and related projects include transit projects and mixed use (residential and commercial) developments that could reduce energy consumption and VMT by decreasing the need for inter- and intra-county travel.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with energy.

Demographics, Neighborhoods, and Environmental Justice

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. It is not known if these facilities would include improvements (e.g., widening) that would affect demographics, neighborhoods, or environmental justice communities. Planned development projects would be implemented consistent with local general plan and zoning requirements. Moreover, these proposed projects would be subject

[50] Note: Energy consumed in the operation of transportation systems is typically referred to as direct energy, which is primarily used by vehicles transporting people or goods (i.e., propulsion energy). Energy consumed in manufacturing, construction, and maintenance and periodic rehabilitation of the infrastructure is referred to as indirect energy.

to environmental review prior to construction and appropriate mitigation measures identified and implemented in order to off-set impacts (if any). As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with demographics, neighborhoods, or environmental justice communities.

Proposed Action – AMBAG growth forecasts indicate that population, housing, and employment are anticipated to experience continued growth between 2005 through 2035 within the proposed action corridor and Monterey County as a whole. Racial, income, and poverty levels vary throughout the County and proposed action corridor. For instance, poverty levels are 28 percent in the City of Sand City compared to 14 percent for the County or Monterey. Based on U.S. Census data, however, there is no incidence of disproportionate concentrations of environmental justice populations along the proposed action alignment or areas in which the associated related projects are located.

Past projects within the Monterey Peninsula have led to land use and transportation patterns that have resulted in the formation of local neighborhoods and communities, employment centers, and the demographic composition of the proposed action corridor. Regional planning efforts including AMBAG's growth forecast and TAMC's RTP have considered and are planning for anticipated growth trends. Similarly, local general plans have contemplated these factors in developing their land use plans and by incorporating transit supportive goals and policies. The proposed action and related projects include transit projects and mixed use (residential and commercial) developments that have an indirect effect on the local population near these proposed developments. For instance, in the future, higher-density housing and mixed-use developments would more likely be built near transportation facilities or mixed use developments, which could provide additional affordable housing units to the communities. Moreover, employment growth could result from a redistribution of existing employment focusing on these areas, although this potential effect would not likely be pronounced. Access to regional jobs and educational and entertainment opportunities would increase for residents living near proposed transit facilities, including environmental justice populations.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with demographics, neighborhoods or environmental justice.

Acquisitions and Displacements

No Action/No-Build Alternative – Impacts associated with this alternative would be dependent on the types and intensity of planned projects. Increased transit operation on existing roadways or railroad ROWs would not be anticipated to adversely affect adjacent properties, unless roadway widening is proposed or new facilities or station stops are planned. It is assumed that new developments would be built on vacant private property or uses that have been vacated by the owners and/or tenants contingent upon the terms of the property sale. Proposed projects would be subject to environmental review prior to construction and appropriate mitigation measures identified and implemented in order to off-set impacts (if any). As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with acquisitions and displacements.

Proposed Action – The Uniform Relocation Assistance and Real Property Acquisition Policies Act and the California Relocation Assistance Act require public entities to provide procedural protections and benefits when they displace businesses, homeowners, and tenants in the process of implementing public projects for public benefit. Past projects within the Monterey Peninsula have likely resulted in the displacement of residences and businesses, although the extent to which this has occurred and specific locations is unknown. The proposed action and related projects would require some property acquisitions, resulting in residential and business displacements. However, as noted above, directly affected property owners and tenants would be compensated and there are procedural requirements in place that must be followed by public agencies, including preparation of a Real Estate Acquisition

Management Plan. In addition, there is adequate replacement property within the proposed action corridor that would allow residences and businesses displaced by the proposed action and related projects to be relocated within the area in which they were located.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with acquisitions and displacements.

Public Services and Utilities

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. Improvements (e.g., widening) or the construction of facilities or stations could affect public services or utilities. Similarly, planned developments could also affect public services and utilities, including the need for additional fire protection and law enforcement or utilities (e.g., water). Local jurisdictions have developed service ratios for new developments in order to ensure that service levels can be maintained or improved and implement such requirements as part of development agreements or via the payment of in lieu fees. Utility providers continually update their service plans in order to ensure that services can be provided. They are also often involved in the planning process of new developments which helps to ensure that appropriate infrastructure is in place or can be provided in order to adequately serve these planned land uses. Moreover, proposed projects would be subject to environmental review prior to construction and appropriate mitigation measures identified and implemented in order to off-set impacts (if any). As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with public services and utilities.

Proposed Action – Public services and utilities within the Monterey Peninsula are made available by a number of service providers who regularly undertake, prepare and implement planning studies to evaluate current and future service needs. These studies in conjunction with land use and growth projects have resulted in the construction of major public works projects (e.g., sewer, water, fire and police stations and equipment) to meet these needs. Similarly, through both the environmental planning and permitting processes, these service providers evaluate proposed projects on both an individual and cumulative basis to determine if service shortfalls would result with the implementation of each respective project. The proposed action and related projects would be subject to review by service providers and required to mitigate impacts resulting from both their individual and cumulative impacts.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with public services and utilities.

Safety and Security

No Action/No-Build Alternative – This Alternative could result in an increase in the number of buses and trains operating on existing roadways or UPRR's Coast Mainline ROW. Transit operators would be required to ensure that their vehicles are safely maintained, operated at recommended speeds, and do not exceed passenger capacity limits. Similarly, roadway and railroad ROW owners would be required to ensure that these facilities can be safely used by bus and rail vehicles. Planned development projects would be required to undergo planning and design review as part of the project approval process undertaken by the local jurisdiction. Proposed projects would be subject to environmental review prior to construction and appropriate mitigation measures identified and implemented in order to off-set impacts (if any). As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with safety and security.

Proposed Action – The proposed action and related projects would be required to undergo both environmental and safety and security review, including consultation with local law enforcement and fire

departments to ensure that fire life safety and security issues are adequately addressed. Moreover, many jurisdictions require BMPs (e.g., cameras, fencing, eliminating areas of potential concealment) or other design features that can enhance safety and security. The proposed action and related projects would be subject to review by applicable agencies and required to mitigate impacts resulting from both their individual and cumulative impacts.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with safety and security.

Parks and Recreation

No Action/No-Build Alternative – Non-residential projects are not normally associated with recreational demand. Planned residential projects would be required to comply with park and open space ordinances. Moreover, these projects would be subject to environmental review prior to construction and appropriate mitigation measures identified and implemented in order to off-set impacts (if any). As such, the No Action/No-Build Alternative is not anticipated to result in adverse cumulative impacts associated with parks and recreation.

Proposed Action – Recreational opportunities within the Monterey Peninsula and along the proposed action corridor are extensive and include the Pacific Ocean, Monterey Peninsula Recreational Trail, local and regional parks, and other regional attractions (e.g., Monterey Bay Aquarium). Most jurisdictions within the proposed action corridor have established park standards which require land dedications and/or fees for new development (normally residential land uses). Related projects which include residential land use components would be subject to compliance with local park and recreation ordinances and which would mitigate their impacts. Because non-residential projects, such as the proposed action are not normally associated with recreational demand, no impacts to parks and recreation would result. However, there would be a resultant beneficial effect with implementation of the proposed project, namely improved public access to these facilities.

Based upon the analysis above, the proposed action would not result in adverse cumulative impacts associated with parks and recreation.

4.17.4 Irreversible and Irretrievable Commitments of Resources

No Action/No-Build Alternative

The No Action/No-Build Alternative would require the irreversible and irretrievable commitment of energy, materials (e.g., buses and railroad vehicles), and human resources. However, some of these commitments could be off-set by reductions in VMT and fuel savings from increased passenger usage of transit vehicles.

Proposed Action

Implementation of the proposed action would involve the commitment of a range of physical, human, and fiscal resources.

Land required for the proposed action is an irretrievable commitment as would be property acquisition. Property requirements would be minor, however, and would be limited to the proposed station areas. As noted in Table 4.13-1, Potential Property Acquisitions, the total square feet of land required is estimated at 2,622,594 or approximately 60 acres and would include partial and full acquisitions of 8 parcels associated with the proposed stations and associated amenities (e.g., parking) and roadway

improvements. Nonetheless, portions of these properties would be converted to transportation uses necessary to support the proposed action.

Fossil fuels, labor, and construction materials would be expended for construction of the proposed action. Labor and natural resources would be expended in the fabrication and preparation of construction material; these materials are irretrievable. However, their availability is not limited, and their use would not have an adverse impact on their continued availability. Further, operation of the proposed action would more efficiently consume fossil fuels, as a result of higher passenger capacity provided.

Construction of the proposed action would also require expenditure of local, state, and federal funds, which, once spent, would not be retrievable. However, the commitment of these resources would benefit area residents and businesses by providing an improved transportation system and associated transit service quality. These improvements also include improved travel time, efficiency, and reliability along the proposed action corridor.

4.17.5 Relationship between Local Short-Term Uses of the Environment and the Maintenance and Enhancement of Long-Term Productivity

No Action/No-Build Alternative

The No Action/No-Build Alternative would involve a short-term use of the environment, but it would assist to improve long-term conditions by expanding public transit opportunities, thereby reducing the number of automobiles on area roadways and highways.

Proposed Action

The long-term productivity of Monterey County depends on an adequate transportation system along the proposed action corridor. Highways 1 and 101 are projected to experience increased congestion which will considerably affect the transportation of goods and people. A dependable transit system provides long-term benefits (e.g., improved mobility for transit-dependent populations, reduced auto use and congestion, support of local and regional planning goals) at the expense of short-term costs, such as station area acquisitions, construction energy use, and state and federal investments.

The proposed action would involve the use of fuel and construction materials and associated temporary increases in noise and air emissions during the construction period. However, the long-term productivity of the proposed action would be enhanced by improved access to employment and activity centers in the San Jose and San Francisco Bay areas. In turn, this is expected to improve capacity of the Highway 1 and 101 corridor, as users of the system may choose to commute via transit in lieu of driving to these destinations. It should also be noted that transit-dependent users would also directly benefit from the proposed action since these users would have access to affordable and dependable transit, where none existed previously.

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Chapter 5. Construction Period Impacts

5.1 Introduction

This section provides an overview of the anticipated construction scenario for the proposed action. It also provides an analysis of construction-related impacts that would likely occur and presents mitigation measures intended to reduce those impacts.

5.2 Typical Construction Scenario for the Proposed Action

For the proposed action, construction work within and adjacent to the existing MBL ROW (proposed action corridor) would occur. The proposed action would require refurbishment of the existing rail line, rehabilitation of the Salinas River Bridge, and replacement of trestles within the proposed action corridor. Additional activities would include work within adjacent roadways, installation of a new street and grade crossing signal system; realignment of portions of the existing Monterey Peninsula Recreational Trail construction of new light rail transit stations and associated amenities (e.g., parking lots), as well as street and drainage improvements.

Station construction would involve platform development, installation of components such as canopies, ticket vending equipment, drinking fountains, railings, lighting, signage, and station furniture. Stations may be constructed simultaneously within the proposed action corridor; however, the contractor may elect to construct them sequentially. Construction of parking and park-and-ride facilities would involve subgrade preparation of the parking area, paving, and striping. Curbs, lighting, driveways, and sidewalks would be constructed or reconstructed, as necessary, as well as landscape planting.

As shown in Table 5.1-1, an overall construction schedule of approximately 18 months plus three months for operations testing is estimated to complete Phase 1, with several concurrent construction steps involved. The construction steps noted below would also apply to Phase 2; however, unless indicated the approximate construction timings would apply only to Phase 1 because it is premature to develop a construction schedule for the unfunded Phase 2 component of the proposed action.

Table 5.1-1: Conceptual Phase 1 Construction Schedule (Months)

Step	Activity	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
1	Mobilization & Staging																					
2	Site Clearing & Demolition																					
3	Utility Relocation																					
4	Railroad Construction																					
5	Stations and Parking Lot Construction																					
6	Landscaping and Finish Work																					
7	Light Rail Transit Vehicle Operations and Testing																					

Source: Parsons, 2010.

It should be noted that the construction scenario described in the following pages is conceptual; the actual construction process will be governed by the provisions and procedures of the construction

contract. It is not known at this time if the construction contract would identify construction stages or leave those decisions to the contractor.

5.2.1 Step 1: Mobilization and Staging

This first step in the construction process involves contractor preparation for construction activities. This would require an estimated one (1) month each for both Phase 1 and Phase 2. Mobilization includes, but is not limited to, the following principal items:

- Move all materials and equipment onto the site.
- Install temporary construction power, lighting, and other temporary facilities.
- Install construction water supply.
- Provide and maintain a field office for the contractor and engineer.
- Provide onsite sanitary and potable water facilities.
- Arrange for and erect contractor's work and storage yard. All staging areas would be located outside of, and at least 500 ft distance from, biologically-sensitive areas (e.g., sensitive habitat areas).
- Obtain and maintain all required permits, insurances, and bonds.
- Post all Occupational Safety and Health Administration (OSHA)-required notices and establish safety programs.
- Photographically document the site and access conditions before start of construction (to be again done at the completion of construction).
- Install and maintain protective fence around the limits of work, where appropriate, and/or biologically sensitive areas.

5.2.2 Step 2: Site Clearing and Demolition

This step involves clearing the proposed action corridor and preparing it for construction of the proposed action. Once the ROW and property acquisition process is complete, site clearing and demolition would take approximately one (1) month each to complete for both Phase 1 and Phase 2. The proposed action corridor would be cleared of any conflicting aboveground structures and other improvements. In the case of ROW that was formerly private property, the construction contractor would remove the improvements (e.g., buildings, infrastructure, etc.).

Hazardous materials within any structures would be removed prior to demolition. Where necessary, construction sites would be fenced for public safety.

5.2.3 Step 3: Utility Relocation

This step is expected to occur over approximately nine (9) months, and overlap Construction Steps 4 and 5 as shown on Table 5.1-1. Because it is located in a agricultural area, and is about half the distance of Phase 1, this step for Phase 2 should occur over a shorter duration.

Existing utilities that could interfere with construction of the proposed action corridor improvements would be removed and relocated for continuing service. In addition, utilities crossing the proposed

action corridor may need to be removed and relocated to either temporary (requiring final relocation at an appropriate point later in the construction process) or permanent locations at the outset; the latter is more likely.

Relocation or reconstruction of existing utilities would need to take into account service required for the maintenance facility, station locations and associated parking lots (i.e., electricity for platform and parking lot lighting, telephone for communications, water for landscape maintenance), and also any additional feeds to reconstructed traffic signals. Some aboveground utility poles along the proposed action corridor would have to be relocated.

This work would be conducted in accordance with contract specifications, including the following requirements:

- Obtain authorization from owner before initiating work;
- Contact Underground Service Alert in advance of excavation work to mark-out underground utilities;
- Conduct investigations, including exploratory borings, to confirm the location and type of underground utilities and service connections;
- Prepare a support plan for each utility crossing detailing the intended support method;
- Take appropriate precautions for the protection of unforeseen utility lines; and
- Restore or replace each utility as close as possible to its former location and as in good or better condition than found prior to removal.

5.2.4 Step 4: Railroad Track Construction/Rehabilitation

The fourth step of construction involves refurbishment of the existing MBL ROW, estimated to occur over a 12 month period. There are several components to this work, as described below.

Railroad Construction – Except for approximately two miles of track extending across the former Fort Ord military base, the existing track is unusable. Reuse of existing track at Fort Ord would mainly require vegetation removal in certain areas and cleaning using a rail cleaning machine. Where track has been covered, excavation equipment would be used to remove a six- to eight-inch asphalt overlay to uncover good-condition track.

In all other areas along the proposed action corridor, new railroad sidings, ballasted track construction using 115 pound continuous welded rail is planned. The composition of ties, either timber or concrete, would be determined during the design phase. Based on field observations, it appears that where the new track is on the existing proposed action corridor, the existing ballast can be re-used as sub-ballast, with cleaning and some additional material added.

The majority of railroad construction activities would be to remove the existing track (where it occurs) and replace it with new track components. At least for the majority of the proposed action corridor from south of Tioga Avenue north to Castroville, this work may be performed using a specialized rail machine that can install up to one-half mile of track per day. This equipment is designed to run on the existing track carrying the supplies necessary to complete the track replacement work. As the machine proceeds down the track it would move the existing rail to the outside of the track, remove the existing ties, place new ties, and thread the new rail on the ties. Rail cars are brought in to dump ballast rock between and outside the rails. A tamping machine is then used to raise and align the tracks by

squeezing the ballast between the ties. A finish ballasting process occurs in conjunction with a final run by the specialized rail machine to make sure that the two rails are level in relation to each other.

From the proposed Custom House Plaza Station area to just south of Tioga Avenue, a distance of about three (3) miles, track construction activities would be performed by typical construction equipment including end loaders, dump trucks, and all-terrain cranes. This work would require grading and use of off-track equipment to build the roadbed and install the ties and rail. This would be followed with final shaping of the embankment, cleanup, and installation and testing of the signals.

At-grade crossings – Rehabilitation at road and highway crossings would involve removal of old track, roadway and old signals, followed by the installation of new track and crossing panels, roadway approaches, drainage improvements, and warning signal protection system software and equipment. The road crossing and approaches would be striped and signed. This work would be coordinated with local agencies to ensure traffic control planning and adequate advance public notice is provided. Temporary detours due to construction activities at grade crossings would occur but would generally be short-lived and not occur during peak traffic demand periods.

Bridge Construction/Rehabilitation – Phase 2 of the proposed action would entail replacing five timber trestle structures over drainage courses between Castroville and the Salinas River. The existing Tembladero Slough trestle would be replaced using pre-stressed, pre-cast concrete girders supported on driven pile bents. Ballasted track is assumed for this crossing. At the other three bridge locations, import and placement of extensive suitable fill material would be required to construct new culvert crossings.

For the Salinas River Bridge, also a component of Phase 2, rehabilitation is proposed and would require replacement and selective repairs of steel members and timber deck plus bridge cleaning and coating application. All recommended steel repairs and timber deck replacement as listed in the *Bridge Strategy Report for the Monterey Peninsula Light Rail Project* would be performed before any trains can be operated over the existing bridge, particularly before heavier ballast or rail delivery trains or work trains can be operated. In addition, standard ballast cars and rail trains would be only partially loaded (approximately half loading) to reduce their weight for safety purposes. Assuming bridge rehabilitation, versus full replacement, the track would be constructed as open deck (timber bridge ties fastened directly to the steel cross members, as they are currently constructed). Ballasted track is assumed on a potential future new (replacement) bridge.

Excavation – Excavated material would be collected in haul trucks and carried away from the construction area to either become fill material for the proposed action or for some other project or, if either is not desired or the soil contains high levels of contaminants, it would be hauled for disposal at an approved landfill site. Haul routes have not been specified at the present time; these will be determined in consultation with the appropriate local government departments and the construction contractor.

Drainage Facilities – Where determined necessary, the proposed action would entail installation of subsurface drainage facilities, including catch basins, drainage pipe, and connections to the local storm drain system. Where appropriate, construction work within roadways would include forming and pouring curbs and gutters to match existing drainage facilities. Runoff from the curbs and gutters would be channeled into drainage facilities leading to the existing storm drain system. The extent of this work and specifications, such as size, length, and connection points, would be determined during the final engineering design phase. It would also be necessary to manage drainage during the construction period such that project-related drainage does not overflow onto adjacent properties or public streets. To comply with NPDES requirements, the use of BMPs to control and treat runoff, as necessary, would be incorporated into the proposed action.

Pavement Placement – As needed for the proposed action, portions of the proposed action corridor would be paved with Portland cement concrete or asphalt. The process is similar to that used on area freeways. It would likely occur in intermittent paving for several days in a row in various sections of the proposed action corridor and would likely occur several times in each segment as multiple layers of pavement are applied.

Signals – It would be necessary to upgrade the local arterial traffic control system throughout the proposed action corridor to permit the interaction at crossings between local traffic and light rail transit vehicle movements. New signal controllers would need to be installed at a variety of locations along the proposed action corridor. Reconstruction of street intersections would be accomplished, where necessary, along with the traffic signalization work.

5.2.5 Step 5: Station and Maintenance Facility Construction

A total of 11 stations and a maintenance facility are proposed to be constructed along the proposed action corridor, and it is estimated that 13 months would be required for this Phase 1 construction step. Phase 2 construction would be much shorter because it would involve construction of only one station at Castroville. Each of these stations would be constructed using the following approach:

Site Preparation – Each station location would be cleared of obstructions and rough graded to permit subsequent activities to occur. Heavy equipment would be used for excavation, trenching, grading and soil compaction. Construction materials, such as soils for stockpiling, drainage piping and concrete, would be delivered to the site.

Platform Construction – Once the station areas are cleared, footings would be excavated to a depth necessary for the canopy supports, lighting, and other aboveground elements. It would be necessary at this point to install utility feeds for power, water, ticket vending machines, and telephones as part of the footing and platform construction. The footings would receive reinforcing steel, and concrete would be poured. With the footings in place, at-grade platforms would be formed and the concrete platforms poured and finished.

Install Canopy and Other Platform Amenities – With the platforms in place, the above- platform features can be installed. Included among these features would be canopies, stairs, and railings. Activities associated with construction of building or structure foundations may require equipment for trenching, or drilling of piers.

5.2.6 Step 6: Landscaping and Finish Work

This construction step would require approximately four (4) months to complete for Phase 1 of the proposed action. The following approach would occur:

Install Irrigation System and Landscaping – Prior to installing planting material, irrigation systems would be installed where required. Planting materials, including groundcover, shrubs, and trees, would be brought to each planting location by truck and planted.

Complete Finish Work –A variety of finish work tasks would need to be completed, including:

- At each station, final platform features would be installed, including benches, ticket vending machines, stand-alone validators, map cases, pylons, trash receptacles, artwork, lighting, and signage;
- Parking lots would be finish graded and subsequently paved and striped for the prescribed number of parking spaces. Entrance and exit driveways would be constructed. During the construction

period, the parking lot areas could be used as the lay-down sites for construction materials and equipment, so the final paving of the parking lots could occur near the end of the construction period;

- Restriping of travel lanes at intersection crossings would be required when the roadway work is complete; and
- Electrical equipment and new signage would be needed along the proposed action corridor for light rail transit vehicle operators, users, motorists, pedestrians, and bicyclists.

5.2.7 Step 7: Light Rail Transit Vehicle Operations Testing

Once the entire Phase 1 corridor has been constructed, its operation would be tested over approximately a three (3) month period, including the interactive traffic signal system, communications equipment, and maintenance facility and station and park-and-ride facilities and associated equipment. Completion of this testing would then permit the proposed action corridor to be opened for service. A similar process would occur once Phase 2 construction is completed.

5.3 Construction-Related Impacts

5.3.1 Traffic and Transportation

The proposed action would temporarily affect motoring vehicular, bicycle, and pedestrian traffic during construction. The major construction work would occur along the existing MBL ROW, within the proposed station areas, maintenance yard and Highway 1/Fremont Boulevard interchange. Minor construction activities would be associated with track and signal work which would occur within area roadways. In certain instances, work within adjacent roadways would be necessary and may require temporary street closure with detours of motoring and bicycle traffic, and possibly pedestrian traffic. On-street parking may be restricted within work areas and, in some cases, might extend beyond to accommodate construction equipment and materials. Some bus routes may also be affected and would be coordinated for relocation to nearby locations in consultation with the service providers.

A TMP would be developed by TAMC or its Contractor for all work performed within the public ROWs, to provide safe and efficient movement of motorists, pedestrians, bicyclists, construction equipment, workers, and emergency and law enforcement personnel and equipment. The TMP would be consistent with the California Manual on Uniform Traffic Control Devices (MUTCD) (September 2006) and local agency guidelines.

5.3.2 Aesthetics and Visual Resources

Construction of the proposed action would take up to 21 months including LRT operations testing. All construction activities would involve the use of a variety of construction equipment, stockpiling of soils and materials, and other visual signs of construction. While evidence of construction activity would be noticeable, such visual disruptions would be short term and are a common feature of the urban environment (such as areas containing the proposed station locations). Some construction may be accomplished at night. Project specifications would require the project Contractor to direct artificial lighting onto the worksite while working in residential areas at night to minimize spill-over light or glare effects. Trees and landscaping would need to be removed in some areas, including along the ROW and station areas, to accommodate the proposed stations and associated amenities and the proposed maintenance facility. This would be a temporary degradation of the visual environment that would be restored at the completion of construction and would not result in adverse impacts.

5.3.3 Air Quality

Construction activities associated with the proposed action would generate short-term pollutant emissions from the following activities: (1) site preparation, (2) grading, (3) construction workers traveling to and from construction sites, (4) delivery and hauling of construction supplies and debris to and from the construction site, and (5) fuel combustion by on-site construction equipment. Construction would primarily be accomplished using diesel powered heavy equipment and trucks. These temporary activities would create airborne emissions. Table 5.1-2 is a summary of projected worst-case construction emissions.

Table 5.1-2: Worst-Case Construction Emission Estimates (pounds per day)

	ROG	NO_X	CO	PM_{10}			$PM_{2.5}$	CO_2
				Dust	Exhaust	Total		
Unmitigated	9.83	81.30	43.54	20.02	3.48	**23.50**	7.39	9,592
Thresholds (MBUAPCD)	137	137	550	NA	NA	82	NA	NA
Thresholds (Federal)	140	140	550	NA	NA	550	NA	NA

NA = MBUACPD does not have a quantified threshold for this pollutant during construction.

Values in **bold** represent numbers that exceed the relevant threshold.

Source: Denise Duffy & Associates, 2011

PM_{10} would be the air pollutant of greatest concern, largely due to fugitive dust emissions during each construction phase. Construction activities can result in localized high concentrations of PM_{10} as well as affect regional levels of PM_{10}. The greatest amount of dust emissions would be generated during Steps 2 and 4 as described above, where soil disturbance activities would be the most intense (i.e., cut and fill activities involving scrapers and other equipment).

MBUAPCD Guidelines establish a threshold for on-site emissions of 82 pounds per day or greater of PM_{10} from construction activities. Emissions associated with the proposed action are projected to be well below both the state and federal PM_{10} thresholds.

Based on the results of the Urbemis 2007 model analysis, emissions of ROG, NOX, CO and PM10 during construction would not exceed relevant MBUAPCD thresholds. Therefore, construction activities would not result in adverse air quality impacts due to either conflicts with, or obstruction of, implementation of the aforementioned air quality plans.

The proposed action corridor is located within one-quarter mile of sensitive receptors including residential neighborhoods, visitor-serving uses (hotels, motels, etc.), and schools. Truck travel and diesel-fueled construction equipment exhaust may result in elevated levels of diesel particulate matter for short periods of time.

The proposed action includes restoration and/or reconstruction of 15.2 miles of tracks, construction of stations that each would result in construction sites of less than one acre. Due to its linear layout, construction activities at any one site along the proposed action corridor would only occur for very short periods of time (i.e., up to one month for any point along the rail-line and up to two months at stations and bridge crossings). In addition, the proposed action would have to comply with the aforementioned CARB Off-road Diesel Rule.

Given the construction schedule/timing for the proposed action, emission modeling result, and enforcement of the CARB's Off-Road Diesel Rule, the impact from TAC emissions during construction

would not be considered adverse because the risk averaged over a lifetime would not meet the MBUAPCD threshold for cancer risk of ten in one million or result in acute health effects.

Construction of the proposed action would result in GHG emissions from operation of onsite construction equipment as well as from off-site worker and delivery truck trips. The most common GHG associated with fuel combustion is CO_2. During Phase 1, a worst-case estimate of approximately 42 metric tons (MT) CO_2 would be emitted during the first year.

5.3.4 Biological Resources

Phase 1[51]

Special-Status Plant Species – Hooker's Manzanita (0.003 acre), sandmat Manzanita (1.10 acre and 16 individuals), Kellogg's horkelia (0.95 acre and 112 individuals), Monterey ceanothus (1.02 acres and 8 individuals), sand gilia (unknown at this time), and Monterey spineflower (3.30 acres and 118 individuals, of which 1.26 acres are within critical habitat) occur within the proposed action's APE and may be affected by its construction. Impacts may include direct loss of individuals or a population as a result of construction activities or trampling due to construction personnel or equipment within or outside the APE.

Special-Status Wildlife Species – Monterey dusky-footed woodrat, American badger, burrowing owl, Salinas harvest mouse, Monterey ornate shrew, California legless lizard, coast horned lizard, coast range newt, two-striped garter snake, and brackishwater snail, western pond turtle, California red-legged frog, Smith's blue butterfly, and monarch butterfly[52] occur or have the potential to occur within the proposed action's APE and may be affected by its construction. Impacts to these species may include direct mortality of individuals, destruction of nests or dens, and loss of habitat as a result of construction activities.

Sensitive Habitats – Riparian forest habitat, wetlands and other "waters of the U.S.," and areas that may be considered ESHA under the California Coastal Act are present within the proposed action's APE and may be affected by construction activities. Table 5.1-3 presents the potential acreage impacts associated with Phase 1 of the proposed action. As can be seen from the table, the amount of affected wetlands/waters is not substantial.

Movement of Native Resident or Migratory Fish or Wildlife Species – There are no wildlife corridors identified within Phase 1 of the proposed action's APE. No aquatic features within Phase 1 of the proposed action's APE have been identified as important to migratory fish.

Conflict with Adopted HCP, NCCP, or other approved Habitat Management Plan – The proposed action's APE is not located within the boundaries of an adopted HCP or NCCP.

[51] Note: Because Phase 1 and Phase 2 would be developed during different time periods, impacts for this environmental parameter have been identified separately for purposes of analysis.

[52] Note: The habitat (Eucalyptus grove) for the monarch butterfly occurs within the Coastal Zone and would likely be determined an ESHA under the California Coastal Act.

Table 5.1-3: Potentially Affected Acres of Wetlands and Waters of the U.S – Phase 1

Location	Army Corps of Engineers			California Coastal Commission
	Wetlands	Waters of the U.S.	Other Waters	Wetlands
Phase 1				
Locke Paddon Lake	0.25 acre	None	None	0.31 acre
Robert's Lake	0.56 acre	None	0.27 acre	0.03 acre
Total	**0.81 acre**		**0.27 acre**	**0.34 acre**
Source: Denise Duffy & Associates, 2010.				

Conflict with Any Local Biological Policies or Ordinances – The proposed action is consistent with local policies and ordinances intended to provide protection for biological resources. Construction of the proposed action may result in tree trimming and/or removal, although the exact number of trees will not be known until final engineering is performed. Prior to construction, the proposed action will be required to comply with the tree trimming/removal policies outlined in the relevant city and county codes. Because the project applicant (i.e., TAMC) will be required to comply with and implement the requirements of the relevant codes, the proposed action is considered consistent with the policies associated with tree trimming or removal and protection.

Invasive Plants – Construction of the proposed action has the potential to introduce non-native, invasive plant species into the proposed action corridor.

Phase 2

Construction activities associated with the Phase 2 portion (anticipated to occur in 2030 and funding dependent) of the proposed action may result in impacts to special-status species and sensitive habitats. It should be noted that subsequent analysis, impact determination, and mitigation would be undertaken for this phase of the proposed action prior to its implementation.

Special-Status Plant and Wildlife Species – Special-status plant and wildlife species may be present within the Phase 2 portion of the proposed action's APE and may be affected by the proposed Project. Impacts to special-status plants may include direct loss of individuals or a population as a result of construction activities or trampling due to construction personnel or equipment within or outside the APE. Impacts to special-status wildlife species may include direct mortality of individuals, destruction or disturbance of nests, and loss of habitat (including critical habitat for some species) as a result of construction activities.

Sensitive Habitats – Currently designated sensitive habitats (e.g., riparian forest and wetlands) are present within the proposed action's APE. Construction of Phase 2 in 2030 may reveal the presence of additional sensitive habitats (including wetlands or "waters of the U.S." or state [e.g., streams]) not previously known during preparation of the BRR. Table 5.1-4 presents the potential acreage impacts associated with Phase 2 of the proposed action.

Table 5.1-4: Potentially Affected Acres of Wetlands and Waters of the U.S – Phase 2

Location	Army Corps of Engineers			California Coastal Commission
	Wetlands	Waters of the U.S.	Other Waters	Wetlands
Phase 2				
Tembladero Slough	0.13 acre	None	0.032 acre	None
Channel South of Nashua Road	0.09 acre	None	None	None
Salinas River	0.39 acre	1.20 acres	None	0.80 acre
Total	**0.48 acre**	**1.20 acres**	**0.032 acre**	**0.80 acre**

Source: Denise Duffy & Associates, 2010.

Movement of Native Resident or Migratory Fish or Wildlife Species – The rehabilitation of the Salinas River Bridge during Phase 2 may result in a temporary, short-term interference with fish passage or impacts to critical habitat associated with steelhead trout.

Conflict with Adopted HCP, NCCP, or other approved Habitat Management Plan – Currently, the proposed action's APE (including Phase 2) is not located within the boundaries of an adopted HCP or NCCP. However, if such plans are in place at the time Phase 2 is proposed to be constructed, impacts to biological resources, due to conflicts with an adopted HCP or NCCP would be determined at that time.

Conflict with Any Local Biological Policies or Ordinances – Phase 2 construction activities would be evaluated for potential conflicts with future local biological policies or ordinances at such time as activities are proposed for implementation.

Invasive Plants – Phase 2 construction activities would be evaluated for the potential introduce nonnative, invasive plant species at such time as activities are proposed for implementation.

5.3.5 Cultural Resource

Archaeological Resources – Most of the areas to be disturbed during construction are currently covered with asphalt, concrete, gravel, or landscaping. Consequently, archaeological survey efforts were limited to only those few areas where native ground could be observed. One archaeological resource, P-27-1207 (MNT-1154), is located within the APE. This is a dual component site that has not been extensively evaluated.

Given the high potential for extant buried resources within portions the APE, the potential exists for new resources to be discovered and potentially affected during construction activities. This is especially likely for the following activities within the APE and located in the vicinity of historic and current watercourses, as well as near the city of Monterey:

- Tembladaro Slough, bridge rehabilitation
- Salinas River, bridge rehabilitation
- Marina Lake/Pond, Mainline Rail
- Laguna Del Rey, Sand City Station
- Del Monte Lake, Mainline Rail
- U.S. Naval Postgraduate Station

- Custom House Plaza Station.

If significant vertical and/or horizontal earth disturbances (e.g., culverts, footings, pilings, retained cuts, underground utilities) are planned in the areas listed above, then some limited subsurface exploratory work should be conducted to determine if potentially buried sites may be affected. Thus, the need and type of subsurface exploration would depend on the extent of the vertical APE and the actual dimensions of the area of direct impact.

Historic Architectural Resources – Survey results at the previously mentioned dual component site noted historic-period broken glass (including cobalt and solarized colors) and ceramics (white improved earthenware). The historic Monterey Branch Line rail (P-27-2923) was built in 1879-1880 and ran until the 1990s; many of its associated features are extant. As reported in Subsection 4.4.2, the Monterey Branch Line cannot convey its significant historical associations and is therefore not eligible for listing in the NRHP or the CRHR, nor is it an historical resource for the purposes of CEQA, under the criteria outlined in Section 5024.1 of the California Public Resources Code. While the Monterey Southern Pacific Passenger Depot is eligible for listing in the National Register or California Register, it would not be affected by the proposed action's construction.

5.3.6 Geology, Soils, and Seismicity

No impacts associated with geological, soil, or seismic hazards are anticipated during construction of the proposed action. Impacts due to soil disturbance (i.e., erosion and sedimentation potential) during construction would be addressed through the Monterey County General Permit, issued by the RWQCB – Central Coast and administered by the jurisdictions in which the proposed action is proposed.

The paleontological sensitivity of the geologic units underlying the proposed action corridor ranges from low to high (with increasing sensitivity at depths of 10 feet or greater below ground surface). In addition, the likelihood of encountering significant deposits of fossil material is considered to be unlikely. Nevertheless, it is possible that fossil remains could be encountered even in areas designated as having low potential for resources. Very shallow excavations are unlikely to result in adverse impacts to fossil resources; however, excavations at depths of greater than 10 feet within previously undisturbed sediments may have an adverse impact to paleontological resources.

5.3.7 Hazardous Waste

Two principal types of hazardous wastes or materials may cause impacts during construction: hazardous wastes that may be encountered during the construction process and hazardous materials used or generated during the construction process.

During construction, hazardous wastes may be encountered. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous materials is vital if disturbed during construction. During the site reconnaissance and based on the environmental database search and reviews of historic documentation including topographic maps, aerial photographs and Sanborn® fire insurance maps, LBP is expected to have been used on structures which may be acquired as part of the proposed action. As a result, there is a high probability of LBP being used in the buildings. Also, there is a high probability of the paint used for lane striping may contain LBP or other hazardous materials and may exceed hazardous waste criteria under CCR Title 22.

Based on the review of the environmental databases, site reconnaissance, and historical research, there are many hazardous waste sites within the required search distance from the centerline of the proposed action. However, most of these sites are not of concern to the proposed action because they

are note located within the existing MBL ROW or are located at sufficient distance as to not pose a risk to patrons or employees of the proposed action.

If not properly managed, contact with contaminated soil and groundwater could be a health risk to construction workers during site clearing and demolition, utility relocation, railroad construction, excavation, and signal installation. Soils and groundwater may be contaminated with petroleum hydrocarbons, heavy metals, herbicides, pesticides, aerially deposited lead (soil only), or TCE. Rail ties may have been treated with creosote, arsenic-based preservatives, copper azole, and pentachlorophenol, which may have migrated into soil and groundwater in the immediate vicinity of the former MBL railroad. Soil and groundwater sampling should be conducted to determine the levels and extent of contamination within the areas of construction.

Impacts from demolition of buildings could present a health hazard if the asbestos-containing materials (ACMs) are removed in a way that generates airborne fibers. Contractors would be required to conduct ACM and LBP surveys of the buildings scheduled for demolition and apply appropriate protective measures to prevent dispersal of contaminants.

Construction along the proposed action corridor would involve minor excavation at station areas and soil may be disturbed where new ties and ballasts would need to be placed. As a result, contact with contaminated soil and groundwater may occur. Soil and groundwater sampling should be conducted to determine the levels and extent of contamination within the areas of excavation.

Contact with contaminants from pre-existing hazardous wastes in the proposed action corridor could have adverse effects on workers, the public and environmental health and safety. The contaminants of concern along the proposed action alignment would potentially include heavy metals such as cadmium, chromium, copper, nickel, and lead, polychlorinated biphenyls (PCBs), pesticides, herbicides, polynuclear aromatic hydrocarbons (PAHs), and total petroleum hydrocarbons. Workers could be exposed to soil and/or groundwater containing hazardous substances either via direct contact (i.e., ingestion or through the skin) or airborne pathways (i.e., inhalation of vapors or minute particles). The public and environment could be exposed to contaminants transported offsite during construction. The degree of hazard associated with these impacts on human or environmental receptors would depend upon the chemical properties, concentrations, or volumes of contaminants, the nature and duration of construction activities, and contaminant migration pathways. The largest potential exposure risk is to the construction worker.

Construction of facilities for the proposed action would not require deep excavations or large amounts of earth movement. Foundations for the station structures would not be deep and would not cover a large area. Given the construction techniques used and mitigation measures in place, the potential for releases of contaminants would be extremely limited. Disposal of contaminated soil or water would require transport of contaminants outside the proposed action corridor and disposal at an approved facility.

Bridge modifications may pose risks to construction workers during repair and replacement/ rehabilitation work. Hazardous materials which may be encountered during modification may include ACM, LBP, and heavy metals. Contractors should conduct ACM and LBP surveys, along with heavy metals testing of the bridges scheduled for modification. Soils within the waterways directly under the bridges may have LBP and heavy metal contamination from materials which may have fallen off the bridge over the years. As a result, soils within the waterways directly under the bridges should be tested for LBP and heavy metals prior to disturbance.

5.3.8 Hydrology and Water Quality

Excavation, grading, paving, and other construction activities would expose disturbed and loosened soils to erosion by wind and runoff; therefore, construction activities would result in increased erosion and siltation, including nutrient loading and increasing the total suspended solids concentration. Erosion and siltation from construction could affect nearby drainages; however, incorporation of best management practices into the design would avoid the potential for adverse water quality impacts in this regard.

Construction activities would result in the creation of additional polluted runoff. Grading, paving, and construction activities could create additional sources of polluted runoff throughout the study area because of construction-related pollution and waste discharge. Pollutants associated with construction activities can include gasoline, oil, rubber particles, herbicides, pesticide, paint, adhesives, tar, and other chemicals, and the generation of construction related waste materials. These contaminants could affect surface water quality downstream of the construction site. Construction activities could release such pollutants onto roadways and soils, from where it would be carried offsite in runoff. Given these considerations, construction activities would pose a potentially adverse impact to water quality.

Construction activities could result in adverse water quality effects related to dewatering. Construction could involve dewatering activities that would affect surface water quality in the area. Penetration of the water table could result in adverse effects related to dewatering discharge. Dewatering would occur only where the excavation below the water table is necessary and only during the initial phases of excavation and construction, and it would not be carried out for substantial periods of time; however, dewatering discharge contains a high sediment concentration and may contain construction-related pollutants; thus, there is the potential for adverse effects to water quality.

During construction other erosion control procedures would be used such as the use of mulch on all disturbed areas, the use of fiber rolls along slopes, the use of silt fences at the boundaries of the construction site, stabilized construction entrances and exits equipped with tire washing capability, and check dams placed strategically to reduce flow velocity and to filter flows in defined drainage-ways.

While the proposed action would involve construction of an above-grade facility along an existing railroad corridor, there would be extensive grading and excavation required to develop the new track, install or move utilities, construct stations and parking lots, etc. This work would require exposure and stockpiling of soil, development of fill slopes, and minor alterations of drainage patterns.

The water quality of the surface water courses could be degraded due to additional pollutant concentrations in runoff from the disturbed areas. Other potential sources of storm water pollution during construction include: delivery, handling and storage of construction materials and waste; spills and leaks from heavy vehicle equipment; staging areas for the use of paints, solvents, cleaning agents, metals, and other materials during construction; hazardous materials from demolition of existing structures; spilled concrete rinsate; and vegetation requiring irrigation with fertilizers and pesticides.

To minimize impacts associated with construction activities, temporary stormwater pollution prevention practices are required in accordance with the State of California NPDES General Permit for Storm Water Discharges associated with Construction Activities. The BMPs must be incorporated into a Storm Water Pollution Prevention Plan (SWPPP), which details the placement, staging, and monitoring of BMPs required for construction. These include BMPs designed to control discharges of pollutants from regulated construction projects and include pollutants from stormwater and non-stormwater discharges.

Due to the depth to groundwater in the proposed action area, it is not anticipated that the groundwater table would be encountered during construction.

To the extent feasible, construction within designated floodplain areas will be scheduled to occur during the dry season. Erosion and sediment control practices will be implemented during construction.

5.3.9 Land Use and Planning

Since construction activities would not change the existing general plan or zoning designations for the parcels proposed for acquisition, there would be no construction impacts related to land use and planning anticipated and as such, no adverse impacts would result with implementation of the proposed action.

5.3.10 Agricultural Resources

Phase 1 of the proposed project is located exclusively within existing urban areas; no land within Phase 1 is designated for agricultural use. Construction activities associated with Phase 2 would affect portions (i.e., slivers of land) within areas designated as Important Farmland, including Prime Farmland and Farmland of Statewide Importance, the majority of which is Prime Farmland, resulting in the permanent removal of a combined total of 18 acres of these agricultural lands. However, the amount of Important Farmland that is anticipated to be converted is less than one percent of the total Important Farmlands in Monterey County. It should be noted that the existing MBL ROW is owned by TAMC and adjacent cultivated ground is leased to local farmers; therefore no farmland acquisitions under private ownership would occur.

The proposed project is located adjacent to existing agricultural zoned properties and one property under Williamson Act contract. No construction-related activities are proposed to occur on properties subject to Williamson Act contract agreements. During Phase 2 construction, short-term and temporary indirect impacts to adjacent agricultural uses would occur and include increased dust and other associated construction activities (e.g., limited access, etc.). However, to the extent practicable, construction along the proposed action corridor would be scheduled outside of peak growing seasons and which would also decrease construction-related impacts. It should be emphasized that these impacts would be temporary in nature and construction-related activities are not considered incompatible with adjacent agricultural uses.

Currently, TAMC leases a portion of the MBL ROW between the Salinas River Bridge and Castroville to adjacent farmers for the purposes of providing farm access via an unpaved road. Construction of the proposed action would result in the closure of the existing farm access road per the PUC; however, there is a nearby road that would maintain access to the same farms.

5.3.11 Noise and Vibration

Noise – Construction noise varies greatly depending on the construction process, type and condition of the equipment used, and its perceived impacts, layout of the construction site and proximity to sensitive receptors. Many of these factors are subject to the contractor's discretion. Projections of potential construction noise levels may vary from actual noise experienced during construction due to these factors. Overall, construction noise levels are governed primarily by the noisiest pieces of equipment. The diesel engine is usually the dominant noise source for most construction equipment.

The estimated construction noise levels of the proposed action were compared to FTA's suggested construction noise limits to identify potential noise-affected areas. Although the construction process undoubtedly affects the noise environment at certain areas, the noise impact would be temporary. The following paragraphs analyze the construction noise impacts and summarize the number of affected residences by construction stage:

Bridge Construction or Rehabilitation: Pilling may be needed for the construction or rehabilitation of two bridges located along the proposed action alignment (i.e., Robert's Lake and Salinas River Bridge). The exact piling method for foundation preparation is not determined at this juncture. In a worst-case situation involving impact pile driving, construction noise would affect three single family residences (represented by receptor R5 (see Appendix A, *Noise and Vibration Impact Report for the Monterey Peninsula Fixed Guideway Corridor Study*, January 2011 [available under separate cover] for the maps showing the locations of sensitive receptors) located within 145 feet from the Salinas River Bridge abutment. There are no residences that would be affected by construction activities associated with the Robert's Lake Bridge.

Track Work: Anticipated noise levels during this stage of construction are anticipated to approach 80 dBA at a distance of 50 feet. Three single-family residences represented by Receptor R13B, five single-family residences and three ground floor multi-family residences represented by R19, and four single-family residences represented by R9 fall within 50 feet of the proposed alignment; thus, temporary construction impacts during this phase is anticipated.

Station/Park-and-Ride Construction: Residences within 50 feet away from the station construction site would experience construction noise levels of 83 dBA or above. This is above the FTA's daytime limit of 80 dBA. All noise-sensitive receptors within 66 feet of the proposed station platform(s) would be affected. Of the 12 stations proposed, 12 single-family and three multi-family residences would be affected by construction noise near the following stations: Beach Road Station (four single-family residences represented by R9), Reservation Road Station (three single-family residences represented by R13B), and the Contra Costa Street Station (five single-family residences and three ground floor multi-family residences represented by R19).

Another area where construction noise impacts may occur would be at sensitive land uses that are adjacent to construction lay-down or staging areas. These are areas where construction equipment and materials are stored and accessed during the construction period. The specific locations and details of the lay-down areas are not known and will be identified in consultation with the affected jurisdictions and construction contractor. However, if a lay-down area is selected that is within 90 feet of a residential area, it is possible that noise impacts could occur.

Vibration – Construction activity can result in varying degrees of groundbourne vibration, depending on the equipment and methods employed. Buildings in the vicinity of the construction site can be affected by these vibrations, with resulting damage in the most severe cases. Heaviest pieces of equipment such as pile drivers and vibratory rollers are the most dominant sources of overall construction vibration. The vibration levels created by the normal movement of vehicles including graders, front loaders, and backhoes are comparable in order-of-magnitude as ground-borne vibrations created by heavy vehicles traveling on streets and highways.

Building damage can be cosmetic or structural. Fragile buildings such as historical structures are generally more susceptible to damage from ground vibration. Normal buildings that are not particularly fragile would not experience any cosmetic damage (e.g., plaster cracks) at distances beyond 30 feet based on typical construction equipment vibration levels. Impact pilling may impact wood framed residential building up to 100 feet away. These distances can vary substantially depending on the soil composition between vibration source and receiver. In addition, buildings react differently to vibrations. There are no historical structures located within 100 feet of the proposed action corridor.

5.3.12 Energy

The proposed action would result in one-time, non-recoverable energy costs associated with construction activities. Short-term use of oil, gas, and electricity for construction would reduce the

overall amount of fossil fuels used within the area, region, and state; however, through implementation of standard construction practices and techniques, fossil fuels and electricity would not be used in a wasteful or inefficient manner. TAMC would work with the local solid waste vendors to investigate methods of minimizing construction and demolition waste, including recycling options. TAMC would comply with all federal, state, and local requirements for separating differing forms of waste material. During design and construction of the proposed action, the TAMC Procurement Department would comply with the requirements of Resource Conservation and Recovery Act, Section 6002 (USEPA's Buy-Recycled Program) where technically feasible and appropriate. TAMC would strive to incorporate the latest Comprehensive Procurement Guide listings of recycled or reused materials applicable to construction, landscaping, and transportation products to be used on the proposed action. Based on these considerations, construction of the proposed action alternative would not result in adverse energy impacts.

5.3.13 Demographics, Neighborhoods, and Environmental Justice

A beneficial effect of the proposed action would be the creation of new construction and engineering jobs. It is also estimated that additional jobs would be indirectly created within the local economy due to increased spending. The proposed action area includes a skilled workforce and as such, it is anticipated that construction employment would be derived from this group of workers. Similarly, these workers would also be anticipated to live within close proximity to the proposed action area and therefore, would commute daily to and from their current residences. In some instances, workers may choose to relocate, but the local and regional housing supply can support this demand and would not create the need for new housing units.

Concentrations of minority communities are located along portions of the proposed action corridor and within the proposed station areas. However, standard construction techniques designed to ensure the safety and health of all area residents would be employed. In addition, construction activities would be intermittent and of short-term duration (18 months). During construction, area communities within proximity to the work areas would experience some construction-related impacts (e.g., noise, dust, traffic) and inconveniences. No particular types of construction impacts would occur that would be materially different from construction impacts on public works projects to which the general population would typically be exposed. Moreover, these impacts would not be disproportionately distributed among groups, but would be equally shared among the community as a whole. For instance, traffic delays or temporary road closures would require all area residents to use alternate routes around the work areas.

5.3.14 Acquisitions and Displacements

A total of eight parcels used for commercial and light industrial purposes would need to be acquired as part of the proposed action. No residential land uses would need to be acquired. The acquisition of these parcels would have some temporary employment effects, but would be reduced through the adherence to relocation and compensation requirements as contained within the federal *Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs* and the state's *California Relocation Assistance Act*. In addition, it should be noted that many of the affected businesses can be relocated within the immediate area. Moreover, a RAMP will be prepared as a requirement of the acquisitions component and will include information addressing the types of businesses affected, the number of employees, and the availability of relocation sites.

In addition, some existing businesses may be affected by restricted access or removed parking.

5.3.15 Public Services and Utilities

Construction of the tracks, proposed stations and maintenance facility and other improvements within the ROW could involve detours or street closures. These detours would be short-term and temporary. To maintain acceptable response times and performance objectives for emergency response services, a TMP would be developed for implementation during the construction period. The TMP would address traffic management procedures (e.g., roadway closures, detour routes, manual traffic operations) intended to minimize traffic conflicts and delays to the travelling public.

All affected emergency routes would be identified in the TMP. TAMC would coordinate with the traffic departments of the local jurisdictions and with all proposed action corridor emergency service providers in developing detour routes and other traffic handling plans. Given the above considerations, these detours and lane closures are not expected to have substantial adverse effects on public or emergency service delivery or the ability of people to access public facilities.

Some aboveground and underground utilities either crossing or running parallel with the corridor would need to be located, removed (if abandoned) and/or relocated during construction. This work would be conducted in accordance with contract specifications. These typical standard specification directives outline the procedures for locating, protecting, and relocating existing underground utilities and surface improvements. They would be implemented to help ensure the proper operation of work to minimize the potential for damage to utilities, injury or death to construction workers, and proper completion of the work. With the standard procedural controls, impacts on utilities during construction would not be substantial.

5.3.16 Safety and Security

The proposed action includes construction during daytime hours across active-use transportation corridors; hence, construction worker, motorist, bicyclist, and pedestrian safety is a primary consideration. In this regard, the aforementioned TMP would be prepared to address traffic management procedures. Traffic controls would be established and implemented during construction to minimize traffic conflicts and help ensure a safe working and driving environment.

Construction activities at the jobsite would be governed by OSHA regulations defined in the federal CFR, Part 29, Chapter XVII. The contractor is required to comply with all standards under Part 1926 of this regulation titled “Occupational Safety and Health Standards,” commonly referred to as the “Construction Standards.” To establish a safe working environment, the contract documents for the proposed action would require that the contractor provide and maintain all measures required by Construction Safety Orders issued by the Division of Industrial Safety of the California OSHA. The contractor would also be required to comply with all laws and regulations regarding public health and safety. This would include, but not be limited to, temporary controls such as fences, barriers, plates, over-crossings, trench bridges, traffic control devices, lights, warning signals, guards, street sweeping, and trash removal.

With adherence to the laws and regulations noted above, safety impacts associated with the proposed action are not expected to be adverse.

Security at staging area lots could also be a concern during construction. Construction site security precautions would be taken during construction to minimize the potential for adverse impacts to persons or property associated with the proposed action. The contractor would be responsible for establishing and maintaining the security of each staging area. Each staging area would be secured with installation of a temporary 6-foot, chain-link fence along the site perimeter to prevent unauthorized

access. The use of a private security service during construction may be warranted and would be evaluated on a case-by-case basis.

5.3.17 Parks and Recreation

Portions of the Monterey Peninsula Recreational Trail would be affected by construction of the proposed action in two ways; permanent relocation of portions of the trail to areas within the immediate vicinity of the proposed action corridor; and temporary closures (portions only) during construction, potentially lasting up to 18 months. A portion of Municipal Beach (also known as Monterey Bay Waterfront Park/Window on the Bay) would also be closed to public access during track construction. Construction activities also have the potential to result in temporary loss of on-street parking, and increased noise and dust.

5.4 Construction-Related Mitigation Measures

5.4.1 Aesthetics and Visual Resources

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.2 Air Quality

The following mitigation measures are applicable to the Locally Preferred Alternative:

AQ-C1: Contractors shall follow Best Management Practices (BMPs) to reduce construction emissions, including some or all of the following:

- Contractors shall maintain equipment and vehicle engines in good condition and in proper tune per manufacturers' specifications.
- Contractors shall utilize electricity from power poles rather than temporary diesel or gasoline generators, as feasible.
- Contractors shall utilize alternative fueled off-road equipment where possible.
- Contractors shall configure construction parking to minimize traffic interference.
- Contractors shall provide temporary traffic controls, such as a flag person, during all phases of construction to maintain smooth traffic flows.
- Contractors shall provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.
- Contractors shall schedule construction activities that affect traffic flow on arterial system to off-peak hour to the extent practicable.
- Contractors shall route construction trucks away from congested streets and sensitive receptor areas.
- All diesel-powered construction equipment in use shall be equipped with control equipment that meets, at a minimum, Tier III emissions requirements. In the event Tier III equipment is not available, diesel-powered construction equipment in use shall be equipped with emissions control equipment with a minimum of Tier II diesel standards.

- During construction, all contractors shall turn off all construction equipment and delivery vehicles when not in use or prohibit idling in excess of 5 minutes.

AQ-C2: Construction specifications shall include dust control measures, as follows:

- Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.
- Track-out shall not extend 25 feet or more from an active operation, and track-out shall be removed at the conclusion of each workday.
- All haul trucks hauling soil, sand, and other loose materials shall maintain at least 6 inches of freeboard in accordance with California Vehicle Code Section 23114.
- All trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).
- Traffic speeds on unpaved roads shall be limited to 15 miles per hour (mph).
- Operations on unpaved surfaces shall be suspended when winds exceed 25 mph.
- Onsite stockpiles of debris, dirt, or rusty materials shall be covered or watered at least two times per day.

5.4.3 Biological Resources

Phase 1

The following mitigation measures are applicable to the Locally Preferred Alternative:

PH1-C1a: A qualified biologist shall monitor during initial construction activities (vegetation removal and other ground disturbing activities) to see that special-status species and sensitive habitats are avoided to the maximum extent possible. The following measures shall be implemented to reduce potential impacts to special-status species and sensitive habitats within and adjacent to the proposed Project's APE. These measures shall be implemented by the contractor in coordination with the biologist, and approved by TAMC prior to the commencement of ground disturbing activities, including, but not limited to, vegetation and tree removal, grading, and excavation.

- The biological monitor shall flag the locations of special-status species and sensitive habitats within the proposed Project's Area of Potential Effect (APE) and shall avoid these resources to the maximum extent practicable.
- Trees and vegetation not planned for removal shall be protected during construction to the maximum extent feasible. This shall include the use of exclusionary fencing of herbaceous and shrubby vegetation, such as hay bales, and protective wood barriers for trees. Only certified weed-free straw shall be used to avoid the introduction of non-native, invasive species.
- Protective fencing shall be placed so as to keep construction vehicles and personnel from impacting special-status species and sensitive habitats adjacent to the proposed Project's APE within and outside of the work limits area.

- Grading, excavating, and other activities that involve substantial soil disturbance shall be planned and carried out in consultation with a qualified hydrologist, engineer, or erosion control specialist, and shall utilize standard erosion control techniques to minimize erosion and sedimentation to special-status species and sensitive habitats.
- No construction equipment shall be serviced or fueled outside of designated staging areas.

PH1-C1b: Prior to construction activities, a qualified biologist shall conduct an Employee Education Program for the construction crew. The biologist shall meet with the construction crew at the areas proposed for alteration at the onset of construction to educate the construction crew on the following: 1) a review of the proposed Project's APE including staging areas and access routes; 2) the special-status species that may be present, their habitat, and proper identification; 3) the specific mitigation measures that will be incorporated into the construction effort, 4) the general provisions and protections afforded by the USFWS, NOAA Fisheries, and DFG; and 5) the proper procedures if a special-status species is encountered within the proposed Project's APE. The biologist shall provide confirmation that the education program was conducted by providing TAMC with written confirmation that a foreman was designated and a copy of the sign-in sheet.

PH1-C2: Hooker's manzanita, sandmat manzanita, Kellogg's horkelia, and Monterey ceanothus shall be replaced at a 1:1 ratio for the number of individuals affected. The mitigation requirement shall be met by either: 1) contributing funds to an approved restoration or preservation project that includes the restoration and/or preservation of these species at an equal or greater quantity, or 2) identifying an off-site mitigation site(s) where these species will be restored and/or preserved at an equal or greater quantity. In the event that Option 2 is selected by TAMC, a Rare Plant Restoration Plan shall be prepared by a qualified biologist and approved by TAMC in coordination with DFG and the local jurisdictions, as appropriate, prior to issuance of a grading permit.

PH1-C3a: Impacts to Monterey spineflower and its critical habitat shall be mitigated at a 3:1 ratio for the acreage of occupied habitat affected. The amount of occupied habitat shall be based on the results of the surveys conducted for Phase 1 in 2009 (3.30 acres plus 118 individuals; 1.26 acres of this total is within critical habitat). The mitigation requirement shall be met by either: 1) contributing funds to an approved restoration or preservation project that includes the restoration and/or preservation of this species at an equal or greater quantity affected, or 2) identifying an off-site mitigation site(s) where this species will be restored and/or preserved at an equal or greater quantity affected. In the event that Option 2 is selected by TAMC, a Rare Plant Restoration Plan shall be prepared by a qualified biologist and approved by TAMC in coordination with USFWS, and the local jurisdictions, as appropriate, prior to issuance of a grading permit.

PH1-C3b: Section 7 formal consultation with the Service is required due to the potential impacts to Monterey spineflower and critical habitat that may result from implementation of the proposed Project. The Service is required to issue a Biological Opinion prior to completing the environmental process for the proposed Project and may require additional measures to reduce impacts to this species and critical habitat. Any additional measures required by the Biological Opinion shall be incorporated into the proposed Project's Mitigation Monitoring and Reporting Program and implemented in accordance with this document.

PH1-C4: Focused botanical surveys shall be conducted during the appropriate blooming period to determine the presence of Monterey spineflower and/or sand gilia within this area. If these

species are identified within this area, Mitigations PH1-C1a, PH1-C1b, PH1-C3a, and PH1-C3b shall be implemented, as appropriate, for these species.

PH1-C5: A qualified biologist shall conduct preconstruction surveys for active Monterey dusky-footed woodrat nests within three days prior to construction. The survey shall be conducted within the proposed Project's APE and in a buffer zone of 100 feet from the limits of disturbance. All active woodrat nests should be flagged for avoidance of direct construction impacts, where feasible. Any active nests that will not be in areas of grading or vegetation removal should be avoided and protected during project activities with a minimum 25-foot buffer. Active nests that cannot be avoided should be manually deconstructed prior to land clearing activities to allow animals to escape harm and to reestablish territories for the next breeding season. The DFG shall be contacted to determine the appropriate methods for dismantling. These methods typically include dismantling by hand, which allows any animals to escape either along existing woodrat trails or toward other available habitat. If a litter of young is found or suspected, nest material is replaced, and the nest left alone for 2-3 weeks before a re-check to verify that young are capable of independent survival before resuming nest dismantling.

PH1-C6: A qualified biologist shall conduct focused preconstruction surveys no more than two weeks prior to construction for potential American badger dens. If no potential American badger dens are present, no further mitigation is required. If potential dens are observed, the following measures are required to avoid potential significant impacts to the American badger:

- If the biologist determines that potential dens are inactive, the biologist shall excavate those dens by hand with a shovel to prevent badgers from re-using them during construction.
- If the biologist determines that potential dens may be active, the entrances of the dens shall be blocked with soil, sticks, and debris for three to five days to discourage the use of those dens prior to project disturbance. The den entrances shall be blocked to an incrementally greater degree over the three to five day period. After the biologist determines that badgers have stopped using active dens within the proposed Project's APE, the dens shall be hand-excavated with a shovel to prevent re-use during construction.

PH1-C7: A qualified biologist shall conduct preconstruction surveys to locate active breeding or wintering burrowing owls no more than 30 days prior to the start of construction. If ground disturbing activities are delayed or suspended for more than 30 days after the preconstruction survey, the site shall be resurveyed. The survey shall conform to the Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium, 1993). If no burrowing owls are found, no further mitigation is required. If burrowing owls are found, impact avoidance shall occur and if avoidance is not possible, then mitigation measures shall be implemented as described below.

- Complete impact avoidance shall be pursued to the extent feasible by compliance with the following provisions:
  - Breeding season: If active nests are found, then no ground-disturbing activities will be permitted within 250 feet of an active burrow during the breeding season (February 1 to August 31).

- Winter Season: If active burrows are found during winter months (September 1 through January 31), ground disturbing activities can proceed no closer than 160 feet from active burrows.

- Avoidance also requires that a minimum of 6.5 acres of foraging habitat be permanently reserved contiguous with occupied burrow sites for each pair of breeding burrowing owls (with or without dependent young) or single unpaired resident bird.

- If active nests or burrows are found that cannot be avoided, the following mitigation measures would apply:

  - On-Site. On-site passive relocation shall be implemented if the above avoidance measures cannot be met. Passive relocation is defined as encouraging owls to move from occupied burrows to alternate natural or artificial burrows that are beyond 160 feet from the impact zone, and that are within or contiguous to a minimum of 6.5 acres of foraging habitat for each pair of relocated owls. The land utilized for relocation shall be acquired and permanently protected at a location acceptable to the DFG. Existing unsuitable burrows shall be enhanced (enlarged or cleared of debris) or new burrows created (by installing artificial burrows) at a ratio of 2:1 on the protected lands site. Relocation of owls shall only be implemented during the non-breeding season. A time period of at least one or more weeks is necessary to accomplish the passive relocation methods, and allow the owls to move and acclimate to alternative burrows.

  - Occupied burrows shall not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the DFG verified through non-invasive methods that either: 1) the birds have not begun egg-laying and incubation; or 2) that juveniles from the occupied burrows are foraging independently and are capable of independent survival.

  - TAMC shall provide funding for long-term management and monitoring of the protected lands. The monitoring plan shall include success criteria, remedial measures, and an annual report to the DFG.

  - Off-site. If the proposed Project will reduce suitable habitat on-site below the threshold level of 6.5 acres per relocated pair or single bird, the habitat shall be replaced off-site. Off-site habitat must be suitable burrowing owl habitat, as defined in the Burrowing Owl Survey Protocol, and the site approved by the DFG. Land shall be purchased and/or placed in a conservation easement in perpetuity and managed to maintain suitable habitat. The land shall be funded by TAMC for long-term management and monitoring of the protected lands. The monitoring plan shall include success criteria, remedial measures, and an annual report to the DFG. Off-site mitigation shall use one of the following ratios:

    - Replacement of occupied habitat with occupied habitat: 1.5 times 6.5 (9.75) acres per pair or single bird.

    - Replacement of occupied habitat contiguous to currently occupied habitat: 2 times 6.5 (13.0) acres per pair or single bird.

- Replacement of occupied habitat with suitable occupied habitat: 3 times 6.5 (19.5) acres per pair or single bird.

PH1-C8: Construction activities that may affect nesting raptors and other protected avian species (e.g., vegetation or tree removal) can be timed to avoid the nesting season. Specifically, vegetation and/or tree removal can be scheduled after September 1 and before January 31. Alternatively, pre-construction surveys shall be conducted for nesting raptors and other protected avian species within 300 feet of proposed construction activities if construction is to be initiated between February 1 and August 31. Preconstruction surveys should be conducted no more than 15 days prior to the start of construction. If raptor or other protected avian species nests are identified during the preconstruction surveys, the DFG shall be contacted and an appropriate no-disturbance buffer should be imposed within which no construction activities or disturbance should take place (generally 300 feet in all directions for raptors; other avian species may have species-specific requirements) until the young of the year have fledged and are no longer reliant upon the nest or parental care for survival, as determined by a qualified biologist and the DFG.

PH1-C9: As Mitigations PH1-C1a and PH1-C1b will be implemented for these species, no additional mitigation is required.

PH1-C10: A qualified biologist will survey suitable habitat no more than 48 hours before the onset of work activities for the presence of western pond turtle. If pond turtles are found and these individuals are likely to be killed or injured by work activities, the biologist will be allowed sufficient time to move them from the site before work activities begin. The biologist will relocate the pond turtles the shortest distance possible to a location that contains suitable habitat and will not be affected by activities associated with the project.

PH1-C11a: Section 7 formal consultation with the Service is required due to the potential impacts to the CRLF that may result from the project. The Service is required to issue a Biological Opinion for the proposed Project and the Biological Opinion may require additional measures to reduce impacts to this species. Any additional measures required by the Biological Opinion shall be implemented. No critical habitat is designated for this species within or adjacent to the proposed Project's APE, or in any locale where the proposed Project could affect designated critical habitat indirectly.

PH1-C11b: A Service-approved biologist possessing a valid §10(a)(1)(A) permit (Threatened and Endangered Species Permit) will survey suitable habitat within the proposed Project's APE no more than 48 hours before the onset of work activities for the presence of CRLF. If any life stage of the CRLF is found and these individuals are likely to be killed or injured by work activities, the approved biologist will be allowed sufficient time to move them from the site before work activities begin. The Service-approved biologist will relocate the CRLF the shortest distance possible to a location that contains suitable habitat and will not be affected by activities associated with the proposed Project. The Service-approved biologist will maintain detailed records of any individuals that are moved (e.g., size, coloration, any distinguishing features, photographs [digital preferred]) to assist him or her in determining whether translocated animals are returning to the original point of capture. Ground disturbance will not begin until written approval is received from the Service that the biologist is qualified to conduct the work. Only Service-approved biologists will participate in activities associated with the capture and handling of California red-legged frogs.

PH1-C11c: Before any construction begins on the proposed Project, a Service-approved biologist will conduct a training session for all construction personnel. At a minimum, the training will

include: a description of the CRLF and its habitat; the specific measures that are being implemented to conserve the CRLF during construction of the proposed Project; and the APE boundaries within which construction is allowed. Brochures, books, and briefings may be used in the training session, provided that a qualified person is on-hand to answer any questions.

PH1-C11d: If CRLF are identified during the preconstruction surveys, a Service-approved biologist will be present at the work site until all CRLF have been removed, workers have been instructed, and disturbance of habitat has been completed. After this time, the state or local sponsoring agency will designate a person to monitor on-site compliance with all minimization measures. The Service-approved biologist will ensure that this monitor receives the sufficient training in the identification of CRLF. The monitor would not be required to hold a valid §10(a)(1)(A) permit (Threatened and Endangered Species Permit) from the Service, and, therefore, would also not be authorized to handle any individual frogs which may need to be removed from a construction area. If the monitor or the Service-approved biologist recommends that work be stopped because CRLF would be affected by construction activities, they will notify the resident engineer (the engineer that is directly overseeing and in command of construction activities) immediately. The resident engineer will either resolve the situation by eliminating the effect immediately or require that all actions which are causing these effects be halted. If work is stopped, the Service will be notified as soon as is reasonably possible.

PH1-C12: Section 7 formal consultation with the Service is required due to the potential impacts to federally listed species that may result from the proposed Project. The Service is required to issue a Biological Opinion for the project and the Biological Opinion may require additional measures to reduce impacts to this species. Any additional measures required by the Biological Opinion shall be incorporated into the proposed Project's Mitigation Monitoring and Reporting Program and implemented in accordance with this document.

PH1-C13: If any eucalyptus trees must be removed during the monarch butterfly winter roosting season (generally October – February), the site shall be surveyed by a qualified biologist to ensure that a roosting colony is not present. Since timing of monarch migration on the coast varies year to year, the survey shall be conducted at a time to coincide with monarch roosting activity on the coast for that particular year as determined by a qualified biologist. Information on monarch roosting activity must be verified with a qualified biologist prior to conducting the survey. If a roosting colony is not detected, tree removal may commence and no further surveys are warranted. However, if a roosting colony is detected, trees shall not be removed until the winter roosting season has concluded (i.e., no more monarchs have been observed in the general area or using the trees).

PH1-C14a: Riparian habitat shall be avoided to the greatest extent feasible. Protective fencing will be installed to limit access to riparian areas not planned for removal. A biological monitor will supervise the installation of protective fencing. The monitor shall remain on-site during the initial grading activities and vegetation removal. After these activities are completed, the biological monitor shall check at least once per week to ensure that the protective fencing remains intact and that all construction work is maintained within the limits of construction.

PH1-C14b: Where avoidance to riparian habitat is not feasible, a qualified biologist shall prepare and implement a Restoration and Monitoring Plan (Plan) for the proposed Project that details mitigation for permanent impacts to riparian habitat. Riparian habitat will be replaced to achieve a 3:1 ratio after a 5-year establishment period. Likely two or three replacements

would be necessary for each individual removed during project construction. The plan will be of sufficient detail and format for submission to the DFG. The plan will include the following:

- Details of the engineering and hydrological components necessary to restore riparian function in the designated area;
- Applicable planting details which include the use of local native plant species and the location and planting size of all planting stock;
- An irrigation plan, if necessary;
- Description of a 5-year monitoring program, including specific methods of vegetation monitoring, data collection and analysis, restoration goals and objectives, success criteria, adaptive management if the criteria are not met, and a funding mechanism; and
- An outline of the specific content for reports that will be submitted to the DFG annually.

This final plan will be developed as part of the regulatory permitting process and must be approved by the DFG prior to any ground disturbance. The plan shall be implemented by the contractor(s) under the supervision of a qualified restoration practitioner and monitored by a qualified biologist.

PH1-C14c: A 1602 Streambed Alteration Agreement Permit will be obtained. All requirements of the permit must be followed.

PH1-C15a: Mitigation Measures PH1-14a (as applicable to wetlands and other waters of the U.S.) shall be implemented for impacts to wetlands.

PH1-C15b: If avoidance of wetlands and waters is not feasible, a 404 permit shall be obtained from the ACOE and a 401 Water Quality Certificate shall be obtained from the RWQCB prior to ground disturbance.

PH1-C15c: If avoidance to wetlands and other waters of the U.S. is not feasible, a qualified biologist shall prepare and implement a Restoration and Monitoring Plan (Plan) for the Project that details mitigation for permanent impacts to wetland habitat. Wetland habitat will be replaced at a 3:1 ratio. The plan will be of sufficient detail and format for submission to the ACOE. The plan will include the following:

- Details of the engineering and hydrological components necessary to restore wetland function in the designated area;
- Applicable planting details which include the use of local native plant species and the location and planting size of all planting stock;
- An irrigation plan, if necessary;
- Description of a 5-year monitoring program, including specific methods of vegetation monitoring, data collection and analysis, restoration goals and objectives, success criteria, adaptive management if the criteria are not met, and a funding mechanism; and
- An outline of the specific content for reports that will be submitted to the ACOE annually.

This final plan will be developed as part of the regulatory permitting process and must be approved by the ACOE prior to any ground disturbance. The plan shall be implemented by the contractor(s) under the supervision of a qualified restoration practitioner and monitored by a qualified biologist.

PH1-C16: All the mitigation measures identified in this report shall be implemented to avoid and reduce impacts to areas that may be considered ESHA, as all of the mitigation measures in this report reduce impacts to special-status species and their habitats and other sensitive habitats to a less-than-significant level.

PH1-C17a: In compliance with Executive Order 13112 on Invasive Species, the landscaping for the proposed Project will not use species listed as noxious by the California Department of Food and Agriculture (CDFA) under the Federal Noxious Weed Act of 1974 (7 USC 2802(c)) (http://www.cdfa.ca.gov/phpps/ipc/weedinfo/winfo_list-fednoxweeds.htm) or categorized as "high" on the Cal-IPC Invasive Plant Inventory (http://www.cal-ipc.org/ip/inventory/index.php). In areas of particular sensitivity, extra precautions shall be taken if invasive species are found in or adjacent to the proposed Project's APE. These include the inspection and cleaning of construction equipment and eradication strategies to be implemented should an invasion occur.

PH1-C17b: Bare soil shall be landscaped with a seed mix from locally occurring species to preclude the invasion on noxious weeds in the proposed Project's APE.

PH1-C17c: Construction equipment shall be cleaned of mud or other debris that may contain invasive plants and/or seeds and inspected to reduce the potential of spreading noxious weeds, before mobilizing to arrive at the construction site and before leaving the construction site.

Phase 2

As noted previously, Phase 2 of the proposed action is planned to be implemented by 2030, but is funding dependent. As such, the proposed action would need to conduct future biological field surveys in order to identify potential impacts to biological resources and develop appropriate mitigation measures. The mitigation measures noted below are therefore, generalized and do not necessarily represent specific measures that may be required.

PH2-C1a: A qualified biologist shall monitor during initial Phase 2 construction activities (vegetation removal and other ground disturbing activities) to see that special-status species and sensitive habitats are avoided to the maximum extent possible. The following measures shall be implemented to reduce potential impacts to special-status species and sensitive habitats within and adjacent to the proposed Project's APE. These measures shall be implemented by the contractor in coordination with the biologist, and approved by TAMC prior to the commencement of ground disturbing activities, including, but not limited to, vegetation and tree removal, grading, and excavation.

- The biological monitor shall flag the locations of special-status species and sensitive habitats within the proposed Project's APE and shall avoid these resources to the maximum extent practicable.
- Trees and vegetation not planned for removal shall be protected during construction to the maximum extent feasible. This shall include the use of exclusionary fencing of herbaceous and shrubby vegetation, such as hay bales, and protective wood barriers

for trees. Only certified weed-free straw shall be used to avoid the introduction of non-native, invasive species.

- Protective fencing shall be placed so as to keep construction vehicles and personnel from impacting special-status species and sensitive habitats adjacent to the proposed Project's APE within and outside of the work limits area.
- Grading, excavating, and other activities that involve substantial soil disturbance shall be planned and carried out in consultation with a qualified hydrologist, engineer, or erosion control specialist, and shall utilize standard erosion control techniques to minimize erosion and sedimentation to special-status species and sensitive habitats.
- No construction equipment shall be serviced or fueled outside of designated staging areas.

PH2-C1b: Prior to construction activities associated with Phase 2, a qualified biologist shall conduct an Employee Education Program for the construction crew. The biologist shall meet with the construction crew at the areas proposed for alteration at the onset of construction to educate the construction crew on the following: 1) a review of the proposed Project's APE including staging areas and access routes; 2) the special-status species that may be present, their habitat, and proper identification; 3) the specific mitigation measures that will be incorporated into the construction effort, 4) the general provisions and protections afforded by the USFWS, NOAA Fisheries, and DFG; and 5) the proper procedures if a special-status species is encountered within the proposed Project's APE. The biologist shall provide confirmation that the education program was conducted by providing TAMC with written confirmation that a foreman was designated and a copy of the sign-in sheet.

PH2-C2: Prior to construction of Phase 2, TAMC shall consult with the USFWS, NOAA Fisheries, and DFG to determine if special-status plant or wildlife could occur within or immediately adjacent to the proposed Project's APE and therefore, be affected by construction or operation of this phase. Provided that these agencies determine that no special-status plant or wildlife species could be affected by these activities, no further mitigation would be required.

If potential impacts to special-status plant or wildlife species could occur, the following shall be undertaken by TAMC in consultation with these agencies:

A current list of special-status plant and wildlife species potentially affected by construction or operation of Phase 2 shall be obtained. In consultation with these agencies, the project Biologist shall assess and make recommendations regarding which of these species may be present within the proposed Project's APE and as such, should be the subject of focused surveys. Pending concurrence from these agencies, the project Biologist shall conduct appropriate surveys for these species utilizing the latest survey guidance available from these agencies. The results of the surveys shall be included within an updated or new Biological Resources Report (BRR). Provided potential impacts to these species resulting from construction of Phase 2 are identified, appropriate mitigation measures will be identified. These measures shall be presented to the USFWS, NOAA Fisheries, and DFG for concurrence and implemented in accordance with applicable laws and/or permit requirements.

PH2-C3: Prior to construction of Phase 2, the project Biologist shall reevaluate the sensitive habitats information and analysis contained within the BRR in order to determine if it is still accurate.

This analysis will be based upon the latest guidance available from the USFWS, DFG, and/or appropriate local agency. If necessary, the project Biologist shall update or prepare a new sensitive habitats discussion and associated graphics within the BRR. The results of the analysis shall be included within an updated or new BRR. Provided potential impacts to these sensitive habitats resulting from construction of Phase 2 are identified, appropriate mitigation measures shall be identified. These measures shall be presented to the USFWS and DFG for concurrence and implemented in accordance with applicable laws and/or permit requirements.

PH2-C4: Prior to construction of Phase 2, the project Biologist shall reevaluate potential impacts to fish passage associated with rehabilitation of the Salinas Bridge. This analysis will be conducted in consultation with NOAA Fisheries and based upon the latest guidance available from this agency. If necessary, the project Biologist shall update or prepare a new BRR which addresses potential impacts to fish species (including applicable critical habitat) that could be affected by rehabilitation of the bridge. Provided potential impacts to fish passage or critical habitat resulting from construction of Phase 2 are identified, appropriate mitigation measures shall be identified. These measures shall be presented to the NOAA Fisheries for concurrence and implemented in accordance with applicable laws and/or permit requirements.

PH2-C5: Prior to construction of Phase 2, the project Biologist shall reevaluate potential impacts to Adopted HCP, NCCP, or other approved habitat management plan associated with construction of this Phase. If necessary, the project Biologist shall update or prepare a new BRR which addresses potential impacts to applicable and adopted conservation plans. Provided potential impacts to conservation plans resulting from construction of Phase 2 are identified, appropriate mitigation measures shall be identified. These measures shall be presented to the appropriate resource agency responsible for implementation of the affected conservation plan for concurrence and implemented in accordance with applicable laws and/or permit requirements.

PH2-C6: Prior to construction of Phase 2, the project Biologist shall reevaluate potential impacts to applicable local biological policies or ordinances associated with this Phase. If necessary, the project Biologist shall update or prepare a new BRR which addresses potential impacts to applicable local biological policies or ordinances associated with this Phase. Provided potential impacts to these policies or ordinances resulting from construction of Phase 2 are identified, appropriate mitigation measures shall be identified. These measures shall be presented to the appropriate agency responsible for implementation of the policy or ordinance for concurrence and implemented in accordance with applicable laws and/or permit requirements.

PH2-C7: In compliance with Executive Order 13112 on Invasive Species (or subsequent updates or other applicable laws), the landscaping for the Phase 2 portion of the proposed Project will not use species listed as noxious. Updated guidance from applicable agencies (e.g., California Department of Food and Agriculture, etc.) will be obtained from these agencies prior to installation of Phase 2 landscaping. In addition, to reduce the potential for spreading of noxious weeds during construction, equipment and associated activities will also be required to follow this guidance.

5.4.4 Cultural Resources

The following mitigation measures are applicable to the Locally Preferred Alternative:

CR-C1: **Test Excavations.** It is recommended that limited subsurface explorations be conducted at any of the high sensitivity areas where construction would include deep excavations. Since most of the known buried archaeological deposits in the region occur at depths of four meters (~13 ft) or less, it appears that subsurface exploration using a backhoe would be the most appropriate method for identifying potentially buried sites in most of the sensitive portions of the proposed action area.

CR-C2: **Monitoring of Ground Disturbing Activity.** At the locations shown in **Table 5**, a qualified archaeologist shall be present to monitor ground-disturbing activities during initial grading. The monitor shall work under the direction of an archaeologist who meets the Secretary of the Interior's Standards (National Park Service, 1983). A Monitoring Plan shall be prepared by a qualified archaeologist before initiating construction. The Monitoring Plan shall identify appropriate procedures and contact provisions to be provided in the event of an inadvertent discovery.

CR-C3: **Worker Cultural Awareness Training**. Prior to initiation of ground-disturbing activities, qualified archaeologists shall conduct a short awareness training session for all construction workers and supervisory personnel. The course will explain the importance of and legal basis for the protection of significant archaeological resources. Each worker will also learn the proper procedures to follow in the event cultural resources or human remains/burials are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection and the immediate contact of their supervisor and the archaeological monitor.

CR-C4: **Inadvertent Discoveries**. In the event that cultural resources are exposed during ground-disturbing activities throughout the proposed action, the archaeological monitor shall be empowered to temporarily halt construction activities within ten meters (~33 ft) of the discovery while the resources are evaluated for significance. Construction activities may continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, shall be undertaken in consultation with TAMC. In the event that cultural resources are exposed during ground-disturbances, the project archaeologist shall determine if the local Native American tribal band should be contacted regarding the find.

CR-C5: **Human Remains**. If human remains are discovered during project construction, compliance with State of California Health and Safety Code Section 7050.5 shall be required. The County Coroner shall be contacted to make a determination of origin and disposition pursuant to Public Resource Code (PRC) Section 5097.98. The County Coroner shall be notified of the find immediately. If the human remains are determined to be prehistoric, the Coroner shall notify the Native American Heritage Commission, which will determine and notify a Most Likely Descendant (MLD). The MLD shall complete the inspection of the site within 48 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

CR-C6: **Built Environment**. For the reasons stated above, the proposed action is not expected to affect any historic properties or historical resources. Because the proposed action is expected to result in no effects on historic properties and no significant adverse change on historical resources, no mitigation measures are required for this proposed action. However, if project plans change to include additional parcels not considered in the current Area of Potential Effects (APE) map, additional evaluation and effects analysis shall be required for Section

106 and California Environmental Quality Act (CEQA) clearance. If future plans change to include any potential for such effects to an historic property or resource, then those plans shall be subject to complete analysis by a qualified architectural historian for Section 106 and CEQA–related effects. Such supplemental analysis of any future project-related effects shall be subject to review by the State Historic Preservation Officer (SHPO) as well.

CR-C7: **Paleontological Monitoring of Ground-Disturbance Activity**. If grading (10 ft or deeper) is proposed that could disturb older (Pleistocene-age) alluvial deposits and/or Monterey and Santa Margarita Sandstone Formations, then a Qualified Paleontologist as defined by CEQA will be retained to supervise monitoring of construction excavations and produce a Paleontological Monitoring and Mitigation Plan (PMP) for the proposed action. Such plan shall be based on the findings presented in the Paleontological Resources Assessment Report (November 2010). Monitoring will be conducted by a qualified paleontological monitor under the supervision of the Qualified Paleontologist. Project-related excavations that occur in undisturbed surficial younger (Holocene) alluvial and fluvial deposits will also be monitored on a periodic basis, to be defined in the PMP, to ensure that underlying paleontologically sensitive sediments are not affected.

CR-C8: **Fossil Discoveries**. Paleontological monitors will have authority to temporarily divert grading away from exposed fossils to professionally and efficiently recover the fossil specimens and collect associated data. Monitors will be equipped with the necessary tools for the rapid removal of fossils and retrieval of associated data to minimize any construction delays. This equipment will include handheld GPS receivers, digital cameras, and cell phones, as well as a toolkit containing specimen containers and matrix sampling bags, field labels, field tools (awl, hammer, chisels, shovel, etc.), and a plaster kit. At each fossil locality, field data forms will be used to record pertinent geologic data, stratigraphic sections will be measured, and appropriate sediment samples will be collected and submitted for analysis. The collected fossils will be transported to a paleontological laboratory for processing, where they will be prepared to the point of curation, identified by qualified experts, listed in a database to facilitate analysis, and reposited in a public museum or other county-and state-approved curation facilities.

CR-C9: **Final Paleontological Report**. The Qualified Paleontologist will prepare a final monitoring and mitigation report to be filed with the client, the lead agency, and the repository. The final report will include, but not be limited to, the following: discussion of the results of the mitigation-monitoring plan; itemized inventory, evaluation and analysis of the fossils collected (including an assessment of their significance, age, and geologic context); confidential appendix of locality and specimen data with locality maps and photographs; appendix of curation agreements and other appropriate communications; and copy of the PMP.

5.4.5 Geology, Soils, and Seismicity

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.6 Hazardous Waste

The following mitigation measures are applicable to the Locally Preferred Alternative:

HAZ-C1: If groundwater is encountered during construction, groundwater sampling shall be conducted to determine contaminants and contamination levels. If contamination is found, a work plan

shall be developed by the project geotechnical engineer to protect the health of construction workers.

HAZ-C2: A survey shall be conducted to screen for Asbestos Containing Materials (ACMs) and Lead Based Paints (LBP) prior to demolition of above ground structures. If ACMs are found, then the contractor shall comply with Monterey Bay Unified Air Quality Management District (MBUAQMD) Rule 424 notification and removal process activities at the project site during construction. In addition, disposal of ACMs would comply with local, state, and federal requirements.

HAZ-C3: Soil and groundwater sampling shall be conducted in areas of known contamination prior to the start of disturbance in those areas. If contamination is found, a work plan shall be developed by the project geotechnical engineer to protect the health of construction workers.

HAZ-C4: ACM, LBP and heavy metal sampling shall be conducted on any bridges identified for modification. Soils within the waterways directly under the bridges should be tested for LBP and heavy metals prior to disturbance. If ACMs are found, then the contractor shall comply with MBUAQMD Rule 424 notification and removal process activities at the project site during construction. In addition, disposal of ACMs would comply with local, state, and federal requirements. If LBP and/or heavy metals are found, then the contractor shall comply with local, state, and federal rules and regulations for notification, removal process, and disposal activities.

HAZ-C5: Any hazardous materials or wastes encountered before or during the demolition stage of the project shall be disposed of according to current regulatory guidelines.

HAZ-C6: A worker health and safety plan (HSP) that meets the provisions of California Code of Regulations (Title 22, Section 5192) shall be developed by the project contractor. HSP procedures will address the identification, excavation, handling, and disposal of hazardous wastes and materials that may be found in construction areas.

5.4.7 Hydrology and Water Quality

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.8 Land Use and Planning

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.9 Agricultural Resources

The following mitigation measures are applicable to the Locally Preferred Alternative:

C-F1: TAMC shall work in consultation with the DOC, County of Monterey, and TAMC lease holders to mitigate the loss of Important Farmland.

C-F2: To the extent feasible, TAMC or its Contractor shall develop a construction schedule that avoids conflict with growing seasons and rotation patterns of crops that could be affected by construction activities for portions of the Phase 2 portion of the proposed project alignment that cross or are adjacent to active agricultural land. TAMC or its Contractor shall implement best management practices (BMPs) during construction to minimize dust. Construction

access roads, staging, and equipment areas would to the extent practicable, be located in areas that avoid active agricultural production. Provisions will be incorporated into the construction contracts to designate areas for construction worker parking to avoid impacts to active agricultural land.

C-F3: TAMC shall work in consultation with the DOC, County of Monterey, and TAMC lease holders to mitigate the loss of Important Farmland.

5.4.10 Traffic and Transportation

The following mitigation measures are applicable to the Locally Preferred Alternative:

TT-C1: Contractor shall develop Traffic Control Plans (TCP) for LRT construction. Such plans shall provide for construction staging and sequencing of construction segments, detours, street closures, parking restrictions, and haul routes. The TCP shall be developed in consultation with city and county traffic departments.

TT-C2: Contractor shall develop and implement a community outreach program to maintain communication with area communities during the construction period. This program shall be used to provide appropriate advance noticing of construction activities and also to foster appropriate two-way communication between contractor and the affected public, including residents and local businesses.

5.4.11 Noise and Vibration

The following mitigation measures are applicable to the Locally Preferred Alternative:

NOI-C1: Contractor shall use newer equipment with improved noise muffling and ensure that all equipment items have the manufacturers' recommended noise abatement measures, such as mufflers, engine covers, and engine vibration isolators intact and operational. All construction equipment shall be inspected at periodic intervals to ensure proper maintenance and presence of noise control devices (e.g., mufflers and shrouding).

NOI-C2: Contractor shall perform all construction in a manner to minimize noise and vibration. Noise levels will be required to adhere to noise ordinances, as defined by the respective city Municipal Codes and county ordinance. Similarly, vibration levels will be required to be adhered to and based upon the Federal Transit Administration's (FTA) Transit Noise and Vibration Assessment. Contractor shall use construction methods or equipment that will provide the lowest level of noise and ground vibration impact near residences and consider alternative methods that are also suitable for the soil condition.

NOI-C3: Construction Manager shall perform noise and vibration monitoring to demonstrate compliance with the noise limits, as set forth in the respective city Municipal Codes and county ordinance. Similarly, vibration levels will be required to be adhered to and based upon the FTA Transit Noise and Vibration Assessment. Independent monitoring should be performed to check compliance in particularly sensitive areas. Require contractors to modify and/or reschedule their construction activities if monitoring determines that maximum limits are exceeded at residential land uses.

NOI-C4: Contractor shall conduct truck loading, unloading and hauling operations so that noise and vibration are kept to a minimum by carefully selecting routes to avoid going through residential neighborhoods to the greatest possible extent.

NOI-C5: Contractor shall conduct ingress and egress to and from the staging area so as to be on collector streets or higher street designations, and through routes for trucks will be used to the extent feasible to minimize the potential for backup alarm disturbances.

NOI-C6: Contractor shall turn off idling equipment when not in use.

NOI-C7: Contractor shall use temporary noise barriers, as practicable, to protect sensitive receptors against excessive noise from construction activities. Mitigation measures, such as partial enclosures around continuously operating equipment or temporary barriers along construction boundaries, shall be used where needed.

NOI-C8: Contractor shall minimize construction activities within residential areas during evening, nighttime, weekend, and holiday periods. Note: permits may be required in some cities before construction can be performed in noise-sensitive areas (as specified in the respective Municipal Codes and county ordinance).

VIB-C1: Contractor shall limit the use of construction equipment that creates high vibration levels, such as vibratory rollers operating within 140 ft of residential structures.

VIB-C2: Contractor shall conduct vibration monitoring during vibration-intensive activities.

VIB-C3: Contractor shall restrict the hours of vibration-intensive equipment usage, so that impacts to residents are minimal.

5.4.12 Energy

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.13 Demographics, Neighborhoods, and Environmental Justice

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.14 Agricultural Resources

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.15 Public Services and Utilities

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.16 Safety and Security

No mitigation measures for construction conditions are required since no adverse impacts were identified.

5.4.17 Parks and Recreation

Mitigation measures TT-C1 and TT-C2 above are applicable.

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Chapter 6. Evaluation of Alternatives

6.1 Introduction

This chapter presents a comparative evaluation of the alternatives assessed in this EA/EIR. The intent of this evaluation is to demonstrate the relative effectiveness of the recommended proposed action (i.e., LPA) compared with the No Action/No-Build Alternative in meeting the proposed action's stated purpose and need and other evaluation measures. Most of the information in this chapter is derived from materials presented in previous chapters and provides the basis for decision-makers and the public to assess the relative benefits, costs, and environmental consequences of the LPA against the stated goals and objectives of the proposed action.

This analysis is focused on two areas:

- Performance in achieving the project objectives defined in the purpose and need statement
- Comparative benefits and transportation, community, and environmental effects

In addition, the FTA has established the New Starts/Small Starts program to evaluate and rate candidate projects for federal funding. The proposed action has been evaluated and recommended for FTA Small Starts funding, as described in Chapter 7 (Financial Analysis and Small Starts Evaluation).

6.2 Achievement of Project Objectives

The objectives presented in Chapter 1, Purpose and Need for Transportation Improvements, addressed four principal topics, including mobility, transit efficiency, economic development, and community and the environment. Table 6.1-1 lists these objectives and summarizes the degree to which each is met by the alternatives.

Table 6.1-1: Evaluation of Alternatives and Project Objectives

Objective	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Improve transit service by expanding transit mode opportunities	Limited improvement - This alternative assumes that additional rail opportunities would be available to Monterey County commuters. Under this alternative, TAMC's proposed Commuter Rail Extension to Monterey County (proposed to serve Salinas and San Jose) would be in place by 2015. The provision of this service would provide commuters with the ability to travel to destinations north and east of San Jose via Caltrain (San Francisco area), Altamont Commuter Express (Stockton area), or Capital Corridor (Sacramento area) services. In addition, it is assumed that Amtrak's Coast Starlight and proposed Coast Daylight (with stations proposed at Salinas, Pajaro, Soledad, and King City) services would be available to Monterey County residents.	Improvement - The LPA would result in improved transit service for current riders, including low-income and transit-dependent populations, with higher frequency, faster, and more reliable service, along with improved security, cleanliness, and comfort. The proposed action corridor conditions provide an opportunity for the successful implementation of a new mode of transit (i.e., light rail transit). The corridor traverses through the heart of the Monterey Peninsula which contains many of the County's important employment and entertainment centers. At present, MST's Line 20 which parallels the proposed action corridor serves approximately 2,070 daily riders. However, there are considerable numbers of commuters who access this corridor via their private automobile. Implementation of the proposed action is expected to attract a number of these commuters to the new system.

Table 6.1-1: Evaluation of Alternatives and Project Objectives (cont.)

Objective	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Provide branded rapid transit service	No improvement - MST and Amtrak are branded services. However, this alternative is not anticipated to contribute to the enhancement of these brands since no new modes of transportation are assumed beyond those currently used (i.e., bus and rail).	Improvement – Although the TAMC Board of Directors is yet to select the proposed light rail transit operator, it is assumed at this time that MST will operate and maintain the light rail vehicles. MST is a well utilized and branded service operating in Monterey County and the adjacent counties of Santa Cruz, Santa Clara, and San Benito. MST currently operates both bus and trolley services throughout the County. The addition of light rail vehicles to the current bus and trolley fleet would help to contribute to the overall MST brand. In addition, it is also expected to foster transit-oriented redevelopment and revitalization, encourage mode shift from automobiles to transit, and promote "smart growth" in Monterey County within the proposed station areas.
Improve transit in high ridership areas	Limited improvement - MST bus ridership is expected to increase as future development projects are approved in Monterey County. This increased demand would be expected to be met through the addition of new buses and service routes. It is unknown if Amtrak would undertake similar improvements.	Improvement – The proposed action would offer substantial benefits in both system-wide and corridor ridership. The proposed action corridor has already been determined to be a good market for transit. MST's local bus service accommodates approximately 2,070 daily riders within the proposed action corridor on local bus Line 20. The proposed action is forecast to provide 'opening day' ridership service for approximately 15,540 daily system-wide transit trips (approximately 4,670,000 annually) and 17,943 system-wide boardings (approximately 5,380,000 annually) in the year 2015. By 2035 with Phase 2 complete, system-wide trip and boarding numbers increase to projected totals of 19,694 (approximately 5,910,000 annually) and 22,677 (approximately 6,800,000 annually), respectively.
Improve mobility of transit-dependent populations	Limited improvement - Population increases would likely result in the procurement of new MST buses and service routes, some of which may better serve transit-dependent populations. However, these buses would continue to operate on Highways 1 and 101 and local streets. Highways 1 and 101 are anticipated to operate under unstable and jammed flow conditions by 2020. In addition, local area roads and highways are also expected to experience increased time delays as motorists seek alternative routes to these facilities. These conditions would considerably increase user commute times for transit-dependent populations.	Improvement – Transit investment in the proposed action alignment would contribute to improved mobility and better access to jobs for transit-dependent persons. There are a number of low-income and environmental justice communities located along the proposed action corridor that could be served by the proposed action. These groups would experience marked improvements in travel times given that Highways 1 and 101 are anticipated to operate under unstable and jammed flow conditions by 2020. Moreover, local area roads and highways are also expected to experience increased time delays as motorists seek alternative routes to these facilities. These conditions would considerably increase user commute times for transit-dependent populations.

Table 6.1-1: Evaluation of Alternatives and Project Objectives (cont.)

Objective	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Improve ridership by providing a viable and competitive transit option	Limited improvement – TAMC's proposed Commuter Rail Extension to Monterey County and Amtrak's existing Coast Starlight and proposed Coast Daylight service would contribute to this alternative's ability to meet this objective by providing a viable transportation option in lieu of the personal automobile. However, MST bus riders would continue to experience increased travel times as conditions on local roadways and Highways 1 and 101 deteriorate.	Improvement – The proposed action would attract new riders by offering improved transit service and facilities and transit travel times competitive with auto travel. In addition, the new light rail vehicles would travel along an exclusive guideway and would not be affected by local street or highway congestion, thereby reducing commute travel times to auto and bus service.
Reduce auto use and congestion	Limited improvement – TAMC's proposed Commuter Rail Extension to Monterey County and Amtrak's existing Coast Starlight and proposed Coast Daylight service would contribute to this alternative's ability to meet this objective by attracting inter-county commuters who would normally use their personal automobile to reach their destinations. However, assumed increases in future MST inter- and intra-county bus ridership would only be expected to contribute moderately to achieving this objective since these vehicles would continue to operate on Highways 1 and 101 and local streets, all of which are anticipated to experience considerable traffic delays by 2020.	Improvement – The proposed action is forecast to substantially increase transit use along the proposed action corridor. A mode shift from non-transit to transit would reduce, or at least slow down, the growth of auto traffic in urbanized areas of Monterey County in which the proposed action corridor is located. This would improve the efficiency of the local roadway Highway 1 and 101 networks and reduce the need for parking. Greater transit and less auto travel would result in reduced air emissions and safer driving conditions, plus energy savings. All of these changes would improve the livability of the local communities.
Better serve major travel markets	Limited improvement – TAMC's proposed Commuter Rail Extension to Monterey County and Amtrak's existing Coast Starlight and proposed Coast Daylight service would contribute to this alternative's ability to meet this objective by providing reliable transportation options which serve major employment centers in the San Jose and San Francisco Bay areas. MST's Line 55, Monterey–San Jose Express would also be expected to assist in serving these travel markets.	Improvement – The proposed action would improve access to important intra- and inter-county employment, educational, retail, commercial, and entertainment centers both along the proposed action corridor and potentially within the San Jose and San Francisco Bay Area (provided TAMC's Commuter Rail Extension to Monterey County project is in place by 2015). Restoration of passenger rail service along the existing MBL and the construction of attractive stations and park-and-ride facilities would help transit capture a larger share of the local and regional travel market.
Support local and regional planning goals to organize development along transit corridors and around transit stations	Limited improvement – TAMC's proposed Commuter Rail Extension to Monterey County and Amtrak's existing Coast Starlight and proposed Coast Daylight service would contribute to this alternative's ability to meet this objective. AMBAG, TAMC, and local jurisdiction planning efforts (e.g., RTP, general plans) include goals and objectives aimed at increasing or encouraging development along transit corridors and transit stations.	Improvement – Restoration of passenger rail service and infrastructure using existing MBL ROW, branded service, and highly visible transit stations offers a strong sense of permanence that can help communities along the proposed action corridor attract investment in transit-oriented development and reinforce local planning objectives. There are a number of planned or existing mixed-use developments located along the proposed action corridor. In addition, local redevelopment and general plans have identified the MBL ROW for transit-oriented development and have implemented land use planning policies to facilitate these developments.

Table 6.1-1: Evaluation of Alternatives and Project Objectives (cont.)

Objective	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Contribute to Transit-Oriented Development (TOD)	Limited improvement – TAMC's proposed Commuter Rail Extension to Monterey County is anticipated to contribute to TOD projects. The construction of new stations in the communities of Castroville and Pajaro, in addition to redevelopment efforts currently underway by the County of Monterey are expected to improve these areas by providing high quality transit facilities. These investments, in turn, are anticipated to encourage further revitalization of these areas, including potentially the construction of mixed use (e.g., residential/retail) developments. Similar conditions would be expected for planned improvements to the existing Salinas Intermodal Transportation Center.	Improvement – Local jurisdictions have adopted redevelopment and general plan land use policies which support and encourage TODs. The proposed action would serve as a catalyst for planned new development along the proposed action corridor and in particular, around the station areas. The proposed action would provide nodes for concentrating jobs, services, and residences and a high level of access for individuals traveling to and from these locations. TOD concepts can be targeted to specific areas that have the best potential to transform the surrounding land-use patterns and reinforce the use of transit.

Source: Parsons, 2011

6.3 Environmental Impacts of Alternatives

The anticipated environmental effects for the No Action/No-Build Alternative and the LPA (proposed action) were previously described in Chapter 3, Traffic and Transportation, Chapter 4, Affected Environment, Impacts, and Mitigation, and Chapter 5, Construction Period Impacts. Table 6.1-2 provides a comparison of potential affects by environmental parameter for each of the alternatives considered.

Table 6.1-2: Comparison of Environmental Affects by Alternative

Environmental Parameter	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Traffic and Transportation	Local roadways along the proposed action corridor are anticipated to experience LOS degradation with Highways 1 and 101 operating at jammed or forced flow conditions in 2020. Parking impacts are unknown, but anticipated to be minor.	The proposed action would help to alleviate congestion on local roadways and would not result in unacceptable LOS. Some on- and off-street parking losses, but adequate supplies are located along the proposed action corridor and within the proposed station locations.
Aesthetics and Visual Resources	Impacts are dependent upon proposed improvements, but anticipated to be minor and able to be mitigated or addressed through project design features or BMPs.	The proposed action would not result in the introduction of a non-urban feature and would be similar to the existing urban environment associated with Phase 1. Similarly, the proposed action is not anticipated to result in changes to the views and visual quality of the areas north of the city of Marina (Phase 2) which are predominately agricultural.
Air Quality	No beneficial operations emissions related to reduction in VMT on local roadways or Highways 1 or 101 or associated reductions in regional pollutants. Climate change effects for this alternative would be similar to that of the LPA.	No construction or operational adverse impacts related to regional pollutants. The proposed action would result in lower region-wide future MSAT levels than today's levels. It would also help to reduce greenhouse gas emissions.

Table 6.1-2: Comparison of Environmental Affects by Alternative (cont.)

Environmental Parameter	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Biological Resources	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through project design features or BMPs.	Impacts to biological resources (e.g., sensitive plants and animals, wetlands, "waters of the U.S.") would be limited to the construction phase and can be mitigated.
Cultural Resources	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through project design features or BMPs.	Construction impacts would be limited to discovery of previously unknown archaeological resources and which can be mitigated. No operational impacts to archaeological or historic archaeological resources would result.
Geology, Soils, and Seismicity	Anticipated to be similar to those identified for the LPA. However, impacts could vary depending on site specific conditions and the type of project proposed, but are anticipated to be limited to construction, and able to be mitigated or addressed through project design features or BMPs.	No construction impacts are anticipated. Operational impacts may include geological, soils, and seismicity hazards (e.g., liquefaction, landslides) but can be mitigated through compliance with standard BMPs and adherence to state and local building codes.
Hazardous Waste	Anticipated to be similar to those identified for the LPA. However, impacts could vary depending on site specific conditions and the type of project proposed. Impacts could occur during both construction and operation, but would be anticipated to be able to be mitigated or addressed through project design features or BMPs.	Construction impacts may include risk of upset, incidental spills of hazardous materials (e.g., fuel, grease) during machinery operation, and the potential to encounter hazardous materials (e.g., ACM, LBP) during building demolition. No operational impacts are anticipated since the generation, handling, and storage of hazardous materials would be subject to applicable laws. In addition, regular maintenance of LRT vehicles would assist to ensure that hazardous waste leaks would be minimized.
Hydrology and Water Quality	Anticipated to be similar to those identified for the LPA and which could be mitigated for both during construction and operation through project design features or BMPs.	No construction or operational impacts were identified related to violation of water quality standards, groundwater depletion, alteration of existing drainages or existing drainage patterns, or would exceed the capacity of existing conveyance facilities or the degradation of water quality. The proposed action would be subject to RWQCB construction and operational permits which require design considerations to avoid such impacts. In addition, standard BMPs associated with these permits would be required and would reduce impacts.
Land Use and Planning	Anticipated to be similar to those identified for the LPA. Proposed projects would be subject to consistency review with applicable plans. No construction-related impacts would be anticipated.	No construction or operational impacts were identified for land use and planning. The proposed action was determined to be consistent with local jurisdictional planning efforts and associated policies which promote transit along the existing MBL ROW and encourage mixed-use and TODs. Similarly, the proposed action was also found to be consistent with applicable goals and objectives as contained within the California Coastal Act.

Table 6.1-2: Comparison of Environmental Affects by Alternative (cont.)

Environmental Parameter	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Agricultural Resources	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through avoidance, project design features or BMPs.	Potential impacts to agricultural resources were limited to construction activities associated with Phase 2 (proposed in 2030 and funding dependent). Potential impacts included takes (i.e., slivers of land) located adjacent to the existing MBL ROW totaling 18 acres including farmland designated as Important, Prime, and of Statewide Importance. However, these takes would not be to farmland under private ownership, but include land currently leased by TAMC to area farmers. No Williamson Act contract lands would be affected. Some short-term dust impacts were identified and potential access issues could occur.
Noise and Vibration	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through project design features or BMPs.	Construction-related noise impacts associated with the operation of machinery and equipment during Phase 1 would affect a total of 12 single-family and three multi-family residences during construction of the proposed Beach Road, Reservation Road, and Contra Costa Street Stations. During Phase 2 (proposed in 2030 and funding dependent), three single-family residences could be affected during rehabilitation of the Salinas River bridge. Operational-related noise impacts associated with train vehicle movements were identified for eight single-family residences. A total of nine single-family residences would be affected by noise generated from warning bells at the Beach Road, Reservation Road, and Contra Costa Street/Olympia Avenue grade-crossings. However, all construction and operational-related noise impacts can be mitigated. No vibration-related impacts to sensitive receptors were identified either during construction or operation.
Energy	Impacts are dependent upon proposed improvements, but are anticipated to be minor since transit vehicles are high efficiency and can operate on a variety of fuel types.	Construction and operation of the proposed action would entail use of non-recoverable energy and would reduce the overall amount of fossil fuels. Maintenance under the proposed action combined with maintenance of passenger and other non-rail vehicles would also require approximately 0.9 million barrels of oil (5,314 billion BTUs) through 2035. Implementation of the proposed action would not result in wasteful, inefficient, or unnecessary use of energy.
Demographics, Neighborhoods, and Environmental Justice	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through avoidance, project design features or BMPs.	A beneficial effect of the proposed action would be the creation of new construction and engineering jobs derived from the local workforce and which would directly benefit the local economy. Construction activities would not affected environmental justice communities in a disproportionate manner from the larger population located along the proposed action alignment. Operation of the proposed action would not displace people or housing and the workforce would be derived locally. TODs may be constructed in and around the proposed stations. This beneficial effect could decrease automobile usage, while decreasing other indirect impacts, such as worsened air quality and traffic congestion.

Table 6.1-2: Comparison of Environmental Affects by Alternative (cont.)

Environmental Parameter	No Action/No-Build Alternative	Locally Preferred Alternative (Proposed Action)
Acquisitions and Displacements	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through avoidance, project design features or BMPs.	Construction of the proposed action would require acquisition of a total of eight parcels used for commercial and light industrial purposes. No residential land uses would need to be acquired. Adherence to federal and state relocation and compensation requirements and preparation and implementation of a RAMP would address these impacts. However, some existing businesses may be affected by restricted access or removed parking. There are no anticipated operational-related impacts.
Public Services and Utilities	Impacts are dependent upon proposed improvements, but anticipated to be limited to construction, and able to be mitigated or addressed through avoidance, project design features or BMPs.	Construction activities could result in temporary utility disruptions. However, with standard procedural controls, impacts on utilities during construction would not be substantial. Construction could also increase response times by emergency service providers, but could be addressed through preparation of a TMP. Operation of the proposed action would not generate substantial increases in demand for police and fire protection, or emergency medical services. Any increase in demand is expected to be marginal and would not result in overall demand beyond the capacity of public service providers.
Safety and Security	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through project design features or BMPs.	Traffic controls would be established and implemented during construction to minimize traffic conflicts and help ensure a safe working and driving environment. Security at staging area lots could also be a concern during construction. However, construction site security precautions would be taken to minimize the potential for adverse impacts to persons or property associated with the proposed action. With adherence to applicable laws and regulations, safety and security impacts associated with the proposed action are not expected to be adverse. Operational safety or security impacts can be addressed through the implementation of standard BMPs and measures required by local law enforcement, MST and PUC.
Parks and Recreation	Impacts are dependent upon proposed improvements. Impacts could occur both during construction and operation, but likely able to be mitigated or addressed through project design features or BMPs.	Portions of the Monterey Peninsula Recreational Trail would be affected by construction of the proposed action in two ways; permanent relocation of portions of the trail to areas within the immediate vicinity of the proposed action corridor; and temporary closures (portions only) during construction, potentially lasting up to 18 months. A portion of Municipal Beach (also known as Monterey Bay Waterfront Park/Window on the Bay) would also be closed to public access during track construction. Construction activities also have the potential to result in temporary loss of on-street parking, and increased noise and dust. Operation of the proposed action would increase public access to park and recreational facilities located long the proposed action alignment and would result in a beneficial effect.

Source: Parsons, 2011

6.4 Summary of Achievement of Objectives

The following summarizes the effects of the alternatives with respect to project objectives and environmental effects.

6.4.1 No Action/No-Build Alternative

The No Action/No-Build Alternative provides limited achievement of the project objectives. Its potential adverse environmental effects would be dependent upon the specific projects proposed. It is assumed however, that some beneficial effects would result, including some reductions in traffic and associated greenhouse gas emissions, improved air quality, and increased transit opportunities for area residents.

6.4.2 Proposed Action Alternative

The LPA (proposed action) achieves the project objectives and has positive effects on transit travel time, and transit ridership would produce minimal traffic impacts, and would help to alleviate traffic. It would not have adverse aesthetic or visual effects since it would not introduce a non-urban feature within the existing urban environment and would not substantially change views. The proposed action would result in lower region-wide future MSAT levels than today's levels. It would also help to reduce greenhouse gas emissions. Impacts to biological resources (e.g., sensitive plants and animals, wetlands, "waters of the U.S.") would be limited to the construction phase and can be mitigated. Similarly, cultural resources impacts would be limited to construction activities and can be mitigated. Geological and seismic hazards would be similar as those experienced by residents of the Monterey Peninsula and can be addressed with standard mitigation measures. No hazardous materials or hydrology and water quality impacts would result since applicable laws concerning these resources would apply and would be adhered to as required. Energy savings would be realized as users utilize the LRT service in lieu of their private automobile.

The proposed action provides good service to low-income and minority communities and it has strong support from the cities and county in which it is located. It would also facilitate access to park and recreational facilities along the proposed action alignment and would include improvements to the Monterey Peninsula Recreational Trail. Only minor acquisitions and displacements to businesses would result. There would also be no adverse impacts to public services and utilities and safety and security issues could be addressed through standard BMPs. The proposed action would also result in the temporary creation of new construction and engineering jobs derived from the local workforce and which would directly benefit the local economy. In addition, it is anticipated that the existing local skilled workforce would operate and maintain the system. Additional benefits would include increased access to jobs, additional transportation options for low-income populations, senior citizens and those with physical disabilities, increased access by students to educational resources, and economic development opportunities along the proposed action alignment.

Chapter 7. Financial Analysis and Summary of Small Starts

This section describes the federal, state, and local funding plan for the proposed action. It has been prepared based on the TAMC *Alternatives Analysis for the Monterey Peninsula Fixed Guideway Corridor Study, Volume 2*, February 2011. The funding plan will be reported to the Federal Transit Administration (FTA) in the Small Starts application, currently anticipated to be submitted in September 2011.

7.1 Introduction

The New/Small Starts Program funds new fixed guideway projects and extensions to fixed guideway systems. The Small Starts Program funds smaller projects with a total cost of $250 million or less and a federal share of $75 million or less, not to exceed 80 percent of the project cost. The proposed action is poised to apply for Small Starts grants. The process that FTA uses to evaluate prospective Small Starts projects includes a ranking based on the following factors:

- Project justification rating:
  - Cost Effectiveness: 1/3
  - Land Use: 1/3
  - Economic Development: 1/3
  - Other Factors: no percentage, but can affect rating
- Financial rating:
  - Non-Federal Transit Administration Share: 20%
  - Capital Finances: 50%
  - Operating Finances: 30%

The proposed action is estimated to cost $164.6 million in year of expenditure dollars. The project has been recommended as an FTA Small Starts project in the FTA Annual Report on Funding Recommendations, 2008, Proposed Allocation of Funding for Fiscal Year (FY) 2009.

7.2 Project Development History and Current Status

Using State Proposition 116 funding, $9.6 million was expended in 2003 to purchase the Monterey Branch Line right-of-way. TAMC began an alternatives analysis in early 2004 to evaluate transportation options in a corridor served by bus Route 20, considered the backbone of the TAMC system and providing critical service along Del Monte Boulevard and Highway 1 between Monterey and Marina. TAMC considered a variety of transit alternatives to serve the corridor from downtown Monterey, through Seaside, and north to the city of Marina. The culmination of this corridor-level analysis was selection of the LRT Alternative as the LPA by the TAMC Board of Directors on October 28, 2009. This decision was based on LRT's ability to provide superior transportation in the long-term while best meeting the vision and future plans for each of the affected cities.

During 2005 and 2006, TAMC worked with local stakeholders to identify funding sources and station locations. Refinements to individual alternatives were subsequently considered over the period 2006–2008.

TAMC is currently engaged in preliminary engineering refinement of the conceptual design and has prepared this Draft Environmental Assessment for the project. The project's current cost estimate

shown in Table 7.1-1 is likely to change. Updated cost and funding information will be made known as it becomes available.

Table 7.1-1: Project Financial Details

Summary Description	
Proposed Minimum Operating Segment (MOS) Project:	Light Rail Transit
	10.0 miles
	10 stations
Total Capital Costs ($YOE):	$164.62 M
Section 5309 Small Starts Share ($YOE):	$75.00 M
Annual Operating Cost ($2011):	$3.66 M
Opening Year Ridership Forecast (2015):	5,380,000
FY 2011 Local Financial Commitment Rating:	Medium-High
FY 2011 Project Justification Rating:	Medium- to Medium-High
FY 2011 Overall Project Rating:	Medium- to Medium-High
Source: TAMC, 2011.	

7.3 Project Justification Rating: Medium to Medium-High

After anticipated TAMC submittal in September 2011 of a complete request for entry into Small Starts project development, FTA will assign the LPA ratings for: cost effectiveness, transit-supportive land use, local financial commitment, as well as overall 'project justification.' As part of the aforementioned Alternatives Analysis, TAMC's consultant developed ratings using FTA criteria. These ratings are described in the following paragraphs.

The project is rated *Medium to Medium-High* for project justification based on a *Medium* rating for cost effectiveness and a *Medium-High* rating for transit-supportive land use. The rating for the project's *Making the Case* document will not be factored into the project justification rating by FTA.

7.3.1 Making the Case Rating

The proposed action is a 10.0-mile, MOS (Phase 1) light-rail transit project connecting the cities of Monterey and Marina, California. The "case" for the project cites the following problems in the corridor: traffic congestion, substandard mobility, and a need for economic revitalization. The project is in a corridor with moderate transit ridership (over 7,500 daily riders in 2006) and high levels of projected growth. The project is intended to reduce end-to-end travel times by approximately 10 minutes as compared to its baseline alternative (i.e., enhanced bus alternative). The "case" for the project describes various key travel markets and estimates the travel time savings that are forecast for each market, presenting a noteworthy case for how the project would meet corridor mobility needs.

7.3.2 Cost Effectiveness Rating

Cost Effectiveness is measured by the incremental cost per hour of transportation system user benefits in the forecast year. This is calculated by (a) estimating the annualized capital and operating costs of

the project and then (b) dividing these costs by the projected user benefits[53]. The result of this calculation is a measure of project cost per hour of projected user benefits expected to be achieved if the project is added to the regional transit system. As shown in Table 7.1-2, proposed projects with a lower cost per hour of projected benefits are evaluated as more cost effective than those with a higher cost per hour of projected benefits.

Table 7.1-2: Cost Effectiveness Breakpoints

Cost Effectiveness Rating	Cost Per Hour of Projected Benefit
High	$12.49 and under
Medium-High	$12.50 to $16.49
Medium	$16.50 to $24.99
Medium-Low	$25.00 to $31.49
Low	$31.50 and over
Source: Parsons, 2011.	

The *Medium* rating is based on the level of travel-time benefits of 234,955 annual user benefit total (hours) relative to the project's annualized costs of about $5 million in constant 2010 dollars.

- Cost per Hour of Transportation System User Benefits – $21.83;
- Incremental Cost per Incremental Trip – $27.56.

7.3.3 Transit-Supportive Land Use Rating

The *Medium to Medium-High* rating is based upon the average of the ratings assigned to the subfactors below, each of which contribute one-third to the land use rating.

Existing Land Use: Medium – The proposed action corridor traverses urbanized areas of the cities of Monterey, Seaside, Sand City and Marina in Monterey County. Land uses are primarily comprised of both low- to medium-density residential and commercial developments. A higher concentration of housing and businesses is found in and near Downtown Monterey, with lower concentrations to the east near the El Estero Park area. As the corridor bends toward the north, housing and job density grows throughout Seaside/Sand City and Marina.

In addition to commercial (office and retail)-related employment, the area potentially served by transportation improvements along the Monterey Branch line provides jobs in businesses and institutions involved with education, tourism and Defense Department activities. Defense Department facilities are located in Monterey at the Presidio of Monterey. Educational institutions include Cal State University–Monterey Bay (CSUMB), which is rapidly growing, as well as the Naval Postgraduate School, Monterey Peninsula College, and the Monterey Institute for International Studies. Tourism has traditionally been a major employment generator in an area which draws thousands of visitors annually to attractions such as the Monterey Bay National Marine Sanctuary and Monterey Bay Aquarium, Cannery Row, historic Monterey, and the several coastline beaches and resort facilities.

[53] FTA defines user benefits as 'the equivalent hours of travel time savings associated with improvements in transit service levels for all users of the transportation system.

Total employment served by all stations along the proposed action alignment is estimated for 2010 as 45,812, including the cities of Monterey, Seaside, Sand City and Marina, which support approximately 32,752, 7,360, 2,366 and 3,334 jobs, respectively. Parking is generally available either for free or at reasonable cost.

Transit Supportive Plans and Policies: Medium-High – During the corridor planning process, TAMC worked closely with the cities and corridor stakeholders to locate the stations at major existing activity centers or in areas with potential for transit-supportive uses. This is consistent with TAMC policies to encourage mixed-use commercial and residential transit-oriented developments in areas where transportation infrastructure exists or would be cost-effective to extend.

Each of the four Monterey Peninsula cities within the MOS study area have established policies in their respective general plans to encourage urban infill and higher density in the vicinity of transit stations. Pertinent policies are summarized below by city. See Chapter 3 of the *Alternatives Analysis for the Monterey Peninsula Fixed Guideway Corridor Study, Volume 2* for more details in this regard.

- **City of Marina.** The city's 2000 General Plan, amended in 2005, contains policy that encourages new development to locate "in patterns and to densities that make the provision of frequent regional and local transit economically feasible" (Policy 3.3). The general plan states, "future land development…shall be organized and have sufficient intensity to help ensure the longer-term feasibility of public transit for work and other purposes, and to create a pedestrian-oriented community (Policy 2.4[5]). The city has minimum density requirements for all future residential development within 1,500 feet of designated transit routes (Policy 3.32). Policy 2.60 makes specific reference to the University Village concept planned for the Eighth Street station area, with the planned transit accommodations lending support to this type of development.

- **City of Sand City.** Requirements of housing, tourist-related and commercial development applications as found in the Sand City General Plan include: transit-oriented design and/or pedestrian-oriented design; mixed land uses designed to reduce the length and number of vehicle trips; trip generation fees, with proceeds to go toward provision of transit services; bicycle and pedestrian facilities; and bus pull-outs, pedestrian access, transit stops and shelters as part of the site plan.

- **City of Seaside.** Seaside's General Plan Circulation Element (August 2004), Policy C-3.1, supports "the provision and expansion of regional transit services and support facilities." Policy C-3.3 states, "promote mixed use, higher density residential, and employment-generating development in areas where public transit is convenient and desirable."

- **City of Monterey.** The city's General Plan, adopted January 2005, states that "The principles of transit-oriented and pedestrian-oriented developments will be applied to reinforce the use of public transportation and provide an alternative to traditional suburban development." The Circulation Element recommends expanded local transit system operations to better serve residents, especially in areas planned for higher-density mixed-use development. Circulation Element Policy b.1 is to "use land-use policies to concentrate development within walking distance of the local transit system to reduce the overall demand for travel and minimize the traffic impacts of development."

  Nearly all of the proposed stations are in areas in which tax increment financing and other development incentives can be utilized; however, no examples were provided of the application of these incentives to leverage transit-supportive development.

Performance and Impacts of Policies: Medium-High – There are several proposed transit-supportive development projects within the vicinity of the proposed action corridor. These are described as follows:

- **City of Marina.** The city of Marina has developed a Specific Plan for revitalization of its downtown core. This would include development of an attractive, pedestrian-friendly and visitor-serving commercial district parallel with the MBL. Private developments planned include the 'Marina Station' with mixed use development planned on both sides of the MBL, and 'The Dunes on Monterey Bay', including transit-oriented development on the east side of the proposed Eighth Street station at the former Fort Ord.
- **City of Seaside.** The city of Seaside has approved the West Broadway Urban Village Specific Plan for development of a mix of residential with ground-floor retail and commercial uses at the future location of a proposed transit hub at Broadway Avenue.
- **City of Monterey.** The city of Monterey is preparing specific planning documents for mixed-use project developments within the Downtown and Lighthouse Avenue areas of the city. They are also preparing a long-term visionary Master Plan for the City's waterfront, including land in the vicinity of the project corridor.

Based on current conditions and trends, growth is projected throughout the County, with no major changes in the geographic distribution of population. Table 7.1-3 summarizes the growth in housing units and employment forecast by AMBAG for the four Monterey Peninsula cities most directly served by the proposed action. The redevelopment of the former Fort Ord is expected to restore population levels within the area to those prior to base closure, with Seaside, Marina, and Del Rey Oaks projected to experience future growth.

Table 7.1-3: Monterey Peninsula Housing and Employment Growth (AMBAG)

City	Housing Unit Growth		Employment Growth	
	2006-2015	2016-2035	2006-2015	2016-2035
Marina	2,027	2,900	400	1,043
Seaside	327	741	952	3,056
Sand City	564	0	410	1,294
Monterey	186	372	1,882	6,487
Total	3,104	4,013	3,644	11,880
Source: TAMC, 2011.				

7.4 Local Financial Commitment Rating: High

The project's operating cost would be greater than five (5) percent of the local transit service provider [Monterey-Salinas Transit's (MST's)] operating budget; therefore, it was subject to a broad assessment of its local financial commitment. The project is rated Medium-High based on the results of the assessment and the less than 50 percent share of total project costs.

7.4.1 Capital Finance Plan

The capital finance plan is rated *Medium-High* based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency capital condition is weighted 25 percent, the commitment of capital funds is weighted 25 percent, and the capital cost estimate, planning assumptions and capital funding capacity subfactor is weighted 50 percent.

Agency Capital Condition: Medium-High – The average age of MST's bus fleet is 9.2 years, which is in line with industry average.

Commitment of Capital Funds: Medium-High – As shown in Table 7.1-4, the capital funding sources for the proposed action are planned. Besides federal 5309 Small Starts, sources of funds include: state transportation improvement program (STIP) funding, Fort Ord Reuse Authority (FORA) development and impact fee funding, and local transportation funds.

Capital Cost Estimate, Planning Assumptions, and Financial Capacity: Medium-High – Assumptions in the capital plan are in line with historical trends. It is assumed in this plan that those portions of non-local funds where spending is unrestricted with respect to mode choice would instead need to be committed to the proposed action, as an alternative to highway construction-based congestion management efforts. Provided a scenario in which the proposed action can generate sufficient ridership to replace the estimated benefits of the highway projects, the money could still be efficiently and effectively spent.

As mentioned, the project's current cost estimate may increase to cover scope uncertainties and omissions, as well as an unanticipated but potential inadequate project contingency outcome.

7.4.2 Operations Finance Plan

It is expected that TAMC would authorize the MST with the operational responsibility for the fixed guideway service, when implemented. Funding for non-capital costs would be formally agreed upon and the proportional breakdown would be similar to the current revenue and cost summary structure.

Table 7.1-4: Locally-Proposed Financial Plan

Source of Funds	Total Funds ($ million)	Percent of Total
Federal		
Section 5309 Small Starts	75.00	45.6
State / Local		
State Transportation Improvement Program (STIP) Funds	7.25	4.4
STIP Augmentation	3.00	1.8
Fort Ord Reuse Authority Funds and Development Fees	16.40	10.0
Other State / Local Funds	62.97	38.2
Total	164.6	100.0

Source: TAMC, 2011.

The operating finance plan is rated *Medium* based upon the weighted average of the ratings assigned to each of the subfactors listed below. The agency operating condition is weighted 25 percent, the commitment of operating funds is weighted 25 percent, and the operating cost estimates, planning assumptions, and operating funding capacity subfactor is weighted 50 percent.

Agency Operating Condition: Medium – MST's current ratio of assets to liabilities as reported in its most recent audited financial statement for fiscal year 2010 (dated December 23, 2010) is 7.02.

MST is in good operating condition, with positive cash balances in FY 2009 and FY 2010.

Commitment of Operating Funds: Medium – All operating funds are committed. Major anticipated sources of funds include local transportation funds, State Transit Assistance funds, fare revenues, and TAMC land lease revenues.

Operating Cost Estimates, Planning Assumptions and Financial Capacity: Medium – Compared to existing MST expenses, operations and maintenance costs are projected to rise by $3.66M per annum (FY2011 dollars). Operating cost assumptions are consistent with historical trends. Increased operating revenues are expected to offset approximately ±30 percent of these operating costs as they exist for the fixed route transit services. Other operating revenue assumptions, including state and local subsidies, are in line with historical trends.

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Chapter 8. California Environmental Quality Act Evaluation

8.1 Determining Significance under CEQA

The proposed action is subject to federal, as well as TAMC and state environmental review requirements because TAMC proposes the use of federal funds and the proposed action requires a federal approval action. Proposed action documentation, therefore has been prepared in compliance with the CEQA and the NEPA. TAMC is the proposed action proponent and the lead agency under CEQA. The FTA is responsible for environmental review, consultation, and any other action required in accordance with NEPA and other applicable federal laws for this proposed project.

One of the primary differences between NEPA and CEQA is the way that significance is determined. Under NEPA, significance is used to determine whether an EIS, or some other lower level of documentation, will be required. NEPA requires that an EIS be prepared when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. Some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA. Under NEPA, once a decision is made regarding the need for an EIS, it is the magnitude of the impact that is evaluated, and no judgment of its individual significance is deemed important for the text. NEPA does not require that a determination of significant impacts be stated in the environmental documents.

CEQA, on the other hand, does require TAMC to identify each "significant effect on the environment" resulting from the proposed action and ways to mitigate each significant effect. If the proposed action may have a significant effect on any environmental resources, then an EIR must be prepared. Each and every significant effect on the environment must be disclosed in the EIR and mitigated if feasible. In addition, the *California CEQA Guidelines* list mandatory findings of significance that also require the preparation of an EIR. There are no types of actions under NEPA that parallel the mandatory findings of significance of CEQA. This chapter discusses the effects of this project and CEQA significance.

8.2 No Impacts or Less than Significant Impacts Resulting from the Proposed Action

The analysis contained in the EA/EIR determined that the proposed action would have no impacts or less than significant impacts to the following environmental parameters:

- **Aesthetics and Visual Resources** – The analysis contained within the EA/EIR determined that the proposed action would not result in impacts to aesthetics related to scenic resources, visual character or quality or create new sources of substantial light or glare. Therefore, no impacts to aesthetics and visual resources would result with implementation of the proposed action and no mitigation measures are necessary.
- **Hydrology and Water Quality** – The analysis contained within the EA/EIR determined that the proposed action would not result in impacts to hydrology and water quality, including the violation of a water quality standard or waste water discharge requirement, substantially deplete groundwater supplies or interfere substantially with groundwater recharge, substantially alter drainage patterns or result in substantial erosion or siltation on- or off-site, substantially increase the rate or amount of runoff which could result in flooding, exceed the runoff capacity of an existing stormwater drainage facility or provide substantial amounts of pollution, otherwise substantially degrade water quality,

place housing within a 100-year flood hazard, or redirect flood flows, expose people or structures to significant risk of flooding, or inundation by seiche, tsunami, or mudflow. Therefore, no impacts to hydrology and water quality would result with implementation of the proposed action and no mitigation measures are necessary.

- **Land Use and Planning** – The analysis contained within the EA/EIR determined that the proposed action would not result in impacts to land use and planning, including physically dividing an established community, conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project, or conflict with an applicable HCP or NCCP. Therefore, no impacts to land use and planning would result with implementation of the proposed action and no mitigation measures are necessary.

- **Population and Housing** – The analysis contained within the EA/EIR determined that the proposed action would not result in impacts to population and housing, including substantial inducement of population growth in an area either directly or indirectly, displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere, or the displacement of substantial numbers of people, necessitating the construction of replacement housing elsewhere. Therefore, no impacts to population and housing would result with implementation of the proposed action and no mitigation measures are necessary.

- **Recreation** – The analysis contained within the EA/EIR determined that the proposed action would not result in impacts to recreation, including an increased use of such facilities such that the substantial physical deterioration of the facility would occur or be accelerated, or include or require the construction of recreational facilities which might have an adverse physical effect on the environment. Therefore, no impacts to recreation would result with implementation of the proposed action and no mitigation measures are necessary.

- **Greenhouse Gas Emissions** – The analysis contained within the EA/EIR determined that the proposed action would not result in significant impacts to the environment associated with greenhouse gas emissions, including their generation either directly or indirectly, or conflict with an applicable policy or regulation adopted for the purpose of reducing emissions of greenhouse gases. Therefore, no impacts to greenhouse gas emissions would result with implementation of the proposed action and no mitigation measures are necessary.

8.3 Less than Significant Impacts of the Proposed Action with Mitigation Incorporated

The analysis contained in the EA/EIR determined that the proposed action would have less than significant impacts with the incorporation of mitigation measures to the following environmental parameters:

- **Traffic and Transportation** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts to traffic and transportation, including conflicts with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, LOS, public transit, bicycle or pedestrian facilities, or increase hazards due to design features or incompatible uses, result in inadequate emergency access. The proposed action would result in changes in air traffic patterns since the proposed action is not located within an airport land use planning area and does not propose uses that would affect air traffic patterns. Therefore, impacts to traffic and transportation would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously

identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

- **Air Quality** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts to air quality, including conflicts with the applicable air quality plan, violate air quality standards or contribute substantially to an existing or projected air quality violation, result in a cumulatively considerable net increase of any criteria pollutants for which the project is in non-attainment under an applicable federal or state ambient air quality standard, expose sensitive receptors to substantial pollutant emissions, or create objectionable odors affecting a substantial number of people. Therefore, impacts to air quality would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and Chapter 5, Construction Period Impacts.

- **Biological Resources** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts to biological resources, including habitat modification to identified sensitive species, riparian habitat, or other sensitive natural communities, affect wetlands through direct removal, filling, hydrological interruptions or other means, movement of native fish or wildlife, including wildlife corridors or conflict with local policies of ordinances protecting biological resources. The proposed action was determined however, not to result in impacts to the provision of an adopted HCP of NCCP or other approved HCP since none are currently in place at this time. Therefore, impacts to biological resources would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

- **Cultural Resources** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts to cultural resources, including adverse changes in the significance of a historical resource, archaeological resource, directly or indirectly destroy a unique paleontological resource or site or unique geologic feature, or disturb any human remains, including those interred outside of formal cemeteries. Therefore, impacts to cultural resources would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

- **Hazards and Hazardous Waste** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts associated with hazards and hazardous waste, including transport, use and disposal, risk of upset, be located on a site which is included on list of hazardous materials substances or waste within one-quarter mile of an existing or proposed school. However, it should be noted that the proposed action is not located within an airport land use plan, within two miles of a public airport, or vicinity of a private airstrip, would not impair implementation or interfere with an adopted emergency response plan, or expose people or structures to wildland fires. Therefore, impacts to hazards and hazardous waste would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

- **Agriculture and Forestry Resources** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts to agricultural resources (but not forestry resources since none exist), including the conversion of Prime Farmland, Unique Farmland, or Farmland of State Importance, conflict with existing zoning for agricultural use, or a Williamson Act contract, or

involve other changes in the existing environment which could result in conversion of Farmland to non-agricultural use. Therefore, impacts to agriculture and forestry resources would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

- **Noise** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts associated with noise, including exposure of persons to or generation of noise levels or groundborne vibration in excess of an established standard or a substantial permanent, temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Therefore, impacts associated with noise would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

- **Public Services and Utilities** – The analysis contained within the EA/EIR determined that the proposed action would result in impacts associated with public services and utilities, including substantial adverse physical impacts or need for new or physically altered government facilities affecting fire and police protection, schools, parks, and other public facilities, exceed wastewater treatment requirements or capacity, construction of a new or expansion of a water or wastewater treatment facility or stormwater drainage facilities, have sufficient water supplies, exceed the permitted capacity of a landfill or comply with federal, state, or local laws and regulations related to solid waste. Therefore, impacts associated with public services and utilities would be adverse and significant, but can be mitigated to less than significant levels with the implementation of mitigation measures previously identified in Chapter 4, Affected Environment, Impacts, and Mitigation and/or Chapter 5, Construction Period Impacts.

8.4 Potentially Significant Impacts of the Proposed Action

The analysis contained within Chapter 3, Traffic and Transportation, Chapter 4, Affected Environment, Impacts, and Mitigation, and Chapter 5, Construction Period Impacts of this EA/EIR determined that implementation of the proposed action would not result in potentially significant impacts that could not be mitigated.

8.5 Beneficial Effects of the Proposed Action

- **Population and Housing** – A beneficial effect of the proposed action would be the creation of new construction and engineering jobs derived from the local workforce and which would directly benefit the local economy. In addition, it is anticipated that the existing local skilled workforce would operate and maintain the system. Additional benefits would include increased access to jobs, additional transportation options for low-income populations, senior citizens and those with physical disabilities, increased access by students to educational resources, and economic development opportunities along the proposed action alignment.

- **Land Use and Planning** – TODs may be constructed in and around the proposed stations. This beneficial effect could decrease automobile usage, while decreasing other indirect impacts, such as worsened air quality and traffic congestion.

- **Recreation** – Operation of the proposed action would increase public access to park and recreational facilities located long the proposed action alignment and would result in a beneficial effect.

- **Greenhouse Gas Emissions** – The proposed action would facilitate transit infrastructure improvements that would ultimately be expected to reduce greenhouse gas emissions in the Monterey Bay region.

8.6 Growth Inducing Impacts

The proposed action would accommodate current and future residents and businesses by providing a public transportation service on an already existing rail ROW (i.e., MBL) and would not require the extension of any of this rail line in order to accommodate the proposed public transportation facilities. Since the proposed action does not include residential or commercial land uses, it would be speculative to determine direct or indirect impacts related to growth (e.g., changes in general plan and zoning designations to adjacent parcels, etc.). It should be noted however, the analysis contained within Section 4.8, Land Use and Planning determined that the proposed action would be consistent with existing and future planned uses along the proposed action alignment. Therefore, implementation of the proposed action would result in less than significant impacts related to growth inducing impacts.

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Chapter 9. Public and Agency Outreach

9.1 Public Involvement and Information

NEPA and CEQA both encourage public participation throughout the process of alternatives development and environmental analysis. This section describes the public and government agency coordination efforts that have been conducted to date for the proposed action. The public involvement program for the proposed action included extensive community meetings and consultations with citizens, various municipalities, regulatory agencies, and other interested groups. Additional agency consultation and public coordination is contained within the Scoping Meeting Summary Report (see Appendix B).

9.2 Alternatives Analysis

The proposed action has included an extensive outreach program beginning with the FTA-sanctioned Alternatives Analysis process initiated in 2007 and culminating in the TAMC Board of Directors selection of the LPA (proposed action). As part of that process, public and agency meetings were held in order to understand the views and concerns of interested parties, the public and agencies. A discussion of the Alternatives Analysis was previously provided in Chapter 2, Project Description/Alternatives Considered. In addition a copy of the *Alternatives Analysis for the Monterey Peninsula Fixed Guideway Corridor Study, Volume 2*, February 2011 is available under separate cover.

9.3 Notice of Preparation

In compliance with CEQA, TAMC prepared a Notice of Preparation (NOP) indicating its intent to prepare an EIR. The NOP was then filed with the State Clearinghouse on November 12, 2009 and also posted at the Monterey County Clerk's office. In addition, the NOP was also distributed to interested parties, agencies, and the public. During the 30 day public comment period, a total of eight comment letters were received on the proposed action. One comment letter was received after the close of the comment period. Table 9.1-1 provides a summary of all comment letters received. Copies of the comment letters received are provided in Appendix C, Notice of Preparation Comment Letters.

Table 9.1-1: Summary of Notice of Preparation Comment Letters Received

Agency/Interested Party	Date of Correspondence	Topics/Issues Raised	EA/EIR Section Addressing Issues
United States Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service	December 7, 2010	Potential impacts to south-central California steelhead and its primary watershed, the Salinas River	Section 4.3, Biological Resources
State of California, Public Utilities Commission	December 10, 2009	Traffic and safety issues associated with light rail transit vehicles, including vehicle and pedestrian collisions, consideration of grade-separating the entire corridor, compliance with light rail General Orders, corridor review, preemption of the corridor, removal of residual track, trespass, vehicle parking along the ROW	Chapter 3, Traffic and Transportation and Section 4.15, Safety and Security
State of California, Native Heritage Commission	November 30, 2009	Potential impacts to historic resources, including archaeological resources.	Section 4.4, Cultural Resources
California State University, Monterey Bay	December 11, 2009	Notes the benefits of the proposed project including reductions in traffic and greenhouse gases.	Chapter 3, Traffic and Transportation and Section 4.2, Air Quality
City of Monterey	December 10, 2009	Requests that terminal station be site within the city's Waterfront Planning Area and the EIR include an alternatives analysis.	Chapter 2, Project Description/Alternatives Considered, and Chapter 6, Evaluation of Alternatives
City of Monterey	December 14, 2009	Requests close coordination to address land use and parking and traffic. In addition, requests that the terminal station be site within the city's Waterfront Planning Area. Additional areas of concern include potential impacts associated with aesthetics and visual quality, cultural resources, hazards, land use, and noise.	Chapter 3, Traffic and Transportation, Section 4.4, Cultural Resources, Section 4.5, Geology, Soils, and Seismicity, Section 4.1 Aesthetics and Visual Resources, and Section 4.8, Land Use and Planning.

Table 9.1-1: Summary of Notice of Preparation Comment Letters Received (cont.)

Agency/Interested Party	Date of Correspondence	Topics/Issues Raised	EA/EIR Section Addressing Issues
City of Seaside, Resource Management Services, Planning Division	December 16, 2009	Potential impacts identified include noise, traffic, safety, and aesthetics.	Chapter 3, Traffic and Transportation, Section 4.1 Aesthetics and Visual Resources, Section 4.8, Land Use and Planning, Section 4.10, Noise and Vibration, and 4.15, Safety and Security
Associated Transportation Engineers	December 12, 2009	Proposed alternative locations for stations. Requests that potential impacts associated with land use, population, housing, and economic growth, socioeconomic/community and traffic and transportation be addressed.	Chapter 3, Traffic and Transportation, Section 4.8, Land Use, and Section 4.12, Demographics, Neighborhoods, and Environmental Justice
Source: Parsons and TAMC, 2011			

9.4 Scoping Meeting

A Scoping Meeting was held on November 8, 2010 to solicit comment from the public, agencies, and interested parties on the content and issues to be addressed. Scoping Meeting announcements were sent to over 70 local, regional, state, federal agencies, elected officials, interested parties, and libraries. At the meeting, attendees were provided with an overview of the proposed action, timelines and key milestones, and given an opportunity to comment on the scope and content of the environmental analysis and express their overall views and concerns about the proposed action.

To build public awareness of the Scoping Meeting and the project overall, project team members employed a diverse set of outreach methods, including newspaper advertisements, scoping meeting notices, mailers and a project website. A Scoping Meeting Summary Report is provided in Appendix B.

9.5 Other Public Information and Outreach Efforts

The following public information and outreach efforts have been undertaken to date.

Monterey Waterfront Planning Meeting #2:	April 22, 2010
Monterey Peninsula Chamber Government Affairs Committee:	May 12, 2010
Monterey City Council Meeting:	May 18, 2010
Seaside City Council Meeting:	May 20, 2010
Marina Democratic Club:	May 27, 2010
Sand City Council Meeting:	June 15, 2010

LandWatch Around the County:	June 17, 2010
Monterey Green Action Council: Monterey	June 24, 2010
Del Monte Beach Town Houses:	June 25, 2010
FORA Board meeting:	July 9, 2010
Seaside Rotary:	July 12, 2010
American Planning Assoc. and American Assoc. of Env. Professionals:	July 28, 2010
Marina Rotary:	August 4, 2010
TAMC Technical Advisory Committee:	August 5, 2010
AMBAG Board:	August 11, 2010
Monterey Rotary:	September 9, 2010
Oak Grove Neighborhood Association:	September 15, 2010
Castroville Rotary:	September 24, 2010
Pacific Grove City Council:	October 6, 2010
California State University Monterey Bay Leadership Group:	October 11, 2010
Carmel Valley Rotary:	November 2, 2010
Scoping Meeting:	November 8, 2010
Monterey Peninsula – Sunrise Rotary:	November 9, 2010
Castroville Community Services District:	November 16, 2010
Monterey Commercial Properties Owners Association:	December 14, 2010
Green Party Monterey County:	January 14, 2011
Marina City Council:	January 25, 2011

Chapter 10. List of Preparers

Parsons

Bob Scales, Traffic and Planning Engineer
Gary Petersen, Senior Project Manager
Gilberto Ruiz, Senior Project Manager
Dan Conaty, Principal Environmental Planner
Leslie Provenzano, Environmental Planner
Nasrin Behmanesh, Air Quality Specialist
Thanh Luc, Noise Control Specialist
Lincoln Walker, Environmental Planner
Dee Zito, Project Coordinator
Angie Schnapp, Senior Environmental Planner
Ruben Urenda, Senior Noise Control Technician
Richard Bottcher, Senior Drainage Engineer
Qiaohong Lu, P.E. Senior Drainage Engineer
Carrie Chasteen, Senior Architectural Historian
Christopher Espiritu, Associate Planner
David Finnegan, Project Planner
Charles Lee, Senior Project Engineer
Aparna Kanduri, Engineer
John Moeur, Principal Planner
Sharon Queiro, Senior Graphic Designer
Alisha McDonald, Graphic Designer
Noy Somsouk, Publishing Supervisor
Lee Monnens, Scientist
Donald Jolly, Cultural Resources

Denise Duffy and Associates

Denise Duffy, Principal
Erin Harwayne, Senior Project Manager
Josh Harwayne, Senior Environmental Scientist
Matthew Johnson, Associate Environmental Scientist
Jami Davis, Assistant Environmental Scientist
Tia Takigawa, Word Processing
Bryce Ternet, Associate Planner
Tyler Potter, Associate Planner
Alison Imamura, AICP, Project Manager

Far Western Anthropological Research Group, Inc.

Allika Ruby, Senior Archaeologist

Kleinfelder West, Inc.

Jeff Richmond, project Engineering Geologist
Robert Hasseler, PE, Project Engineer
Parham Khoshkbari, PE, Project Engineer
Nathan Stoopes, RG, Project Manager
Brian O'Neill, PE, GE, Principal Geotechnical Engineer
Mehagan Hopkins, Staff Professional
K. James Woodard, Staff Professional
Sarah Kalika, PG, REA I, Project Geologist
Bradley Erskine, PhD, PG, CEG, ChG, Environmental Practice Lead

JRP Historical Consulting, LLC

Rand Herbert, Vice President
Polly Allen, Architectural Historian
Greg Rainka, Research Assistant

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APPENDIX A – LAND USE AND PLANNING CONSISTENCY ANALYSIS

The following policies and programs from the *Monterey County General Plan* are considered to be relevant or potentially relevant to the project.

Table A-1
Consistency with Relevant Monterey County General Plan Policies

Policy Number	Policy	Consistency
Agriculture		
AG-1.1 (MoCoGP)	Land uses that would interfere with routine and ongoing agricultural operations on viable farmlands designated as Prime, of Statewide Importance, Unique, or of Local Importance shall be prohibited.	*Project consistent.* The existing rail right-of-way extends through areas of active farmland; however, the proposed project is not expected to permanently affect farmland. Temporary impacts to Important Farmland may occur during construction activities. Measures have been identified in the CIA to reduce impacts to a less-than-significant level.
AG-1.2 (MoCoGP)	The County shall require that well-defined buffer areas be provided as partial mitigation for new non-agricultural development proposals that are located adjacent to agricultural land uses on farm lands designated as Prime, of Statewide Importance, Unique, or Local Importance. 1. Criteria. The following criteria shall be used to establish agricultural buffers to protect current and reasonably foreseeable future agricultural operations: a. The type of non-agricultural use proposed, site conditions and anticipated agricultural practices. b. Weather patterns, crop type, machinery and pesticide use, existence of topographical features, trees and shrubs, and possible development of landscape berms to separate the non-agricultural use from the existing agricultural use. 2. Buffers. Buffers and/or easements shall be: a. Designed to comply with applicable state and local laws regulating school buffers, pesticide buffers, and other controls. b. Provided on the land designated for the proposed new use and not on the adjacent agricultural land unless by mutual agreement between the two landowners. Buffer maintenance will be the responsibility of the underlying fee title owner and shall be enforceable by the County of Monterey. c. Designed to be used for the purposes and manner described in this policy and for no other purposes unless agreed to by abutting landowners. Drainage, shading, vegetation, and erosion control shall be made beneficial to the adjacent agricultural use. In circumstances in which a buffer is not meant to be permanent, it will be terminated once the underlying agricultural purpose for the buffer no longer exists. The agricultural Advisory Committee shall review and make recommendations on establishment of, and changes to, buffer zones.	*Project consistent.* The proposed project will provide buffer areas for land uses adjacent to agriculture.

Table A-1 Consistency with Relevant Monterey County General Plan Policies		
Policy Number	**Policy**	**Consistency**
AG-1.8 (MoCoGP)	Development projects on lands designated for agricultural use that require a discretionary permit shall be referred to the County's Agricultural Advisory Committee for their review and recommendation to the decision-making body.	*Project consistent.* The Proposed Project will acquire all necessary permits.
AG-1.11 (MoCoGP)	Permits for agriculture activities shall be integrated with applicable permit coordination (streamlining) programs.	*Project consistent.* The Proposed Project will acquire all necessary permits.
AG-1.12 (MoCoGP)	The County shall prepare, adopt, and implement a program that requires projects involving a change of land use designation resulting in the loss of Important Farmland (as mapped by the California Department of Conservation Farmland Mapping and Monitoring Program) to mitigate the loss of that acreage. For such land to be annexed to incorporated areas, the County shall work in consultation with the cities to mitigate the loss of Important Farmland resulting from annexation. The program may include ratios, payment of fees, or some other mechanisms. Mitigation mechanisms established through this program shall be based upon a graduated value of the Important Farmland, with mitigation for loss of prime land having the highest agricultural value. The County shall support private, non-profit land trusts and conservation organizations to promote the policies of this General Plan, facilitate the implementation of the program, and to receive, by voluntary donation or purchase, development rights on any lands to be preserved as part of this program's implementation strategy. The acreage within a project or annexation that is to be utilized for inclusionary housing shall not be subject to this mitigation policy. A Community Plan or Rural Center Plan that includes a mitigation program shall not be subject to this policy. Annexations or sphere or influence amendments covered by the Greater Salinas Area Memorandum of Understanding (GSA MOU) shall be consistent with and governed by the terms of the GSA MOU and with the City's General Plan. Until such time as the program has been established, the County shall consult and cooperate with the cities so that projects shall mitigate the loss of Important Farmland on an individual basis as much as is feasible as determined by the Board of Supervisors.	*Project consistent.* The Proposed Project will not require any changes to land use designations. TAMC will work with all agencies involved to ensure that any loss of Important Farmland is mitigated.
AG-3.1 (MoCoGP)	"Routine and Ongoing Agricultural Activities" shall be allowed pursuant to the policies in this plan. Activities that may have significant impacts are subject to a greater level of review.	*Project inconsistent.* The proposed project will mitigate any impacts to "Routine and Ongoing Agricultural Activities" by scheduling construction around growing seasons, to the extent that is practicable.
Transportation		
C-2.2 (MoCoGP)	Existing and proposed public transportation facilities shall be protected from the encroachment of incompatible land uses.	*Project consistent.* The proposed project will comply with the requirements of this policy.
C-2.4 (MoCoGP)	A reduction of the number of vehicle miles traveled per person shall be encouraged.	*Project consistent.* The proposed project will promote public transportation options.

Table A-1 Consistency with Relevant Monterey County General Plan Policies		
Policy Number	**Policy**	**Consistency**
C-2.5 (MoCoGP)	Overall land use patterns that reduce the need to travel by automobile shall be encouraged.	*Project consistent.* The proposed project will encourage the use of public transportation.
C-2.6 (MoCoGP)	Bicycle and automobile storage facilities shall be encouraged in conjunction with public transportation facilities.	*Project consistent.* The proposed project includes bicycle and park-and-ride facilities; these facilities will be used in conjunction with the proposed project.
C-2.7 (MoCoGP)	New development shall be located and designed with convenient access and efficient transportation for all intended users and, where possible, consider alternative transportation modes.	*Project consistent.* The proposed project is located in designated areas to provide convenient access of County residents to public transportation.
C-3.5 (MoCoGP)	Transportation alternatives such as bicycles, car pools, public transit, and compact vehicles shall be encouraged and accommodated within and outside the public right-of-way and may be included as part of an Area Plan and also in Policy OS-1.10.	*Project consistent.* The proposed project will provide light rail services to residents within the Greater Monterey Peninsula Area and Castroville.
Public Transit Services		
C-6.5 (MoCoGP)	The County shall encourage use of public transit and alternative modes of transportation through land use designations and zoning which cluster employment centers with a mix of other uses, and project design that incorporates car pool areas, "park and ride" facilities and similar incentives.	*Project consistent.* The proposed project will promote light rail service through different types of land uses and incorporate "park and ride" facilities into its design.
Railroad Transportation		
C-8.1 (MoCoGP)	The County shall protect the potential for future rail transportation.	*Project consistent.* The proposed project will promote light rail service.
C-8.3 (MoCoGP)	The County shall encourage passenger rail, light rail, or bus rapid transit service to urban centers.	*Project consistent.* The proposed project will promote light rail service between urban centers in the project's vicinity.
C-8.4 (MoCoGP)	The County shall encourage transit-oriented development around existing and future rail, light rail, or bus rapid transit stations.	*Project consistent.* The proposed project will create opportunities for development near transit stations.
Bicycle Transportation		
C-9.6 (MoCoGP)	New and improved multi-modal transfer facilities, such as transit centers and park-and-ride lots, shall include adequate bicycle access and secure bicycle parking facilities.	*Project consistent.* Bicycle parking facilities will be provided at the proposed project's light rail platforms.

The following policies and programs from the *Castroville Community Plan* are considered to be relevant or potentially relevant to the project.

Table A-2
Consistency with Relevant Castroville Community Plan Policies

Policy Number	Policy	Consistency
1.2	New development and redevelopment proposals shall be consistent with the Community Plan Design Guidelines (Appendix A) Development Standards and Development Standards (Appendix B) Design Guidelines 2to ensure that the design of new development enhances the vision for Castroville.	*Project consistent.* Final design plans for the proposed project will be developed in accordance with applicable Community Plan Design Guidelines.
1.5	New development and redevelopment projects shall incorporate the Community Plan Design Standards (Appendix A) and Design Guidelines (Appendix B) to ensure that the scale and design enhances the safe, attractive small town character desired.	*Project consistent.* Final design plans for the proposed project will be developed in accordance with applicable Community Plan Design Guidelines.
3.3	Pedestrian and bicycle connections shall be created between the downtown, Castro Plaza, slough enhancement areas, the Commuter Train Station Area, the high school, and other portions of the community to promote linkages and improve the pedestrian and bicycle accessibility of the community.	*Project consistent.* The proposed light rail station shall be designed to be easily accessed for pedestrian and bicycle users.
4.3	New private and public development shall ensure that services continue to meet the daily needs of the community, including groceries, gasoline, personal services, schools, day care, and recreation.	*Project consistent.* The proposed light rail station will provide enhanced public transportation and will not adversely affect existing services.
8.3	A safe and attractive pedestrian/bike underpass under the railroad tracks to connect the train platform to the parking facilities on the east side shall be provided.	*Project consistent.* The proposed project will comply with the requirements of this policy.
9.1	Safe pedestrian and bicycle crossings shall be provided at major roadways and the railroad facilities.	*Project consistent.* See response above.
10.1	New development and redevelopment proposals shall be reviewed to ensure that they meet appropriate urban infrastructure and service standards and include appropriate measures to mitigate impacts.	*Project consistent.* Final design plans for the proposed project will be developed in accordance with applicable Community Plan Design Guidelines.

The following policies and programs from the *City of Marina General Plan* are relevant to the project.

Table A-5
Consistency with Relevant City of Marina General Plan Policies

Policy Number	Policy	Consistency
Transportation		
3.3.8 (MarGP)	Link existing and future areas of the City with an integrated system of roads, transit, footpaths and bikeways that connects neighborhoods, commercial areas, schools, parks, and other major community-serving destinations.	*Project consistent.* The light rail project will provide a long-term alternative for public transportation in the project's vicinity that will link existing and future areas of the City with an integrated system of transit.
Transit Facilities and Services		
3.24 (MarGP)	The City could support plans to provide passenger light rail or bus rapid transit services to the Monterey Peninsula to serve both tourists and workers needing to commute into, out of, or within the area only if the services/facilities are designed to avoid the use of heavy rail, to directly serve the City of Marina and to adequately mitigate impacts to residents and businesses. Site reservations should be provided at the approximate locations shown in Figure 3.2 or alternative appropriate locations determined by the City and other concerned regional agencies.	*Project consistent.* The light rail project will provide a long-term alternative for public transportation in the project's vicinity.
3.26 (MarGP)	Del Monte Boulevard, Reservation Road, and the Blanco Road/Imjin/12th Street corridor shall serve as the primary routes for intra-city bus service as provided by Monterey-Salinas Transit (MST). Intermodal accommodations shall be provided at the two proposed passenger rail stations along the Union Pacific rail line. An additional bus transit center shall be provided in central Marina in the general vicinity of the Del Monte Boulevard/Reservation Road intersection. The location and design of these centers shall be integrated with other civic or commercial developments to provide a safe, attractive, high-amenity setting that will encourage transit use.	*Project consistent.* The light rail project will provide a long-term alternative for public transportation in the project's vicinity. MST bus service shall be complemented by the proposed project.
City Form and Appearance		
4.84.5 (MarGP)	At such time that passenger rail service is reintroduced to the Monterey Peninsula, a station, shall be provided in the northern portion of Marina. Accordingly, the Armstrong Ranch Specific Plan shall provide for a passenger rail station and adjacent public plaza fronting onto Del Monte Boulevard. The station should be designed to serve multiple-trip purposes. Such purposes should include commuting by rail to jobs within the Armstrong Ranch area or elsewhere in Marina with connecting local bus service; access to Armstrong Ranch areas and nearby coastal destinations for recreational visitors, and out-commuting to jobs in other areas of the Monterey Peninsula by Armstrong Ranch residents using rail rather than automobile.	*Project consistent.* The light rail project will provide a long-term alternative for public transportation in the project's vicinity.
Public Health and Safety		
4.102 (MarGP)	The following additional safeguards shall be provided: 1. Ensure that critical or sensitive facilities, e.g., hospitals, fire and police stations, schools, major transportation links, high-occupancy structures,	*Project consistent.* The proposed project will comply with the requirements of this policy to the extent that it is applicable.

Table A-5 Consistency with Relevant City of Marina General Plan Policies		
Policy Number	**Policy**	**Consistency**
	emergency communication facilities, utility lines, and sites containing or storing hazardous materials, are located, designed and operated to maximize their ability to remain functional after the expected or maximum credible event on any of the local active fault systems. Critical facilities shall not be located in areas of high to very high seismic shaking hazard. 2. Require that new development be sited and designed to conform to site topography and to minimize grading wherever possible. Recommendations to developers as to how to mitigate geologic or seismic hazards should include mention of the need to avoid massive grading or excavation or structures that might require substantial alteration of natural landforms. 3. Require the preparation of combined geologic and geotechnical reports where new development is proposed on slopes with greater than a 30 percent gradient or within 200 feet of slopes with more than a 50 percent gradient. As part of the project approval process, require the implementation of recommended engineering and design measures to reduce the risk of slope instability or failure for these sites. 4. Where new development is proposed within 300 feet of active dune fields (delineated as "Qds" in Figure 1 of Appendix A), require that the geotechnical report include an assessment of dune migration rates and recommend appropriate setbacks. New development in an area of Flandrian dunes (areas shown as "Qfd" on Figure 1, Appendix A) should maintain a minimum setback of 100 feet from the leeward (downwind) dune face, based upon the prevailing northwesterly wind direction, unless other adequate protective measures can be implemented. 5. Where new development or subdivisions are proposed on soils with moderate to potentially severe limitations as substrates for construction or engineering purposes, as shown in Figure 4 of Appendix A, require that geotechnical reports be prepared and engineering and design measures be implemented as part of the project approval process. Allow exceptions for development on existing lots of record where geotechnical reports were completed in conjunction with subdivision map approval or for single-family homes on existing lots of record.	

The following policies and programs from the *City of Sand City General Plan* are relevant to the project.

Table A-6
Consistency with Relevant City of Sand City General Plan Policies

Policy Number	Policy	Consistency
3.2.1	Coordinate land use planning with transportation planning to mitigate the traffic impacts of new development.	*Project consistent.* The proposed project will alleviate traffic impacts by providing an alternative source of transportation.
3.3.3	Support the completion of projects listed in local and regional transportation plans.	*Project consistent.* Implementation of the proposed project will re-establish passenger rail service to the project area, which is a foreseen project in regional transportation plans.
3.4.2	Pursue public transit, ride sharing, carpooling, bicycle and pedestrian access, park-and-ride facilities, and other transportation construction projects where feasible. Bicycle and pedestrian facilities should be provided as part of construction of, or improvements to, all major roadways where feasible.	*Project consistent.* Implementation of the proposed project will provide a public transportation alternative consistent with the intent of this policy.
3.6.1	Require that all new development (not necessarily redevelopment) provide adequate on-site parking facilities to accommodate projected parking demand.	*Project consistent.* On-site parking facilities are proposed for locations immediately adjacent to proposed stops/stations.
3.6.2	Require the incorporation of new on-site parking facilities, the development of temporary or permanent parking facilities on nearby vacant/underutilized property, or the payment of parking "in lieu" fees toward the development of public parking facilities when land use intensification is proposed on existing sites with inadequate parking.	*Project consistent.* On-site parking facilities are proposed for locations immediately adjacent to proposed stops/stations.
3.9.1	Actively participate in the re-establishment of railroad service from San Francisco to Seaside, as proposed by the TAMC.	*Project consistent.* Implementation of the proposed project will compliment potential future re-establishment of rail service between San Francisco and the Monterey Peninsula.
5.8.6	The City shall encourage the use of alternative forms of transportation by incorporating public transit, bicycle, and pedestrian modes in county planning processes and by requiring new development to provide adequate pedestrian and bicycle facilities.	*Project consistent.* The proposed project will provide a public transportation alternative consistent with this measure.
5.9.1	The City supports and implements programs providing alternatives to conventional private vehicles, such as the Sand City electric bus shuttle service.	*Project consistent.* The proposed project will provide a public transportation alternative consistent with this measure.

The following policies and programs from the *City of Seaside General Plan* are considered to be relevant or potentially relevant to the project.

Table A-7
Consistency with Relevant City of Seaside General Plan Policies

Policy Number	Policy	Consistency
Land Use Element		
LU-9.1	Adopt and maintain level of service (e.g., response times, call handling) and staffing standards for the Fire Department.	*Project consistent.* The proposed project will not result in increased response time for public service providers.
LU-10.1	Adopt and maintain level of service (e.g., response times, call handling) and staffing standards for the Police Department.	*Project consistent.* The proposed project will not result in increased response time for public service providers.
Circulation Element		
C-1.4	Provide adequate access to the University, golf courses, and other uses in North Seaside.	*Project consistent.* Implementation of the light rail project will improve access throughout the City of Seaside.
C-2.1	Coordinate planning, construction and maintenance of development projects and circulation improvements with adjacent jurisdictions and transportation agencies.	*Project consistent.* The proposed project is being undertaken by the TAMC in collaboration with the affected land use jurisdictions.
C-2.2	Support programs that help reduce congestion and encourage alternative modes of transportation.	*Project consistent.* The proposed project will provide an alternative form of transportation that will reduce area congestion.
C-3.1	Support the provision and expansion of regional transit services and support facilities to serve the City.	*Project consistent.* The proposed project consists of a regional light rail system that will serve the City of Seaside and surrounding jurisdictions.
C-4.1	Require off-street parking in new development and redevelopment projects.	*Project consistent.* Parking areas will be provided adjacent to light rail platforms.
C-4.2	Support the development of well-designed and aesthetically pleasing parking facilities in areas where current parking deficiencies exist or where substantial traffic-generating uses are planned.	*Project consistent.* Parking areas will be provided adjacent to light rail platforms.
C-4.3	Ensure well-landscaped parking lots that facilitate pedestrian movement and screen unattractive structures.	*Project consistent.* Parking areas will be provided adjacent to light rail platforms.
Conservation/Open Space Element		
COS-6.1.6	Through development incentives and design standards in the Zoning Ordinance and Specific Plans, encourage alternative modes of transportation, such as walking biking and public transportation to reduce emissions associated with automobile use.	*Project consistent.* The proposed project will result in the re-establishment of rail service on the Monterey Peninsula and will reduce the dependency on automobile use and thereby vehicle emissions.

The following policies and programs from the *City of Monterey General Plan* are considered to be relevant or potentially relevant to the project.

Table A-8
Consistency with Relevant City of Monterey General Plan Policies

Policy Number	Policy	Consistency
Transportation and Parking Management Program		
T.a.2.1. (CMonGP)	Expand and promote transit service for residents, employees, and visitors based on the City's traffic monitoring program (see Section j).	*Project consistent.* The proposed project will re-establish passenger rail service on the existing rail right-of-way.
Transit		
T.f.7. (CMonGP)	Improve and develop safe, convenient, and protected transit facilities that are compatible in design with the surrounding area.	*Project consistent.* The proposed project will re-establish passenger rail service on the existing rail right-of-way.
Rail and Air Transport		
T.i.2. (CMonGP)	Protect the potential for future rail transportation by supporting the efforts of the Transportation Agency for Monterey County (TAMC) to provide additional passenger rail service to the urban centers.	*Project consistent.* The proposed project will re-establish passenger rail service on the existing rail right-of-way.
T.i.2.1. (CMonGP)	Plan to expand the local shuttle service area to nearby proposed rail stations.	*Project consistent.* The final design of project elements located in the City of Monterey will be designed to comply with the requirements of this policy; the proposed project includes elements to improve bus transportation to proposed rail stops/stations.
T.i.5. (CMonGP)	Maintain the ability to restore rail service to the Monterey Peninsula.	*Project consistent.* Implementation of the proposed project will re-establish passenger service on the Monterey Peninsula.
T.i.5.1. (CMonGP)	Consider the compatibility of proposed land use developments with the establishment of future rail service into the City of Monterey.	*Project consistent.* Implementation of the proposed project will re-establish passenger service on the Monterey Peninsula.
Fire		
S.d.1. (CMonGP)	Achieve the greatest practical level of built-in fire protection to confine fires.	*Project consistent.* The final design of the project will comply with the requirements of this policy.
S.d.2. (CMonGP)	Achieve effective emergency access to all developments, installations, and fire protection equipment for emergency apparatus and for evacuation.	*Project consistent.* The final design of the project will comply with the requirements of this policy.
Social Policies		
Soc.a.4. (CMonGP)	Identify and support efforts to create a transportation network that can support children.	*Project consistent.* The light rail project will be designed to accommodate riders of all ages.
Soc.c.2. (CMonGP)	Support transportation services for persons with special needs.	*Project consistent.* The light rail project will be designed to accommodate riders of all abilities.

APPENDIX B – SCOPING MEETING SUMMARY REPORT

MONTEREY PENINSULA LIGHT RAIL PROJECT

Scoping Meeting Summary Report for the Draft Environmental Assessment/Environmental Impact Report

Prepared for:

Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, CA 93901

Prepared By:

PARSONS

November 2010

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1.0 PURPOSE

The purpose of this Scoping Meeting Summary Report is to document the comments received during the Public Scoping process for the Monterey Peninsula Light Rail Project (proposed action/project). Public and agency comments received during this phase are derived from the Scoping Meeting held on November 8, 2010. This phase of public involvement for the project provided community members, interested parties, and regulatory agencies with the opportunity to review project information and current project status, as well as provide comments, particularly regarding the scope of the environmental review process.

2.0 BACKGROUND

With worsening traffic congestion, rising fuel prices and a growing population within the region, the Transportation Agency for Monterey County (TAMC) is working to improve mobility and accessibility in the Monterey County area. An enhanced, state-of-the-art light rail transit (LRT) system is planned to meet local transportation needs as part of the project. TAMC views this project as critical to its ability to meet growing travel demands, encourage new ridership, and improve the local economy.

The project proposes to restore passenger rail service along the existing 15.2 mile Monterey Branch Line (MBL) railroad right-of-way from the unincorporated Monterey County community of Castroville (Blackie Road Station) to the harbor area of the city of Monterey (Custom House Plaza), Monterey County. The project would rehabilitate existing rail infrastructure and includes the improvement, rehabilitation, and reconstruction of tracks; new stations and a maintenance and operations facility; multi-modal transit center; park-and-ride lots; improvements to signals and grade-crossing warning systems; and the replacement and/or retrofit of bridge structures and relocation of a portion of an existing recreational trail. The project is planned to be constructed in two phases. Phase 1 service is anticipated to be operational by 2015 and would restore passenger rail service approximately 10 miles (from Monterey to the northern limits of the city of Marina). The second phase would extend rail service an additional 5.2 miles from this location to the proposed Castroville rail station north of Blackie Road. Standard bus service would connect with the rail stations, including between Marina and the Intermodal Transportation Center in the city of Salinas. Phase 2 is funding dependent and could be built by 2030.

As part of the planning process, TAMC, working in cooperation with the Federal Transit Agency (FTA), prepared a corridor-level analysis of LRT and bus rapid transit (BRT) alternatives to provide adequate information for TAMC to be able to select a locally preferred alternative (LPA). On October 28, 2009, the TAMC Board of Directors selected the LRT Alternative as the LPA, based on its ability to provide superior transportation in the long-term while best meeting the vision and future plans for each of the peninsula cities. TAMC is now beginning the preliminary engineering and environmental documentation phase of project development. A combined Environmental Assessment (EA) and Environmental Impact Report (EIR) document is being prepared, pursuant to federal and state law. Two alternatives will be evaluated in the EA/EIR, the Locally Preferred Alternative and the No-Action Alternative.

3.0 PUBLIC AND REGULATORY AGENCY INVOLVEMENT GOALS

Overall, the goal of public and regulatory agency involvement for the project is to support the LPA environmental clearance and project development process through sustained community acceptance and understanding. This approach strives to achieve the following goals:

- Build on the successful community outreach, communications and consensus-building process undertaken during the Alternatives Analysis phase.
- Meet National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA) requirements for public and regulatory agency involvement by expanding the area of involvement to cover those more specifically affected by potential Monterey Peninsula Light Rail Project impacts.
- Inform the entire community, including businesses, governmental and non-governmental institutions, the general public and neighborhoods within the project limits and other adjacent areas.
- Provide details about the project and obtain information from agency representatives about land use requirements, permits, certification, best management practices, coordination with other transportation projects and potential future development.
- Facilitate seamless coordination of the public involvement and communications process with the technical planning, environmental, preliminary engineering and final design tasks.

Public involvement for this phase of the project is designed to meet NEPA and CEQA requirements for public involvement for environmental scoping in the context of a broader approach of ensuring that the public is aware of project timelines and key milestones, has an opportunity to comment on the scope and content of the environmental analysis, and express overall views and concerns about the proposed project.

4.0 SCOPING MEETING DISTRIBUTION LIST

Scoping Meeting announcements were sent to over 70 federal, state, regional, and local agencies, elected officials, interested parties, and libraries. A sample of the invited agencies and interested parties is noted below. The complete mailing list is contained in Appendix A.

- Counties of Monterey, Santa Cruz, San Benito, Fresno, Kings, San Luis Obispo, and Kern
- Association of Monterey Bay Area Governments
- Cities of Monterey, Marina, Sand City, Seaside, Carmel-by-the-Sea, Del Rey Oaks, Gonzalez, Greenfield, King City, Pacific Grove, Salinas, Soledad, Capitola, Hollister, San Juan Bautista, Scotts Valley, and Watsonville
- Monterey Salinas Transit
- California Department of Fish and Game
- California Department of Transportation
- California Energy Commission
- State Office of Historic Preservation
- California Coastal Commission
- California Coastal Conservancy
- California Departments of Parks and Recreation
- Fort Ord Reuse Authority
- California Department of Water Resources

- California Department of Transportation and Planning
- California Air Resources Board
- State Water Resources Control Board
- Regional Water Quality Control Board
- California Department of Toxic Substances
- California Native American Heritage Commission
- Governor's Office of Planning and Research
- California Public Utilities Commission
- California Transportation Commission
- Federal Transit Administration
- U.S. Army Corps of Engineers
- National Marine Fisheries Service
- U.S. Fish and Wildlife Service
- Elected officials (17)
- Interested parties (2)
- Monterey County Library, Castroville, Marina, and Seaside

5.0 OUTREACH METHODS

To build public awareness of the Scoping Meeting and the project overall, project team members employed a diverse set of outreach methods. The following materials are included in Appendix A.

- Newspaper advertisements: Display advertisements placed in a local newspaper which advertised the Scoping Meeting. The Monterey County Herald was identified as the most widely circulated newspaper within Monterey County and adjacent areas relevant to the proposed project. Two advertisements announcing the Scoping Meeting were published on October 29th and November 5th.

- Scoping Meeting Notices: Notices were posted at various city and county clerk/recorders offices in Monterey County and were made available to the public. Scoping Meeting Notices provided meeting information and other project-related information.

- Mailers: Various local, regional, state, and federal agencies, regulatory agencies, elected officials, businesses, libraries, the California State University (CSU) Monterey Bay, and other interested parties received a mailer which included a Scoping Meeting Notice and a Project Vicinity Map.

- Project website: Updated in October 2010, the TAMC project website [1] displayed meeting information, provided project details, and other information relevant to the proposed project. Additionally, the project website provided a means for the public to be included in a mailing list.

[1] Note: Website location: http://www.tamcmonterey.org/programs/rail/montereyline.html.

6.0 MEETING FORMAT—SCOPING MEETING

The Environmental Scoping Meeting occurred as follows:

Monday, November 8, 2010
California State University — Monterey Bay
The University Center (Building 29)
4314 Sixth Avenue
Seaside, CA 93955

Upon entering The University Center hall at the CSU, Monterey Bay Campus, participants signed in at a registration table and received a packet of information including an agenda, comment booklet, and scoping booklet (Appendix A). The comment booklet provided space for participants to provide written comments about the project for submittal into the meeting record and this report. The scoping booklet provided information about the project background, history, features, environmental review process and schedule.

The meeting included an open house portion from 6:00 p.m. to 6:30 p.m., where participants visited poster displays describing the project and alternatives, and had the opportunity to ask questions to project staff and other team members. During this period of the Scoping Meeting, Debbie Hale, Executive Director, TAMC provided welcoming remarks.

The meeting also featured a formal presentation and community discussion from 6:30 p.m. to 8:00 p.m. Kristen Hoschouer, Associate Transportation Planner, TAMC provided welcoming remarks and information about the project background, history, route, station locations and station design concepts and features via a slideshow presentation. Gilberto Ruiz, Senior Project Manager, Parsons Transportation Group (Parsons) also presented detailed information about the environmental review process, scope and schedule.

Both Gilberto Ruiz and Kristen Hoschouer facilitated a discussion with participants about the project, particularly about potential impacts to be studied during the environmental review process, and other project staff members answered questions when possible.

7.0 SUMMARY OF COMMENTS—SCOPING MEETING

The following summarizes comments received at the Scoping Meeting—including during the community discussion and via comment booklets. Copies of the booklets are provided in Appendix A of this report.

7.1 PROJECT BACKGROUND

- We feel the Monterey area should stay as is. Please do not disturb the natural beauty of our area. We love our recreation/bike trail and are in fear of accidents with the train so close by.
- The rail line should relieve congestion on Highway 1 and reduce greenhouse gas emissions.
- I think it is badly needed and will prove very popular.
- This is very needed for the community. The project is very close in walking distance to the public.
- Is commuter rail service to Castroville existing?
  - If not, it must be implemented first

- Salinas ideal

- Train needs to serve a dense population.
- Buses need to feed stations.
  - $4.3 m x number of riders x fare / capital costs
    150 /day
    x 365 days
    43,000
- My water bill is going to pay for the train?
- The line should be designed to serve both local trips and tourist destinations.

7.2 LOCALLY PREFERRED ALTERNATIVE

- I am basically pleased with the design.
- None at the time.
- Selected by TAMC Board.
- Diesel-Electric: Why not all-electric, solar powered?
- No east rail bed through California State University at Monterey Bay, but lots of Bureau of Land Management sagebrush: no cost except government wrangling.
- Project needs to tie to Salinas.
  - Need to tie to:
    - Northern California High Speed Rail
    - Caltrain to San Francisco (Del Monte Express)?
    - Oakland / Sacramento (Union Pacific)
    - Southbound

7.3 STATION DESIGN AND LOCATIONS

Custom House Plaza

- Yes. This stop is essential
- Great!
- At least as far in as the east Monterey Station

Naval Postgraduate (Sloat Avenue)

- Great!

Casa Verde Way

- Great!

Downtown Seaside (Contra Costa Street/West Broadway)

- Great!

- Unless property is acquired along Del Monte, station area should be designed within Southern Pacific Railroad right-of-way

Sand City (Playa Avenue)

- How long will have to wait while the train goes by?
- Great!
- Hwy 1 north and south congestion

First Street

- Great!

Eighth Street

- Does the planned transit center allow for current line 20 or other local Monterey-Salinas Transit service?
- Perhaps the Marina Transit Center (which seems out of the way now) can be moved next to the rail stop
- Great!
- Include stairs, as well
- Where's the parking?

Marina Civic Center (Palm Avenue)

- Great!

Downtown Marina (Reservation Road)

- Great!
- Where's the parking?

Beach Road

- Great!

Marina Green Drive

- Great!

Blackie Road

- Yes. Connecting to the Caltrain station directly seems essential
- Great!

7.4 Station Design and Landscape Concepts

- Parking at each station.
- Will there be any unifying theme for all of the stations? Most of the illustrations appear to have unique designs.

- Everything to me looks good.
- Buses need to feed trains.
- Each station should include locally contextual art, exhibits & information about the community.
- Each station must have connecting bus service and dedicated drop-off space from passenger vehicles.

7.5 Environmental Review Process

Aesthetics and Visual Resources

- This will ruin Windows by the Bay
- A big improvement over cars
- Great!
- Station design by local architects & local artists to system standard
- Light Rail Transit cars' exterior and interior should include local context art, educational exhibits, commercial ads, colors, & materials

Air Quality

- A huge improvement over cars
- Great!
- Mitigate with bio-fuel or all-electric

Biological Resources

- Great!

Cultural Resources

- An improvement over cars
- Great!

Demographics and Neighborhoods

- Highways and wide boulevards destroy neighborhoods. Rail should improve them
- Great!
- Beneficial impact

Energy

- A big improvement over cars
- Great!
- Electric supply vs. diesel vs. natural gas
- Beneficial impact
    - Evaluate bio-fuel/electric

Geology, Soils, Seismicity and Paleontology

- Great!

Hazardous Waste

- A big improvement over cars
- Great!
- Haul recycling to landfill with special cars

Hydrology and Water Quality

- An improvement over cars
- Great!
- Water supply—is it sustainable?
- Contractual relationship with California American Water must be realized conceptually before continuing if you intend water users to fund rail fare box
- Beneficial impact to storm water (less vehicles, parking, etc.)

Land Use and Planning

- Should plan housing near the stations to further reduce traffic and greenhouse gas emissions. Castroville station should be reviewed for consistency with the Castroville community plan
- An improvement over cars
- Great!
- System map is lacking. Sell the whole, build the parts. This looks like Sand City's idea of train service
- Mitigate parking with transportation demand management measures; Focus on bike parking & bike sharing

Noise and Vibration

- We live close to the proposed route. Are concerned about the above
- An improvement over cars
- Great!
- Beneficial impact to noise equaling less cars

Parks and Recreation

- There appears to be no adverse impact
- Great!

Safety and Security

- You will have to have fencing regardless of what you now say. The first person struck by your train will sue
- Need to provide safe vehicle and pedestrian crossings
- A big improvement over cars

- Great!
- You will not get cooperative use from the right-of-way usurpers: “Recreation Trail”
- Pedestrian / bicycle safety improved

Transportation/Traffic

- The barriers at intersections will be attractive
- Need to provide adequate parking at each station for commuters. Should be coordinated with buses
- How will this coordinate with other transportation projects in the region?
- A huge improvement over cars
- Great!
- Beneficial impacts

7.6 PROJECT SCHEDULE

- The project at this time looks great.
- Too fast. This is cart before the horse.
  - 150 Riders/Day x 365 days = 43,000 trips/year/
  - 4,300,000 cost O&M
  - $100.00 per trip
  - Ridiculous

7.7 OTHER COMMENTS

- Our taxes are too high now. California cannot afford this. This should be put to a vote of the people.
- Concern that there is limited space for the train itself at the “stations” where they are near intersections. If additional cars are added the train may block intersections while waiting to load passengers, particularly those with bike to load or handicapped individuals.
- Nothing at this time.
- How will the nearness of the light rail to the bike path affect the quality of the bicycling/walking experience for existing users and will it be so negative as to cause them to abandon it as a recreation venue? Will you be evaluating this possibility?
- Please don’t cut-off question period if there are valid questions/comments. You are here for us. Thanks!

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APPENDIX A—MEETING NOTICES AND MATERIALS

A1. Newspaper Advertisement—Scoping Meeting A-2
A2. Other Media Outreach—Scoping Meeting A-3
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A1. NEWSPAPER ADVERTISEMENT—SCOPING MEETING

TAMC TRANSPORTATION AGENCY FOR MONTEREY COUNTY

MONTEREY PENINSULA LIGHT RAIL PROJECT

SCOPING MEETING NOTICE

Please join us for a Scoping Meeting for the Monterey Peninsula Light Rail Project. Traveling between the City of Monterey and community of Castroville, the proposed light rail project will reinitiate 15.2 miles of passenger rail service along the existing Monterey Branch Line. A total of 12 stations are proposed within the cities of Monterey, Seaside, Sand City, Marina, and community of Castroville. The project would be constructed in two phases: Phase I (2015) would provide service from the City of Monterey to the City of Marina, with bus service continuing to Castroville; Phase II (contingent upon funding and demand) would extend rail service from the City of Marina to the community of Castroville.

Learn about the latest project developments. Share your ideas about the route and potential impacts that should be studied during the environmental review process.

DATE:

NOVEMBER 8, 2010

LOCATION:

CALIFORNIA STATE UNIVERSITY, MONTEREY BAY
UNIVERSITY CENTER (BUILDING 29)

4314 SIXTH AVENUE
MONTEREY, CA

OPEN HOUSE: 4:30 P.M. to 6:00 P.M.

PRESENTATION AND COMMUNITY DISCUSSION: 6:00 P.M. to 8:00 P.M.

Spanish interpretation and light refreshments will be available.

For more information, please visit the project website at:
http://www.tamcmonterey.org/programs/rail/montereyline.html

Or call the toll-free project help line at:
1 (800) XXX–XXXX

For public transportation options for the meeting, please visit...
<<Insert website here>>

A2. OTHER MEDIA OUTREACH—SCOPING MEETING

OVERTIME WIN
Jankowski kicks Raiders over Chiefs
Story on page B1

REPEAL SOUGHT
Obama, Gates want military gay ban removed
Story on page A5

The Herald
Monday, November 8, 2010
www.montereyherald.com

State
Gavin Newsom's star rising again, A2

TAMC project would link Monterey to Castroville and beyond

Chance to weigh in on light rail

Obama met with grandeur

ACKNOWLEDGES PAKISTANI 'CANCER' IN TRIP TO INDIA

'LUCHA' FUN

POPULAR SPORT IN MEXICO MAKES DEBUT IN SALINAS

WWW.MONTEREYHERALD.COM THE MONTEREY COUNTY HERALD, MONDAY, NOVEMBER 8, 2010 A13

SOUTH KOREA

Thousands rally against G-20

By BYUNG-JIN KIM
Associated Press

SEOUL, South Korea — Police have arrested four people who scuffled with riot police during anti-globalization rallies aimed at protesting this week's Group of 20 summit, a police officer said today.

About 20,000 people rallied at a large plaza near Seoul City Hall on Sunday, just four days before South Korea hosts a two-day gathering of leaders from the G-20 advanced and developing economies.

The rally initially was peaceful, but some protesters engaged in minor scuffles with riot police who tried to prevent them from marching through nearby downtown streets. Riot police fired pepper spray at some protesters at the front of the crowd, forcing them back.

Four men were arrested during the scuffle and were under investigation today, a Seoul police officer said on condition of anonymity citing department policy. He gave no further details.

Yonhap news agency reported that the four people — believed to be in their 20s — allegedly attempted to assault riot police.

The protesters oppose globalization and say the G-20 is not focusing on creating jobs or protecting social programs.

Labor activist Lee Chang-geun accused the G-20 of failing to formulate meaningful measures to curb speculative financial capital and of pushing cuts in public spending on social welfare.

Activists plan to stage another major rally on Thursday — the starting date for the G-20 summit, he said.

In Manila, six Filipino activists who planned to join anti-globalization rallies in Seoul said they were denied entry by South Korean immigration officials on Saturday and forced to return home.

"We condemn the South Korean government and we demand that it apologize to us and remove us and others from its blacklist," Joana Mata, one of the activists, told The Associated Press in Manila.

South Korea's Justice Ministry said today it was checking the reported entry denial.

The G-20 forum, founded in 1999, has taken on greater significance since the global financial meltdown and is seeking to reform the world economy to ensure stable growth and strengthen the financial system to prevent a recurrence of the 2008 crisis. It held its first summit in Washington two years ago.

South Korean police and military are on heightened alert to prevent any attempt by protesters, terror groups and North Korea to sabotage the summit, which will include President Barack Obama and other leaders. North Korea has a history of staging provocations when world attention is focused on rival South Korea.

Lucha libre

From page A1

in mood.

Many parents at Sunday night's event said they hope to see more Lucha libre events in Salinas.

"It's great for the kids, for the families," said Fernando Mendoza, who brought his 15-year-old son Bryan to the show.

Bryan, a student at Gavilan Middle School, said he was excited to see "realistic" wrestling. His father, Fernando, was one of several who turned out Sunday who said he remembers attending lucha libre events in Mexico as a child.

"They have fun with all the drama," said Juan Peguero, who sat nearby. He brought his 5-year-old son John, and 9-year-old son, Julien.

He says he and his sons often spend time on the weekends watching wrestling on television.

The crowd Sunday was treated to several matches between the spandex-clad masked wrestlers. Each match was emceed by three announcers.

Jose Valenzuela, who hosts a drive-time call-in radio show on La Ranchera,

TAMC

From page A1

and the proposed station at Custom House Plaza.

Others have suggested that the trains would hold up cross traffic on busy roads along the rail route or be too noisy for nearby residents, or split communities in half. Some prefer a dual environmental review of both light rail and bus rapid transit using the same route.

But supporters say those criticisms are easily answered, especially because they argue light rail is the most efficient and environmentally friendly alternative to automobile transportation.

Numerous misconceptions

Supervisor Dave Potter, who has backed light rail for years on the TAMC board, called it "the best contemporary mode of transportation outside our roads system" and said its value is clear once the misconceptions are removed.

"I think some people have this image of a pollution-belching iron horse rattling homes and creating safety problems, and that's not true," Potter said. "These trains are very quiet, quieter than the buses. I'd be hard-pressed to find any environmental impact that's negative. If you separate fact from fiction, the benefits are obvious."

Seaside Mayor Ralph Rubio, another TAMC board member, said his city has also backed light rail for years. Rubio said he believes the proposal would have very little impact on Seaside, except where the rail crosses major roadways, such as Canyon Del Rey Boulevard, Contra Costa Street and Tioga Avenue. He said he expects the environmental review to address the timing of lights and accommodation for bicyclists and pedestrians.

Rubio noted that some in Monterey have suggested stopping the light rail route near the Naval Postgraduate School to avoid Window on the Bay Park and the downtown area, but he said that would result in the loss of some "transit" access.

TAMC spokeswoman Kristen Hoschouer said many of the issues and concerns are addressed under a "frequently asked questions" section on the agency's website.

Project in two phases

The proposed project, intended to reduce traffic congestion on Highway 1 and the resulting pollution, would be constructed in phases along an old rail route purchased by the agency in 2003.

The first phase would cost an estimated $345 million and provide train service every 15-30 minutes between Custom House Plaza and the Marina Green with 10 stops in between, including stations at the Naval Postgraduate School, Seaside, Sand City, CSUMB and Marina. There would be connecting bus service from Monterey to Pacific Grove and Carmel and from Marina to Salinas.

It would cost an estimated $4.3 million per year to operate the service. Projections indicate an average of 3,725 passengers will use the service on a daily basis at a cost of $2.50 per ride. It is expected to take 25 minutes to travel between Monterey and Marina on the light rail.

In a later phase, estimated to cost about $85 million, the trains would continue north over a newly rebuilt Salinas River Bridge to a new Blackie Road station in Castroville and include the entire 16-mile rail corridor.

Hoschouer said the $3.3 million environmental review being conducted by consultants Parsons Transportation of San Jose and Denise Duffy and Associates of Monterey is being paid for through a state grant. A draft study is set to be released to the public in the spring, followed by a comment period, and a final document is due by summer or fall.

Jim Johnson can be reached at 753-6753 or jjohnson@montereyherald.com.

A3. MEETING NOTICE—SCOPING MEETING

Transportation Agency for Monterey County
NOTICE OF
SCOPING MEETING

Date:	October 26, 2010		
Subject:	Notice of Scoping Meeting		
Project Title:	Monterey Peninsula Light Rail Transit Project		
Applicant:	Transportation Agency for Monterey County		
Project Contact:	Kristen Hoschouer	Phone:	(831) 775-4403
		Fax:	(831) 775-0897

NOTICE IS HEREBY GIVEN that the Transportation Agency for Monterey County (TAMC) will hold a public Scoping Meeting to solicit input on issues and concerns associated with the proposed *Monterey Peninsula Light Rail Transit Project*. The meeting will be conducted using an open-house format at the following date, time and location:

November 8, 2010
6:00 P.M. to 8:00 P.M.
California State University-Monterey Bay
The University Center (Building 29)
4314 Sixth Ave.
Seaside, CA 93955

The scoping meeting is being planned in accordance with the California Environmental Quality Act (CEQA), which requires such a meeting "for projects of statewide, regional or areawide significance" [CCR Sec. 15082(c)(1)]. The meeting will provide participants with: (1) an opportunity to comment on the appropriate scope and content of the Environmental Assessment (EA) and Environmental Impact Report (EIR) (see discussion below); (2) an overview of the proposed project; and (3) a description of the process and schedule. Staff will accept written comments and testimony during the scoping meeting. There will be additional opportunities to comment on the Draft EA and EIR during the public circulation period (anticipated in early 2011). All comments will be included in the administrative record.

As noted in the Notice of Preparation (NOP) (previously distributed to interested parties), the proposed project will require compliance with both CEQA and the National Environmental Policy Act (NEPA). TAMC will serve as the Lead Agency under CEQA and the Federal Transit Administration (FTA) will be the Lead Agency under NEPA. A combined EA / EIR is currently being prepared to include a detailed evaluation of the following environmental parameters: (1) Aesthetics; (2) Air Quality; (3) Biological Resources; (4) Cultural Resources; (5) Geology and Soils; (6) Hazards and Hazardous Materials; (7) Hydrology and Water Quality; (8) Land Use and Planning; (9) Noise; (10) Population and Housing; (11) Public Services; (12) Transportation and Traffic; (13) Utilities and Service Systems; and (14) Recreation.

For your use prior to the meeting, we have included the below project description, including a location map showing the project alignment with respect to the Monterey Bay region.

PROPOSED PROJECT: The *Monterey Peninsula Light Rail Transit Project* would restore 15.2 miles of passenger rail service along the existing Monterey Branch Line rail right-of-way from Castroville to downtown Monterey. The Project Location Map (attached) shows the project location, which includes the cities of Monterey, Seaside, Sand City, and Marina as well as the unincorporated community of Castroville. As part of the planning process, TAMC prepared a corridor-level analysis of light rail transit, bus rapid transit, and enhanced bus service alternatives to provide adequate information for TAMC to be able to select a Locally Preferred Alternative. On October 28, 2009, the TAMC Board of Directors selected light rail as the locally preferred alternative, based on its ability to provide superior transportation in the long-term while best meeting the vision and future plans for each of the Peninsula cities.

In addition to the locally preferred alternative described below, the No-Build Alternative will also be assessed in the environmental document. The EIR will also contain an evaluation of other alternatives that have been considered.

The proposed project would be implemented in two phases. In the first phase, the Monterey Branch Line railroad track would either be restored or constructed for a distance of 10 miles between downtown Monterey and north Marina, with bus service continuing to Castroville on local roadways. The second phase would extend light rail service an additional 5.2 miles to the proposed Castroville commuter rail station to be located north of Blackie Road. Standard bus service would connect with light rail stations, including between Marina and the intercity rail station at Salinas. Primary project features of the preferred alternative would include:

Fixed Stock. The Monterey Branch single-track rail line would be restored with new ties, ballast and grade crossing protection. Passing sidings would be built where needed to allow for two-way light rail train operations. The project would also require signal systems, where required, as well as bridge structures (see below).

Rolling Stock. TAMC would purchase and Monterey-Salinas Transit would operate hybrid diesel electric or diesel multiple unit, Federal Railroad Administration-noncompliant light rail vehicles.

Bridge Structures. The rail alignment crosses several bridge structures: Salinas River Bridge; Tembladero Slough Bridge; four ballast deck trestle bridges; and a pre-stressed concrete trestle bridge at Roberts Lake. Bridge repair or replacement is recommended for all bridges except the span crossing Roberts Lake in Seaside. The 715-foot-long Salinas River Bridge will be repaired.

Stations/Stops. Light rail transit service would serve one Castroville station at Blackie Road. Five stops are proposed to serve Marina at Marina Green Drive, Beach Road, Reservation Road, Palm Avenue and Eighth Street. Three are proposed to serve Seaside and Sand City at First Street, Playa Avenue, and Contra Costa Street. In Monterey, three stops are proposed at Casa Verde Way, U.S. Naval Postgraduate School (Sloat Avenue), and Custom House Plaza.

Operations. Light rail transit service would operate between the cities of Monterey and Marina initially, with connecting bus service to Castroville and Salinas. Initially, 15 to 30-minute headways would be offered from 5:00 a.m. to 7:00 p.m., with less frequent service running to midnight. All train equipment would be interchangeable, thereby minimizing requirements for spare vehicles. No freight service or locomotive hauled passenger coaches would be allowed on the track. The fleet would be stored and maintained at a proposed new facility located on TAMC-owned lands at Fifth Street in Marina, to the east of Highway 1. Alternatively, this facility may be constructed on TAMC-owned land located west of Highway 1 and adjacent to the "balloon-spur" track.

Street/Grade Crossings. No grade separations are proposed as part of this project; all points where the proposed light rail alignment is proposed to intersect local roadways would be at-grade. Most roadway crossings would be constructed with a high durability pre-cast concrete crossing surface.

Construction Considerations. The proposed action would require redevelopment of the previously-used railroad corridor, including work within cross-streets, to accommodate the rail line restoration. New light rail stations, parking lots, as well as street and drainage improvements would be constructed as part of the project. Station construction would involve platform development, then installation of components such as canopies, ticket vending equipment, drinking fountains, railings, lighting, signage, and station furniture. Construction of park-and-ride lots would involve subgrade preparation of the parking area, paving, and striping. Curbs, lighting, driveways, and sidewalks would be reconstructed as necessary, as well as landscape planting.

Because the preferred alternative would be mostly aligned along an existing railroad right-of-way, very little earthwork is anticipated for this project. Pedestrian facilities involving earthwork would include walkways and recreational trail reconstruction at various locations where its current location conflicts with the proposed railroad track alignment. Local street circulation improvements would be constructed at the Highway 1/Fremont Boulevard interchange to ease traffic congestion.

Very little drainage improvements other than the repair or replacement of the four timber trestles and the improvements to or repair of the Salinas River Bridge would be needed. No major utility relocations have been identified along the corridor.

Some property would need to be acquired as part of the project for roadway improvements and park-and-ride lots. The extent of acquisitions is currently being evaluated. Properties proposed for acquisition will be identified in the EA / EIR and property owners notified in accordance with statutory requirements.

NO-BUILD ALTERNATIVE: This alternative includes Monterey-Salinas Transit (MST) Line 20 bus service from the Monterey Peninsula to Salinas. This service stops at the expanded Salinas Intermodal Transportation Center, where transfers can be made to the planned commuter rail service to the San Francisco Bay region, and/or to Amtrak's Coast Starlight and proposed Coast Daylight services. This alternative also includes a continuation of MST Line 55, Monterey–San Jose Express. Riders using this service can transfer to Caltrain commuter rail trains, Altamont Commuter Express trains, and Capitol Corridor intercity rail trains at the San Jose Diridon station.

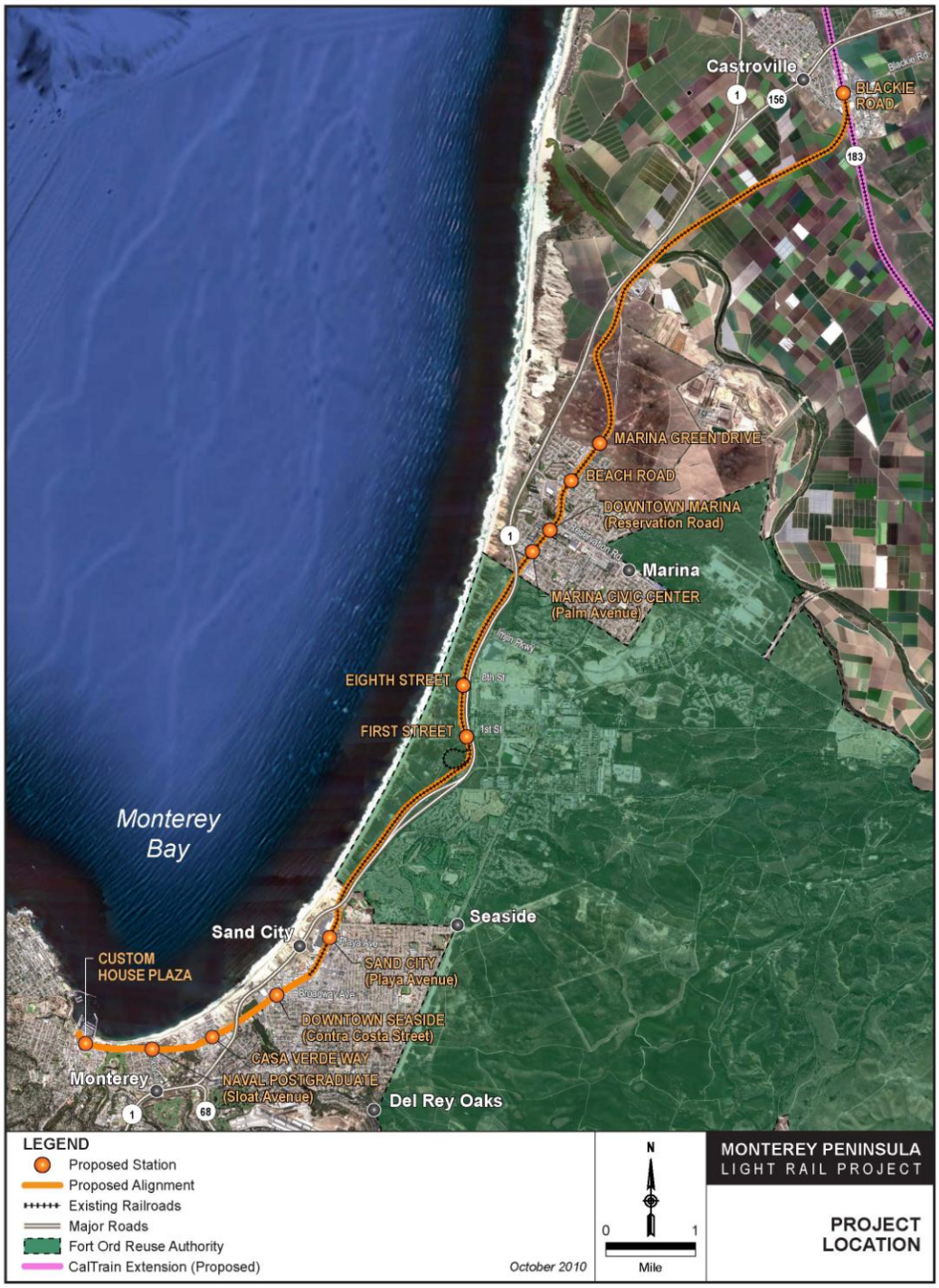
All required federal, state and local discretionary actions will be identified in the EA/ EIR. Discretionary approvals include, but are not limited to, project approval and certification of the EIR by TAMC, a Finding of No Significant Impact by FTA, and approvals of various types from local and resource agencies.

The meeting facility will be accessible to persons with disabilities.

Please bring the above information to the attention of persons or agencies that would be interested in this matter.

QUESTIONS?: If you have any questions or need additional information, please call the TAMC Project Contact at the number listed above. The mailing address is: Transportation Agency for Monterey County, 55-B Plaza Circle, Salinas, CA 93901.

Kristen Hoschouer, Project Manager, Transportation Agency for Monterey County


Castroville
BLACKIE ROAD
MARINA GREEN DRIVE
BEACH ROAD
DOWNTOWN MARINA
(Reservation Road)
Marina
MARINA CIVIC CENTER
(Palm Avenue)
EIGHTH STREET
FIRST STREET
Monterey Bay
Seaside
Sand City
CUSTOM HOUSE PLAZA
SAND CITY
(Playa Avenue)
DOWNTOWN SEASIDE
(Contra Costa Street)
CASA VERDE WAY
NAVAL POSTGRADUATE
(Sloat Avenue)
Monterey
Del Rey Oaks
LEGEND
Proposed Station
Proposed Alignment
Existing Railroads
Major Roads
Fort Ord Reuse Authority
CalTrain Extension (Proposed)
October 2010
N
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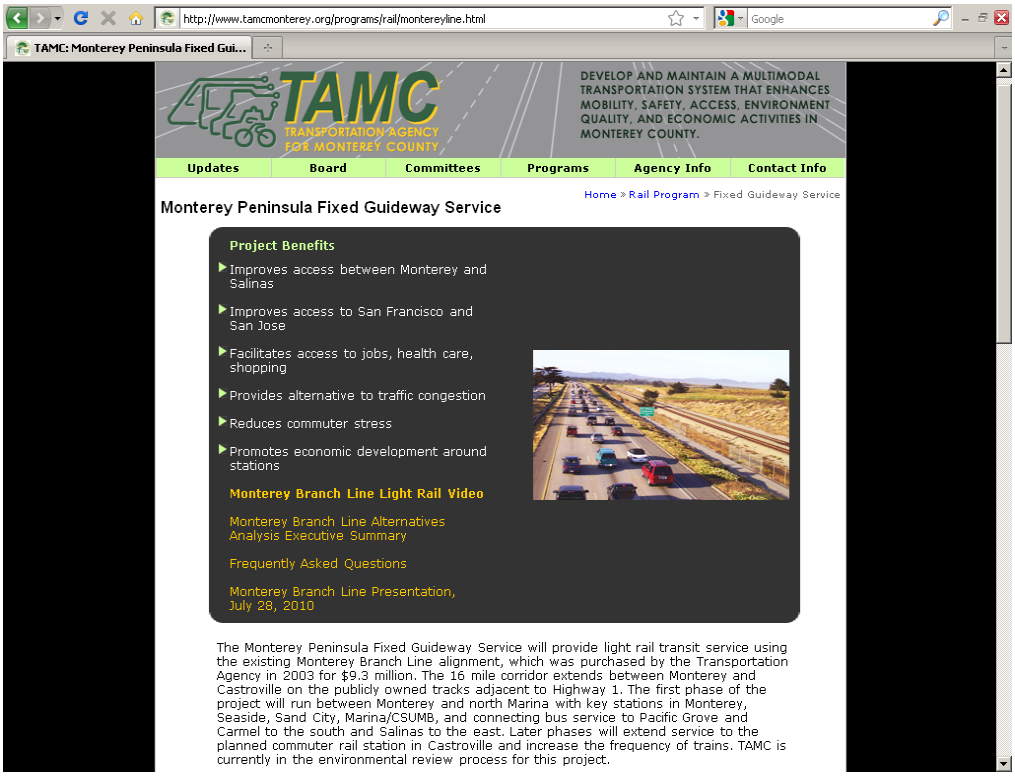
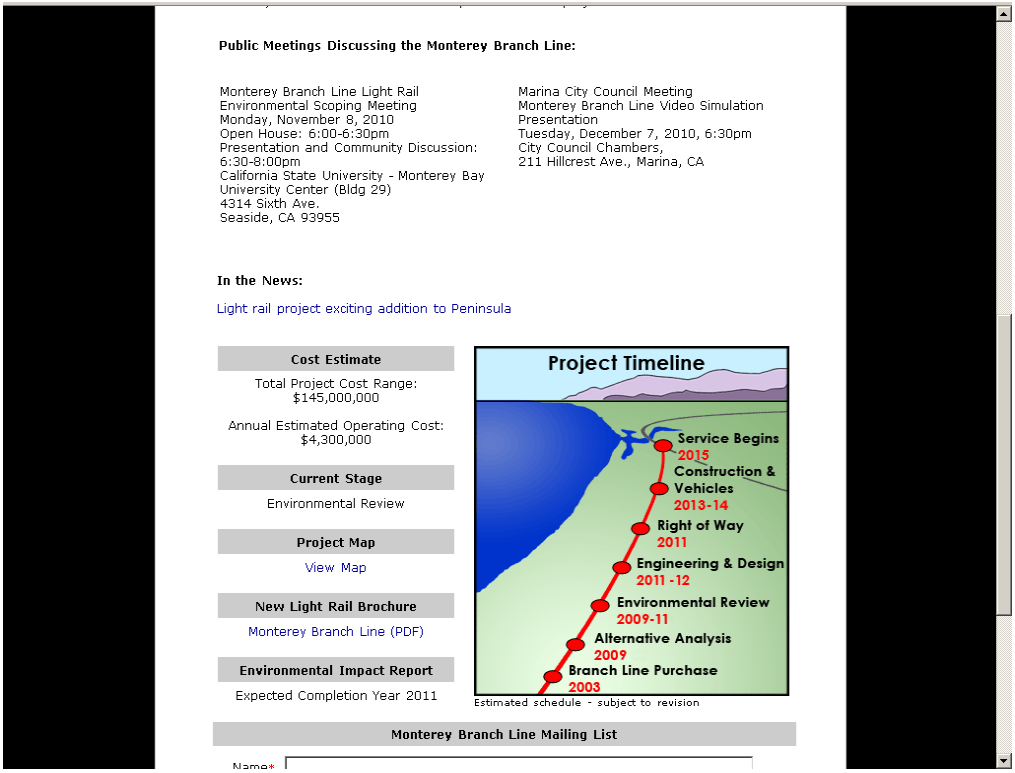
1
Mile
MONTEREY PENINSULA
LIGHT RAIL PROJECT
PROJECT LOCATION

A4. PROJECT WEBSITE





A5. AGENDA—SCOPING MEETING

Monterey Peninsula Light Rail Project
SCOPING MEETING
Environmental Clearance Phase

Transportation Agency for Monterey County

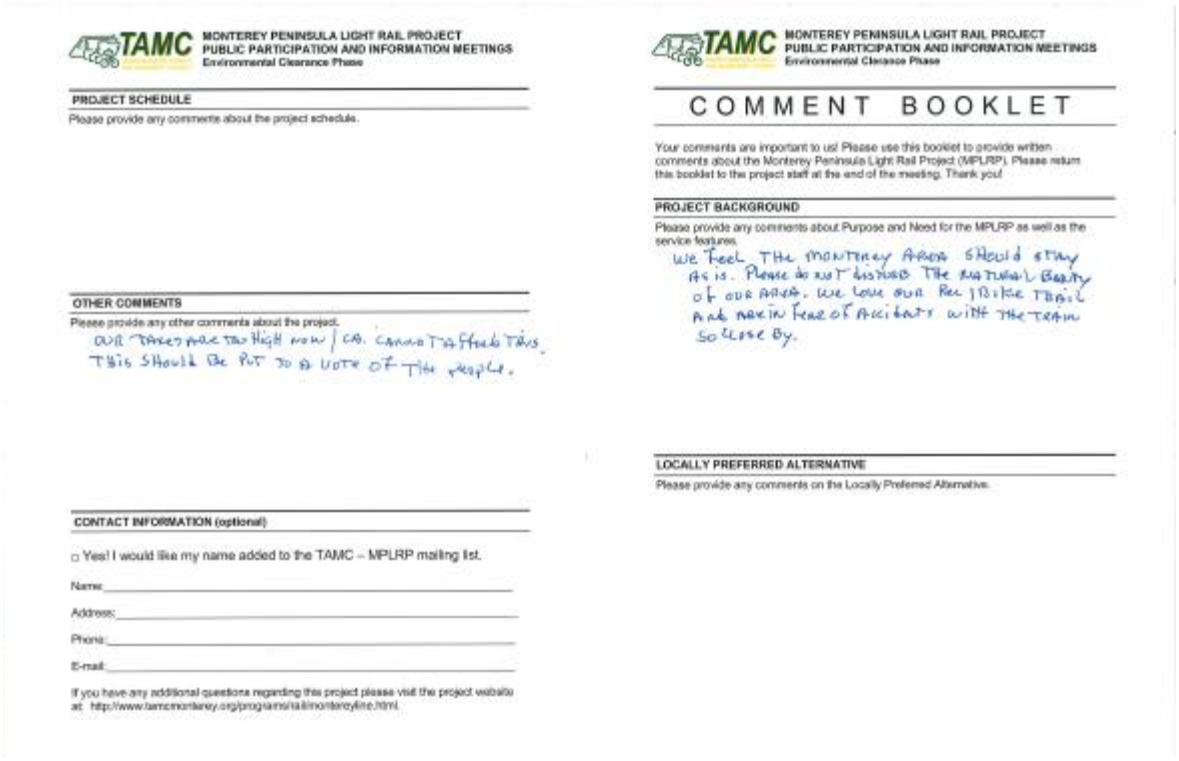
California State University, Monterey Bay
University Center (Building 29)
4314 Sixth Avenue
Seaside, CA 93955

November 8, 2010

AGENDA

6:00 p.m.		**Open House** *Please visit the information stations. Project staff are available to answer your questions.*
6:30 p.m.	**I.**	**Welcome & Introductions**
	II.	**Project Overview** ❑ Purpose, Need and Objectives ❑ Project History ❑ Refined Locally Preferred Alternative ❑ Station Design Elements and Configuration ❑ Scoping Meeting Categories ❑ Schedule & Process
7:10 p.m.	**III.**	**Next Steps**
7:30 p.m.	**IV.**	**Open House/Comment Period**
8:00 p.m.		*Close*

A6. COMMENT BOOKLET—SCOPING MEETING



TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

OUR TAXES ARE TOO HIGH NOW / CA. CANNOT AFFORD THIS
THIS SHOULD BE PUT TO A VOTE OF THE PEOPLE.

CONTACT INFORMATION (optional)

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name:

Address:

Phone:

E-mail:

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

Your comments are important to us! Please use this booklet to provide written comments about the Monterey Peninsula Light Rail Project (MPLRP). Please return this booklet to the project staff at the end of the meeting. Thank you!

PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

WE FEEL THE MONTEREY AREA SHOULD STAY AS IS. PLEASE DO NOT DISTURB THE NATURAL BEAUTY OF OUR AREA. WE LOVE OUR BICYCLE TRAIL AND WORK IN FEAR OF ACCIDENTS WITH THE TRAIN SO CLOSE BY.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	Downtown Marina (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources This will run windows by the Bay.	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration We live close to the proposed route I are concerned about the above.
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security You will have to have fencing regardless of what you now say. The first person struck by your train will sue.
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic The barriers at intersections will be attractive

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

CONTACT INFORMATION (optional)

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: Bob Schubert
Monterey County Planning Dept.
Address: 168 W. Alisal, Salinas, CA. 93901
Phone: (831) 755-5183
E-mail: schubertbj@co.monterey.ca.us

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

Your comments are important to us! Please use this booklet to provide written comments about the Monterey Peninsula Light Rail Project (MPLRP). Please return this booklet to the project staff at the end of the meeting. Thank you!

PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

The rail line should relieve congestion on Highway 1 and reduce greenhouse gas emissions.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	Downtown Main st (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning should plan housing near the stations to further reduce traffic and GGE. Castroville
Cultural Resources	Noise and Vibration station should be reviewed for consistency with the Castroville community Plan and GPU5.
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security Need to provide safe vehicle and pedestrian crossings.
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic Need to provide adequate parking at each station for commuters. should be coordinated with buses.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

CONTACT INFORMATION (optional)

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: Helen Rucker
Address: 1405 Noscal St. Seaside, CA 93955
Phone: 394-3931
E-mail: hrucker@sbcglobal.net

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Cedar Viaduct Way	Dunes (Light Industrial (Reservation Road))
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue) New Kong will have to wait up to the train goes by. First Street	Marina Green Drive Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

Parking at each station

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

CONTACT INFORMATION (optional)

☑ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: Steven Judd
Address: 3196 San Juan Ave, Santa Clara, CA 95051
Phone: (408) 345-5839
E-mail: sjudd@csumb.edu

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/railmontereyline.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

How does

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	(Downtown Marina (Reservation Road))
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Reservation Road

Does the planned transit center will allow for current line 20 or other local MST service?

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.
Will there be any unifying theme for all of the stations? Most of the illustrations appear to have unique designed

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic

How will this coordinate with other transportation projects in the region?

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.
Concern that there is limited space for the train stops @ the "stations" where they are near intersections. Could if added cars are added the train may block intersections while wasting & load passengers - particularly those who like to load a handicapped individuals

CONTACT INFORMATION (optional)

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name:_____

Address:_____

Phone:_____

E-mail:_____

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/railinmontereyline.html

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	Downtown Marina (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

Good - Yes Sooner, the better

OTHER COMMENTS

Please provide any other comments about the project.

Looks Good So Far!

CONTACT INFORMATION (optional)

(x) Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: Matt Hammond

Address: P.O. Box 585, Monterey, CA 93942

Phone: _____

E-mail: _____

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

Your comments are important to us! Please use this booklet to provide written comments about the Monterey Peninsula Light Rail Project (MPLRP). Please return this booklet to the project staff at the end of the meeting. Thank you!

PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

I think it is badly needed and will prove very popular.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

I am basically pleased with the design.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza YES, THIS STOP IS ESSENTIAL	Eighth Street PERHAPS THE MARINA TRANSIT CENTER (WHICH SEEMS OUT OF THE WAY NOW) CAN BE MOVED NEXT TO THE RAIL STOP.
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	Downtown Marina (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Bleckie Road YES, CONNECTING TO THE CULTRAN STATION DIRECTLY SEEMS ESSENTIAL

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources A BIG IMPROVEMENT OVER CARS	Hazardous Waste A BIG IMPROVEMENT OVER CARS.
Air Quality A HUGE IMPROVEMENT OVER CARS	Hydrology and Water Quality AN IMPROVEMENT OVER CARS
Biological Resources	Land Use and Planning AN IMPROVEMENT OVER CARS
Cultural Resources AN IMPROVEMENT OVER CARS	Noise and Vibration AN IMPROVEMENT OVER CARS
Demographics and Neighborhoods HIGHWAYS AND WIDE BOULEVARDS DESTROY NEIGHBORHOODS & RAIL SOUND IMPROVE THEM	Parks and Recreation THERE APPEARS TO BE NO ADVERSE IMPACT
Energy A BIG IMPROVEMENT OVER CARS	Safety and Security A BIG IMPROVEMENT OVER CARS
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic A HUGE IMPROVEMENT OVER CARS

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

The project at this time looks great.

OTHER COMMENTS

Please provide any other comments about the project.

Nothing at this time.

CONTACT INFORMATION (optional)

o/Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: Donald N. Brown, Sr.

Address: 3306 Del Monte Blvd - #56, Marina, CA 93933

Phone: 831 384-6612

E-mail: dbrown@csumb.edu

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/monterey-line.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

COMMENT BOOKLET

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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

This is very needed for the community, the project is very close in walking distance to the public.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

None at the time.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Casbon House Plaza: Great!
Eighth Street: Great!
Naval Postgraduate (Sloat Avenue): Great!
Marina Civic Center (Palm Avenue): Great!
Casa Verde Way: Great!
Downtown Marina (Reservation Road): Great
Downtown Seaside (Contra Costa Street/West Broadway): Great!
Beach Road: Great!
Sand City (Playa Avenue): Great!
Marina Green Drive: Great!
First Street: Great!
Blackie Road: Great!

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

Everything to me looks good.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources: Great
Hazardous Waste: Great
Air Quality: Great
Hydrology and Water Quality: Great
Biological Resources: Great!
Land Use and Planning: Great
Cultural Resources: Great
Noise and Vibration: Great
Demographics and Neighborhoods: Great
Parks and Recreation: Great
Energy: Great
Safety and Security: Great
Geology, Soils, Seismicity and Paleontology: Great
Transportation/Traffic: Great

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

How will the rearrangement of the light rail to the bike path affect the quality of the bicycling/walking experience? For existing users and will it be so negative as to cause them to abandon it as a recreation venue? Will you be evaluating this possibility?

CONTACT INFORMATION (optional)

☒ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: Bill Weigle
Address: 1614 Kennedy St, Seaside, CA 93955
Phone: 831-899-7934
E-mail: billweigle@sbcglobal.net

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Lobo Verde Way	Downtown Marina (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

"DO FAST. THAT IS LAST BUTTRE THE HORSE".

150 RIDERS/DAY X 365 DAYS = 48,000 TRIPS/YR.
4,200,000 CAR CAN OBTA
FARES FOR TRIP.
DUPLICATES.

OTHER COMMENTS

Please provide any other comments about the project.

CONTACT INFORMATION (optional)

PROVIDED AT SIGN-IN SHEET.

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: SHALL REMAIN

Address: _____

Phone: _____

E-mail: _____

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

TAMC **MONTEREY PENINSULA LIGHT RAIL PROJECT**
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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

- IS CHANGE RAIL SERVICE TO CONTINUED EXISTING?
  - IF NOT, IT HAS BE UNDERMINED FIRST.
  - RAILWAYS IDEAL.
- TRAIN NEEDS TO PROVIDE A DENSE POPULATION
  - BUSES NEED TO FEED STATIONS.
- $4.5 M X NUMBER OF RIDERS X PRICE = 45,000 CAPITAL COSTS. 150/DAY X 365 DAYS
- MY WHEEL BAR IS GOING TO PAY FOR THIS TRAIN?

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

- SELECTED BY TAMC BOARD
- DIESEL-ELECTRIC; WHY NO ALL-ELECTRIC, SOLAR POWERED?
- M(S) RAIL RD THROUGH CANYONS, BUT NOT AT BLVD UNDERPASS? NO CARS, BUSES ONLY - WIDENING
- PROJECT NEEDS TO TIE TO EXISTING
  - HOW TO TIE TO:
    - (S) CA HIGH SPEED RAIL.
    - CAL TRANS TO SF (DEL MONTE EXPRESS?)
    - OAKLAND / SACRAMENTO (UP)
    - SAN JOAQUIN

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza AT LEAST AS FAR W AS THE (S) NUMBERS PORTION	Eighth Street
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Lake Vista Way	(Downtown Marina (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Blanco Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

SHADE NEED TO PROVID VISION3

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources
SIGN PROGRAM BY LOCAL ARTISTS & LOCAL ARTISTS TO

Air Quality
EXCEED STANDARD -

Biological Resources
CONSERVATION RELATIONSHIP WITH CARL-ADO
MARSH BE
INSTALLED
CONCEPTUALLY
BARRIER CONTINUITY
IF YOU INSTEAD

Cultural Resources
WATER-USERS TO
FUND RAIL FARE BOX.

Demographics and Neighborhoods

Energy
— ELECTRIC SHUTTLE VS. DIESEL VS. ALTERNATIVE GAS

Geology, Soils, Seismicity and Paleontology

Hazardous Waste
HAVE REGULATIONS TO LANDFILL W/ SPECIAL CASES.

Hydrology and Water Quality
— WATER SUPPLY -- IS IT SUSTAINABLE

Land Use and Planning
GENERAL PLAN IS LACKING, SELL THAT HAVE) SHOULD THIS PROVES (THIS LOOKS LIKE SAND CITY)

Noise and Vibration
LOT OF TRAIN NOISE

Parks and Recreation
YOU WILL NOT GET COMPENSATED USE FROM THIS ROW USUARIES
"REC TRAIL"

Safety and Security

Transportation/Traffic

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.
Please don't exhibit question period if there are valid questions / comments. You are here for us.
Thanks!

CONTACT INFORMATION (optional)

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name:_____

Address:_____

Phone:_____

E-mail:_____

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.
The line should be designed to serve both local trips and tourist destinations

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street include stairs, as well
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	Downtown Marina (Reservation Road)
Downtown Seaside (Contra Costa Street/West Broadway) • unless property is acquired along Del Monte, station area should be designed within SPRR ROW	Beach Road
Sand City (Playa Avenue)	Marina Green Drive
First Street	Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

- Each station should include locally centered art, exhibits & information about the community
- Each station must have competing bus service and dedicated drop off space from passenger vehicles

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources LRT cars' exterior and interior should include local content art, educational exhibits, commercial ads, colors & materials.	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

CONTACT INFORMATION (optional)

☐ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name:_____

Address:_____

Phone:_____

E-mail:_____

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

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LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza
Eighth Street
Naval Postgraduate (Sloat Avenue)
Marina Civic Center (Palm Avenue)
Downtown Seaside (Contra Costa Street/West Broadway)
Beach Road
Seaside City (Playa Avenue)
Marina Green Drive
First Street
Blanke Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources
Hazardous Waste
Air Quality
Hydrology and Water Quality
Biological Resources
Land Use and Planning
Cultural Resources
Noise and Vibration
Demographics and Neighborhoods
Parks and Recreation
Energy
Safety and Security
Geology, Soils, Seismicity and Paleontology
Transportation/Traffic

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

PROJECT SCHEDULE

Please provide any comments about the project schedule.

OTHER COMMENTS

Please provide any other comments about the project.

CONTACT INFORMATION (optional)

☑ Yes! I would like my name added to the TAMC – MPLRP mailing list.

Name: TONI REED
Address: 2040 MILITARY AVE SEASIDE
Phone: 831-238-0761
E-mail: TMREED54@AOL.COM

If you have any additional questions regarding this project please visit the project website at: http://www.tamcmonterey.org/programs/rail/montereyline.html.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

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PROJECT BACKGROUND

Please provide any comments about Purpose and Need for the MPLRP as well as the service features.

LOCALLY PREFERRED ALTERNATIVE

Please provide any comments on the Locally Preferred Alternative.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clearance Phase

STATION DESIGN AND LOCATIONS

STATION LOCATIONS AND PRELIMINARY SITE DESIGNS
Please provide any comments about the station locations and preliminary site designs.

Custom House Plaza	Eighth Street Where's the Parking?
Naval Postgraduate (Sloat Avenue)	Marina Civic Center (Palm Avenue)
Casa Verde Way	Downtown Marina (Reservation Road) Where's the Parking?
Downtown Seaside (Contra Costa Street/West Broadway)	Beach Road
Sand City (Playa Avenue) Hwy 1 N + 2 congestion	Marina Green Drive
First Street	Blackie Road

STATION DESIGN AND LANDSCAPE CONCEPTS
Please provide any comments about the station design and landscape concepts.

TAMC MONTEREY PENINSULA LIGHT RAIL PROJECT
PUBLIC PARTICIPATION AND INFORMATION MEETINGS
Environmental Clerance Phase

ENVIRONMENTAL REVIEW PROCESS

ENVIRONMENTAL SCOPING CATEGORIES
Please provide any comments about beneficial and adverse impacts in the following categories.

Aesthetics and Visual Resources	Hazardous Waste
Air Quality	Hydrology and Water Quality
Biological Resources	Land Use and Planning
Cultural Resources	Noise and Vibration
Demographics and Neighborhoods	Parks and Recreation
Energy	Safety and Security
Geology, Soils, Seismicity and Paleontology	Transportation/Traffic

SCHEDULE; THOSE FOLKS ARE ALREADY ON TOUR BUSES.

MY QUESTIONS TO THE TAMC WOULD BE:

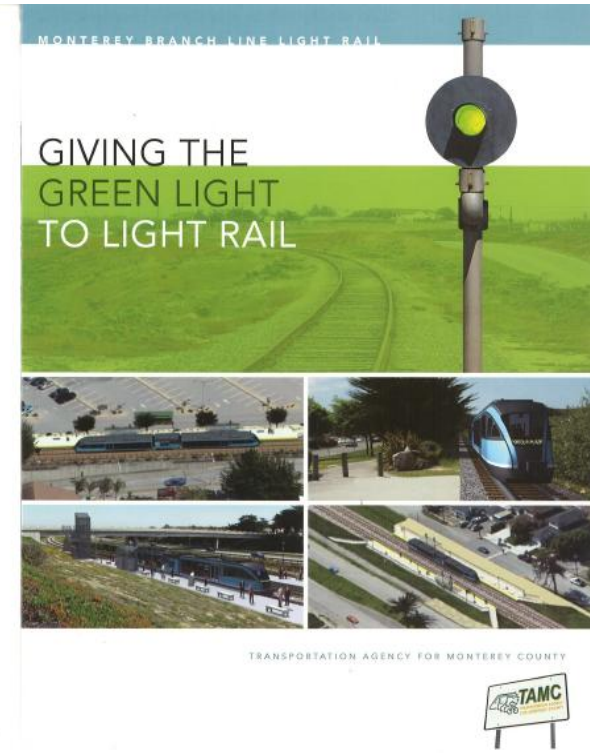
1) WHO IS ULTIMATELY GOING TO PROFIT — NOT THE PENINSULA
2) IS THERE ALREADY PROMISED DEVELOPMENT AROUND THE CORRIDOR?
3) HOW IS THE DISPLACEMENT OF SEASIDE BUSINESSES GOING TO BE HANDLED.

THE MONTEREY PENINSULA IS NEARLY 400 YEARS OLD WITH A CHARACTER TO MATCH. THERE ISN'T ROOM FOR A STATION AND TRANSFER TERMINAL IN MONTEREY. THE DISRUPTION OF 1/2 CONSTRUCTION OF SECTIONS TO THE DOWNTOWNS OF PENINSULA CITIES WOULD BE INTOLERABLE TO LOCALS AND VISITORS ALIKE.

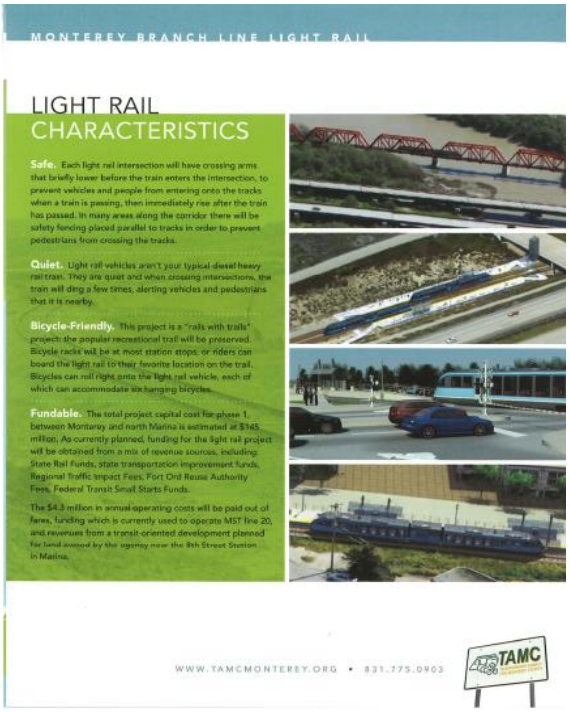
TO CONCLUDE, THE TIME AND MONEY WASTED ON THIS PROJECT WOULD BE BETTER SPENT ON A CLEANER MORE EFFICIENT BUS SYSTEM. EXPAND THE TROLLEY SYSTEM THAT FITS THE CHARACTER OF THE PENINSULA. IT HAS BEEN INTERESTING TO WATCH THE PENINSULA CHANGE WITH GOOD AND BAD IDEAS; LIGHT RAIL IS NOT ONE OF THE GOOD IDEAS [illegible]

A7. SCOPING MEETING BROCHURE

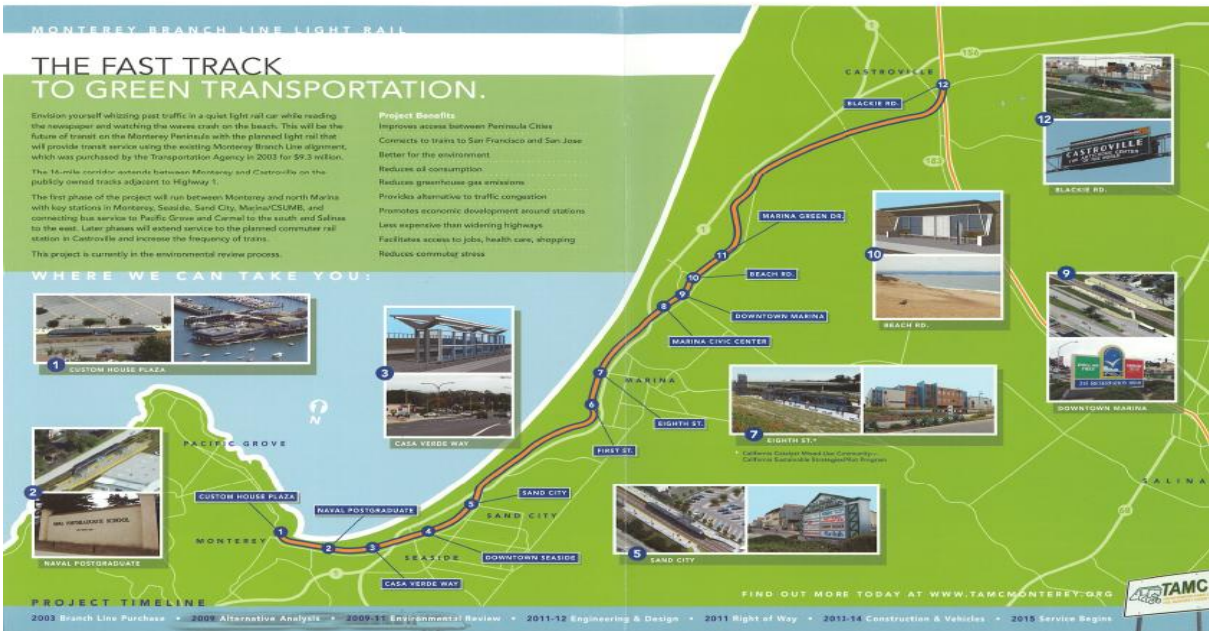
Page 1



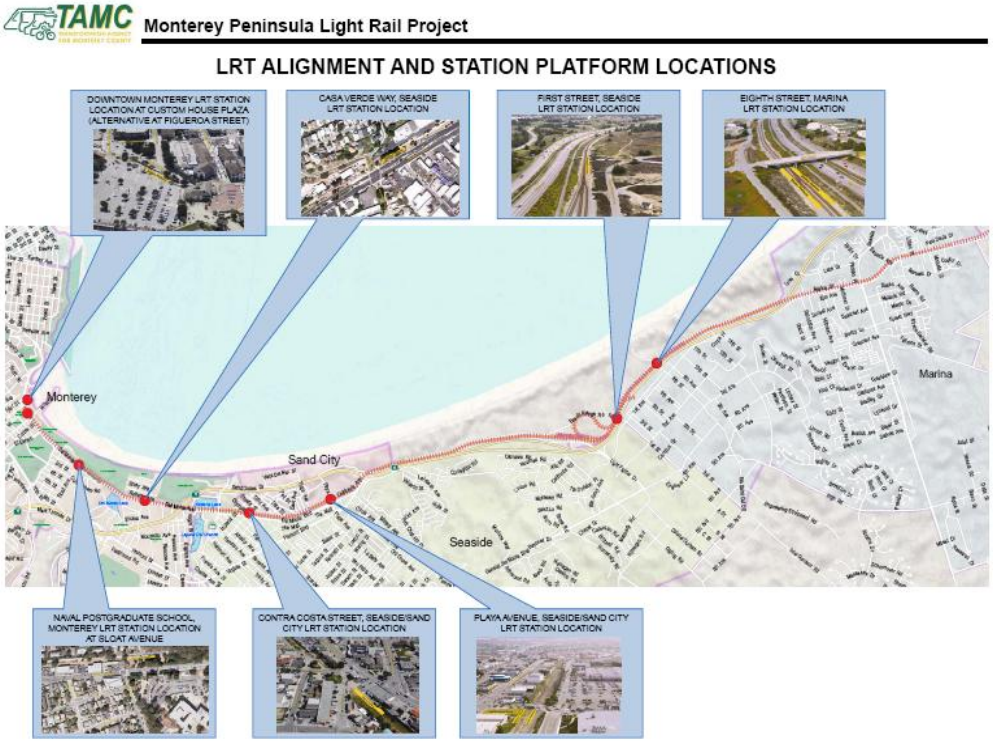
Page 4

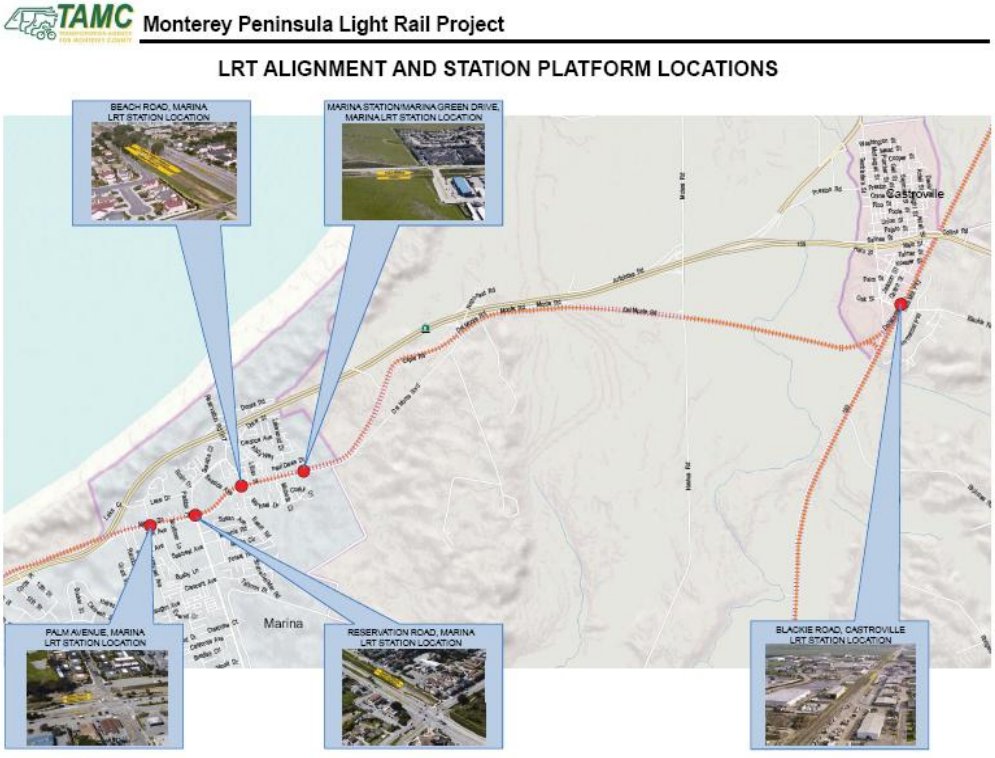


Pages 2-3



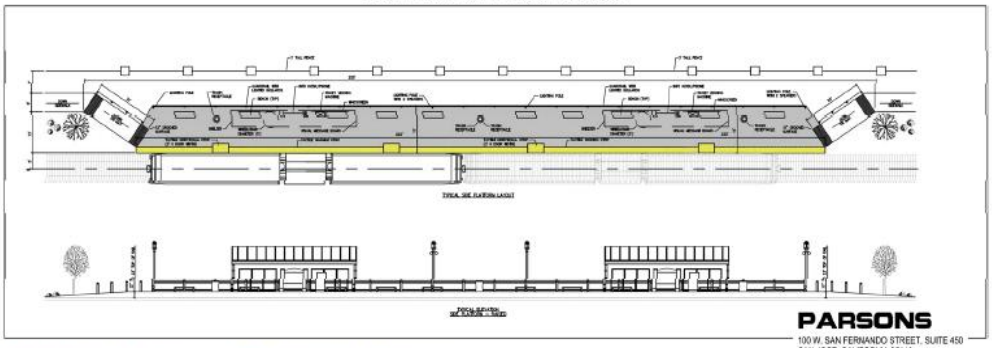
A8. DISPLAY BOARDS





TAMC Monterey Peninsula Light Rail Project

STATION PLATFORM LAYOUT



TAMC Monterey Peninsula Light Rail Project

RESERVATION ROAD STATION

TAMC Monterey Peninsula Light Rail Project

EIGHTH STREET STATION

DOWNTOWN SEASIDE STATION

TAMC Monterey Peninsula Light Rail Project

CUSTOM HOUSE PLAZA STATION—MONTEREY

TAMC Monterey Peninsula Light Rail Project

LRT MAINTENANCE AND OPERATIONS CENTER AT SITE 3

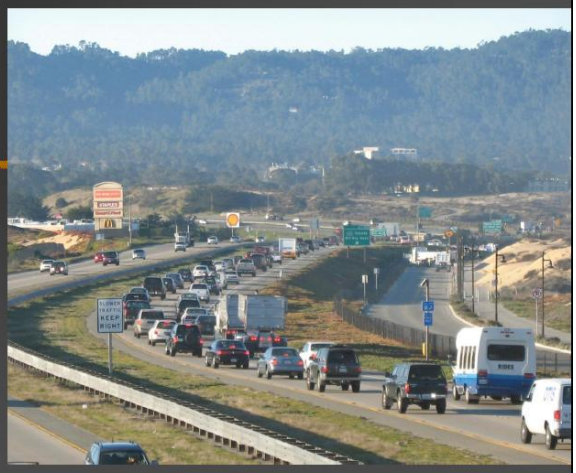
TAMC Monterey Peninsula Light Rail Project

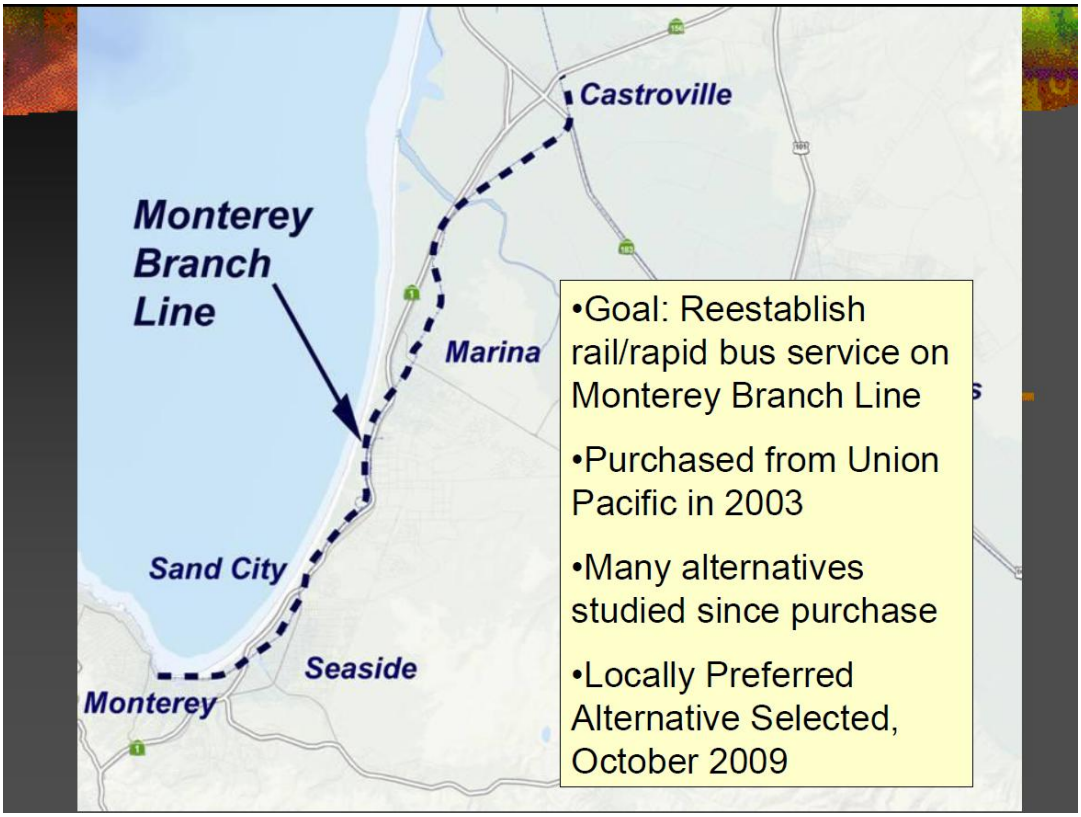
LRT MAINTENANCE AND OPERATIONS CENTER AT SITE 1

A9. POWERPOINT PRESENTATION

Monterey Peninsula: Why do we need rapid transit?

- Two-lane highways
- Congestion; Buses also stuck
- Too expensive to widen highways
  - $53M for 1.3 miles
- More future growth along the corridor
- Green alternative





Vision for the Future

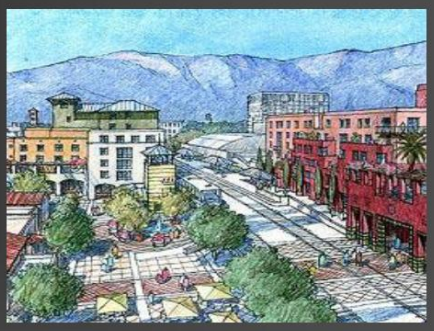
- Plan for Success:
  - Expand with planned growth
  - Supports transit-oriented development
- Fast efficient transit for:
  - Commuters
  - Students
  - Shoppers
  - Tourists
- Intercity connections to:
  - San Jose
  - San Francisco

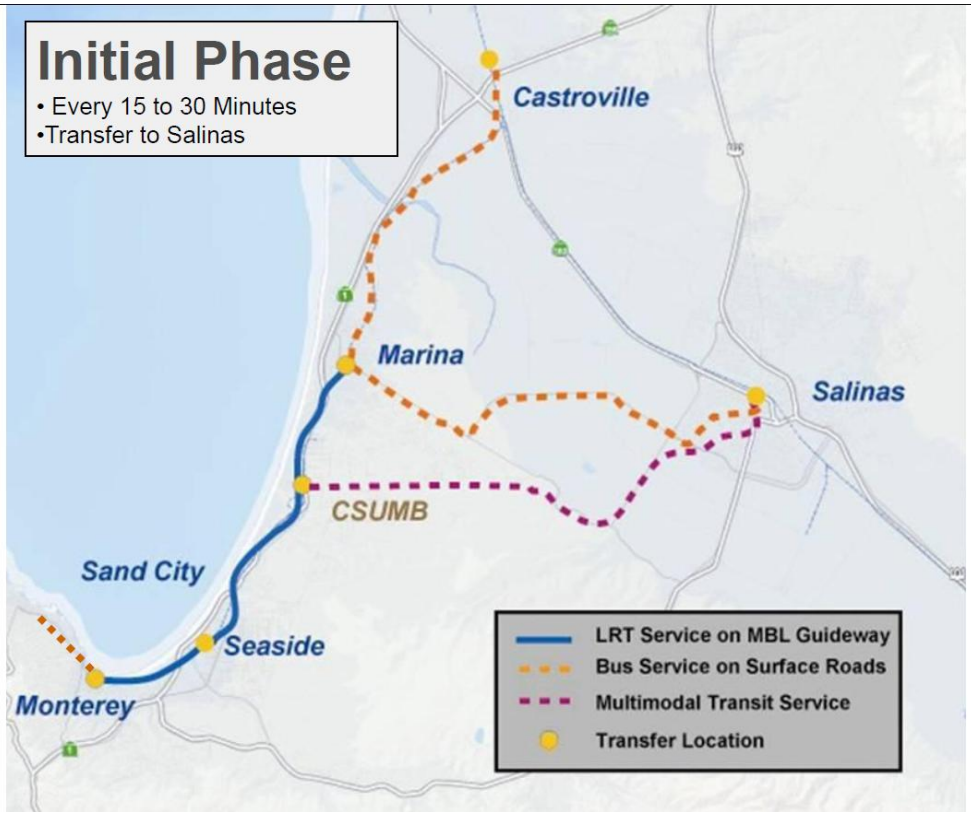
Light Rail
Benefits

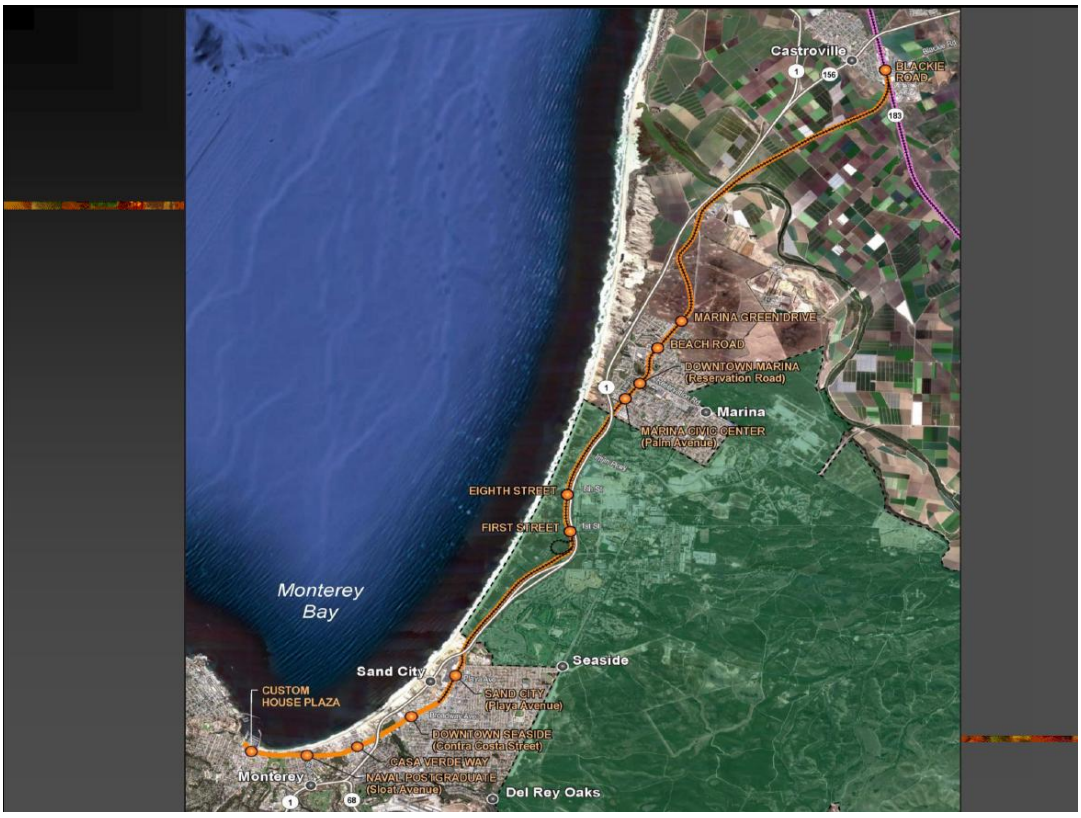
- High Capacity Vehicles
  - 100 passengers
  - Ability to add train cars
- Fast
- Reliable Frequent Service
- Comfortable
- Quiet
- Low Emissions
- Safe
- Scenic Views
- Carries:
  - Wheelchairs
  - Bicycles
- MST Operates

Monterey Branch Line: Transit-Oriented Development

- Reservation - Downtown
- Dunes at Monterey Bay
- 8th St. Art District
- CSUMB
- Seaside Broadway Urban Village







Equipment/Facilities/Improvements

- **Hybrid diesel/electric or diesel trains**
- **New Layover/Maintenance Facility**
- **Improvements to rail, streets, bridges, and rail warning devices**
- **New grade crossings and pre-emptive signals**

Environmental Review Process

- Legal requirements
  - California Environmental Quality Act (CEQA)
  - National Environmental Policy Act (NEPA)
- Analyze the LPA
  - Impacts and effects
  - Strategies to address impacts
- Alternatives Considered
  - BRT and Enhanced Bus

Environmental Factors for Analysis

- Aesthetics & Visual Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Demographics & Neighborhoods
- Energy
- Geology, Soils, Seismicity & Paleontology
- Hazardous Waste
- Hydrology & Water Quality
- Land Use & Planning
- Noise & Vibration
- Parks & Recreation
- Public Services & Utilities
- Safety & Security
- Transportation & Traffic

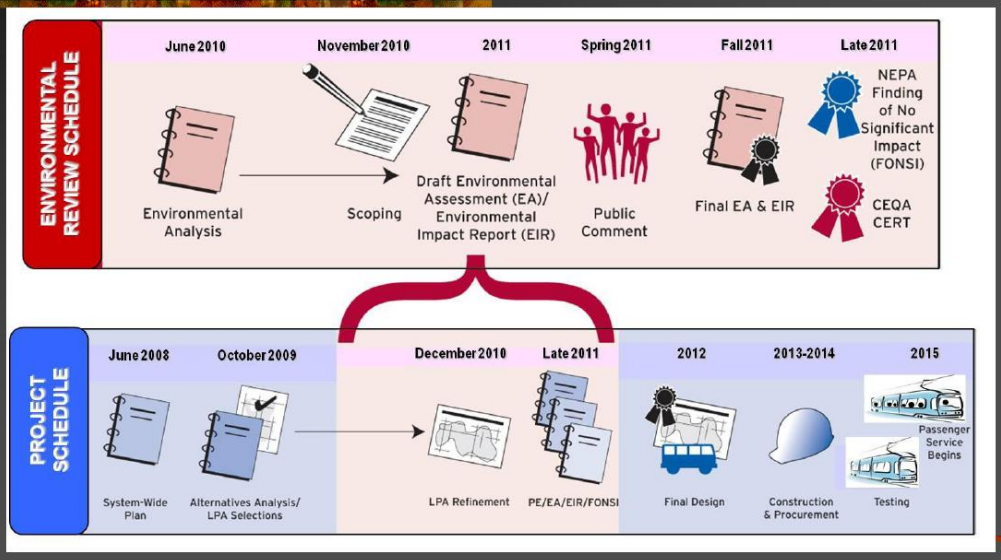
Preliminary Analysis

- Temporary construction impacts related to noise and traffic
- Potential impacts to biological and cultural resources
- Beneficial air quality impacts

Overview of Permitting

- **Jurisdictional Resources / Water Quality**
- **Various Local Permits**
- **California Coastal Commission**

Environmental and Project Schedules



Questions?

TAMC
TRANSPORTATION AGENCY FOR MONTEREY COUNTY

www.tamcmonterey.org/programs/rail/montereyline.html

Contact:

Kristen L. Hoschouer

55-B Plaza Circle, Salinas, California 93901

1-831-775-4403

Funding

- Capital $ 145 M
  - Secured $ 25.0 M
    - Spent $ 12.4 M
  - Unsecured $120.0 M
    - Federal Small Starts
    - State Public Transportation Account
    - Impact fees
- Operations $ 3.7 M /year
  - Fares $ 0.9 M
  - Lease Revenues $ 2.8 M

Short-Term Activities

- Alternatives Analysis
- Selection of Preferred Alternative – Oct. 2009
- Public Outreach
  - Visual Simulation
  - Public Hearings
- Draft Environmental Document – 2011
- Final Environmental Document – Fall 2011

A10. MAILING LIST

LOCAL/REGIONAL AGENCY

Mike Novo, Planning Director
County of Monterey
168 W. Alisal Street, 2nd Floor
Salinas, CA 93901
(831)755-5192

Lani Freeman,
Planning Department/Commission
County of Santa Cruz
701 Ocean Street,
Santa Cruz, CA 95060
(831)454-2580

Gary Armstrong, Director
Planning & Building Inspection Services
County of San Benito
3224 Southside Road,
Hollister, CA 95023-9174
(831) 637-5313

Alan Weaver
Director of Public Works and Planning
County of Fresno
2220 Tulare Street, 6th floor,
Fresno, CA 93721
(559) 262-4078

Gregory R. Gatzka
Community Development Director
County of Kings
1400 W. Lacey Boulevard,
Hanford, CA 93230
(559) 582-3211

Jason Giffen
Director of Planning and Building
County of San Luis Obispo
976 Osos Street, Room 300,
San Luis Obispo, CA 93408
(805) 781-5708

Lorelei H. Oviatt
Director of Planning and Community Development
County of Kern
2700 "M" Street, Suite 100,
Bakersfield, CA 93301-2370
(661) 862-8600

John Doughty, Executive Director
Association of Monterey Bay Area Governments
445 Reservation Road, Suite G,
P.O. Box 809,
Marina, CA 93933
(831) 264-5100

Elizabeth Caraker, Principal Planner
City of Monterey
570 Pacific Street,
Monterey, CA 93940-2806
(831) 646-1739

Theresa Szymanis, Planning Services Manager
City of Marina
209 Cypress Avenue,
Marina, CA 93933
(831) 884-1220

Steve Matarazzo,
City Administrator/Community Development Director
City of Sand City
1 Sylvan Way,
Sand City, CA 93955-3039
(831) 394-6700

Barbara Nelson, Planning Services Manager
City of Seaside
440 Harcourt Avenue,
Seaside, CA 93955
(831) 899-6737

Sean Conroy
Planning & Building Services Manager
City of Carmel-by-the-Sea
P.O. Drawer G,
Carmel-by-the-Sea, CA 93921
(831) 620-2010

Andy Clarke, Planning Commission Chair
City of Del Rey Oaks
650 Canyon Del Rey Road,
Del Rey Oaks, CA 93940
(831) 394-8511

Bill Farrel
Interim Community Development Director
City of Gonzales
P.O. Box 647,
147 Fourth Street,
Gonzales, CA 93926
(831) 675-4203

Brent Slama
Community Development Director
City of Greenfield
45 El Camino Real,
Greenfield, CA 93927
(831) 674-5591

Michael Powers, City Manager
City of King City
212 So. Vanderhurst Avenue,
King City, CA 93930
(831) 385-3281

Lynn Burgess, Chief Planner
City of Pacific Grove
300 Forest Avenue,
Pacific Grove, CA 93950
(831) 648-3190

Alan Stumpf, Director of Community Development
City of Salinas
65 West Alisal Street,
Salinas, CA 93901
(831) 758-7206

Steven McHarris, Communuty Development Director
City of Soledad
248 Main Street,
Soledad, CA 93960
(831) 223-5043

Derek Johnson, Community Development Director
City of Capitola
420 Capitola Avenue,
Capitola, California 95010
(831) 475-7300

Mary Paxton, Planning Manager
City of Hollister
420 Hill Street, Building A,
Hollister, CA 95023
(831) 636-4360

Matthew Sundt, City Planner
City of San Juan Bautista
P.O. Box 1420, 311 Second Street,
San Juan Bautista, CA 95045
(831) 623-4661

Susan Westman, Interim Community Development Director
City of Scotts Valley
One Civic Center Drive,
Scotts Valley, CA 95066
(831) 440-5630

Marcela Tavantzis, Interim Community Development Director
City of Watsonville
250 Main Street,
Watsonville, CA 95076
(831) 768-3071

Carl Sedoryk
Monterey Salinas Transit
One Ryan Ranch Road
Monterey, CA 93940

STATE AGENCY

George Isaac
Department of Fish and Game—Marine Region
20 Lowerragsdale Drive, Suite 100
Monterey, CA 93940
(831) 649-2813

Julie Vance
Department of Fish and Game—
Region 4
1130 East Shaw Avenue, Suite 206
Fresno, CA 93710
(559) 243-4017 x222

Bimla Rhinehart
California Transportation Commission
1120 N Street, Room 2221 (MS-52)
Sacramento, CA 95814
(916) 654-4245

David M. Murray
Caltrans, District 5
50 Higuera Street
San Luis Obispo, CA 93401-5416
(805) 549-3186

Eric Knight, Mgr Envir. Protection Officer
California Energy Commission
1516 Ninth Street, MS-40
Sacramento, CA 95814
(916) 653-1850

Ron Parsons
Office of Historic Preservation
P.O. Box 942896
Sacramento, CA 94296-0001
(916) 653-5099

Elizabeth A. Fuchs
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-2219
(415) 904-5200

California Coastal Conservancy
1330 Broadway, 11th Floor
Oakland, CA 94612
(510) 286-1015

Ken Gray
Department of Parks and Recreation
2211 Garden Road
Monterey, CA 93940

Michael Houlemard
Fort Ord Reuse Authority
100-12th Street, Building 2880
Marina, CA 93933

Nadell Gayou, Senior Engineer
Department of Water Resources
901 P Street, 2nd Floor
Sacramento, CA 95814
(916) 651-9642

Terri Pencovic
Department of Transportation Planning
P.O. Box 942874, MS32
Sacramento, CA 94274-0001
(916) 653-1067
Douglas Ito
Air Resources Board—
Transportation Projects
1001 I Street, PTSDAQTPB
Sacramento, CA 95814
(916) 322-2085

Dominic Roques
State Water Resources Control Board—
Central Coast Region (3)
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906
(805) 542-4780

Guenther Moskat
Department of Toxic Substances Control
Chief of Planning & Env Analysis
P.O. Box 806 (1001 "I" Street, 14th Floor)
Sacramento, CA 95812-0806
(916) 322-8955

Debbie Treadway
Native American Heritage Commission
915 Capitol Mall, Room 364
Sacramento, CA 95814
(916) 653-4038

Scott Morgan
Governor's Office of Planning and Research
1400 10th Street, P.O. Box 3044
Sacramento, CA 95812-3044
(916) 445-0613

Moses Stites,
Rail Corridor Safety Specialist,
Public Utilities Commission
515 L Street, Suite 1119,
Sacramento, CA 95814
(415) 713-0092

FEDERAL AGENCIES

Ray Sukys
Federal Transit Administration
201 Mission Street, Suite 1650,
San Francisco, CA 94105-1839
(415) 744-2802

BGT John R. McMahon
US Army Corps of Engineers
1455 Market Street, #1760
San Francisco, CA 94103-1398
(415) 503-6572

Jacqueline Pearson Meyer

National Marine Fisheries Service
777 Sonoma Avenue, Room 325
Santa Rosa, CA 95404
(707) 575-6057

Douglas Cooper
United States Fish and Wildlife Service
2493 Portola Road, Suite B
Ventura, CA 93003
(805) 644-1766

ELECTED OFFICIALS

The Honorable Barbara Boxer
United States Senate
112 Hart Senate Office Building
Washington, D.C. 20510
(202) 224-3553

The Honorable Dianne Feinstein
United States Senate
331 Hart Senate Office Building
Washington, D.C. 20510
(202) 224-3841

The Honorable Sam Farr
California 17th District
1221 Longworth House Office Building
Washington, D.C. 20515
(202) 225-2861

The Honorable Anna Eshoo
California 14th District
205 Cannon Building
Washington, D.C. 20515
(202)225-8104

GOVERNOR
The Honorable Arnold Schwarzenegger
Office of the Governor
State Capitol Building
Sacramento, CA 95814
(916) 445-2841

The Honorable Joe Simitian
11th District, State Senate
State Capitol Building, Room 4062
Sacramento, CA 95814
(916) 651-4011

The Honorable Jeff Denham
12th District, State Senate
State Capitol Building, Room 3076
Sacramento, CA 95814
(916) 651-4012

The Honorable Abel Maldonado
15th District, State Senate
State Capitol Building, Room 4082
Sacramento, CA 95814
(916) 651-4015

The Honorable William Monning
27th District, State Assembly
Monterey County/Santa Clara County District Office
99 Pacific Street, Suite 555-D
Monterey, CA 93940
(831) 649-2832

The Honorable Anna Caballero
28th District, State Assembly
P.O. Box 942849
Sacramento, CA 94249-0028
(916) 319-2028

Fernando Armenta, Chair
District 1, Board of Supervisors
168 W Alisal Street, 2nd Floor
Salinas, CA 93901
(831) 755-5011

Louis Calcagno
District 2, Board of Supervisors
11140 Speegle Street
P.O. Box 787
Castroville, CA 95012
(831) 755-5022

Simon Salinas
District 3, Board of Supervisors
168 W. Alisal Street, 3rd Floor
Salinas, CA 93901
(831) 755-5033

Jane Parker
District 4, Board of Supervisors
PO Box 238
Marina, CA 93933
(831) 883-7570

Dave Potter
District 5, Board of Supervisors
1200 Aguajito Road, Suite 1
Monterey, CA 93940
(831) 647-7755

Steve Vagnini
County Clerk/ Recorder
168 W Alisal Street, 1st Floor
P.O. Box 29
Salinas, CA 93902
(831) 755-5041

Fred Meurer, City Manager of Monterey
City Hall
580 Pacific Street,
Monterey, CA 93940
(831) 646-3760

INTERESTED PARTIES

Richard Pool, President/Owner
Associated Transportation Engineers
100 North Hope Avenue, Suite 4,
Santa Barbara, CA 93110
(805) 687-4418

John Marker, Associate Vice President
Facilities Management and Planning,
CSU Monterey Bay
100 Campus Center, CSU Monterey Bay,
Seaside, CA 93955-8001
(831) 582-3709

LIBRARIES

Jayanti Addleman, County Librarian
Monterey County Library, Administrative Offices
188 Seaside Circle
Marina, CA 93933
(831) 883-7573

Kurt Ellison, Branch Manager
Monterey County Library, Castroville Branch
11160 Speegle Street
Castroville, CA 95012
(831) 769-8724

Lori Chan, Branch Manager
Monterey County Library, Marina Branch
190 Seaside Circle
Marina, CA 93933
(831) 883-7507

Sharon Freed, Branch Manager
Monterey County Library, Seaside Branch
550 Harcourt Avenue
Seaside, CA 93955
(831) 899-2055

APPENDIX C – NOTICE OF PREPARATION COMMENT LETTERS

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
777 Sonoma Ave., Room 325
Santa Rosa, California 95404-4731

December 7, 2010

In response, refer to:
151422SWR2010SR00484

RECEIVED
DEC 10 2010
By

Kristen Hoschouer
Project Manager
Transportation Agency for Monterey County
55 – B Plaza Circle Drive
Salinas, California 93901

Dear Ms. Hoschouer:

Thank you for this opportunity to comment on the Notice of Preparation of the Monterey Peninsula Light Rail Transit (MPLRT) project in accordance with the California Environmental Quality Act (CEQA) and National Environmental Policy Act. The comments will be incorporated into the draft Environmental Assessment (EA) and Environmental Impact Report (DEIR). The Transportation Agency for Monterey County (TAMC) proposes to restore 15.2 miles of passenger rail service along the existing Monterey Branch Line rail right-of-way. The TAMC will serve as the Lead Agency under CEQA and the Federal Transit Administration.

The following Federally listed species and/or designated critical habitat may be affected by the MPLRT: South-Central California Coast (S-CCC) Distinct Population Segment (DPS) steelhead (*Oncorhynchus mykiss*). South-Central California Coast steelhead were listed as a threatened species on August 18, 1997 (70 FR 52488), pursuant to the Federal Endangered Species Act (ESA) of 1973, as amended. Regulations deemed necessary and advisable for their conservation were adopted under section 4(d) of the ESA and went into effect on September 8, 2000. Critical habitat for S-CCC steelhead was designated on September 5, 2005 (70 FR 52488).

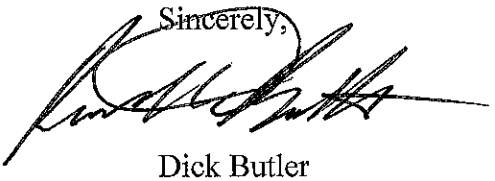
The DEIR should include an assessment of the effects of the MPLRT on listed S-CCC steelhead and their habitats (including, but not limited to, water quality, instream complexity, sound impacts from construction activities, and riparian vegetation). The DEIR should assess and evaluate alternatives to avoid or minimize impacts to S-CCC steelhead and designated critical habitat. At any location where the MPLRT crosses a waterbody, such as the Salinas River, alternatives to minimize impacts should be incorporated into the plans. All water crossings such as bridges, culverts, roads, railroads, etc. shall meet criteria for providing passage for S-CCC steelhead (NMFS 2001). NOAA's National Marine Fisheries Service (NMFS) recommends that any construction activities adhere to state and Federal Best Management Practices (BMPs) and guidelines for working in streams. These measures could include, but are not limited to, scheduling to avoid impacts to Federally-listed species, sound attenuation, and adoption of a

stormwater management plan with an erosion and sediment control plan (CASQA 2009, EPA 2008), as well as project alternatives that will not adversely modify designated critical habitat. The assessment should also include opportunities to mitigate for any impacts that may be significant and unavoidable and any ongoing chronic effects of the project on habitat conditions and impacts to S-CCC steelhead.

The Salinas River is a primary watershed, essential to the recovery of the S-CCC steelhead DPS. South-Central California Coast steelhead are at critically low levels in the Salinas River. NMFS is very concerned over the status of S-CCC steelhead in the Salinas River and habitat conditions within the Salinas River Lagoon, therefore, it is imperative that the MPLRT not impact or take every measure to minimize impacts to S-CCC steelhead.

If you have any questions concerning the above comments please contact Devin Best at (707) 578-8853 or via email at devin.best@noaa.gov.

Sincerely,



Dick Butler
North Central Coast Office Supervisor
Protected Resources Division

References

California Stormwater Quality Association [CASQA]. 2009. Stormwater Best Management (BMP) Handbook. Menlo Park, California. Available at: http://www.cabmphandbooks.com/Documents/Construction/Section_3.pdf.

National Marine Fisheries Service [NMFS]. 2001. Guideline for Salmonid Passage at Stream Crossings. Southwest Region, Santa Rosa, California. Available at: http://www.swr.noaa.gov/hcd/NMFSSCG.PDF.

United States Environmental Protection Agency [EPA]. 2007. Stormwater Pollution Prevention Plans for Construction Activities. Washington, D.C. Available at: http://cfpub.epa.gov/npdes/stormwater/swppp.cfm.

STATE OF CALIFORNIA — Arnold Schwarzenegger, *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

December 10, 2009

Kristen L. Hoschouer
Monterey County Transportation Agency
55-B Plaza Circle
Salinas, CA 93901

Re: Notice of Preparation, Draft Environmental Impact Study (DEIR)
Monterey Peninsula Light Rail Project
SCH# 2009111044

Dear Ms. Hoschouer:

As the state agency responsible for rail safety within California, the California Public Utilities Commission (CPUC or Commission) recommends that development projects proposed near rail corridors be planned with the safety of these corridors in mind. New developments and improvements to existing facilities may increase vehicular traffic volumes, not only on streets and at intersections, but also at at-grade highway-rail crossings. In addition, projects may increase pedestrian traffic at crossings, and elsewhere along rail corridor rights-of-way. Working with CPUC staff early in project planning will help project proponents, agency staff, and other reviewers to identify potential project impacts and appropriate mitigation measures, and thereby improve the safety of motorists, pedestrians, railroad personnel, and railroad passengers.

The DEIR's traffic/circulation section needs to specifically consider traffic safety issues to the LRT alignment. In addition to the potential impacts of the proposed project itself, the DEIR needs to consider cumulative rail safety-related impacts created by other projects within the multi-jurisdiction corridor.

In general, the major types of impacts to consider are collisions between trains and vehicles, and between trains and pedestrians. Measures to reduce adverse impacts to rail safety need to be considered in the DEIR.

Specific project concerns by the Commission include:

- The TAMC needs to strongly consider grade separating the entire corridor to improve traffic circulation and operating efficiency and reduce safety risks.
- A new LRT system must comply with Light Rail specific General Orders GO 143-B, GO 164-D, in addition to the typical crossings GO's of GO 26-D, GO 72-B, GO 75-D, GO 118, GO 145. A link to the applicable General Orders can be found at http://bit.ly/6ihWN3. Regarding GO 164-D, it is most important that the agency involves the CPUC early in the project and follow the provisions under Safety Certification for all new starts within California at the preliminary or conceptual engineering phase. This includes an implementation of Safety and

Security Certification Program with submission to the CPUC for approval. There after, the CPUC will be involved throughout the project's different phases from preliminary design, final design, construction, testing, operations and maintenance. Additionally, GO 143-B, regarding vehicles, if DMUs are considered then a variance deviating from our GO 143-B would be required. Lastly, FRA rules may be applicable depending if there are any shared corridors.

- A corridor review must take place with the local agencies, TAMC, and the CPUC to ensure the corridor complies with regulations and bring the crossings up to the latest standards.
- GO 88-B's will be required to be filed with the CPUC and approved to reopen the crossings.
- The alignment runs parallel to the major roadways. Preemption at each crossing will need to be evaluated. Preemption timing sheets will be required with the GO 88-B applications.
- Residual unused spur tracks from the old alignment need to be removed.
- There are several private crossings on the alignment. TAMC needs to address the safety issues at the private crossings.
- Due to the proximity to beaches and residential areas and the alignment being abandoned, the corridor experiences a high volume of trespassing over the tracks. The project must include vandal resistant fencing to channelize pedestrians to the appropriate crossings to prevent trespassing onto the tracks.
- Numerous vehicles are parked in the right of way throughout the entire alignment. TAMC must address the parking issues and prevent motorists from leaving their vehicles in the right of way and potentially fowling the tracks.
- There are several stop controlled intersections adjacent to the crossings leading to potential queuing issues. Each of these intersections will be required to be signalized with preemption as part of this project.
- Per CPUC policy, no new at-grade crossings will be allowed unless several other crossings are closed. A formal application with the CPUC is required for any new crossings along with CPUC approval per Public Utilities Code 1201 (http://bit.ly/7hAgXF). Also per PU Code 99152, Any Public transit guideway planned, acquired, or constructed, on or after January 1, 1979, is subject to regulations of the Public Utilities Commission relating to safety appliances and procedures. This subjects the transit agency to overall CPUC oversight.

Commission approval is required to modify an existing highway-rail crossing or to construct a new crossing.

Please forward the traffic impact study scope of services for our review and comment before the study is initiated by the TAMC consultant. Should the TAMC conduct a traffic/circulation scoping meeting, the CPUC requests notification for attendance and participation.

The Commission is a responsible agency under CEQA section 15381 with regard to this project. As such, we greatly appreciate the opportunity to work with the TAMC to improve public safety as it relates to crossings in the proposed LRT alignment.

Thank you for your consideration of these comments. For questions regarding specific oversight and crossings design, please contact Felix Ko at (415) 703-3722 or by email at fko@cpuc.ca.gov. Regarding any environmental review questions, please contact me at (415) 713-0092 or email at ms2@cpuc.ca.gov.

Sincerely,

Moses Stites
Rail Corridor Safety Specialist
Consumer Protection and Safety Division
Rail Transit and Crossings Branch
515 L Street, Suite 1119
Sacramento, CA 95814

STATE OF CALIFORNIA Arnold Schwarzenegger, *Governor*

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-4082
(916) 657-5390 - Fax

November 30, 2009

DEC - 8 2009

Kristen L. Hoschouer
Monterey County Transportation Agency
55-B Plaza Circle
Salinas, Ca 93901

RE: SCH#2009111044 Monterey Peninsula Light Rail Project: Monterey County.

Dear Ms. Hoschouer:

The Native American Heritage Commission (NAHC) has reviewed the Notice of Preparation (NOP) referenced above. The California Environmental Quality Act (CEQA) states that any project that causes a substantial adverse change in the significance of an historical resource, which includes archeological resources, is a significant effect requiring the preparation of an EIR (CEQA Guidelines 15064(b)). To comply with this provision the lead agency is required to assess whether the project will have an adverse impact on historical resources within the area of project effect (APE), and if so to mitigate that effect. To adequately assess and mitigate project-related impacts to archaeological resources, the NAHC recommends the following actions:

- ✓ Contact the appropriate regional archaeological Information Center for a record search. The record search will determine:
  - If a part or all of the area of project effect (APE) has been previously surveyed for cultural resources.
  - If any known cultural resources have already been recorded on or adjacent to the APE.
  - If the probability is low, moderate, or high that cultural resources are located in the APE.
  - If a survey is required to determine whether previously unrecorded cultural resources are present.
- ✓ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
  - The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure.
  - The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.
- ✓ Contact the Native American Heritage Commission for:
  - A Sacred Lands File Check. **USGS 7.5 minute quadrangle name, township, range and section required.**
  - A list of appropriate Native American contacts for consultation concerning the project site and to assist in the mitigation measures. **Native American Contacts List attached.**
- ✓ Lack of surface evidence of archeological resources does not preclude their subsurface existence.
  - Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5(f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
  - Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.
  - Lead agencies should include provisions for discovery of Native American human remains in their mitigation plan. Health and Safety Code §7050.5, CEQA §15064.5(e), and Public Resources Code §5097.98 mandates the process to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

Sincerely,
Katy Sanchez

Katy Sanchez
Program Analyst
(916) 653-4040

CC: State Clearinghouse

Native American Contact
Monterey County
November 30, 2009

Indian Canyon Mutsun Band of Costanoan
Ann Marie Sayers, Chairperson
P.O. Box 28
Hollister , CA 95024
ams@garlic.com
831-637-4238
Ohlone/Costanoan

Trina Marine Ruano Family
Ramona Garibay, Representative
16010 Halmar Lane
Lathrop , CA 95330
soaproot@msn.com
209-629-8619
Ohlone/Costanoan
Bay Miwok
Plains Miwok
Patwin

Jakki Kehl
720 North 2nd Street
Patterson , CA 95363
jakki@bigvalley.net
(209) 892-1060
Ohlone/Costanoan

Amah MutsunTribal Band
Valentin Lopez, Chairperson
3015 Eastern Ave, #40
Sacramento , CA 95821
vlopez@amahmutsun.org
(916) 481-5785
Ohlone/Costanoan

Coastanoan Rumsen Carmel Tribe
Tony Cerda, Chairperson
3929 Riverside Drive
Chino , CA 91710
(909) 622-1564
(909) 464-2074
Ohlone/Costanoan

Amah/MutsunTribal Band
Irene Zwierlein, Chairperson
789 Canada Road
Woodside , CA 94062
amah_mutsun@yahoo.com
(650) 851-7747 - Home
(650) 851-7489 - Fax
Ohlone/Costanoan

Ohlone/Coastanoan-Esselen Nation
Louise Miranda-Ramirez, Chairperson
PO Box 1301
Monterey , CA 93942
408-629-5189
408-205-7579 - cell
Esselen
Ohlone/Costanoan

Ohlone/Coastanoan-Esselen Nation
Christianne Arias, Vice Chairperson
PO Box 552
Soledad , CA 93960
831-235-4590
Esselen
Ohlone/Costanoan

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2009111044 Monterey Peninsula Light Rail Project; Monterey County.

Native American Contact
Monterey County
November 30, 2009

Amah MutsunTribal Band
Edward Ketchum
35867 Yosemite Ave Ohlone/Costanoan
Davis , CA 95616 Northern Valley Yokuts
aerieways@aol.com

Amah/MutsunTribal Band
Jean-Marie Feyling
19350 Hunter Court Ohlone/Costanoan
Redding , CA 96003
amah_mutsun@yahoo.com
530-243-1633

Amah/Mutsun Tribal Band
Joseph Mondragon, Tribal Administrator
882 Bay view Avenue Ohlone/Costanoan
Pacific Grove, CA 94062
831-372-9015
831-372-7078 - fax

Amah/Mutsun Tribal Band
Melvin Ketchum III, Environmental Coordinator
7273 Rosanna Street Ohlone/Costanoan
Gilroy , CA 95020
408-842-3220

Ohlone/Coastanoan-Esselen Nation
Pauline Martinez-Arias, Tribal Council woman
1116 Merlot Way Esselen
Gonzales , CA 93926 Ohlone/Costanoan
831-596-9897

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH# 2009111044 Monterey Peninsula Light Rail Project; Monterey County.

California State University
Monterey Bay

Facilities Management and Planning
100 Campus Center
Seaside, CA 93955-8001
831-582-3709
Fax 831-582-3545

December 11, 2009

Ms. Kristen L. Hoschouer
Associate Transportation Planner
Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, CA 93901

Re: NOTICE OF PREPARATION for the Monterey Peninsula Light Rail Project Environmental Impact Report (EIR)/ Environmental Assessment (EA)

Dear Ms. Hoschouer:

Thank you for providing California State University, Monterey Bay (CSUMB) with the opportunity to comment on the Notice of Preparation for the Monterey Peninsula Light Rail Project Environmental Impact Report/Environmental Assessment. The University is pleased with the prospect of a project that will restore fixed-guideway Light Rail Service Transit along the Monterey Branch Line (MBL) between Castroville and downtown Monterey as well as construct a multimodal station at 8th Street adjacent to the MBL right-of-way.

The University recognizes the many environmental and transportation benefits this project will provide our campus community as well as the cities of Monterey, Seaside, Sand City, Marina and the unincorporated community of Castroville. These benefits include a reduction in commuter traffic along Highway One and through the CSUMB campus, and a reduction in green house gas emissions. A multimodal station located adjacent to the Monterey Salinas Transit (MST) bus transit center, a park-and-ride facility and a pedestrian/bicycle connection, will conveniently serve many of our campus transportation needs.

Thank you for the opportunity to comment on this important project.

Sincerely,

John L. Marker, Associate Vice President
Facilities Management & Planning
California State University, Monterey Bay

JM/da

December 10, 2009

Debbie Hale, Executive Director
Transportation Agency of Monterey County
55 Plaza Circle
Salinas, CA 93901

Subject: Monterey Branch Line

Dear Ms. Hale,

Thank you for making the trip to City Hall last week to meet with City staff to discuss the Monterey Branch Line project and TAMC's approach to addressing the City's issues as expressed in the October 27, 2009 study session. During that meeting staff described the City's work plan for development of a Waterfront Master Plan and the benefits of bring these two planning process together on similar schedules.

It is the City's intent to address TAMC's need to site a terminal station for the LRT line within the Waterfront Planning Area. I believe that both the City and TAMC staff agree that close coordination is necessary if both interdependent planning processes are to move forward successfully and with support from the community.

At the December 1, 2009 meeting, the City Council directed staff to execute the proposed waterfront planning work plan (attached). Initial steps include a kickoff meeting, hiring of an outreach coordinator, and the development of an existing conditions report. Once completed, staff will present the existing conditions report during the first public workshop and subcommittee (of the Council, Planning Commission, Historic Preservation Commission, and Parks and Recreation Commission) meeting, which will be scheduled early in the new year. Soon thereafter, the public will be led through a visioning process and the formulation of land use alternatives. The alternatives development tasks will include the identification of alternative sites for the LRT terminal station, which can then feed into TAMC's environmental review process. The obvious benefit of seeking public participation in the development of these alternative station sites is to provide both TAMC and its funding agency with greater confidence that the alternatives being studied are truly the "locally preferred alternatives." We would like to request ridership data on both modes of the Monterey Branch Line study (LRT and BRT) for input to our work. TAMC will be an important part of the greater 'planning team' for this and other projects within the City, we welcome additional opportunities to work with you and your staff.

I do need to reiterate my concern about two issues. I am very fearful that the lack of any alternative analysis in the EIR will end up delaying the overall progress of the project. We were successfully sued on the EIR addressing a controversial Cannery Row project. We won on all the technical issues of traffic, air, water, etc. We lost because, in the eyes of the court, we had not evaluated enough alternatives to the preferred project. This caused a loss of $100K in court costs plus added environmental work on additional alternatives. Our City Attorney can provide added information if your counsel desires.

I am also very concerned about the EIR being done by the same consultant that developed the project. Parson's is a great firm and Bob is a great "rail" consultant. At the same time, they have a great deal invested in the rail concepts. The objectivity of the EIR analysis will be the first and loudest challenge of the rail opponents.

I know you are way down this track on these issues. I feel badly that I did not realize the details of your intended course of action sooner, so I could have spoken up in a more time manner.

Sincerely,

Fred Meurer
City Manager

Waterfront Master Plan – Draft Work Plan

Task 1: Project Initiation – September/October 2009

- Assign City Department representatives to Working Group - **DONE**
- Assign Council/PC/Park and Rec Commission to subcommittee – **DONE**

Chuck Della Sala	Councilmember
Jeff Haferman	Councilmember
Leon Garden	Planning Commission
Bill McCrone	Planning Commission
David Canepa	Parks and Rec Commission
	Historic Preservation Commission

- Gather all controlling documents - **DONE**
- Create maps of planning area – **DONE**
- Meet with TAMC to provide station alternatives – **IN PROCESS**
- **Pursue Council Direction to Initiate Project - DONE**
    - Define issue (need for comprehensive overhaul/upgrade of waterfront)
    - Provide examples of what is possible/success stories (from other communities)
    - Define project vision and objectives
    - Present work plan and outreach program
- Conduct working group kick-off meeting
- Identify stakeholders

Task 2: Community Outreach – January 2010 – September 2010

- Finalize outreach program scope to include
    - Stakeholder interviews
    - Public Workshops
        1. Review existing conditions
        2. Identify specific issues, goals and objectives
        3. Review land use plan alternatives
        4. Recommend preferred alternative
        5. Review draft policies and implementation programs and strategies
- Hire outreach facilitator
    - Develop RFP
    - Budget is $20,000

Task 3: Develop Draft Master Plan – January 2010 – September 2010

- Conduct land use and infrastructure inventory
- Summarize existing conditions (Workshop #1)
- **Report to Council**
- Identify issues, goals and objectives (Workshop #2)
- **Pursue Council acceptance of issues, goals, and objectives**
- Develop alternative land use plans – **work with TAMC** (Workshop #3)
- Address comments and feedback from public meetings, surveys, and advisory committee and technical advisory committee meetings
- Refine one preferred alternative concept plan – **work with TAMC** (Workshop #4)
- Solicit Planning Commission and Parks and Recreation Commission recommendation on preferred alternative

- **Pursue Council acceptance of preferred alternative**
- Develop policies and implementation programs and strategies (Workshop #5)
- **Report to Council**
- Commence environmental review

Task 4: Adoption of Master Plan – September 2010 – December 2010

- Solicit Planning Commission and Parks and Recreation Commission recommendation
- **Pursue Council adoption**
- Coastal Commission review and approval

December 14, 2009

Kristen Hoschouer, Associate Transportation Planner
Transportation Agency of Monterey County
55 Plaza Circle
Salinas, CA 93901

Subject: Monterey Branch Line

Dear Ms. Hoschouer:

Monterey City staff received the Transportation Agency of Monterey County (TAMC) Notice of Preparation (NOP) dated November 10, 2009 for the Monterey Peninsula Light Rail Transit (LRT) Project Environmental Impact Report (EIR)/Environmental Assessment (EA). Monterey and TAMC staff have held discussions and presented the project to the public on multiple occasions. Therefore, a number of issues have been raised over time by both City staff and community members regarding various aspects of this project.

The City is disappointed with the fact that the TAMC Board did not honor the Monterey City Council's request to require that the environmental study provide equal levels of analysis for both the LRT and Bus Rapid Transit (BRT) concepts. The NOP claims that the LRT is the "locally preferred alternative." Our conclusion after the public outreach meetings is that a higher level of analysis is required before such a claim can be made. We believe that your failure to look at any alternatives other than do-nothing is a fatal flaw in the EIR that will subject the EIR to court challenge by rail opponents. However, in response to the NOP, we offer the following:

Project Description/Objectives/Alternatives

The Monterey General Plan supports the use of public transportation to reduce the impacts of future development on the City's parking and circulation system. Specifically, the downtown, the Lighthouse corridor and Cannery Row neighborhoods, and the North Fremont corridor are designated for mixed-use/transportation oriented development. To meet the intent of this designation, a broad, coordinated planning effort with TAMC and MST is required to ensure that new development would not continue to overburden travel corridors or substantially increase parking demand. Therefore, part of the planning effort for the development of successful mixed-use, transit-oriented neighborhoods requires the availability of convenient public transportation.

Consistent with the General Plan Goals, in December 2007, the City Council authorized the planning and design of the Lighthouse Destination Plan. This plan includes a pedestrian bridge over Lighthouse Avenue at Del Monte Avenue and redesigns a portion of Lighthouse Avenue as a one-way corridor between David Avenue and the Presidio Gate that accommodates a variety

of transportation modes, including dedicated lanes for BRT, high occupancy vehicles, and bicycles. An objective of the Monterey Branch Line project must be to function consistent with these future planning efforts and increase accessibility of the Wharf, downtown, Lighthouse corridor, and Cannery Row neighborhoods by enhancing the convenience of public transit, which increases the viability of using modes of transportation alternative to the automobile.

Terminal Station

The NOP indicates that the LRT terminal station is located at Portola Plaza. TAMC staff has also presented alternative terminal station locations at both Figueroa and Fisherman's Wharf. The City's preferred location for this station will be addressed during the Waterfront Master planning process currently underway. It is the City's expectation that once identified, TAMC will include the preferred location and alternative locations for this station in the project description for the EIR/EA.

During past workshops, the public expressed concern regarding visual impacts to the Window on the Bay Park. This discussion concluded with the public expectation that the environmental analysis would include an alternative terminal station location to the east of Window on the Bay Park. This may occur at the La Playa Station or at the Naval School Station. If the La Playa Station is studied as an alternative terminal station location, vehicle traffic from the parking lot and La Playa must be routed onto Del Monte Avenue at Camino Aguajito and not La Playa.

MST Transfer Station

The NOP states that "the TAMC Board of Directors selected the LRT Alternative as the locally preferred alternative (LPA), based on its ability to provide superior transportation in the long-term while best meeting the vision and future plans for each of the peninsula cities." As stated above, to best meet the future plans of Monterey, public transit must conveniently link future growth corridors as identified in the Monterey General Plan. LRT passengers must be provided a convenient transfer location to bus services that link to these areas. Therefore, please include the provision of convenient transfer opportunities as described above as a project objective. Also, please include in the project description and analysis, and if necessary the alternatives analysis, the location of such transfer facilities.

Aesthetics and Visual Quality

As stated above, a major concern of the City involves potential view impacts to the Window on the Bay Park. We understand that the TAMC Board directed staff to prepare a visual simulation and visual impact analysis to address our community's concern as well as other communities that have expressed similar concerns. We expect that the visual simulation will be a key tool in supporting any conclusions reached regarding this potential impact.

Cultural Resources

The entire length of the proposed Monterey Branch Line route within the City of Monterey is within the City's archaeological sensitivity zone referred to as an area containing a "High Probably of Prehistoric Artifacts." Please also keep in mind that the City's waterfront holds a long history and contains a number of historic sites and buildings. Potential impacts to such cultural resources should be carefully evaluated.

Hazards

The City's coast line is part of the southern Monterey Bay area that is considered to be the

nation's most highly erodible coastal area. The EIR/EA should include an analysis of the negative impacts of erosion rates, coupled with the future impacts of sea level rise, over the life of the Monterey Branch Line project.

Land Use

A number of General Plan and Coastal Land Use policies address public transit, use of the recreation trail and use of the "West Catellus" (290 Figueroa Street) site. A thorough consistency analysis of the project with General Plan and Coastal Land Use Plan policies is necessary. Any proposed General Plan amendments should be explored with the City and, if deemed necessary, included in the EIR/EA project description.

Specifically, the project is inconsistent with the Monterey General Plan in that the General Plan restricts at-grade railroad crossings of proposed rail service within the City and requires grade separation crossings at all locations where rail service intersects with a major or minor arterial street. Further, the General Plan requires grade separation crossings at all locations where rail service crosses a Class I bike route or the Recreation Trail.

The NOP accurately describes the City's purchase of the portion of the Southern Pacific Railroad right-of-way (ROW) within the City limits in 1982 and the conditions of the funding for the use of the ROW. Please provide a consistency analysis of the project with these funding conditions.

Noise

TAMC staff has stated that the Monterey Branch Line will also provide access for the planned commuter rail system that will connect through the Castroville station. The noise analysis should address noise levels from both the LRT and commuter train vehicles and their impacts on adjacent neighborhoods.

Traffic, Parking and Transportation

City's General Plan Circulation Element states that "the City should make the most efficient use of possible of the land devoted to parking. The city's overall parking supply is generally sufficient to meet the demand for all except for a few peak weeks each year..." This statement highlights the importance of the City's existing parking supply and the need to either replace any spaces that are lost or show that demand will be reduced. Please provide an analysis of any loss of parking spaces, particularly within the City's Parking Enterprise Zone, which was purchased specifically to raise revenue for the City. A map of the City's Enterprise Zone can be obtained from the City's Public Facilities Department.

Please address any necessary reconfiguration of traffic flow due to the location of each LRT station and/or MST transfer station. Possible intersection and/or parking lot access locations that could be impacted by station locations include Washington Street at Del Monte Avenue, Figueroa Street at Del Monte Avenue, and La Playa Street at Del Monte Avenue. Please also address reassignments of one-way streets to two-way that may result from the station locations, such as portions of Tyler Street, Franklin Street, Washington Street, and/or Del Monte Avenue.

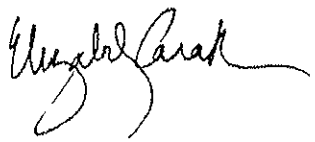
The impact analysis must address the level of safety and service for all transportation modes, including pedestrian, bicycle, public transit, and automobile, including impacts to the recreation

trail, impacts to Wharf parking (public, employee, boat trailer, and commercial), and impacts to pedestrian and vehicle access to the Wharf.

Required City approvals for the project include use permits, coastal development permits, EIR certification, design review, and agreements between TAMC, MST and the City for the use of the ROW and other City property, as necessary.

We look forward to working with TAMC to fill in the project description gaps identified above, as well as future opportunities to comment on the draft environmental analysis. Please call Elizabeth Caraker at 831-646-1739 should you require more detailed information on any of the issues raised in this letter.

Sincerely,



Elizabeth Caraker, AICP
Principal Planner

RESOURCE MANAGEMENT SERVICES | PLANNING DIVISION
440 Harcourt Avenue
Seaside, CA 93955
Phone (831) 899-6737
Fax (831) 899-6211

December 16, 2009

Attn: Kristen Hoschouer
Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, CA 93901

SUBJECT: Comments on the Notice of Preparation for the Monterey Peninsula Light Rail Project Draft Environmental Impact Report/Environmental Assessment (SCH#2009111044)

Dear Ms. Hoschouer:

City staff has reviewed the Notice of Preparation for the Draft Environmental Impact Report/Environmental Assessment for the Monterey Peninsula Light Rail Project ("Project"). A portion of the Project is located within the City's municipal boundaries with a segment of the planned transit corridor running along the Southern Pacific Railroad right-of-way near the City's intersection of Canyon del Rey and Del Monte Boulevards. Two transit stations are also planned as part of the Project both within and adjacent to the City's municipal boundaries.

The City has anticipated the planned transit station at Contra Costa Street as an important component of the West Broadway Urban Village Specific Plan ("Specific Plan"), scheduled for adoption in January 2010. The Specific Plan anticipates a mixed-use, transit-oriented downtown village along Broadway and Del Monte Boulevards. A major goal of the Specific Plan is to integrate a multi-modal transit center into the West Broadway Urban Village.

The City has identified the following potential environmental impacts that should be addressed in the Draft Environmental Impact Report/Environmental Assessment:

- Impacts to ambient noise levels from the operation of the planned Light Rail line as it affects both existing and future land uses along the transit corridor; the City plans for high-density, mixed-use development along the planned transit corridor;
- Impacts to traffic, bicycle and pedestrian safety along the planned transit corridor and at designated crossings;
- Impacts to vehicular traffic, bicycle, pedestrian and bus circulation and access in and around planned station areas and designated crossings;
- Aesthetic impacts of the transit station and platform as it contributes to its location as a "Gateway" to the West Broadway Urban Village.

Additionally, the City requests that TAMC review the Mitigation Monitoring and Reporting Program, contained in the Final EIR of the Specific Plan, and include any mitigation measures applicable to the Project. The MMRP can be downloaded online at

http://www.broadwayurbanvillage.org/ or provided by the City by contacting Diana Hurlbert, Senior Planner, at (831) 899-6727.

The City would like to call attention to the following MMRP mitigations measures that are specific to the planned Project. Incorporation of these measures are of utmost importance to the City's future development of the West Broadway Urban Village:

Impact 4.9-3 **Noise associated with a multi-modal transit station could produce noise levels in excess of 65 dBA CNEL at nearby noise sensitive receptors**

Mitigation Measure 4.9-3 Implementation of Mitigations 4.9-1a through 4.9-1e, 4.9-2a, and 4.9-2b would reduce potential noise impacts from a transit station located within the project area to a less than significant level. To the extent residential or other noise sensitive land uses are proposed in proximity to the transit station, the City Resource Management Services Department shall require additional project-level environmental review in the form of an EIR or mitigated negative declaration, including a noise analysis.

Impact 4.9-4 **Future development in the project area may result in the location of additional sensitive receptors in close proximity to the rapid transit line. The sensitive receptors could experience groundborne vibration levels in excess of FTA standards.**

Mitigation Measure 4.9-4 Along the corridor proposed for a potential fixed transit line, the City Resource Management Services Department shall require that any development proposals include preparation of a vibration impact study prepared by a qualified vibration consultant. This study shall recommend appropriate mitigation measures to ensure that railroad train vibration levels are at levels acceptable to the FTA in any new residential construction. Mitigation measures to accomplish this may include but are not limited to increased setbacks, trenching, building insulation, and/or foundation improvements.

Thank you for the opportunity to review this document. The City looks forward to working with the Agency in the realization of a viable transit corridor on the Monterey Peninsula. If you have any questions, please feel free to contact me at (831) 899-6712.

Sincerely,

/S/

Barbara Nelson, AICP
Planning Services Manager

CC: Diana Ingersoll, Deputy City Manager – Resource Management Services
Tim O'Halloran, City Engineer

ASSOCIATED TRANSPORTATION ENGINEERS
100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 * (805) 687-4418 * FAX (805) 682-8509
Since 1978

Richard L. Pool, P.E.
Scott A. Schell, AICP, PTP

December 12, 2009 09005NOPL01

Ms. Kristen L. Hoschouer, Associate Transportation Planner
Transportation Agency for Monterey County
55-B Plaza Circle
Salinas, California 93901

Re: Monterey Peninsula Light Rail Project - NOP November 10, 2009

Request the Evaluation of an Alternative that Relocates the proposed Playa Station to Tioga Avenue and provides a New Station adjacent Highway 1 at the North End of California Avenue (Fremont Station).

Dear Ms. Hoschouer:

On behalf of the Orosco Group, I am writing to request that the above described alternative be considered during your environmental review of the Monterey Peninsula Light Rail Project.

General reasons for this request:

The primary purpose for the MPLRT project is to provide intercity travel. However, it is important to serve local daily travel needs and develop fare box revenue for the system. The daily travel on the segment of the LRT between Monterey and Marina for workers, high school and CSUMB students and business related local travel will be critical in generating fare box revenue. We believe that two transit stations in the Sand City and Seaside area will better serve the residents, businesses and the tourist/recreation/entertainment related developments that are proposed in this service area. The more convenient access for residents will encourage them to use the LRT for work, school, service and shopping.

Bullet Points:

(Current Playa Station)

- An important aspect in the station siting is to attract riders on a daily basis where possible. (Most transit subsidies require a certain portion of the operating expense to be met from the fare box.)
- Does not meet the long-term vision and future plans for Sand City or Fort Ord.
- Playa Avenue station is not closely proximate to any residential population.
- Shoppers of bulk goods are unlikely to utilize light rail.
- Future visitor serving retail, hotels, and the beach not conveniently accessible from the Playa Avenue station. (There would be little opportunity to entice these patrons to be riders).
- Playa Ave Parking lot requires acquisition of private property, possibly through eminent domain.. Property acquisition would take time and money, may exceed the expense of adding a second station at Fremont where existing street and railroad lands are available.

(Two Station Alternative)

- Will provide employees of the retail centers access to place of work. The shoppers would have access to stores.
- Accommodates park-and-ride lot in setback between California street and rail right of way, near the Tioga station, and at Monterey Bay Shores hotel project.
- Better accommodates pedestrian/bicycle connection to regional bike path
- Possible traffic benefits due to additional distance of stations from California Ave/Playa Ave intersection which is currently experiencing congestion during peak periods.
- Better serves the short and long-term vision and plans for Sand City, Seaside and Fort Ord Residential communities.
- Future residential units in Sand City's East Dunes and South of Tioga areas will number in 100's
- These developments as well as Monterey Bay Shores project are being planned to feature green amenities including alternative-fuel shuttle, vanpooling and cycling, programs for employee commuting
- Sand City's East Dunes and South of Tioga areas will highlight dense, mix of uses and a transit orientation similar to Monterey's downtown, Sand City's 'West End' District and Seaside's West Broadway Urban Village.
- Commercial space to be developed will adopt live/work principals.
- Closer to the two hotels proposed on Sand City's beachfront property. (>300 rooms each)
- All projects to be constructed at approximately the same time frame as the LRT's construction schedule.
- Visitors of area may be more likely to use light rail than residents having parked cars at hotels
- Visitors from Cannery Row, will be drawn to the arts district being developed in Sand

City, and people staying in the Sand City area will be drawn to downtown Seaside, Monterey, and Cannery Row.
- The future developments could be conditioned by the respective City to participate in the cost of additional LRT station.

On the attached aerial picture we have noted the general location of the various elements that are enumerated in the following text.

Tioga station:
- Closer to the Seaside Automall for employees. Patrons for automotive service could use the LRT to get to and from home or work
- Closer to a major employer (Granite Rock) to better serve the employees.

Fremont station:
- Closer to Fort Ord communities of Bay View, Sunbay, Seaside Highlands and military housing currently inaccessible from Playa station or 1st street station.
- Closer to Seaside High school.
- Provides Beach access for tourists and visitors, thereby bolstering local tourism, highlighting environmental amenities of Monterey Peninsula and improving access to public recreational opportunities.

The future developments could be conditioned by the respective City to participate in the cost of additional station. Park and ride facilities could be developed in the available excess property along California Avenue.

Associated Transportation Engineers (ATE) is providing traffic and transportation planning services for the Tioga South Village development. We have reviewed the NOP for the project and believe that the requested alternative should, as a minimum, be addressed in the following sections of the EIR/EA:

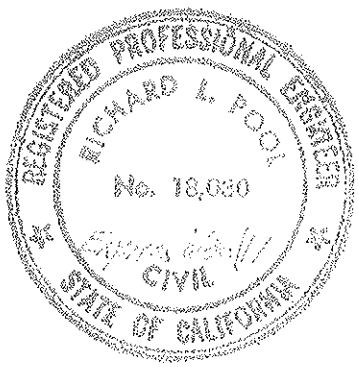
Land Use – how the station siting will be served by the planned land uses.
Population, Housing and Economic Growth – additional station will enhance.
Socioeconomic/Community Impacts
Traffic and Transportation

The affect on the potential to increase daily local ridership and the related farebox revenue may not be considered an environmental issue, but it should be of immense interest to the operators of the LRT.

Given its merits, The Orosco Group would encourage TAMC to review and consider the above described alternative and they have authorized ATE to provide information and additional input during the EIR preparation process.

Associated Transportation Engineers

By: Richard L. Pool, P.E.
President

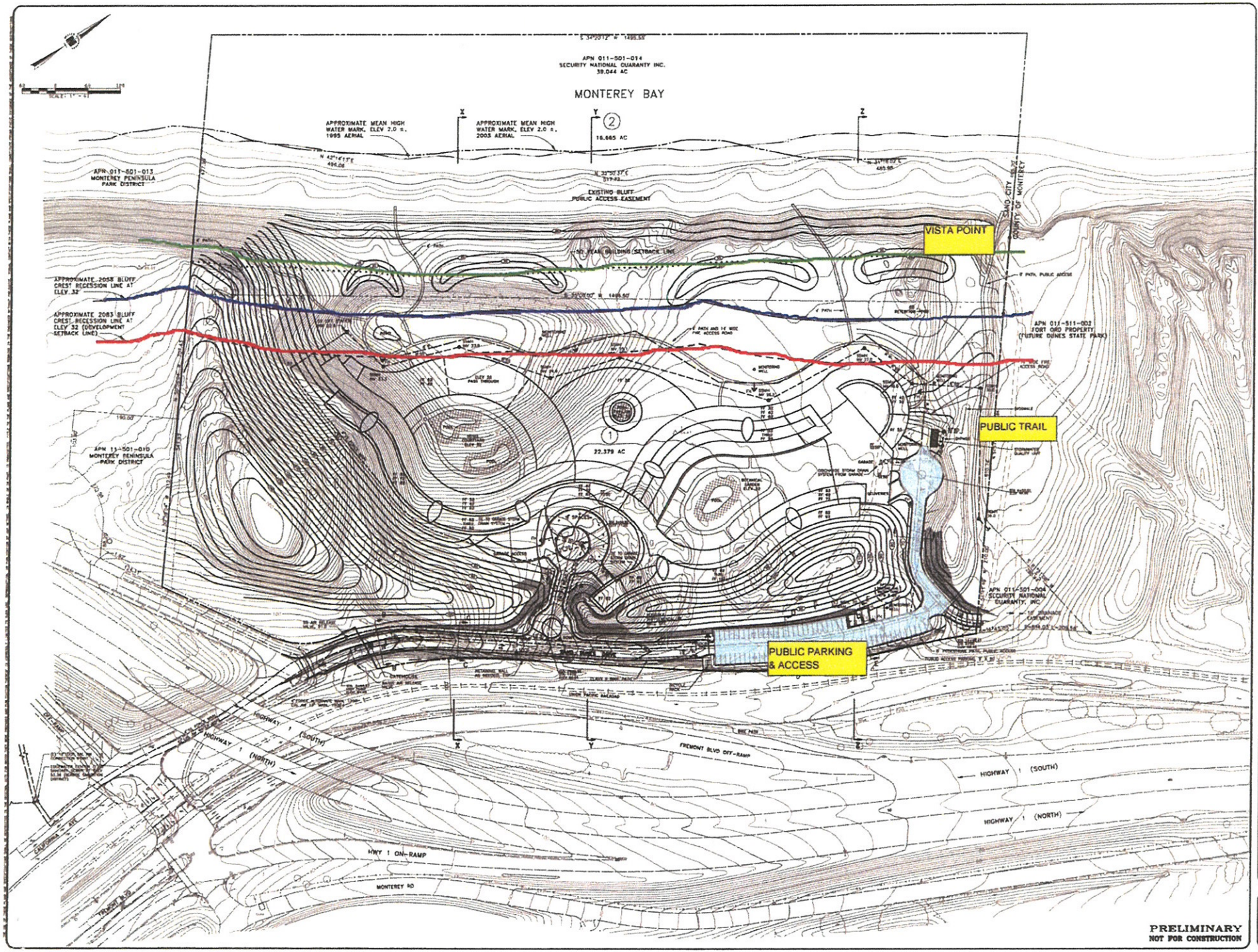


RLP/wp

Attachment: Map of Affected Properties
Site Plan Monterey Bay Shores Eco Resort

Copy to: Don Orosco, D.B.O. Development
Patrick Orosco, D.B.O. Development
Steve Matarazzo, City Manager, City of Sand City, CA

FORT ORD HOUSING
HOTEL
APPROXIMATE LOCATION OF NEW NORTH SAND CITY STATION
SEASIDE HIGHSCHOOL
EDGEWATER SHOPPING CENTER
HOTEL
CURRENT PROPOSED STATION
SAND DOLLAR SHOPPING CENTER
PROPOSED NEW STATION @ TIOGA
FUTURE EAST DUNES SOUTH OF TIOGA REDEVELOPMENT
SEASIDE AUTOMALL
SAND CITY WEST END DISTRICT
CONTRA COSTA STATION
SEASIDE WEST BROADWAY URBAN VILLAGE
Image © 2009 DigitalGlobe
Image AMBAG
Jul 30, 2007
36°37'09.30" N 121°50'43.67" W



REVISIONS

DESIGNED BY: ST.AFT
DRAWN BY: ST.AFT
DATE: PRELIMINARY
NAME
TRIGGER
MGR.
EXPN.

Monterey Bay Shores
Licensed, Bonded Sales and Resources

BESTOR ENGINEERS, INC.
CIVIL ENGINEERING - SURVEYING - LAND PLANNING
9701 BLUE LARKSPUR LANE, MONTEREY, CALIFORNIA 93940

PREPARED FOR THE DEVELOPMENT COMPANY

VESTING TENTATIVE MAP
MONTEREY BAY SHORES
APN 011-501-014

COUNTY OF MONTEREY, CALIFORNIA

SCALE: 1" = 80'
DATE: OCT 15, 2008
SHEET: TM-2 OF 4 SHEETS
WO: 4641.04