

2018 California Transit and Intercity Rail Capital Program

Grant Request

# **BUILDING UP: LOSSAN NORTH IMPROVEMENT PROGRAM**



Submitted By:

Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor Agency  
600 S Main Street  
Orange, CA 92863



January 12, 2018

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San Luis Obispo Council of Governments

Santa Barbara County Association of Governments

Southern California Association of Governments

### *Attachment B: Letters of Support*

Assembly Member Todd Gloria

Carpinteria Unified School District

California High Speed Rail

County of Santa Barbara, Supervisor Das Williams

City of Camarillo

City of Goleta

City of Santa Barbara

Orange County Transportation Authority

San Diego Metropolitan Transit System

San Diego Association of Governments

San Luis Obispo Council of Governments

Santa Barbara County Association of Governments

Southern California Association of Governments

Southern California Regional Rail Authority/Metrolink

Ventura County Transportation Commission

Union Pacific Railroad

*Attachment C: Greenhouse Gas Emissions Quantification and Ridership Forecast Methodologies*

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Rail Corridor Agency



**LOSSAN**

Since 1989

January 11, 2018

The Honorable Brian P. Kelly  
Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 3508  
Sacramento, CA 95814

Dear Secretary Kelly:

On behalf of the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor Agency (Agency), I am pleased to submit an application for consideration of funding through the 2018 Transit and Intercity Rail Capital Program (TIRCP) to support *Building UP: LOSSAN North Improvement Program*, a transformative program of projects that will complete a number of high-priority improvements on the LOSSAN rail corridor in San Luis Obispo, Santa Barbara and Ventura counties. The application request is for \$196.64 million to support the package of projects described below.

This application represents a multiagency effort to implement key improvements in multiple locations along the 351-mile LOSSAN rail corridor. This proposed program of projects will collectively enable more frequent and integrated intercity and commuter rail service, improved on-time performance and safety, and enhanced operations for both passenger and freight trains. When complete, the program of projects is expected to reduce greenhouse gas (GHG) emissions by more than 1,187,672 metric tons of CO<sub>2e</sub> and increase ridership by more than 2.7 million riders annually by 2053.

The LOSSAN Rail Corridor travels through a six-county coastal region in Southern California and includes 41 stations with more than 150 daily passenger trains and more than 70 daily freight trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

In particular, this program of projects includes advancing almost eight miles of additional double track; a new passenger platform; siding, signal and switch upgrades; expansion of the Goleta layover facility; capitalized track access fees and performance incentives; and safety enhancements. Collectively, these improvements will reduce GHG emissions, increase ridership, advance rail integration across entire the

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MEMBER AGENCIES

Los Angeles County Metropolitan  
Transportation Authority

North San Diego County  
Transit District

Orange County  
Transportation Authority

Riverside County  
Transportation Commission

San Diego  
Association of Governments

San Diego Metropolitan  
Transit System

San Luis Obispo  
Council of Governments

Santa Barbara County  
Association of Governments

Ventura County  
Transportation Commission

EX-OFFICIO MEMBERS

Amtrak

California Department of  
Transportation

California High-Speed Rail Authority

Southern California  
Association of Governments

ADDITIONAL TECHNICAL ADVISORY  
COMMITTEE MEMBERS

BNSF Railway

California Public Utilities Commission

Southern California  
Regional Rail Authority

Union Pacific

Secretary Brian P. Kelly  
January 11, 2018  
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LOSSAN rail corridor, improve rail safety and provide benefits to more than 972 state-designated disadvantaged communities and 1,903 low income communities.

The program of projects is consistent with the 2012 LOSSAN Strategic Implementation Plan, which was approved unanimously by all the LOSSAN agencies, as well as with the California Transportation Plan 2040 policy framework in the 2018 California State Rail Plan, which aims to “manage and operate an efficient integrated system,” “invest strategically to optimize system performance,” and “reduce fatalities, serious injuries, and collisions.” The program is also consistent with the sustainable communities strategies adopted by all responsible planning agencies along the LOSSAN rail corridor, as well as the 2013 Pacific Surfliner South Service Development Plan prepared by the California Department of Transportation.

The LOSSAN Agency is a joint powers authority composed of rail owners and operators and regional planning agencies along the entire LOSSAN rail corridor. The LOSSAN Agency, in partnership with its member agencies and State agencies, strives to improve passenger rail ridership, revenue, on-time performance, operation flexibility, and safety. Since assuming administrative responsibility for the state-funded Pacific Surfliner intercity passenger rail service in July 2015, the LOSSAN Agency has implemented service improvements and enhancements that support both the LOSSAN Agency goals and those outlined in the Interagency Transfer Agreement. On behalf of the LOSSAN Agency and with full support from the LOSSAN Board of Directors, I approve this application. Thank you to both you and Chad Edison, Deputy Secretary of the California State Transportation Agency (CalSTA), for your leadership on the TIRCP and for your consideration of this valuable program of projects. We look forward to continued partnership with CalSTA to improve passenger rail service in our region.

Sincerely,



Jennifer V. Bergener  
Managing Director

Enclosure(s)

*Building UP: LOSSAN North Improvement Program*

## A. Project Title Page

<b>Project Title</b>	<b>Building UP: LOSSAN North Improvement Program</b>
<b>Applicant Name</b>	Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor Agency.
<b>Project Priority</b>	This application is priority #2 of the three applications being submitted by the LOSSAN Agency based on project readiness.
<b>Project Purpose and Need</b>	The LOSSAN rail corridor’s existing rail network is not capable of accommodating future travel demand. Many segments of the LOSSAN rail corridor are limited by the lack of passing or second main tracks, particularly between San Luis Obispo and Los Angeles, where 80 percent of the corridor consists of single track, limiting future growth potential. The projects selected to comprise <i>Building UP: LOSSAN North Improvement Program</i> were designed to add capacity, improve travel time, reliability and safety, and provide operational flexibility that will allow intercity and commuter rail service increases in order to better serve current and future travel needs.
<b>Project Location</b>	Northern section of Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor, inclusive of three counties: Ventura, Santa Barbara, and San Luis Obispo. The project directly serves 8 disadvantaged communities and 140 low income communities and/or households, and benefits 972 disadvantaged communities and 1903 low income communities and/or households in the entire LOSSAN rail corridor.
<b>Project Mode</b>	<input checked="" type="checkbox"/> Commuter Rail <input checked="" type="checkbox"/> Intercity Rail
<b>Multi-Agency Coordination</b>	The LOSSAN Rail Corridor Agency has developed this application in close coordination with City of Camarillo, City of Carpinteria, City of Goleta, National Railroad Passenger Corporation (Amtrak), Southern California Regional Rail Authority (Metrolink), California High-Speed Rail Authority, Union Pacific Railroad, Ventura County Transportation Commission, Santa Barbara County Association of Governments, San Luis Obispo Council of Governments, as well as all other LOSSAN member agencies.

<b>Greenhouse Gas (GHG) Emissions Reductions</b>	1,187,672 MTCO <sub>2</sub> e/\$196,639,975 = 0.006040
<b>Funding</b>	\$196,639,975 million in Transit and Intercity Rail Capital Program funding is requested matched with \$5,028,750 million in non-Transit and Intercity Rail Capital Program funding
<b>Designated Point of Contact</b>	Jennifer Bergener, Managing Director LOSSAN Rail Corridor Agency 600 S Main Street Orange, CA 92863 714-560-5462 jbergener@octa.net

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## B. Requested Funding, Matching Funds, and Total Project Costs

The total cost of *Building UP: LOSSAN North Improvement Program* is \$201,668,725 of which the total funding request through the Transit and Intercity Rail Capital Program (TIRCP) is \$196,639,975. The \$196.639 million in TIRCP investment represents 97.5 percent of the overall project cost and will enable the leveraging of an additional \$5.029 million in state and local transportation dollars for the Southern California region (Table 1).

Section 4 includes the individual Project Programming Request forms which document these individual fund sources.

<b>Table 1 PROJECT COSTS AND MATCHING FUNDS (\$M)</b>	
<b>Item</b>	<b>Amount</b>
Total funding request	\$196.639
Matching funds by source:	
Transit Development Act (TDA)	\$0.91000
2018 Senate Bill (SB) 1 State Rail Assistance (SRA)	\$0.80000
Future year SRA	\$3.31875
Total Matching Funds	\$5.02875
Total Project Cost	\$201.66873

## C. Applicant Eligibility Criteria

The LOSSAN Rail Corridor Agency is a joint powers authority comprised of 11 voting members representing rail owners, operators and regional planning agencies along the entire 351-mile LOSSAN rail corridor in southern California from San Luis Obispo through Santa Barbara, Ventura, Los Angeles, and Orange counties to San Diego. The LOSSAN Agency works to improve passenger rail ridership, revenue, on-time performance, operational flexibility, and safety on the corridor. The LOSSAN Agency also assumed management responsibility for state-supported Pacific Surfliner intercity rail service operating on the LOSSAN rail corridor in July 2015, consistent with Senate Bill 1225 (Chapter 802, Statutes of 2012), approved in September 2012.

## D. Project Benefits

### Project Summary

*Building UP: LOSSAN North Improvement Program* is a transformative program of high-priority rail improvements that will address current and future transportation and mobility constraints on the northern end of the LOSSAN rail corridor by enabling more frequent and integrated intercity and commuter rail service, improving reliability and safety, reducing travel time, and enhancing overall rail

operations from San Diego to San Luis Obispo. In particular, this program of projects will advance the construction of more than eight miles of additional double track and siding extensions, station and layover facility enhancements, incentives for improved on-time performance, and signal and switch upgrades, with improvements located on the northern section of the LOSSAN rail corridor between Ventura County and San Luis Obispo County. The improvements included in this application are estimated to lead to a reduction of greenhouse gas emissions totaling more than 1,187,672 metric tons of CO<sub>2</sub>e and increase intercity rail ridership by more than 2,748,946 million passengers annually by 2053, assuming a conservative estimate of a 30-year useful life of the assets funded through this program. This does not include additional ridership from expanded Metrolink service that will benefit from these improvements, which is accounted for in the Southern California Regional Rail Authority's (SCRRA) *Southern California Optimized Rail Expansion (SCORE)* application. Upon completion, these efforts will provide multiple environmental, health, economic, and mobility co-benefits to millions of current and future passengers traveling on the LOSSAN rail corridor, including residents of the 972 state-designated disadvantaged communities and 1903 low-income communities directly served by the LOSSAN rail corridor. In addition, the *Building UP* program is projected to increase average endpoint on-time performance for Pacific Surfliner trains from 69 percent to 90 percent, and reduce total travel time between Los Angeles and Goleta by more than 10 minutes depending on the package of projects ultimately funded.

### [Project Description](#)

The 351-mile LOSSAN rail corridor traverses a six-county coastal region in southern California. Last year, nearly 8 million trips were taken on the LOSSAN rail corridor, including more than 5 million on Metrolink and COASTER commuter trains, and nearly 3 million on Amtrak's Pacific Surfliner service, making it the second busiest intercity passenger rail corridor in the nation. It should be noted that the average length of Pacific Surfliner intercity rail trips on the LOSSAN rail corridor is 86 miles, and 30 miles for commuter rail trips, so these 8 million trips currently represent more than 400 million vehicle miles of travel removed from the region. The LOSSAN rail corridor also hosts BNSF Railway and Union Pacific Railroad (UPRR) freight trains, and parallels congested stretches of Interstate 5 and Highway 101, making it a critical component of the region's transportation system.

The LOSSAN rail corridor's existing rail infrastructure is not capable of accommodating future travel demand. Service and capital improvements are necessary to serve future travel needs and to enhance reliability and travel time in order to make passenger rail a more attractive travel alternative. Nearly 80 percent of the LOSSAN rail corridor north of Los Angeles is currently single track. Single track segments along the LOSSAN North corridor limit the reliability of overall train operations, complicate meets between Metrolink, Pacific Surfliner and freight trains, and hinder expansion of service. There are also limited passing sidings and long distances between sidings, and at some locations, spurs that are not connected to the main line track at both ends and therefore require passenger trains to pull off the main line track, wait, and then reverse onto the main line to proceed. These infrastructure limitations frequently contribute to significant cascading delays between passenger trains, contributing to current Pacific Surfliner endpoint on-time performance of 69 percent. In addition, significant sections of single

track still use Automatic Block System (ABS) signal control and manual switches, requiring dispatch approval to proceed.

If a train falls out of its scheduled slot, it typically falls further behind schedule waiting on sidings for other trains to pass or causing other trains to wait at sidings in a series of cascading delays. A significant cause of delay for Pacific Surfliner trains is interference with other intercity, commuter or freight trains, which is magnified on the northern section of the LOSSAN rail corridor by long stretches of single track without sufficient passing sidings.

In the coming years, passenger and goods movement demands on this corridor are expected to increase significantly. Both BNSF Railway and UPRR serve the San Pedro Bay Ports via the Alameda Corridor and carry goods along sections of the LOSSAN rail corridor. The Los Angeles-area system of seaports is the largest container port complex in the U.S. and the sixth largest in the world. The Southern California Association of Governments (SCAG) projects container volume at the San Pedro Bay Ports to grow threefold by 2035. Furthermore, the LOSSAN rail corridor is the only viable freight corridor serving the Port of San Diego. In addition, the LOSSAN Agency, through the *LOSSAN Corridorwide Strategic Implementation Plan*, has identified the need for passenger service to nearly double between Los Angeles to San Diego by 2030. The current capacity of the LOSSAN rail corridor is not sufficient to carry these increased demands without significant improvements.

*Building UP: LOSSAN North Improvement Program* will increase the efficiency of this rail corridor not only to accommodate existing train volumes, but also to support future demand for passenger rail services on the corridor. Improvements include advancing one mile of additional double track, more than seven miles of new or extended passing sidings, station and layover facility enhancements, signal and switch upgrades, as well as capitalized track access fees with host railroads to allow increased frequencies and incentives to drive improved on-time performance.

Together, this program of projects will:

- enable more frequent and integrated intercity and commuter rail service,
- improve on-time performance,
- reduce travel time,
- promote more efficient goods movement,
- enhance rail operations,
- improve safety,
- increase ridership,
- reduce greenhouse gas emissions, and
- provide benefits to disadvantaged and low-income communities.

The individual components of *Building UP program* are described below. The components are listed in priority order. Lower priority components could be deferred. In addition, some components could be scaled. For example, the Leesdale Siding component assumed the siding would be extended in both directions. Either the westward or eastward extension could be constructed and still result in operational benefit. In addition, fewer non-powered switches or areas of centralized traffic control could be upgraded and still result in reduced travel time and OTP improvements.

- **Union Pacific Capitalized Track Access and On-Time Performance Incentive** provides a capitalized track access fee payment to UPRR to allow two additional slots for Pacific Surfliner trains to operate between Los Angeles and Santa Barbara/San Luis Obispo (one additional roundtrip), as well as increased incentive payments for improved on-time performance on the 174-mile stretch of the LOSSAN rail corridor used by Pacific Surfliner trains that is dispatched by UPRR.
- **Camarillo Station Improvements** will construct a pedestrian undercrossing and other station improvements in Ventura County to improve passenger access, enhance operational flexibility, and reduce travel time for the eight daily Pacific Surfliner and six weekday Metrolink trains currently serving the station, as well as accommodate future service growth. The project will be constructed by the City of Camarillo.
- **Leesdale Siding** will extend the current 3,700-foot Leesdale siding by up to 3.3 miles to the west and 2.9 miles to the east to allow operational flexibility in Ventura County for both Pacific Surfliner and Metrolink trains, and to help accommodate future service growth. The project will be constructed by the Union Pacific Railroad.
- **Ortega Siding** reconstructs and extends a passing siding to one mile in length to allow increased operational flexibility and capacity on a 17-mile stretch of single track in Santa Barbara County. The project will be constructed by the Union Pacific Railroad.
- **Carpinteria Station Double Track** constructs a second station track and platform at the Pacific Surfliner station in Santa Barbara County to improve pedestrian safety, passenger access and operational flexibility. The project will be constructed by the Union Pacific Railroad.
- **Goleta Layover Facility Improvements** expands Amtrak's Goleta storage facility by extending the existing layover track by 900 feet to allow two seven-car Pacific Surfliner trainsets to lay over and receive turnaround servicing in Santa Barbara County. The project will be constructed by Amtrak.
- **Upgrade of Non-Powered Switches** will replace 10 hand-thrown switches with automated switches at five siding locations Santa Barbara and San Luis Obispo counties to improve travel time and reliability. The project will be constructed by the Union Pacific Railroad.
- **Island Centralized Traffic Control** will install Centralized Traffic Control (CTC) along a 104-mile section of track in San Luis Obispo and Santa Barbara counties that currently operates under Track Warrant Control in order to allow increased operational flexibility and improved reliability. The project will be constructed by the Union Pacific Railroad.

Upon completion in 2023, the *Building UP* project will directly serve nearly 3.8 million Pacific Surfliner riders each year, representing 325.8 million passenger miles, including residents of the 972 state-

*Building UP: LOSSAN North Improvement Program*

designated disadvantaged communities and 1903 low-income communities directly served by the LOSSAN rail corridor. A summary of project costs and funding is provided in Table 2.

**TABLE 2  
BUILDING UP  
2018 TIRCP PROJECT LIST**

Project Title	Description	Phase	Project Cost	TIRCP Request	Match	Implementing Agency	County	Match source	Miles
<b>LOSSAN North</b>									
Union Pacific Capitalized Track Access and Performance Incentive	Acquire two additional slots for Pacific Surfliner service between Los Angeles and Santa Barbara/San Luis Obispo + performance incentive	Other	\$42,839,191	\$42,839,191	\$0	LOSSAN	N/A	NA	
Camarillo Station Improvements	Construct pedestrian undercrossing and other station improvements	CON	\$7,800,000	\$6,890,000	\$910,000	Camarillo	Ventura	TDA	
Leesdale Siding	Siding extension to allow operational flexibility between Oxnard and Camarillo	CON	\$26,169,596	\$24,527,346	\$1,642,250	UP	Ventura	\$800k SRA + future SRA	6.2
Ortega Siding	Reconstruct siding to increase passenger and freight capacity on 17-mile stretch of single track	CON	\$26,000,000	\$25,375,000	\$625,000	UP	Santa Barbara	future SRA	1
Carpinteria Station Double Track	Construct second track and platform at Carpinteria station	CON	\$31,938,075	\$30,346,575	\$1,591,500	UP	Santa Barbara	future SRA	0.4
Goleta Layover Facility Improvements	Expand Goleta storage facility to allow two sets to layover	CON	\$10,121,863	\$9,861,863	\$260,000	Amtrak	Santa Barbara	future SRA	
Upgrade Non-Powered Switches	Upgrade 10 switches (at five siding locations) from hand-thrown to powered)	CON	\$26,800,000	\$26,800,000		UP	Santa Barbara/SLO	NA	
Island CTC	Implement Island CTC at selected locations in Santa Barbara and San Luis Obispo counties	CON	\$30,000,000	\$30,000,000		UP	Santa Barbara/SLO	NA	
TOTAL			\$201,668,725	\$196,639,975	\$5,028,750				7.6
				97.51%					

The components included in the *Building UP* program directly support the goals included in the 2018 California State Rail Plan, specifically those in section 4.6.6, which discusses 2022 Short-Term Plan regional goals for the LOSSAN North Corridor, as follows:

1. “Invest in LOSSAN North corridor improvements focused on increasing ridership on existing frequencies through faster, integrated train schedules, improved reliability and better transit connectivity, which includes investment in layover facilities.”
2. “Increase frequency between Santa Barbara and Los Angeles by at least one train per day in each direction, achieving largely bi-hourly service in the corridor, with some gaps filled by Integrated Express Bus.”

The projects included in the *Building UP* program are also consistent with the 2013 Pacific Surfliner North Service Development Plan prepared by Caltrans, as well as the 2012 LOSSAN Strategic Implementation Plan and the FY 2016-17 and 2017-18 LOSSAN Agency Business Plan.

### Governor’s Climate Change Strategy Pillars

Governor Brown identified key strategies for addressing climate change. These strategies recognize several major areas of California’s economy that will need to reduce emissions to meet the 2030 greenhouse gas emissions target, including the transportation system. The proposed project will contribute to one of the identified strategies: Reducing today’s petroleum use in cars and trucks by up to 50 percent by increasing intercity rail ridership and reducing vehicle miles of travel.

More information on the Governor’s Pillars can be found here:

<https://www.arb.ca.gov/cc/pillars/pillars.htm>

## E. Project Impacts

Table 3 below shows how the *Building UP* project meets nearly all of the evaluation criteria objectives of the TIRCP program. It meets all of the four Primary Evaluation Criteria and eight of the nine Secondary Evaluation Criteria.

<b>Table 3</b>	
<b>EVALUATION CRITERIA OBJECTIVES ADDRESSED BY THE BUILDING UP PROJECT</b>	
<b>PRIMARY EVALUATION CRITERIA</b>	
<b>1. Reduce GHG emissions.</b>	Yes
<b>2. Increase ridership through expanded and improved rail and transit service.</b>	Yes
<b>3. Integrate the services of the state’s various rail and transit operations.</b>	Yes
<b>4. Improve safety.</b>	Yes
<b>SECONDARY EVALUATION CRITERIA</b>	
<b>1. Support Sustainable Communities Strategies through one or more of the following:</b>	
<i>a. Reducing automobile VMT.</i>	Yes
<i>b. Promoting housing development in the vicinity of rail stations and major transit centers.</i>	Yes
<i>c. Increasing the attractiveness of a transit-served area for the location of additional jobs and housing.</i>	Yes
<i>d. Expanding existing rail and public transit systems.</i>	Yes

e. <i>The contribution of the project to the acceleration of later phases of the project or to other rail and transit projects in the region or service area.</i>	Yes
f. <i>Enhancing the connectivity, integration, and coordination of the state's various transit systems, including the California High Speed Rail system.</i>	Yes
g. <i>Implementing clean vehicle technology.</i>	No
h. <i>Promoting active transportation.</i>	Yes
i. <i>Improving public health, with particular emphasis on elements benefiting the most impacted and disadvantaged communities, low-income communities, and/or low-income households.</i>	Yes
j. <i>Air quality impacts of the project not included in the reduction of greenhouse gas emissions, including health benefits from improved regional air quality resulting from the project.</i>	Yes
<b>2. Benefit to disadvantaged communities, low-income communities, and/or low-income households.</b>	Yes
<b>3. The project priorities developed through the collaboration of two or more rail operators and any memoranda of understanding between state agencies (including intercity rail joint powers authorities) and local or regional rail operators.</b>	Yes
<b>4. Geographic equity, with particular attention by applicants in identifying efforts to address underserved communities within an applicant's region or service area.</b>	Yes
<b>5. Consistency with a plan or strategy contained in an adopted Sustainable Communities Strategy, as confirmed by the MPO.</b>	Yes
<b>6. Benefits to freight movement.</b>	Yes
<b>7. Supplemental funding committed to it from non-state sources.</b>	Yes
<b>8. Integration across other modes of transportation.</b>	Yes
<b>9. For expansions of service, the presence and quality of a financial plan that analyzes the financial viability of the proposed service, including the availability of any required operating financial support.</b>	Yes

### Primary Evaluation Criteria

#### 1. Reduce greenhouse gas emissions

Greenhouse gas (GHG) emissions reduction analysis found that *Building UP* reduces GHG emissions by 1,187,672 MTCO<sub>2</sub>e, based on the California Air Resources Board (ARB) Calculator Tool for the California State Transportation Agency Transit and Intercity Rail Capital Program Greenhouse Gas Reduction Fund, Fiscal Year 2018-19. The quantification methodology for these calculations, along with supporting documentation, can be found in Attachment C. The air quality benefits projected are based on a conservative estimate that takes into account only increased ridership from Pacific Surfliner service, not increased Metrolink ridership that will also result from

the capital and operational improvements that *Building UP* will implement between Los Angeles and Metrolink’s northern terminus on the LOSSAN rail corridor in Oxnard.

It should also be noted that new Tier 4 locomotives or cleaner fuel types were not included in the ARB Calculator Tool, but are expected to be in place for all three LOSSAN rail corridor passenger operators by 2023, which would further positively impact GHG emission reductions.

The results of the ARB Calculator Tool are summarized in Table 4 below.

Table 4  
Results of the ARB Calculator Tool for Building UP

Total GHG Emission Reductions (MTCO <sub>2</sub> e)	1,187,672.41
Total GGRF Funds Requested (\$)	\$ 196,639,975
Total GHG Emission Reductions/Total GGRF Funds Requested (MTCO <sub>2</sub> e/\$)	0.006040
TIRCP Funds Requested/TIRCP GHG Emission Reductions (\$/MTCO <sub>2</sub> e)	\$ 165.57
Passenger VMT Reductions(miles)	116,758,655
ROG Emission Reductions (lbs)	46,050
NOx Emission Reductions (lbs)	217,520
PM <sub>2.5</sub> Emission Reductions (lbs)	6,657
Diesel PM Emission Reductions (lbs)	15,658

These direct emissions reductions are supplemented by additional services and facilities provided by the LOSSAN rail corridor’s transit operators, planning agencies and local jurisdictions that were not able to be included in the GHG quantification. These include at-station and onboard bicycle storage on Pacific Surfliner, Metrolink and COASTER trains, the coordinated LOSSAN rail corridor passenger timetable and coordinated schedule changes, and the Pacific Surfliner transit transfer program, which offers seamless transit connections at 40 of 41 LOSSAN rail corridor stations and extends the average trip length by four miles for bus and five miles for light-rail connections.

*Building UP* provides the foundation for further reductions in GHG emissions as additional strategies are implemented including growth of the Pacific Surfliner transit transfer program, additional first- and last-mile improvements, Safe Routes to Transit strategies, land-use policies that encourage housing and development in close proximity to rail stations, and further expansions of the rail network, including connections to future high-speed rail services.

Pursuant to the ARB’s Greenhouse Gas Quantification Methodology for the California State Transportation Agency (CalSTA) TIRCP, information will be provided to CalSTA once a year during project construction and once at the end of the project to update GHG estimates based on project developments.



2. Increase ridership through expanded and improved rail and transit service

Currently, there are more than 8 million riders using LOSSAN rail corridor trains each year, including nearly 3 million on the Pacific Surfliner and more than 5 million on Metrolink and COASTER. *Building UP* will realize ridership increases through improved on-time performance (OTP), reduced travel times, and increased train frequency that is made possible by the additional capacity and operational improvements implemented through this program. Based on the Ridership and Revenue Model prepared by Caltrans and Steer Davies Gleave (SDG), the Pacific Surfliner will experience an increase of approximately 408,400 riders starting in 2022-23 due to the *Building UP* program, a 12.1 percent increase, while passenger miles are expected to increase by nearly 43.2 million, a 14.7 percent increase. This increase of 408,400 riders represents 35.1 million vehicles miles of travel removed from southern California’s freeways and local streets. Further, the model projects that by 2035, the annual increase in riders will be 1,924,700. On average, the LOSSAN rail corridor sees an annual increase in ridership of 2 percent, so by 2053, the increase would accumulate to 2,748,946 new riders annually, representing more than 236.4 million vehicles miles of travel. This is in addition to ridership increases in the corridor from Metrolink commuter trains traveling on the LOSSAN rail corridor, which are accounted for in SCRRA’s SCORE application.

For the purposes of ridership and GHG emissions modeling, the useful life of the individual capacity-building projects included in the *Building UP* program was determined to be 30 years or through 2053 – though many of the infrastructure investments are expected to provide benefits far beyond this time. In addition, a conservative travel time savings for Pacific Surfliner trains of 10 minutes between Los Angeles and Goleta was assumed for ridership modeling purposes, though greater travel time savings will likely result from the projects included in *Building UP*. In particular, projected travel time savings due to upgrade of non-powered switches and installation of CTC is expected to save between five and 10 minutes of travel time per location, but these improvements were not modeled in time to be included in ridership forecasts completed by SDG for this application. The projected ridership increases due to the *Building UP* program, are provided in Table 5 below. Additional documentation on ridership increases is provided in Attachment C.

The Pacific Surfliner’s current average endpoint OTP of 68.7 percent in federal FY 2016-17 would benefit from the additional capacity and other operational improvements included in *Building UP*. Pacific Surfliner OTP is assumed to increase to 90 percent, which together with the current 95+ percent OTP of the commuter rail operators in the corridor, increases the attractiveness of rail travel, which will contribute to fewer vehicle trips on the congested Interstate 5 and Highway 101 corridors. Lastly, ridership gains were also forecast due to increased frequencies resulting from the completion of the projects included in the *Building UP* application by 2023. Two

additional daily Pacific Surfliner trips between Los Angeles and San Luis Obispo could operate utilizing the additional capacity and capitalized operating payments to UPRR included in *Building UP*, in addition to higher-frequency Metrolink commuter rail service planned between Los Angeles and East Ventura. Ridership increases include the planned peak-period Pacific Surfliner service between Ventura and Santa Barbara counties. These assumptions are further documented in Attachment C.

The improvements outlined in the *Building UP* program are in addition to other capital improvements on the LOSSAN rail corridor proposed in SCRRRA’s SCORE application, which represents a collective planning effort including BNSF Railway, the California High Speed Rail Authority, Los Angeles County Metropolitan Transportation Authority, SCRRRA and the LOSSAN Agency. These improvements would complement the projects included in the *Building UP* program and lead to additional service benefits and ridership increases for both Pacific Surfliner and Metrolink services operating on the LOSSAN rail corridor.

**Table 5: ANNUAL RIDERSHIP FORECAST SUMMARY**

Year	Baseline	Forecast	Incremental Increase
2022-23	3,380,500	3,788,900	408,400
2035	4,272,900	6,197,600	1,924,700
2053	6,102,753	8,851,699	2,748,946

*2022-23 and 2035 Forecasts based on the Caltrans Ridership and Revenue Model (January 2018).*

*2053 Forecast is based on an annual increase of 2% after 2035*

**3. Integrate the services of the state’s various rail and transit operations**

Moving forward, the LOSSAN Agency will continue to participate in efforts led by CalSTA to develop an integrated statewide network of rail services as outlined in the 2018 California State Rail Plan. At the regional corridor level, the LOSSAN Agency will continue to lead efforts in partnership with individual member agencies to implement improvements along the entire corridor that facilitate new and improved passenger and freight rail services and continue to plan for integration with future high-speed passenger service, intercity service on emerging corridors, and continued coordination with the LOSSAN rail corridor’s commuter rail and local transit services to create a seamless network for riders.

Through completion of annual updates to the *LOSSAN Agency Business Plan*, the LOSSAN Agency will work cooperatively with CalSTA to ensure sufficient state funding is provided to operate the existing level of Pacific Surfliner and Amtrak Thruway bus service on the LOSSAN rail corridor, while also exploring opportunities to enhance ridership and revenue, and to increase service as called for in *Building UP*. The LOSSAN Agency recently reinstated a 12th daily Pacific Surfliner

roundtrip between Los Angeles and San Diego, the first Pacific Surfliner service increase in more than a decade, and implemented other near-term, cost-effective opportunities to increase Pacific Surfliner ridership and ticket revenue corridorwide, including an expansion of business class capacity.

The improvements outlined in the *Building UP* program have been coordinated with the additional capital improvements on the LOSSAN rail corridor included in SCRRRA's SCORE application, through close coordination between both agencies.

The Pacific Surfliner will play a key role in the larger CalSTA statewide effort of integrating the three state-supported intercity passenger rail services with the high-speed train (HST) system as outlined in the 2016 business plan, *Connecting and Transforming California*. Along with the future HST network, the passenger rail services along the LOSSAN rail corridor serve as a backbone for transportation throughout the California coastal region. As such, the LOSSAN rail corridor will provide critical connections and feeder/distributor service to support and compliment the HST system.

In addition to administering the existing Pacific Surfliner rail service, the LOSSAN Agency will continue to work with member agencies to study and pursue corridor enhancements and expansion opportunities on emerging corridors that provide connectivity within southern California and beyond. Specifically, the LOSSAN Agency expects to work with its members agencies to focus on connectivity to serve commuter markets between Ventura and Santa Barbara, the reinstatement of Coast Daylight service from Los Angeles to San Francisco and development of new intercity service to the Inland Empire and Coachella Valley. These connections will provide seamless travel opportunities by rail or bus throughout the region and state. Enhanced and emerging corridor rail service and system improvements will contribute to the success of the LOSSAN rail corridor, support future statewide HST service, and provide connectivity with local transit systems.

#### 4. Improve safety

Safety-related incidents along the railroad right-of-way (ROW) include injuries and fatalities associated with incidents at grade crossings and trespassing on railroad property. Rail service along the LOSSAN rail corridor dates back to the 1880s, with several railway bridges built of timber trestles in the early third of the 20<sup>th</sup> Century which are not designed with the modern approach to seismic design. The design and construction of all new structures included in *Building UP* will meet the current seismic design requirements. The *Building UP* program also includes a number of safety improvements designed to prevent pedestrian injuries and fatalities at stations, including the Camarillo and Carpinteria stations. The Camarillo Station underpass project will construction a pedestrian underpass to replace the existing overpass, which requires pedestrians to walk a long distance to cross the tracks. The new underpass will create a safer and more convenient grade-separated path between the two passenger platforms at the

Camarillo station, one of which is not routinely used due to the poor pedestrian access between platforms.

The Carpinteria station second platform project will construct an additional platform at the station as well as a new pedestrian underpass, eliminating potential conflicts between trains and pedestrians crossing the tracks at grade. This project would also serve as a Safe Route to School and allow local residents to safely access a local elementary school, as many children reside in apartments near the station and inappropriately walk over the tracks at unprotected crossings and use the train trestle as they travel to and from school.

All grade crossing improvements/modifications as part of this program will be approved by the implementing agency, the rail operator, the city (when applicable), and the California Public Utilities Commission (CPUC) via CPUC Form GO 88-B. Existing crossings will be modified to comply with current industry standards, requirements, and best practices. The changes will improve the overall safety of the crossings for the trains, cars, people biking and people walking.

New signal systems and/or signal modifications are included in each infrastructure project in *Building UP* including track alignment changes and re-location of control points to allow for proper train control.

UPRR carries a number of commodities throughout the LOSSAN North rail corridor. This program of projects increases the capacity of the corridor, which in turn can lead to additional freight rail service. Reducing the number of trucks carrying energy products on the freeway will reduce the risk of accidents and spills which could have devastating effects on the local and regional economy as well as the natural environment.

Track and signal upgrades, station and layover facility improvements, and other project elements in this application will also enhance the corridor's state of good repair.

## Secondary Evaluation Criteria

### 1. Co-benefits that support of implementation of sustainable communities strategies

*Building UP* provides the following co-benefits to implementing sustainable communities strategies in southern California:

#### *Reducing vehicle miles traveled from autos*

*Building UP* seeks to prioritize the movement of people and not cars by implementing improvements that will improve transportation choices. Much of the LOSSAN rail corridor remains a single-track facility that must be shared by its many users. The rail component of the program will increase capacity and decrease conflicts, resulting in improved connections, better reliability, and shortened travel times, all of which have the potential to attract more riders. By 2053, the increase would accumulate to 2,748,946 new riders annually, representing more than

236.4 million vehicle miles of travel between San Luis Obispo to San Diego that would be saved annually.

*Promoting housing development near rail stations*

Throughout the LOSSAN rail corridor, transit oriented development projects, many with affordable housing components, have clustered around stations and there are plans for additional development. By 2030, the LOSSAN rail corridor will be home to more than 21 million residents, an increase of nearly 5 million since 2000, pointing to the need for a wide variety of housing choices, more affordability, more accessible public transportation services, more walkability, and a greater mix of land uses. Agencies including SANDAG and SCAG, and corridor cities, are improving connections between land use and transportation using Smart Growth principles to maximize the role of public transportation in addressing regional mobility needs. Rail stations serve as central activity centers that are integrated into communities. The additional frequencies, improved travel time and enhanced reliability of passenger rail service gained from this program will increase the attractiveness of new housing developments near rail stations. Examples of improved transit/land use integration and improved multimodal connections include:

- Santa Barbara, California has a successful program, Santa Barbara Car Free, encouraging alternative means to get to and from the intercity rail station including walking, biking, and a local electric transit shuttle.
- The Simi Valley Station has a large apartment complex located adjacent to the station that offers direct access to the station.
- Los Angeles Union Station is the intermodal transportation center for the Los Angeles area and includes direct connections between airport FlyAway bus, local and commuter bus, Amtrak intercity and long distance trains, Metrolink commuter rail, Metro subway and light rail, and future high speed rail services. Each day, nearly 400 trains depart Union Station and contribute to more than 60,000 riders using the station daily.
- The Anaheim Regional Transportation Intermodal Center (ARTIC) provides direct connections between existing intercity and commuter and local transit services, including long-distance and international bus services, a shuttle to the Disneyland Resort, and future high-speed rail services.
- NCTD has developed a mixed use, high density master plan for the Carlsbad Village Station and the Oceanside Transit Center, the latter of which is a major transfer point between intercity, commuter, and light rail services and local bus, within walking distance to the City of Oceanside's proposed smart growth town center.
- Downtown San Diego is the San Diego region's administrative, legal, government, business, entertainment, and cultural center, with the largest centralized, high-density housing in the region. The Centre City Community Plan contains designated land uses that will allow people to live and work near transit in pedestrian-friendly neighborhoods. There are currently more

than 1,000 residential units adjacent to the station, with another 1,000 under construction or planned.

- SANDAG has worked collaboratively with the 18 cities and County of San Diego to identify existing and potential Smart Growth areas. All rail stations along the corridor have been identified for increased densities, a mix of land uses, and other smart growth attributes designed to encourage alternative modes of travel include rail.
- A number of stations in San Diego, Orange, Los Angeles and Ventura counties have newer high-density housing developments within walking or biking distance of the train station, including Simi Valley, Los Angeles, Fullerton, Buena Park, Anaheim, Orange, Santa Ana, Tustin, Carlsbad-Poinsettia, Carlsbad-Village, Encinitas, Oceanside and San Diego – Santa Fe Depot.

*Increasing the attractiveness of transit-served area for the location of additional jobs and housing*

A primary goal of joint planning efforts by LOSSAN member agencies and local cities has been to implement land uses that promote environmental sustainability and foster efficient development patterns that are more walkable, transit-oriented, and compact. For example, the communities surrounding the eight COASTER stations between Oceanside and San Diego have all been identified by SANDAG as Smart Growth Opportunity Areas, where intensified development with a mix of uses and walkable, transit-oriented communities are planned. Affordable housing will be integrated into these Smart Growth areas in an effort to ensure that San Diegans have an opportunity to live close to transit and have access to jobs. *Building UP* will increase connectivity and access to key employment and activity centers that can provide a catalyst to spur Smart Growth development at all LOSSAN rail corridor stations, transforming bedroom suburbs into thriving communities with a diverse range of housing, jobs, shopping, recreation, and people. As noted above, many rail stations along the LOSSAN rail corridor already have high-density housing located within easy walking or biking distance.

*Expanding existing rail and public transit systems*

*Building UP* creates capacity to add both intercity and commuter rail services in the LOSSAN corridor. By 2023, two additional Pacific Surfliner trips will be possible between Los Angeles and San Luis Obispo, as well as higher-frequency Metrolink service between Los Angeles and East Ventura. Currently, 40 of 41 stations in the corridor offers connecting transit services, and together with the continuation of the Pacific Surfliner transit transfer program, planned to be funded through the annual operating budget, will improve connectivity and transit ridership as passenger rail service increases on the corridor.

*Acceleration of later phases*

*Building UP* has been organized to provide both immediate and long-term benefits to the LOSSAN rail corridor and its users. The projects included in this application will allow for near-term service increases and improvements to travel time and reliability while also paving the way for additional capital projects that can be funded through future TIRCP rounds and allow further service expansion in the future.

*Enhanced connectivity, integration, coordination*

*Building UP* plays a major role in larger efforts among rail and transit agencies in southern California, working in conjunction with CalSTA, to enhance connectivity and better integrate passenger rail and transit services, which will have positive benefits on ridership by continuing network integration efforts.

*Implementing clean vehicle technology*

While *Building UP* does not specifically fund new clean vehicle technology, Caltrans has funded the purchase of 15 new Siemens Charger diesel-electric locomotives for the Pacific Surfliner service which meet the U.S. Environmental Protection Agency's Tier 4 emission standards and will replace the current fleet of Amtrak-owned Tier 0+ F59PHI locomotives. Pacific Surfliner trains operating on the LOSSAN rail corridor will use these new, cleaner locomotives. Metrolink has also purchased 40 new EMD F125 Tier 4 locomotives, which will supplement its fleet of Tier 2 locomotives and further help to reduce emissions from passenger rail services operating on the LOSSAN rail corridor. NCTD has also requested 2018 TIRCP funding to purchase seven new Tier 4 locomotives to be used on COASTER service.

*Promoting active transportation*

Currently, eight of the 12 rail stations served by Amtrak between Los Angeles and San Diego are located within walking or biking distance of high-density housing. All San Diego stations also are within walking or biking distance of central business districts, major employment areas, or major retail centers. Train stations in Los Angeles, Buena Park, Fullerton, Orange, Tustin, Simi Valley and Santa Ana all have housing adjacent to the station or within walking distance. In addition, most train stations offer bike lockers or bike stations for the secure storage of bicycles used to travel to and from the station. The ARTIC station was built adjacent to the Santa Ana River bike trail, offering easy access to cyclists throughout the region.

*Improving public health*

The *Building UP* program will help to improve public health by operating passenger trains with clean-burning Tier 4 locomotives and helping to reduce traffic congestion and resultant GHG emissions. One Pacific Surfliner train can carry up to 500 passengers, while Metrolink trains can

carry nearly 700 passengers, and most passengers using these services are *not* transit dependent, resulting in a significant decrease in VMT.

*Other air quality impacts other than GHG reduction*

According to the California Office of Environmental Health Hazard Assessment, pollution burdens are particularly high along several portions of the LOSSAN rail corridor. The traffic and diesel burdens for many of the Disadvantaged Communities served by *Building UP* score in the 80<sup>th</sup> and 90<sup>th</sup> percentiles. The increased accessibility of transit and intercity rail services, combined with improved travel times and additional train trips, will make rail travel a more viable and convenient option to residents of these communities throughout the corridor, thereby encouraging mode shift and reducing pollution in the project area.

**2. Benefit to disadvantaged communities, low income communities and/or households**

The *Building UP* program provides direct, meaningful, and assured benefits to 972 state-designated disadvantaged communities (DACs) with direct access to intercity and/or commuter rail service along the 351-mile LOSSAN rail corridor, specifically in the counties of Ventura, Los Angeles, Orange and San Diego. Pursuant to the Transit Project criteria listed in Attachment 1 of the TIRCP Guidelines, the *Building UP* project will provide improved intercity rail service for stations or stops in a disadvantaged community.

The eight DACs directly served by the *Building UP* project are summarized by county in Table 6. For a detailed list of the DACs served within each county, as well as a map of DACs in relation to the Project Area, see Attachment D.

<b>Table 6 DISADVANTAGED/LOW-INCOME COMMUNITIES DIRECTLY SERVED BY <i>BUILDING UP</i></b>		
<b>County</b>	<b>DAC</b>	<b>Low Income</b>
Ventura	8	97
Santa Barbara	0	35
San Luis Obispo	0	8
<b>Total</b>	8	140
<b>Total LOSSAN Corridor</b>	972	1903

In addition to the DACs directly served by the project, the free transit connections provided by the Pacific Surfliner Transit Transfer Program— a project funded under a previous cycle of the



TIRCP program—will extend the benefits of *Building UP* to residents in additional disadvantaged and low-income communities

To help ensure diverse and direct input into the various regional transportation planning processes that underlie the *Building UP* project, LOSSAN member agencies partner with Community-Based Organizations (CBOs) to engage and encourage inclusive and active public participation from stakeholders in specific communities who traditionally may not be involved in regional planning processes (e.g., low-income, seniors, minorities, persons with disabilities, and other identified populations). Each of the CBOs conduct outreach using strategies and techniques they developed, and which they felt were most effective in reaching out to residents and stakeholders in the communities they serve.

The improved frequency, reliability, and travel time of intercity and commuter rail services that result from *Building UP* will directly and meaningfully address these community-identified needs.

In addition, according to the California Office of Environmental Health Hazard Assessment, pollution burdens are particularly high along several portions of the LOSSAN rail corridor. The traffic and diesel burdens for many of the Disadvantaged Communities served by *Building UP* score in the 80<sup>th</sup> and 90<sup>th</sup> percentiles. The increased accessibility of transit and intercity rail services, combined with improved travel times and additional train trips, will make rail travel a more viable and convenient option to residents of these communities throughout the corridor, thereby encouraging mode shift and reducing pollution in the project area.

There is a clear need for increased and enhanced transit options in the project area that provide affordable alternatives to driving with improved accessibility to key employment, educational and activity centers along the LOSSAN rail corridor. Workers in service industry jobs, military, part-time jobs, or students, will be able to rely on Pacific Surfliner and Metrolink trains to get to work or school. Access to reliable transit options will be expanded to allow residents from more populous lower income regions to travel throughout Southern California.

In addition to commuter rail service, the Pacific Surfliner plays another key role in transporting people throughout Southern California. During peak periods, compared to driving, the Pacific Surfliner provides faster and more reliable travel times between San Diego, Orange County, Los Angeles, Ventura, Santa Barbara and San Luis Obispo counties and provides a transportation option for long-distance commuters who access jobs between regions. These interregional commuter markets are not served by existing commuter rail service and these passengers would be forced to drive well over an hour on the congested I-5 and US-101 corridors to make this commute without the Pacific Surfliner. *Building UP* will in part allow for additional Pacific Surfliner service that will increase options for interregional and long distance commutes.

Finally, in cases where US-101 and the railroad tracks are closed due to natural disasters such as the mud slides of January 2018, the Pacific Surfliner is the only available ground transportation route from the south into Santa Barbara. Individual components of *Building UP* such as expanding the Goleta Layover will make that lifeline service more efficient by avoiding the need to dead-head trains from Los Angeles and allowing service to resume more quickly after a disruption.

### 3. Priorities developed through collaboration

*Building UP* represents a collaborative, multiagency effort to implement key improvements in multiple locations along the LOSSAN rail corridor. The LOSSAN Agency is a joint powers authority (JPA) composed of rail owners, operators and regional planning agencies along the entire LOSSAN rail corridor. Member agencies formed the JPA in 1989 around a common purpose to improve passenger rail ridership, revenue, on-time performance, operational flexibility, and safety, which is still the priority today.

This application is supported by the LOSSAN Board of Directors as well as all host railroads and operators along the LOSSAN rail corridor (Attachment B). The program of projects contained in the application is consistent with the *LOSSAN Corridorwide Strategic Implementation Plan*, which was approved unanimously by all LOSSAN member agencies, as well as with the *2018 California State Rail Plan* and *2013 Pacific Surfliner North Service Development Plan* and the FY 2016-17 and 2017-18 LOSSAN Agency Business Plan. Any improvements to commuter and intercity rail service along the LOSSAN rail corridor will provide additional benefits to connecting transit services through the Pacific Surfliner Transit Transfer Program, which received a \$1.675 million TIRCP grant in 2015 and is planned to continue using annual operating funds through the Public Transportation Account.

The LOSSAN Agency has developed the *Building UP* program in close coordination with all rail operators and host railroads along the LOSSAN rail corridor. Additional capital improvements on the LOSSAN rail corridor were included in SCRRA's SCORE application in a collaborative effort between the LOSSAN Agency and SCRRA.

Attachment B contains a number of letters of support for *Building UP* representing a cross section of elected officials and agencies supporting the implementation of these improvements.

### 4. Geographic equity

The State of California has a long history of investment in intercity rail, both from an operations and capital improvement standpoint. At the corridor-wide level, this application represents a balanced improvement plan along the entire corridor, requesting funds for construction in Ventura, Santa Barbara and San Luis Obispo counties, while a second LOSSAN Agency application, *All Aboard 2018*, requests funds for improvements in San Diego County. SCRRA's SCORE application includes additional capital improvements on the section of the LOSSAN rail corridor that it dispatches in Orange, Los Angeles and Ventura counties.

Section 2 (Benefit to disadvantaged communities) above describes the extensive reach this project has in relation to the 972 state-designated disadvantaged and 1903 low-income communities across the corridor, providing access to increased rail and transit options from San Luis Obispo to the U.S.-Mexico border.

#### 5. Consistency with an adopted Sustainable Communities Strategy

The four Metropolitan Planning Organizations/Regional Transportation Planning Agencies (MPOs/RTPAs) that represent the LOSSAN rail corridor have documented that *Building UP* is consistent with their respective Regional Transportation Plans/Sustainable Community Strategies (RTP/SCSs) (Attachment A). Specifically, this program will support planned mixed-use and high-density residential development near existing rail and high-frequency rail and transit service.

Projects will provide additional track capacity and other railway benefits that will facilitate an expansion of train service to these areas and reduce VMT. Local connections are also improved in these long-range plans at LOSSAN rail corridor stations in order to provide first- and last-mile services. Long-term service plans, consistent with the respective RTPs/SCSs, *LOSSAN Corridorwide Strategic Implementation Plan*, and *2018 California State Rail Plan*, call for hourly, pulse-based intercity service between San Diego and Los Angeles and increases in commuter rail services.

For the projects along the San Diego Subdivision for example, the SCS land use pattern is based upon the Regional Smart Growth Opportunity Area Map, which identifies areas within the region where growth is projected near existing and planned public transit. A majority of the rail stations along the LOSSAN rail corridor are identified as smart growth opportunity areas. Each of the three shared intercity/commuter rail stations (Oceanside, Solana Beach, and San Diego) is planned as a smart growth opportunity area. The RTP/SCS for the San Diego region also makes significant investments in Active Transportation, completing a network of regional bikeways, complemented by local bike lanes and routes implemented by the local jurisdictions. These improvements will also have positive impacts on the environment and public health.

*Building UP* includes regionally- and nationally-significant projects, which will be the catalyst for additional intercity and commuter passenger service on the nation's second busiest intercity passenger rail corridor, as well as for expanded freight rail service for southern California and points north and east.

#### 6. Benefits to freight movement

In addition to the key role the LOSSAN rail corridor plays in terms of passenger rail service in the nation, it is a critical component of the nation's multi-modal goods movement network. As many as 80 BNSF Railway and UPRR freight trains traverse portions of the corridor on a daily basis—transporting goods from major seaports in San Diego, Long Beach, Los Angeles, and Port Hueneme to destinations throughout the country. According to Caltrans, the ports of Los Angeles and Long Beach comprise the largest port complex in the United States, handling one-fourth of all container cargo traffic in the United States. The volume of goods, as well as number of freight trains transporting them, is expected

to grow considerably over the next several decades which necessitates the infrastructure and timetable improvements proposed by *Building UP*.

The existing train schedule on the LOSSAN rail corridor focuses passenger service during the morning and evening peak periods allowing for freight service to operate during the mid-day and at night. However, as mid-day passenger service increases to accommodate growing ridership demand, the option of running mid-day freight trains becomes problematic as passenger services running at up to 90 miles per hour (mph) will be stuck behind freight trains operating at 55 mph.

Collectively, the projects included in *Building UP* will improve operating speeds, reduce the prevalence of passenger, commuter and freight train interference, and enhance safety by eliminating train meets in specific locations along the corridor. These capacity and efficiency improvements allow for additional train frequencies that support goods movement by rail which is a lower-impact means of goods movement than investing in additional lanes on freeways that parallel the rail corridor.

#### 7. Supplemental funding

The \$196.639 million TIRCP investment represents 97.5 percent of the overall *Building UP* project cost and will enable the leveraging of an additional \$5.028 million in other state and local transportation dollars for the Southern California region (Table 1).

#### 8. Integration across other modes of transportation

The Pacific Surfliner intercity passenger rail service, and COASTER and Metrolink commuter rail services operating on the LOSSAN rail corridor are closely integrated with connecting transit services at 40 of the 41 stations along the corridor, including convenient connections to bus transit, bus rapid transit, light-rail transit and subway routes (Table 7). At many stations, dedicated bus transit service is provided to meet passenger trains, particularly during peak commute hours, and transports passengers to/from major employment and activity centers. Existing transit transfer programs allow many intercity and commuter rail passengers a free and seamless transfer to connecting transit service simply by presenting their rail ticket or pass.

The LOSSAN rail corridor also provides connectivity to four of the southern California region's largest airports. Hollywood/Burbank Airport sits directly adjacent to the LOSSAN rail corridor and is served by 10 daily Pacific Surfliner intercity trains and 31 weekday Metrolink commuter trains. In addition, convenient transit connections are provided from rail stations on the LOSSAN corridor to San Diego International Airport, Orange County/John Wayne Airport, and Los Angeles International Airport. The Santa Fe Depot in San Diego is walking distance to ferry service to Coronado Island, and is directly served by the San Diego Metropolitan Transit System's Orange and Green Line trolley services and is within easy walking distance to the Blue Line trolley, which provide service the San Diego Convention Center, San Diego State University, and the international border with Mexico at San Ysidro.

Los Angeles Union Station serves as a hub for transit connections from Metrolink and Pacific Surfliner services to a number of light-rail and subway lines extending throughout the greater Los Angeles

region. The Oceanside Transit Center offers convenient connections to Breeze bus service and the Sprinter light-rail system, which extend transit service throughout north San Diego County.

A number of stations along the LOSSAN rail corridor provide on-site connections to privately-operated long-distance and international bus services, as well as Amtrak Thruway bus service connecting with the San Joaquin and Capitol Corridor intercity passenger rail routes. The passenger rail service on the LOSSAN rail corridor is also integrated with Amtrak’s long-distance trains through connections at major stations like Los Angeles, Santa Barbara and San Luis Obispo, allowing intrastate trips to the Bay Area and northern California, and interstate trips to Portland/Seattle, Albuquerque/Chicago, Dallas/New Orleans, and beyond, using a single ticket.

**Table 7: TRANSIT CONNECTIONS AT LOSSAN CORRIDOR STATIONS**

STATION	TRANSIT CONNECTIONS	OPERATOR
Anaheim	Bus	OCTA, ART
Buena Park	Bus	OCTA
Burbank-Bob Hope Airport	Bus	Metro
Camarillo	Bus	VISTA
Carlsbad Poinsettia	Bus	NCTD
Carlsbad Village	Bus	NCTD
Carpinteria	Bus	SBMTD
Chatsworth	Bus,  Bus Rapid Transit	Metro, Santa Clarita Transit, Simi Valley Transit
Commerce	Bus	Commerce Bus
Downtown Burbank	Bus	Burbank Bus, Glendale Beeline, Metro
East Ventura	<sup>1</sup> Bus	Gold Coast Transit
Encinitas	Bus	NCTD
Fullerton	Bus	OCTA
Glendale	Bus	Glendale Beeline, Metro
Goleta	<sup>1</sup> Bus	SBMTD
Grover Beach	Bus	SCAT
Guadalupe-Santa Maria	<sup>2</sup> Bus	SMOOTH Inc.
Irvine	Bus	OCTA, Irvine Shuttle
Laguna Niguel/Mission Viejo	Bus	OCTA
Lompoc-Surf		
Los Angeles Union Station	Bus,  LAX Flyaway,  Light Rail Transit,  Subway	AVTA, Foothill Transit, IADOT, LAWA, Metro, Santa Clarita Transit, Santa Monica Big Blue Bus, Torrance Transit
Moorpark	Bus	VISTA
Northridge	Bus	IADOT, Metro
Norwalk/Santa Fe Springs	Bus	Norwalk Transit
Oceanside	Bus,  Light Rail Transit	NCTD, RTA
Orange	Bus	OCTA
Oxnard	Bus	Gold Coast Transit, VISTA
San Clemente North Beach	Bus	OCTA
San Clemente Pier	Bus	OCTA
San Diego-Old Town	Bus,  Light Rail Transit	MTS
San Diego-Santa Fe Depot	Bus,  Light Rail Transit,  Bus Rapid Transit	MTS
San Juan Capistrano	Bus	OCTA
San Luis Obispo	Bus	SLO Transit
Santa Ana	Bus	OCTA
Santa Barbara	Bus	SBMTD
Simi Valley	Bus	Simi Valley Transit
Solana Beach	Bus	NCTD
Sorrento Valley	Bus	MTS
Tustin	Bus	OCTA, Irvine Shuttle
Van Nuys	Bus	IADOT, Metro
Ventura	<sup>1</sup> Bus	Gold Coast Transit

Bus   Bus Rapid Transit   LAX Flyaway   Light Rail Transit   Subway

<sup>1</sup> Transit is within walking distance to the train station.   <sup>2</sup> On demand transit service. Call transit operator for service.

9. Service expansion financial plan

*Building UP* increases the capacity of the LOSSAN rail corridor for additional passenger and freight rail services in the future. There are programs and opportunities for recurring operations funding for these services. For example, additional state-supported intercity rail service can be included in the LOSSAN Agency’s annual business plan and a request for an additional allocation for these new services can be requested from the State. Four of the six counties along the LOSSAN corridor are self-help counties and as such, maintain local transportation sales tax programs. For example, SANDAG administers the *TransNet* program, funded through a half cent retail sales tax. Eligible recipients of these funds include commuter rail services, including peak and off-peak service increases.

Impact on Other Projects Planned or Underway Within the Corridor

*Building UP* projects are closely related and therefore are being closely coordinated with these other planned projects:

- 2016 TIRCP Award:** The LOSSAN Rail Corridor Agency was awarded \$82 million in 2016 TIRCP funds that includes \$66 million to advance work on a number of high-priority capital improvements, including more than five miles of additional double track, replacement of five railway bridges, station and safety enhancements, and signal and switch upgrades. It also included \$15 million for a five-year capitalized lease of new Talgo passenger rail cars to meet growing travel demand, and \$1 million for planning studies to improve coordination between all trains operating in the LOSSAN rail corridor.

2016 TIRCP  
All Aboard: Transforming Southern California Rail Travel

Project	County	Proposed Funding (\$000s)
Elvira to Morena Double Track	San Diego	\$ 47,000
Laguna Niguel to San Juan Capistrano Passing Siding	Orange	\$ 3,000
San Diego River Bridge Double Track	San Diego	\$ 11,500
Carlsbad Poinsettia Station Improvements	San Diego	\$ 4,500
LOSSAN North Robust Timetable	All	\$ 500
LOSSAN Corridor Network Integration and Strategic Investment Study	All	\$ 500
Talgo Rail Equipment	All	\$ 15,000
TOTAL		\$ 82,000

*Building UP: LOSSAN North Improvement Program*

- 2018 Interregional Transportation Improvement Program (ITIP):** Pending approval of the California Transportation Commission in March 2018, the following high priority projects are proposed for funding in the 2018 ITIP. These projects complement *Building UP* and will further enhance Pacific Surfliner, Coaster and Metrolink rail services by reducing travel time, improving reliability, and allowing increased frequency.

2018 ITIP

Project	County	Proposed Funding (\$000s)
Raymer to Bernson Double Track Project	Los Angeles	\$ 60,820
Laguna Niguel to San Juan Capistrano Passing Siding	Orange	\$ 3,000
Del Mar Bluffs Stabilization Project 4	San Diego	\$ 2,000
Capitalized Maintenance for the Capitol, San Joaquin, Pacific Surfliner	All	\$ 16,000
Roscrans/Marquardt Grade Separation Project	Los Angeles	\$ 7,000
San Onofre to Pulgas Phase 2	San Diego	\$ 30,040
Central Coast Layover Facility	San Luis Obispo	\$ 12,500
<b>TOTAL</b>		<b>\$ 131,360</b>

- All Aboard 2018: Transforming Southern California Rail Travel:** The LOSSAN Rail Corridor Agency is also applying for \$497.6 million in TIRCP funding for a variety of capital improvements in the LOSSAN rail corridor in San Diego County. These projects complement *Building UP* and will further enhance Pacific Surfliner, COASTER and Metrolink rail services by reducing travel time, improving reliability, and allowing increased frequency.

2018 TIRCP

All Aboard 2018: Transforming Southern California Rail Travel

Project	County	Project Cost (\$000s)	Proposed TIRCP (\$000s)
Batiquitos Lagoon Double Track	San Diego	\$75,300	\$44,400
Sorrento to Miramar Phase 2 Double Track	San Diego	\$129,037	\$104,900
San Dieguito Lagoon Double Track and Platform Construction	San Diego	\$200,000	\$183,500
North San Diego County Fencing Project	San Diego	\$1,300	\$1,300
San Diego Maintenance/Layover Facility	San Diego	\$300	\$300
Signal Respacing and Optimization Project	San Diego	\$17,900	\$15,900
OTP Incentive Program	San Diego	\$20,700	\$20,700
San Onofre Bridge Replacement and Turnouts	San Diego	\$47,000	\$47,000
Eastbrook to Shell Double Track	San Diego	\$82,800	\$71,900
Carlsbad Village Trenching	San Diego	\$10,000	\$10,000
Station Wayfinding Signage	Multiple	\$700	\$700
<b>TOTAL</b>		<b>\$ 585,037</b>	<b>\$ 500,600</b>

- SCRRA SCORE Program:** The Southern California Regional Rail Authority, operator of Metrolink commuter rail service, is requesting \$4.4 billion in TIRCP funding for a variety of capital improvements along the segment of the LOSSAN rail corridor that it dispatches in Orange, Los Angeles and Ventura counties. These projects will further enhance Pacific Surfliner and Metrolink rail services by reducing travel time, improving reliability, and allowing increased frequency.

## F. Benefit to disadvantaged communities, low income communities and or households

The *Building UP* project provides direct, meaningful, and assured benefits to 972 state-designated disadvantaged communities (DACs) and 1903 low income communities with direct access to intercity and/or commuter rail service along the 351-mile LOSSAN rail corridor, specifically in the counties of Ventura, Los Angeles, Orange, and San Diego. Pursuant to the Transit Project criteria listed in Attachment 1 of the TIRCP Guidelines, the *Building UP* project will provide improved intercity rail service for stations or stops in a disadvantaged community.

The eight DACs directly served by the *Building UP* project are summarized by county in Table 8. For a detailed list of the DACs and low-income communities served within each county, as well as a map of these areas in relation to the project area, see Attachment D.

<b>Table 8 DISADVANTAGED/LOW INCOME COMMUNITIES DIRECTLY SERVED BY <i>BUILDING UP</i></b>		
<b>County</b>	<b>DAC</b>	<b>Low Income</b>
Ventura	8	97
Santa Barbara	0	35
San Luis Obispo	0	8
<b>Total served directly</b>	8	140
<b>Total LOSSAN Corridor</b>	972	1903

In addition to the DACs and low-income communities directly served by the project, the free transit connections provided by the Pacific Surfliner Transit Transfer Program— a project funded under a previous cycle of the TIRCP program—will extend the benefits of *Building UP* to residents in additional census tracts.



The improved frequency, reliability, and travel time of intercity and commuter rail services that result from *Building UP* will directly and meaningfully address community-identified needs.

In addition, according to the California Office of Environmental Health Hazard Assessment, pollution burdens are particularly high along several portions of the LOSSAN rail corridor. The traffic and diesel burdens for many of the Disadvantaged Communities served by *Building UP* score in the 80<sup>th</sup> and 90<sup>th</sup> percentiles. The increased accessibility of transit and intercity rail services, combined with improved travel times and additional train trips, will make rail travel a more viable and convenient option to residents of these communities throughout the corridor, thereby encouraging mode shift and reducing pollution in the project area.

There is a clear need for increased and enhanced transit options in the project area that provide affordable alternatives to driving with improved accessibility to key employment, educational and activity centers along the LOSSAN rail corridor. Workers in service industry jobs, military, part-time jobs, or students, will be able to rely on COASTER and Metrolink trains to get to work or school. Access to reliable transit options will be expanded to allow residents from more populous lower income regions to travel throughout Southern California.

## **G. Project Implementation and Project Management Arrangements**

Project management will be the responsibility of the specific implementing agency. The LOSSAN Rail Corridor Agency is the implementing agency for the Access Fees paid to UPRR, the City of Camarillo will implement the Camarillo Station project, Amtrak will implement the Goleta Layover project and UPRR will be the implementing agency for the remaining projects. As with other construction projects in the LOSSAN rail corridor, construction methods will be used that minimize the impact to operations.

### **Project Contracting**

Two primary contracting methods will be used. First, project construction will be implemented with the traditional design/bid/build project delivery method (D-B-B). The City of Camarillo and Amtrak will competitively solicit bidders to secure services of construction contractors in conformance with applicable federal, state, and local laws and regulations. Second, Union Pacific Railroad will use their own forces or qualified contractors to construct the remaining projects.

All team members will be familiar with required safety requirements for working near the rails. Construction work within the railroad corridor will require a Right of Entry permit issued by the specific railroad owner and workers will have to complete Roadway Worker Protection Training. Particular attention shall be given to the role and responsibility of the assigned Employee-In-Charge (EIC). No field work can be performed without the EIC's approval. Safety, as well as minimizing impacts to rail services during construction, will also be facilitated by construction restrictions specified in contract documents identifying the number and timing of Absolute Work Windows and allowable construction work to be performed with railroad flaggers.

### **Contract Oversight**

The implementing agency Project Manager (PM) has primary responsibility and control over project management and oversight of project deliverables. For each contract, PMs and Contract Managers (CM) will ensure that all federal or special regulations are adhered to; review progress reports and interim products for compliance with contract objectives and timeframes; maintain constant status of contracts' available encumbrances balances by keeping a running total of charges and cost for each contract on a spreadsheet; review encumbrance information in contracts to ensure all figures are correct and the encumbrance is sufficient for the current fiscal year, and provide necessary documentation as requested. The CM will provide notification if problems occur and must ensure that work proceeds on schedule and is completed and accepted before contracts expire and services are paid.

The PM also directs the activities of the project Design Consultant (DC) and is responsible for coordinating the reviews of the design and eventual construction bid documents internally within the Implementing Agency. The Program/Project Management Support Consultant (PMSC) assists the PM in managing, controlling and reporting on the project delivery progress. The PM is responsible for coordination with the Construction Management Team. The CM will coordinate the procurement of a Construction Management Consultant Team for the project and direct the activities of the consultant team.

### **Change-Order Management**

The overall control of project scope is the responsibility of the PM. The CM Team is responsible for project construction control, including tracking all construction changes on drawings and preparing the final As-Built plans. The Implementing Agency or Railroad Owner's maintenance-of-way contractor performs all final track and signal inspections to approve all track work prior to in-service acceptance. The approval for all track work follows the guidelines established by FRA CFR Part 213.

### **Risk Management**

The PM, with the assistance of the PMSC, will oversee, manage, and control the budget, scope and schedule in accordance with the procedures outlined in the relevant manuals and board policies of the Implementing Agency. During construction, the CM in collaboration with the Construction Coordinator and the PM will ensure the CMT oversees budget, scope and schedule in accordance with approved Construction Management guidelines. The Implementing Agencies have formal risk management practices in place including identification, response strategies, monitoring and control. Since risks change or arise as the project progresses, the risk management plan will be continually managed and re-evaluated throughout the project.

## H. Project Readiness and Reasonability of the Schedule for Project Implementation

A complete list of *Building UP's* programmed projects is included in Table 9; demonstrating both completed and planned environmental and design milestone dates (when applicable).

<b>Table 9 PROJECT ENVIRONMENTAL &amp; DESIGN MILESTONES DEMONSTRATING READINESS FOR IMPLEMENTATION</b>		
<b>Project</b>	<b>Environmental Document Approval Date</b>	<b>Design Schedule</b>
Union Pacific Capitalized Track Access and Performance Incentives	NA	NA
Camarillo station improvements	7/1/18	8/1/18 to 4/1/20
Leesdale siding	6/1/19	8/1/18 to 6/1/20
Ortega Siding	6/1/19	8/1/18 to 6/1/20
Carpinteria Station Double Track	9/1/18	9/1/18 to 1/15/19
Goleta Layover Facility Improvements	9/1/18	9/1/18 to 1/15/19
Upgrade Non-Powered Switches	6/1/19	8/1/18 to 6/1/20
Island Centralized Traffic Control	6/1/19	8/1/18 to 6/1/20

The project schedules are provided in further detail in the Project Programming Request forms in Section 4 and are summarized in Attachment E: Project Development Schedule.

## Statement of Work

*Building UP: LOSSAN North Improvement Program* is a transformative program of high-priority rail improvements that will address current and future transportation and mobility constraints on the northern end of the LOSSAN rail corridor by enabling more frequent and integrated intercity and commuter rail service, improving reliability and safety, reducing travel time, and enhancing overall rail operations from San Diego to San Luis Obispo. In particular, this program of projects will advance the construction of nearly eight miles of additional double track and siding extensions, station and layover facility enhancements, incentives for improved on-time performance, and signal and switch upgrades, on the northern section of the LOSSAN rail corridor between Ventura County and San Luis Obispo County.

The improvements included in this application are estimated to lead to a reduction of greenhouse gas emissions totaling more than 1,187,672 metric tons of CO<sub>2</sub>e and increase ridership by more than 2,748,946 million riders annually by 2053, assuming a conservative estimate of a 30-year useful life of the assets funded through this program. Upon completion, these efforts will provide multiple environmental, health, economic, and mobility co-benefits to millions of current and future passengers traveling on the LOSSAN rail corridor, including residents of the 972 state-designated disadvantaged communities and 1903 low-income communities directly served by the LOSSAN rail corridor.

### Project Scope

*Building UP: LOSSAN North Improvement Program* will increase the efficiency of the LOSSAN rail corridor not only to accommodate existing train volumes, but also to support future demand for passenger rail services on the corridor. Improvements include adding almost eight miles of additional double track, new or extended passing sidings, station and layover facility enhancements, signal and switch upgrades, as well as capitalized track access fees with the host railroad to allow increased frequencies and incentives to drive improved on-time performance.

Together, this program will:

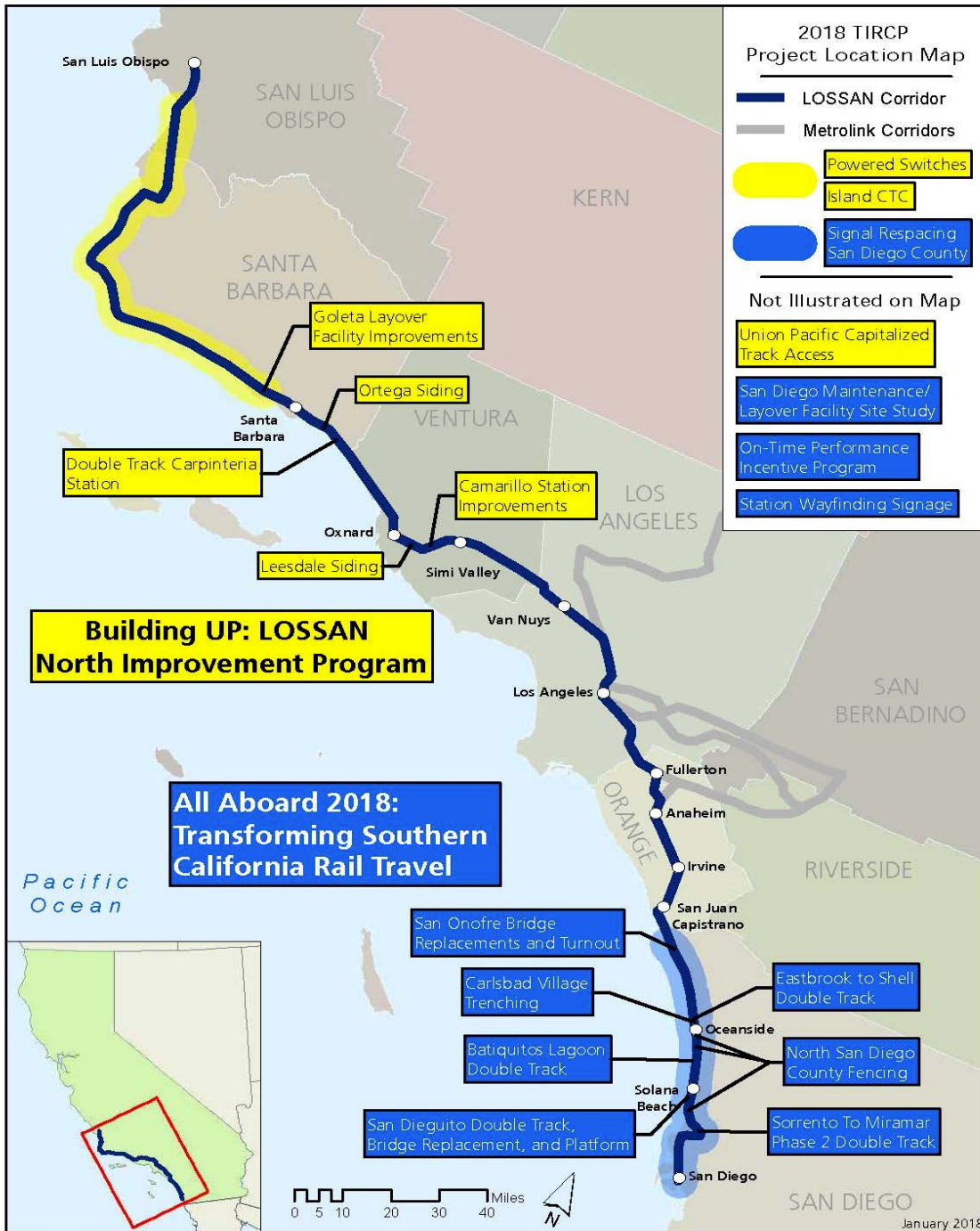
- enable more frequent and integrated intercity and commuter rail service,
- improve on-time performance,
- reduce travel time,
- promote more efficient goods movement,
- enhance rail operations,
- improve safety,
- increase ridership,
- reduce greenhouse gas emissions, and
- provide benefits to disadvantaged and low-income communities.

The individual components of *Building UP program* listed in priority order include:

- **Union Pacific Capitalized Track Access and On-Time Performance Incentive** provides a capitalized track access fee payment to Union Pacific Railroad to allow two additional slots for Pacific Surfliner trains between Los Angeles and Santa Barbara/San Luis Obispo (one additional roundtrip), as well as increased incentive payments for improved on-time performance on the 174-mile stretch of the LOSSAN rail corridor used by Pacific Surfliner trains and dispatched by Union Pacific Railroad.
- **Camarillo Station Improvements** will construct a pedestrian undercrossing and other station improvements in Ventura County to improve passenger access and operational flexibility, and reduce travel time for the eight daily Pacific Surfliner and six weekday Metrolink trains currently serving the station, as well as accommodate future service growth. The project will be constructed by the City of Camarillo.
- **Leesdale Siding** will extend the current 700-foot siding up to 3.3 miles to the west and 2.9 miles to the east to allow operational flexibility in Ventura County for both Pacific Surfliner and Metrolink trains, and to help accommodate future service growth. The project will be constructed by the Union Pacific Railroad.
- **Ortega Siding** reconstructs and extends a passing siding to one mile in length to allow increased operational flexibility and capacity on 17-mile stretch of single track in Santa Barbara County. The project will be constructed by the Union Pacific Railroad.
- **Carpinteria Station Improvements** constructs a second station track and platform at the Pacific Surfliner station in Santa Barbara County to improve pedestrian safety, passenger access, and operational flexibility. The project will be constructed by the Union Pacific Railroad.
- **Goleta Layover Facility Improvements** expands Amtrak's Goleta storage facility by extending the existing layover track by 900 feet to allow two seven-car Pacific Surfliner trainsets to layover and receive turnaround servicing in Santa Barbara County. The project will be constructed by Amtrak.
- **Upgrade of Non-Powered Switches** will replace 10 hand-thrown switches with automated switches at five siding locations Santa Barbara and San Luis Obispo counties to improve travel time and reliability. The project will be constructed by the Union Pacific Railroad.
- **Island Centralized Traffic Control** will install Centralized Traffic Control along a 104-mile section of track in San Luis Obispo and Santa Barbara counties that currently operates under Track Warrant Control in order to allow increased operational flexibility and improved reliability. The project will be constructed by the Union Pacific Railroad.

## Project Maps

Maps denoting the *Building UP* program and locations of disadvantaged communities benefiting from the application have been included in Attachment D. A reference map for the components included in the *Building UP* program is included below.



## Project Costs and Funding

The total cost of *Building UP* is \$201.669 million, of which \$196.640 million is being requested (Table 1) through the 2018 TIRCP. This request represents 97.5 percent of the overall cost, with the majority of matching funds provided either locally or from other state or federal transportation sources.

TABLE 1  
BUILDING UP  
2018 TIRCP PROJECT LIST

Project Title	Description	Phase	Project Cost	TIRCP Request	Match	Implementing Agency	County	Match source	Miles
Union Pacific Capitalized Track Access and Performance Incentive	Acquire two additional slots for Pacific Surfliner service between Los Angeles and Santa Barbara/San Luis Obispo + performance incentive	Other	\$42,839,191	\$42,839,191	\$0	LOSSAN	N/A	NA	
Camarillo Station Improvements	Construct pedestrian undercrossing and other station improvements	CON	\$7,800,000	\$6,890,000	\$910,000	Camarillo	Ventura	TDA	
Leesdale Siding	Siding extension to allow operational flexibility between Oxnard and Camarillo	CON	\$26,169,596	\$24,527,346	\$1,642,250	UP	Ventura	\$800k SRA + future SRA	6.2
Ortega Siding	Reconstruct siding to increase passenger and freight capacity on 17-mile stretch of single track	CON	\$26,000,000	\$25,375,000	\$625,000	UP	Santa Barbara	future SRA	1
Carpinteria Station Double Track	Construct second track and platform at Carpinteria station	CON	\$31,938,075	\$30,346,575	\$1,591,500	UP	Santa Barbara	future SRA	0.4
Goleta Layover Facility Improvements	Expand Goleta storage facility to allow two sets to layover	CON	\$10,121,863	\$9,861,863	\$260,000	Amtrak	Santa Barbara	future SRA	
Upgrade Non-Powered Switches	Upgrade 10 switches (at five siding locations) from hand-thrown to powered)	CON	\$26,800,000	\$26,800,000		UP	Santa Barbara/SLO	NA	
Island CTC	Implement Island CTC at selected locations in Santa Barbara and San Luis Obispo counties	CON	\$30,000,000	\$30,000,000		UP	Santa Barbara/SLO	NA	
TOTAL			\$201,668,725	\$196,639,975	\$5,028,750				7.6

97.5%

Project costs have been escalated to year of expenditure. Program cost estimates by phase are provided in Table 2.

TABLE 2 PROGRAM COST ESTIMATES BY PHASE (\$Ms)								
Component	Prior	17/18	18/19	19/20	20/21	21/22	22/23	Total
E&P (PA&ED)		\$0.070						<b>0.070</b>
PS&E		0.800	8.160					<b>8.960</b>
R/W SUP (CT)								
CON SUP (CT)				14.932				<b>14.932</b>
R/W				0.300				<b>0.300</b>
CON			4.269	173.139				<b>177.408</b>
<b>TOTAL</b>		<b>0.870</b>	<b>12.429</b>	<b>188.371</b>				<b>201.670</b>

Available matching funds represent 2.5 percent of the overall project cost and will leverage TIRCP funds (Table 3). This includes Transit Development Act (TDA) funds as well as State Rail Assistance (SRA) funds.

Table 3 PROJECT COSTS AND MATCHING FUNDS (\$M)	
Item	Amount
Total funding request	\$196.639975
Matching funds by source:	
Transit Development Act (TDA)	\$0.910000
2018 Senate Bill (SB) 1 State Rail Assistance (SRA)	\$0.800000
Future year SRA	\$3.318750
Total Matching Funds	\$5.028750
Total Project Cost	\$201.668725

Table 4 summarizes the components and TIRCP requested. The components are listed in priority order. Lower priority components could be deferred. In addition some components could be scaled. For example, the Leesdale Siding component assumed the siding would be extended in both directions. Either the westward or eastward extension could be constructed and still result in operational benefit. In addition, fewer non-powered switches or areas of centralized traffic control could be upgraded.



<b>TABLE 4 TIRCP REQUEST BY PROJECT COMPONENT (\$Ms)</b>	
<b>Component</b>	<b>TIRCP Request</b>
Union Pacific Capitalized Track Access and Performance Incentive	\$42.839
Camarillo Station Improvements	\$ 6.890
Leesdale Siding	\$24.527
Ortega Siding	\$25.375
Carpinteria Station Double Track	\$30.347
Goleta Layover Facility Improvements	\$ 9.862
Upgrade of Non-Powered Switches	\$26.800
Island Centralized Traffic Control	\$30.000
<b>Total Project Cost</b>	<b>\$196.640</b>

## Project Schedule

Table 5 provides the project schedules by component.

<b>TABLE 5 PROJECT SCHEDULE MILESTONES</b>					
<b>Component</b>	<b>Final Env Document</b>	<b>End Design</b>	<b>Begin Con</b>	<b>End Con</b>	<b>End Close Out</b>
Union Pacific Capitalized Track Access and Performance Incentive			7/1/18	6/30/23	12/20/23
Camarillo Station Improvements	7/1/18	4/1/20	7/1/20	12/1/21	12/1/22
Leesdale Siding	6/1/19	6/1/20	7/1/20	7/1/22	7/1/23
Ortega Siding	6/1/19	6/1/20	7/1/20	7/1/22	7/1/23
Carpinteria Station Double Track	9/1/18	1/15/19	5/1/19	5/1/20	9/1/20
Goleta Layover Facility Improvements	9/1/18	1/15/19	5/1/19	11/1/19	2/1/20
Upgrade of Non-Powered Switches	9/1/18	1/15/19	5/1/19	5/1/20	9/1/20
Island Centralized Traffic Control	6/1/19	6/1/20	7/1/20	7/1/22	7/1/23

## Operation and Maintenance Costs

Union Pacific Railroad (UPRR), as the host railroad along this section of the LOSSAN rail corridor, plans to incorporate these capital facilities into its operations and maintenance activities following the completion of construction, to be funded in part with capitalized track access fees provided by the LOSSAN Agency. Amtrak, as owner of the Goleta Layover Facility will operate and maintain the facility after construction. The City of Camarillo will operate and maintain the Camarillo station and related improvements.

## Project Components

### Union Pacific Capitalized Track Access and On-Time Performance Incentive

Project will provides a capitalized track access fee payment to UPRR to allow two additional slots for Pacific Surfliner trains between Los Angeles and Santa Barbara/San Luis Obispo (one additional roundtrip), as well as increased incentive payments for improved on-time performance on the 174-mile stretch of the LOSSAN rail corridor used by Pacific Surfliner trains and dispatched by UPRR.

Implementation of this component includes:

- Capitalized track access fee of \$42 per train mile, escalated annually per American Association of Railroads (AAR) index, to allow two new slots on the UPRR to operate one additional Pacific Surfliner roundtrip between Los Angeles and San Luis Obispo
- Provide performance-based payments of up to \$10.60 per train mile to UPRR based on the on-time performance (OTP) goals realized within UPRR territory for all Pacific Surfliner trips, with maximum incentive payment requiring OTP greater than 95 percent, and incentive payment being reduced as OTP diminishes, based on an agreed upon graduated scale. Incentive payment will be escalated annually per AAR index

### Camarillo Station Improvements

Project will construct a new pedestrian undercrossing and other station improvements in Ventura County to improve passenger access and operational flexibility for eight daily Pacific Surfliner and six weekday Metrolink trains currently serving the station, as well as accommodate future service growth. The new underpass will replace an existing overpass, which requires pedestrians to walk a long distance to cross the tracks.

The new underpass will create a safer and more convenient grade-separated path between the two passenger platforms at the Camarillo Station, one of which is not routinely used due to the poor pedestrian access between platforms. Due to use of only a single platform, two daily Pacific Surfliner trains currently incur an additional five minutes of scheduled dwell time to perform a three-step meet at this location, while two other Pacific Surfliner trains are not

scheduled to serve the Camarillo Station due to the operational difficulties posed by the current station design.

Construction of this component will:

- Provide two fully ADA-compliant and accessible platforms connected by a new grade separated pedestrian underpass between the two platforms
- Increase safety, reduce travel time, improve on-time performance and enhance operational flexibility
- Upgrade lighting and other passenger amenities at station
- Improve passenger access for both Pacific Surfliner and Metrolink passengers, and reduce travel time for the eight daily Pacific Surfliner and six weekday Metrolink trains currently serving the station, as well as accommodate future service growth
- Reduce trip time by at least five minutes on multiple Pacific Surfliner trains by eliminating need for current three-step meet
- Provide flexibility for additional Pacific Surfliner trains to serve Camarillo Station
- Improve on-time performance of Pacific Surfliner and Metrolink trains

### **Leesdale Siding**

Project will extend the current 3,700-foot siding up to 3.3 miles to the west and 2.9 miles to the east to allow operational flexibility in Ventura County for both Pacific Surfliner and Metrolink trains, and to help accommodate future service growth. This project is scalable, and could be constructed only to the west or only to the east, and still provide operational benefit at a marginally lower cost.

The Camarillo Station is currently served by a siding track and the main line track, with trains holding on the siding track while passenger trains load/unload passengers on the main track platform. This configuration results in a bottleneck on the line, since one train must back up to clear the tracks for the other trains to depart, using about five to 10 minutes for the maneuver. This project would extend the existing 3,700 foot-long Leesdale Siding, located west of the station between Las Posas and Pleasant Valley Roads, to function as a replacement for the Camarillo Station siding, and would result in nearly continuous double track between the Camarillo and Oxnard stations.

Construction of this component will:

- Extend the existing Leesdale siding to create up to 6.2 miles of additional double track between the Camarillo and Oxnard stations
- Equip the Leesdale siding with remote-controlled switching equipment as opposed to current hand-thrown switch, saving five to 10 minutes per switch movement
- Modify nearby grade crossing signal systems to accommodate the siding
- Construct drainage improvements, culverts and bridges, as well as any necessary utility relocation

- Reduce scheduled time for meets and unscheduled delays for Pacific Surfliner and Metrolink trains due to the difficulty in lining up the opposing trains at this location by allowing running meets
- Allow increased operational flexibility and reduce opportunities for cascading delays in largely single track territory with limited passing sidings

### **Ortega Siding**

Project will reconstruct and extend a passing siding to approximately one mile in length to allow increased operational flexibility and capacity on a 17-mile stretch of single track in Santa Barbara County. An active siding existed in this area approximately 15 years ago, but that siding was removed because of erosion and severe storm damage. The elimination of that siding significantly reduced the operational capacity of the corridor on which the Pacific Surfliner operates because only one other functional siding exists on this corridor in the Santa Barbara area.

Pacific Surfliner service operating along this segment is currently being impacted by a lack of sufficient passing sidings. Existing sidings are too short and spaced too far apart to allow for effective train meets and passing opportunities. Additional CTC sidings will allow more efficient train meets and provide a more efficient operation.

Construction of this component will:

- Result in new, approximately 5,500-foot siding between Santa Barbara and Carpinteria with remote-controlled switching equipment
- Construct drainage improvements, culverts and bridges, as well as any necessary utility relocation
- Reduce scheduled time for meets and unscheduled delays for Pacific Surfliner trains by creating an additional location for trains to pass along a 17-mile stretch of single track
- Allow increased operational flexibility and reduce opportunities for cascading delays in largely single track territory with limited passing sidings

### **Carpinteria Station Improvement**

Project will construct a second station track and platform at the Pacific Surfliner station in Santa Barbara County to improve pedestrian safety, passenger access, and operational flexibility. The current Carpinteria Station is unstaffed, and consists of a single 660-foot platform, a shelter, and a ticket vending machine. This project also includes the addition of a pedestrian underpass that will allow passengers to access the new platform safely. Also included will be the construction of a second set of tracks and two power switches to allow train operation on both platforms. The project will also create nearly one mile of additional double track, providing an additional location for passenger trains to pass in an area that is predominately single track.

Construction of this component will:

- Allow for the design and construction of a second ADA-compliant platform and a new shelter for the second platform
- Refurbish the existing platform and shelter
- Construct a new ADA-compliant, grade separated pedestrian underpass to allow access between the two platforms
- Construct approximately one mile of double track at the Carpinteria station, equipped with remote-controlled switching equipment
- Construct drainage improvements, culverts and bridges, as well as any necessary utility relocation
- Serve as a Safe Route to School and allow local residents to safely access a local elementary school, eliminating the potential conflicts between trains and pedestrians crossing the tracks at grade

### **Goleta Layover Facility Improvements**

Project will expand Amtrak's Goleta layover facility by extending the existing layover track by 900 feet to allow two seven-car Pacific Surfliner trainsets to layover and receive turnaround servicing in Santa Barbara County, providing operational flexibility and allowing future service increases between Los Angeles, Goleta and San Luis Obispo. Currently the Goleta Layover Facility in can only accommodate one train for layover, servicing and maintenance activities. In cases where State Route 101 and the railroad tracks are closed due to natural disasters such as the mud slides of January 2018, the layover expansion to accommodate two train sets will allow more efficient operation of trains following service restoration. In January 2018, the Pacific Surfliner was the only available ground transportation route from the south into Santa Barbara, but without the layover expansion, it was more difficult to resume service and add extra service.

Construction of this component will:

- Allow for the design and construction of an additional layover track to double the size of the servicing area
- Construct new track, a powered switch, a new asphalt roadway, ground power, maintenance area lighting, as well as compressed air, and water
- Provide a new maintenance storage building and security fencing
- Provide for a geotechnical study and any necessary geostabilization work

### **Upgrade Non-Powered to Powered Switches**

Project will replace 10 hand-thrown switches with automated switches at five siding locations Santa Barbara and San Luis Obispo counties to improve travel time and reliability. Many switches in this region currently operate using manually thrown switches, which force train crews to stop a train, manually realign the switch, and then wait for the train to clear the switch before the signal can be reset. Each of these switches can take between five and 10 minutes to clear, resulting in increased travel time, and increased potential for delay.

### **Island Centralized Traffic Control**

Project will install Centralized Traffic Control along a 104-mile section of track in San Luis Obispo and Santa Barbara counties that currently operates under Track Warrant Control in order to allow increased operational flexibility and improved reliability by eliminating the need for trains to verbally request track authority from the dispatcher.

### **Project Programming Request Form**

Project Programming Request (PPR) forms for each project described in this Statement of Work are included in Section 4, along with a letter certifying the project cost estimates.

Los Angeles · San Diego · San Luis Obispo  
Rail Corridor Agency



**LOSSAN**

Since 1989

January 11, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

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Union Pacific

**SUBJECT: Certification of Project Cost Estimates – Building UP:  
LOSSAN North Improvement Program**

Dear Secretary Kelly:

On behalf of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor Agency, this letter is to certify that the cost estimates used in the *Building UP: LOSSAN North Improvement Program* application have been certified by the LOSSAN Rail Corridor Agency in coordination with the respective implementing agencies, including Amtrak, the City of Camarillo and Union Pacific Railroad. The total cost estimate for the program of projects is \$201.67 million, of which \$196.64 million is being requested through the Transit and Intercity Rail Capital Program. Detailed cost estimates for specific components are included with the application.

The funding requested will support a transformative program of high-priority rail improvements that will enable more frequent and integrated intercity and commuter rail service, improve on-time performance and safety, and enhance operations. In particular, this program of projects includes advancing almost eight miles of additional double track; a new passenger platform; siding, signal and switch upgrades; expansion of the Goleta layover facility; capitalized track access fees and performance incentives; and safety enhancements. Collectively, these improvements will reduce GHG emissions, increase ridership, advance rail integration across entire the LOSSAN rail corridor, improve rail safety and provide benefits to more than 972 state-designated disadvantaged communities and 1,903 low income communities.

Thank you for your consideration of this grant application.

Sincerely,

Jennifer Bergener  
Managing Director

550 South Main Street  
P.O. Box 14184  
Orange, CA 92863-1584  
Phone: (714) 560-5598  
Fax: (714) 560-5734  
www.lossan.org

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
District	EA	Project ID		PPNO	MPO ID	
05						
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SB	LOSSAN	423.1	248.7	LOSSAN Rail Corridor Agency		
				MPO	Element	
				SBCAG	Rail	
Project Manager/Contact		Phone		E-mail Address		
Michael Litschi		714-560-5581		<a href="mailto:mlitschi@octa.net">mlitschi@octa.net</a>		
Project Title						
Union Pacific Capitalized Track Access and On-Time Performance Incentive						
Location, Project Limits, Description, Scope of Work						<input type="checkbox"/> See page 2
Provides a capitalized track access fee payment to Union Pacific Railroad to allow two additional slots for Pacific Surfliner trains between Los Angeles and Santa Barbara/San Luis Obispo, as well as increased incentive payments for improved on-time performance on the 174-mile stretch of the LOSSAN rail corridor used by Pacific Surfliner trains and dispatched by Union Pacific Railroad on the LOSSAN rail corridor.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
Component	Implementing Agency					
PA&ED	NA					
PS&E	NA					
Right of Way	NA					
Construction	LOSSAN Rail Corridor Agency					
Purpose and Need						<input type="checkbox"/> See page 2
To allow for additional Pacific Surfliner trips on the Union Pacific Railroad, capital improvements are required and per agreement with the UPRR, the value of these improvements is \$42 per train mile of new service in order to secure two new passenger train slots on UPRR-controlled track between Ventura and San Luis Obispo counties. Average endpoint on-time performance is currently 69% and \$10.60 per train mile in additional payment on the existing Pacific Surfliner trains is proposed as an incentive for improved on-time performance. Maximum payment will only be provided if on-time performance is 95 percent or better and incentive payment will be reduced as OTP diminishes, based on a graduated scale.						
Project Benefits						<input type="checkbox"/> See page 2
The project provides for service expansion and will result in improved on-time performance, reduced travel time, increased ridership and GHG emission reduction.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
Project Milestone						Proposed
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						
Circulate Draft Environmental Document				Document Type		
Draft Project Report						
End Environmental Phase (PA&ED Milestone)						
Begin Design (PS&E) Phase						
End Design Phase (Ready to List for Advertisement Milestone)						
Begin Right of Way Phase						
End Right of Way Phase (Right of Way Certification Milestone)						
Begin Construction Phase (Contract Award Milestone)						07/01/18
End Construction Phase (Construction Contract Acceptance Milestone)						06/30/23
Begin Closeout Phase						06/30/23
End Closeout Phase (Closeout Report)						12/20/23

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
05	SB	LOSSAN				
<b>Project Title:</b> Union Pacific Capitalized Track Access and On-Time Performance Incentive						

Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON						4,269	38,570	42,839	
<b>TOTAL</b>						4,269	38,570	42,839	

Fund No. 1:	TIRCP								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON						4,269	38,570	42,839	
<b>TOTAL</b>						4,269	38,570	42,839	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>MPO ID</b>	
07						
<b>County</b>	<b>Route/Corridor</b>	<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Sponsor/Lead Agency</b>		
VEN	LOSSAN	413.2		LOSSAN Rail Corridor Agency		
				<b>MPO</b>	<b>Element</b>	
				SCAG	Rail	
<b>Project Manager/Contact</b>		<b>Phone</b>		<b>E-mail Address</b>		
David Klotzle		805-383-5642		<a href="mailto:dklotzle@cityofcamarillo.org">dklotzle@cityofcamarillo.org</a>		
<b>Project Title</b>						
Camarillo station improvements						
<b>Location, Project Limits, Description, Scope of Work</b>						<input type="checkbox"/> See page 2
Construct pedestrian undercrossing and other station improvements at the Camarillo Station 30 Lewis Rd., Camarillo CA 93012 in Ventura County on the LOSSAN Rail Corridor. The station is currently served by eight daily Amtrak intercity and six daily Metrolink commuter rail trains.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
<b>Component</b>	<b>Implementing Agency</b>					
PA&ED	City of Camarillo					
PS&E	City of Camarillo					
Right of Way	NA					
Construction	City of Camarillo					
<b>Purpose and Need</b>						<input type="checkbox"/> See page 2
The new underpass will create a safer and more convenient grade-separated path between the two passenger platforms at the Camarillo station, one of which is not routinely used due to the poor pedestrian access between platforms. Due to use on only a single platform, two daily Pacific Surfliner trains currently incur an additional five minutes of scheduled dwell time to perform a three-step meet at this location, while two other Pacific Surfliner trains are not schedule to serve Camarillo due to the operational difficulties. The new underpass will replace an existing overpass, which requires pedestrians to walk a long distance to cross the tracks.						
<b>Project Benefits</b>						<input type="checkbox"/> See page 2
Reduced travel time, increased ridership and reliability resulting in GHG emission reduction, as well as improved safety. Increase in number of trains that can stop at the station.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
<b>Project Milestone</b>						<b>Proposed</b>
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						04/01/18
Circulate Draft Environmental Document				<b>Document Type</b>	05/01/18	
Draft Project Report						06/01/18
End Environmental Phase (PA&ED Milestone)						07/01/18
Begin Design (PS&E) Phase						08/01/18
End Design Phase (Ready to List for Advertisement Milestone)						04/01/20
Begin Right of Way Phase						01/01/20
End Right of Way Phase (Right of Way Certification Milestone)						07/01/20
Begin Construction Phase (Contract Award Milestone)						07/01/20
End Construction Phase (Construction Contract Acceptance Milestone)						12/01/21
Begin Closeout Phase						12/01/21
End Closeout Phase (Closeout Report)						12/01/22

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
07	VEN	LOSSAN				
<b>Project Title:</b> Camarillo station improvements						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)					70			70	
PS&E						840		840	
R/W SUP (CT)									
CON SUP (CT)							840	840	
R/W							300	300	
CON							5,750	5,750	
<b>TOTAL</b>					70	840	6,890	7,800	

Fund No. 1:	TIRCP	Proposed Funding (\$1,000s)							Program Code
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)									CalSTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)							840	840	
R/W							300	300	
CON							5,750	5,750	
<b>TOTAL</b>							6,890	6,890	

Fund No. 2:	TDA	Proposed Funding (\$1,000s)							Program Code
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	Funding Agency
E&P (PA&ED)					70			70	
PS&E						840		840	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>					70	840		910	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>MPO ID</b>	
05						
<b>County</b>	<b>Route/Corridor</b>	<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Sponsor/Lead Agency</b>		
SB	Pacific Surfliner	377.8		LOSSAN Rail Corridor Agency		
				<b>MPO</b>	<b>Element</b>	
				SBCAG	Rail	
<b>Project Manager/Contact</b>		<b>Phone</b>		<b>E-mail Address</b>		
Michael Litschi		714-560-5581		mlitschi@octa.net		
<b>Project Title</b>						
Carpinteria Station Double Track						
<b>Location, Project Limits, Description, Scope of Work</b>						<input type="checkbox"/> See page 2
Carpinteria Amtrak Station 475 Linden Ave at Fifth Street, Carpinteria, CA 93013. Currently, the station is unstaffed with a single platform of 660 feet, a shelter, and a Quick Trak machine. The funding will allow for the design and construction of a second ADA compliant platform and shelter and refurbished the existing platform. The project includes adding a pedestrian underpass that will allow passenger to access the new platform safely. In addition, construction of a second set of tracks and two power switches to allow train operation on both platforms.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
<b>Component</b>	<b>Implementing Agency</b>					
PA&ED	Union Pacific Railroad (UP)					
PS&E	UP					
Right of Way	UP					
Construction	UP					
<b>Purpose and Need</b>						<input type="checkbox"/> See page 2
The Carpinteria Station has only one platform that limits operational flexibility. A second track and platform will improve operational flexibility and the pedestrian underpass will improve passenger and public safety, while also providing a Safe Route to School with an elementary school located nearby. The project will also create nearly one mile of additional double track, providing an additional location for passenger trains to pass in an area that is predominately single track.						
<b>Project Benefits</b>						<input type="checkbox"/> See page 2
The project improves operational flexibility and allows for reduced travel time, increased ridership and reliability, GHG emission reduction, and also improves safety.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
<b>Project Milestone</b>						<b>Proposed</b>
Project Study Report Approved						06/01/18
Begin Environmental (PA&ED) Phase						06/01/18
Circulate Draft Environmental Document				<b>Document Type</b>	07/01/18	
Draft Project Report						08/01/18
End Environmental Phase (PA&ED Milestone)						09/01/18
Begin Design (PS&E) Phase						09/01/18
End Design Phase (Ready to List for Advertisement Milestone)						01/15/19
Begin Right of Way Phase						01/01/19
End Right of Way Phase (Right of Way Certification Milestone)						04/01/19
Begin Construction Phase (Contract Award Milestone)						05/01/19
End Construction Phase (Construction Contract Acceptance Milestone)						05/01/20
Begin Closeout Phase						07/01/20
End Closeout Phase (Closeout Report)						09/01/20

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
05	SB	Pacific Surfliner				
<b>Project Title:</b> Carpinteria Station Double Track						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						1,592		1,592	
R/W SUP (CT)									
CON SUP (CT)							2,538	2,538	
R/W									
CON							27,808	27,808	
<b>TOTAL</b>						1,592	30,346	31,938	

Fund No. 1:	TIRCP								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)							2,538	2,538	
R/W									
CON							27,808	27,808	
<b>TOTAL</b>							30,346	30,346	

Fund No. 2:	Future SRA								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E						1,592		1,592	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>						1,592		1,592	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>MPO ID</b>	
05						
<b>County</b>	<b>Route/Corridor</b>	<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Sponsor/Lead Agency</b>		
SB	Pacific Surfliner	358.2		LOSSAN Rail Corridor Agency		
				<b>MPO</b>	<b>Element</b>	
				SBCAG	Rail	
<b>Project Manager/Contact</b>		<b>Phone</b>		<b>E-mail Address</b>		
Michael Litschi		714-560-5581		<a href="mailto:mlitschi@octa.net">mlitschi@octa.net</a>		
<b>Project Title</b>						
Goleta Layover Facility Improvements						
<b>Location, Project Limits, Description, Scope of Work</b>						<input type="checkbox"/> See page 2
Goleta Layover Facility 25 South La Patera Ln, Goleta, CA 93117. Currently the layover facility in Goleta is 725' thus will only accommodate one train for servicing. This funding would allow the design and construction of an additional layover servicing area. The project includes trackwork, power switch, asphalt roadway, 480V ground power, lighting, compressed air, water, security fencing, storage building, geotechnical study and geostabilization, environmental and drip pans.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
<b>Component</b>	<b>Implementing Agency</b>					
PA&ED	Amtrak					
PS&E	Amtrak					
Right of Way	Amtrak					
Construction	Amtrak					
<b>Purpose and Need</b>						<input type="checkbox"/> See page 2
The current layover facility in Goleta has capacity for only one Pacific Surfliner trainset. The project will expand Amtrak's Goleta storage facility by extending the existing layover track by 900 feet to allow two seven-car Pacific Surfliner trainsets to layover and receive turnaround servicing, expanding capacity and allowing for additional Pacific Surfliner service out of Santa Barbara.						
<b>Project Benefits</b>						<input type="checkbox"/> See page 2
The project improves operational flexibility and allows for service expansion which will increase ridership and reduce Greenhouse Gas emissions.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
<b>Project Milestone</b>						<b>Proposed</b>
Project Study Report Approved						06/01/18
Begin Environmental (PA&ED) Phase						06/01/18
Circulate Draft Environmental Document				<b>Document Type</b>	07/01/18	
Draft Project Report						08/01/18
End Environmental Phase (PA&ED Milestone)						09/01/18
Begin Design (PS&E) Phase						09/01/18
End Design Phase (Ready to List for Advertisement Milestone)						01/15/19
Begin Right of Way Phase						01/01/19
End Right of Way Phase (Right of Way Certification Milestone)						04/01/19
Begin Construction Phase (Contract Award Milestone)						05/01/19
End Construction Phase (Construction Contract Acceptance Milestone)						11/01/19
Begin Closeout Phase						01/01/20
End Closeout Phase (Closeout Report)						02/01/20

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
05	SB	Pacific Surfliner				
<b>Project Title:</b> Goleta Layover Facility Improvements						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						260		260	
R/W SUP (CT)									
CON SUP (CT)							738	738	
R/W									
CON							9,125	9,125	
<b>TOTAL</b>						260	9,863	10,123	

Fund No. 1:	TIRCP								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)							738	738	
R/W									
CON							9,125	9,125	
<b>TOTAL</b>							9,863	9,863	

Fund No. 2:	Future SRA								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E						260		260	
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>						260		260	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
District	EA	Project ID		PPNO	MPO ID	
05						
County	Route/Corridor	PM Bk	PM Ahd	Project Sponsor/Lead Agency		
SB	LOSSAN	355.8	251.5	LOSSAN Rail Corridor Agency		
				MPO	Element	
				SBCAG	Rail	
Project Manager/Contact		Phone		E-mail Address		
Michael Litschi		714-560-5581		<a href="mailto:mlitschi@octa.net">mlitschi@octa.net</a>		
Project Title						
Island Centralized Traffic Control						
Location, Project Limits, Description, Scope of Work						<input type="checkbox"/> See page 2
Island Centralized Traffic Control will install Centralized Traffic Control at select locations along a 104-mile section of track in San Luis Obispo and Santa Barbara counties that currently operates under Track Warrant Control in order to allow increased operational flexibility and improved reliability. The project will be constructed by the Union Pacific Railroad on the LOSSAN Rail Corridor.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
Component	Implementing Agency					
PA&ED	Union Pacific Railroad (UP)					
PS&E	UP					
Right of Way	NA					
Construction	UP					
Purpose and Need						<input type="checkbox"/> See page 2
The 104-mile section of track in San Luis Obispo and Santa Barbara counties currently operates under Track Warrant Control which limits operational flexibility and reliability.						
Project Benefits						<input type="checkbox"/> See page 2
The project improves operational flexibility and reliability and allows for service expansion which will result in reduced travel time, increased ridership and reliability, and GHG emission reduction.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
Project Milestone						Proposed
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						04/01/18
Circulate Draft Environmental Document				Document Type	01/01/19	
Draft Project Report						05/01/19
End Environmental Phase (PA&ED Milestone)						06/01/19
Begin Design (PS&E) Phase						08/01/18
End Design Phase (Ready to List for Advertisement Milestone)						06/01/20
Begin Right of Way Phase						01/01/20
End Right of Way Phase (Right of Way Certification Milestone)						06/01/20
Begin Construction Phase (Contract Award Milestone)						07/01/20
End Construction Phase (Construction Contract Acceptance Milestone)						07/01/22
Begin Closeout Phase						07/01/22
End Closeout Phase (Closeout Report)						07/01/23

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
05	SB	LOSSAN				
<b>Project Title:</b> Island Centralized Traffic Control						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						1,500		1,500	
R/W SUP (CT)									
CON SUP (CT)							3,000	3,000	
R/W									
CON							25,500	25,500	
<b>TOTAL</b>						1,500	28,500	30,000	

<b>Fund No. 1:</b>	TIRCP								<b>Program Code</b>
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E						1,500		1,500	
R/W SUP (CT)									
CON SUP (CT)							3,000	3,000	
R/W									
CON							25,500	25,500	
<b>TOTAL</b>						1,500	28,500	30,000	

<b>Fund No. 2:</b>									<b>Program Code</b>
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>									

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>MPO ID</b>	
07						
<b>County</b>	<b>Route/Corridor</b>	<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Sponsor/Lead Agency</b>		
VEN	LOSSAN	405.6	412.5	LOSSAN Rail Corridor Agency		
				<b>MPO</b>	<b>Element</b>	
				SCAG	Rail	
<b>Project Manager/Contact</b>		<b>Phone</b>		<b>E-mail Address</b>		
Michael Litschi		714-560-5581		mlitschi@octa.net		
<b>Project Title</b>						
Leesdale Siding Extension						
<b>Location, Project Limits, Description, Scope of Work</b>						<input type="checkbox"/> See page 2
Extend the 3,700 foot Leesdale Siding 3.3 miles to the west and 2.9 miles to the east to allow operational flexibility in Ventura County for both Pacific Surfliner and Metrolink trains in Ventura County on the LOSSAN Rail Corridor.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
<b>Component</b>	<b>Implementing Agency</b>					
PA&ED	Union Pacific Railroad (UP)					
PS&E	UP					
Right of Way	NA					
Construction	UP					
<b>Purpose and Need</b>						<input type="checkbox"/> See page 2
The existing 3,700 foot siding does not allow for operational flexibility. The Camarillo Station is currently served by a siding track and the main line track, with trains holding on the siding track while passenger trains load/unload passengers on the main track platform. This configuration results in a bottleneck on the line, since one train must back up to clear the tracks for the other trains to depart, using about five to 10 minutes for the maneuver. The siding extension will result in up to 6.2 miles of double track that will allow for service expansion, improved reliability and reduced travel time.						
<b>Project Benefits</b>						<input type="checkbox"/> See page 2
The project allows for service expansion and will result in reduced travel time, increased ridership and reliability, and GHG emission reduction. This project is scalable, and could be constructed only to the west and only to the east, and still provide operational benefit for a lower cost.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
<b>Project Milestone</b>						<b>Proposed</b>
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						04/01/18
Circulate Draft Environmental Document				<b>Document Type</b>	01/01/19	
Draft Project Report						05/01/19
End Environmental Phase (PA&ED Milestone)						06/01/19
Begin Design (PS&E) Phase						08/01/18
End Design Phase (Ready to List for Advertisement Milestone)						06/01/20
Begin Right of Way Phase						01/01/20
End Right of Way Phase (Right of Way Certification Milestone)						06/01/20
Begin Construction Phase (Contract Award Milestone)						07/01/20
End Construction Phase (Construction Contract Acceptance Milestone)						07/01/22
Begin Closeout Phase						07/01/22
End Closeout Phase (Closeout Report)						07/01/23

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
07	VEN	LOSSAN				
<b>Project Title:</b> Leesdale Siding Extension						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E					800	843		1,643	
R/W SUP (CT)									
CON SUP (CT)							3,079	3,079	
R/W									
CON							21,448	21,448	
<b>TOTAL</b>					800	843	24,527	26,170	

Fund No. 1: TIRCP									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)							3,079	3,079	
R/W									
CON							21,448	21,448	
<b>TOTAL</b>							24,527	24,527	

Fund No. 2: 2018 SRA									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E					800			800	CaSTA
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>					800			800	

Fund No. 3: Future SRA									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						843		843	CalSTA
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>						843		843	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>MPO ID</b>	
05						
<b>County</b>	<b>Route/Corridor</b>	<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Sponsor/Lead Agency</b>		
SB	LOSSAN	373.9	374.9	LOSSAN Rail Corridor Agency		
				<b>MPO</b>	<b>Element</b>	
				SBCAG	Rail	
<b>Project Manager/Contact</b>		<b>Phone</b>		<b>E-mail Address</b>		
Michael Litschi		714-560-5581		mlitschi@octa.net		
<b>Project Title</b>						
Ortega Siding						
<b>Location, Project Limits, Description, Scope of Work</b>						<input type="checkbox"/> See page 2
Reconstructs and extends a passing siding to one mile in length to increase passenger and freight capacity on 17-mile stretch of single track in Santa Barbara County on the LOSSAN Rail Corridor.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
<b>Component</b>	<b>Implementing Agency</b>					
PA&ED	Union Pacific Railroad (UP)					
PS&E	UP					
Right of Way	UP					
Construction	UP					
<b>Purpose and Need</b>						<input type="checkbox"/> See page 2
An active siding existed in this area approximately 15 years ago, but that siding was removed because of erosion and severe storm damage. The elimination of that siding significantly reduced the operational capacity of the corridor on which the Pacific Surfliner operates because only one other functional siding exists on this corridor in the Santa Barbara area. Pacific Surfliner service operating along this segment is currently being impacted by a lack of sufficient passing sidings. Existing sidings are too short and spaced too far apart to allow for effective train meets and passing opportunities. Additional CTC sidings will allow more efficient train meets between trains and provide a more efficient operation.						
<b>Project Benefits</b>						<input type="checkbox"/> See page 2
The project will reduce scheduled time for meets and unscheduled delays for Pacific Surfliner trains by creating an additional location for trains to pass along a 17-mile stretch of single track and allow increased operational flexibility, reduced travel time, increased ridership and GHG emission reduction.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
<b>Project Milestone</b>						<b>Proposed</b>
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						04/01/18
Circulate Draft Environmental Document				<b>Document Type</b>	01/01/19	
Draft Project Report						05/01/19
End Environmental Phase (PA&ED Milestone)						06/01/19
Begin Design (PS&E) Phase						08/01/18
End Design Phase (Ready to List for Advertisement Milestone)						06/01/20
Begin Right of Way Phase						01/01/20
End Right of Way Phase (Right of Way Certification Milestone)						06/01/20
Begin Construction Phase (Contract Award Milestone)						07/01/20
End Construction Phase (Construction Contract Acceptance Milestone)						07/01/22
Begin Closeout Phase						07/01/22
End Closeout Phase (Closeout Report)						07/01/23

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
05	SB	LOSSAN				
<b>Project Title:</b> Ortega Siding						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						625		625	
R/W SUP (CT)									
CON SUP (CT)							2,537	2,537	
R/W									
CON							22,838	22,838	
<b>TOTAL</b>						625	25,375	26,000	

Fund No. 1:	TIRCP								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E									
R/W SUP (CT)									
CON SUP (CT)							2,537	2,537	
R/W									
CON							22,838	22,838	
<b>TOTAL</b>							25,375	25,375	

Fund No. 2:	Future SRA								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						625		625	CalSTA
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>						625		625	

**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

General Instructions

<input checked="" type="checkbox"/> New Project					Date:	1/12/18
<b>District</b>	<b>EA</b>	<b>Project ID</b>		<b>PPNO</b>	<b>MPO ID</b>	
05						
<b>County</b>	<b>Route/Corridor</b>	<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Sponsor/Lead Agency</b>		
SB	LOSSAN	355.8	251.5	LOSSAN Rail Corridor Agency		
				<b>MPO</b>	<b>Element</b>	
				SBCAG	Rail	
<b>Project Manager/Contact</b>		<b>Phone</b>		<b>E-mail Address</b>		
Michael Litschi		714-560-5581		<a href="mailto:mlitschi@octa.net">mlitschi@octa.net</a>		
<b>Project Title</b>						
Upgrade of Non-Powered Switches						
<b>Location, Project Limits, Description, Scope of Work</b>						<input type="checkbox"/> See page 2
The project will replace 10 hand operated switches with power switches at select locations along a 104-mile section of track in San Luis Obispo and Santa Barbara counties in order to reduce travel time. The project will be constructed by the Union Pacific Railroad on the LOSSAN Rail Corridor.						
<input checked="" type="checkbox"/> GHG Reductions		<input checked="" type="checkbox"/> Integrated Service		<input checked="" type="checkbox"/> Increase Ridership		
<b>Component</b>	<b>Implementing Agency</b>					
PA&ED	Union Pacific Railroad (UP)					
PS&E	UP					
Right of Way	NA					
Construction	UP					
<b>Purpose and Need</b>						<input type="checkbox"/> See page 2
The 104-mile section of track in San Luis Obispo and Santa Barbara counties currently has multiple sidings with hand operated switches which increases travel time in the corridor by forcing train crews to stop a train, manually realign the switch, and then wait for the train to clear the switch before the signal can be reset. Each of these switches can take between five and 10 minutes to clear, resulting in increased travel time, and increased potential for delay.						
<b>Project Benefits</b>						<input type="checkbox"/> See page 2
The project will result in reduced travel time, increased ridership and GHG emission reduction. It is estimated that conversion from a hand-thrown to a powered switch can save 5-10 minutes of travel time per switch movement.						
<input checked="" type="checkbox"/> Supports Sustainable Communities Strategy (SCS) Goals		<input checked="" type="checkbox"/> Disadvantaged Communities				
<b>Project Milestone</b>						<b>Proposed</b>
Project Study Report Approved						
Begin Environmental (PA&ED) Phase						04/01/18
Circulate Draft Environmental Document				<b>Document Type</b>	01/01/19	
Draft Project Report						05/01/19
End Environmental Phase (PA&ED Milestone)						06/01/19
Begin Design (PS&E) Phase						08/01/18
End Design Phase (Ready to List for Advertisement Milestone)						06/01/20
Begin Right of Way Phase						01/01/20
End Right of Way Phase (Right of Way Certification Milestone)						06/01/20
Begin Construction Phase (Contract Award Milestone)						07/01/20
End Construction Phase (Construction Contract Acceptance Milestone)						07/01/22
Begin Closeout Phase						07/01/22
End Closeout Phase (Closeout Report)						07/01/23

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**PROJECT PROGRAMMING REQUEST**

DTP-0001 (Revised July 2013)

Date: 1/12/18

District	County	Route	EA	Project ID	PPNO	
05	SB	LOSSAN				
<b>Project Title:</b> Upgrade of Non-Powered Switches						

Proposed Total Project Cost (\$1,000s)									Notes
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E						2,500		2,500	
R/W SUP (CT)									
CON SUP (CT)							2,200	2,200	
R/W									
CON							22,100	22,100	
<b>TOTAL</b>						2,500	24,300	26,800	

Fund No. 1:	TIRCP								Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									CalSTA
PS&E						2,500		2,500	
R/W SUP (CT)									
CON SUP (CT)							2,200	2,200	
R/W									
CON							22,100	22,100	
<b>TOTAL</b>						2,500	24,300	26,800	

Fund No. 2:									Program Code
Proposed Funding (\$1,000s)									Funding Agency
Component	Prior	14/15	15/16	16/17	17/18	18/19	19/20+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
<b>TOTAL</b>									



■ 260 North San Antonio Road., Suite B ■ Santa Barbara, CA ■ 93110  
■ Phone: 805/961-8900 ■ Fax: 805/961-8901 ■ [www.sbcag.org](http://www.sbcag.org)

January 8, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor  
Agency 2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Santa Barbara County Association of Governments, I would like to express my support for the applications submitted by the LOSSAN Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

LOSSAN is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, LOSSAN is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

SBCAG has determined that the projects located within Santa Barbara County are consistent with the SBCAG 2017 Sustainable Communities Strategy, as they support improved passenger rail service that will result in increased ridership, reducing vehicle miles traveled and resultant greenhouse gas emissions.

Again, I would like to express my strong support for LOSSAN's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

Marjie Kirn  
Executive Director  
Santa Barbara County Association of Governments

**Member Agencies**

Buellton ■ Carpinteria ■ Goleta ■ Guadalupe ■ Lompoc ■ Santa Barbara ■ Santa Maria ■ Solvang ■ Santa Barbara County





INNOVATING FOR A BETTER TOMORROW

December 28, 2017

SOUTHERN CALIFORNIA  
ASSOCIATION OF GOVERNMENTS  
900 Wilshire Blvd., Ste. 1700  
Los Angeles, CA 90017  
T: (213) 236-1800  
www.scag.ca.gov

The Honorable Brian P. Kelly  
Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

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REGIONAL COUNCIL OFFICERS

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Margaret E. Finlay, Duarte  
First Vice President  
Alan D. Wapner, Ontario  
Second Vice President  
Bill Jahn, Big Bear Lake  
Immediate Past President  
Michele Martinez, Santa Ana

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Community, Economic &  
Human Development  
Rex Richardson, Long Beach  
Energy & Environment  
Carmen Ramirez, Oxnard  
Transportation  
Curt Hagman, San Bernardino County

**RE: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency 2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Southern California Association of Governments (SCAG), I would like to offer this letter of support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP) and that these are consistent with SCAG's 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (2016 RTP/SCS).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.



INNOVATING FOR A BETTER TOMORROW

SOUTHERN CALIFORNIA  
ASSOCIATION OF GOVERNMENTS  
900 Wilshire Blvd., Ste. 1700  
Los Angeles, CA 90017  
T: (213) 236-1800  
www.scag.ca.gov

---

REGIONAL COUNCIL OFFICERS

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Margaret E. Finlay, Duarte

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Alan D. Wapner, Ontario

Second Vice President  
Bill Jahn, Big Bear Lake

Immediate Past President  
Michele Martinez, Santa Ana

COMMITTEE CHAIRS

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Margaret E. Finlay, Duarte

Community, Economic &  
Human Development  
Rex Richardson, Long Beach

Energy & Environment  
Carmen Ramirez, Oxnard

Transportation  
Curt Hagman, San Bernardino County

The projects within SCAG's jurisdiction are consistent with the goals set forth in the SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), especially as they pertain to sustainable transportation options that will improve air quality and quality of life.

All of these projects will have tremendous positive effects in our region by increasing rail ridership, improving the integration of rail and transit, and reducing greenhouse gas emissions. I am pleased to express my strong support for the LOSSAN Agency's 2018 TIRCP applications. Thank you for your time and consideration. If you have any questions, you can contact me at (213) 236-1844 or by email at [ikhrata@scag.ca.gov](mailto:ikhrata@scag.ca.gov).

Sincerely,

Hasan Ikhrata  
Executive Director

January 3, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency  
2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the San Luis Obispo Council of Governments (SLOCOG), I would like to express my support for the applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

SLOCOG has determined that the projects located within its jurisdiction are consistent with the Sustainable Communities Strategy adopted in April 2015, as they support improved passenger rail service that will result in increased ridership, reducing vehicle miles traveled and resultant greenhouse gas emissions.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,



Ronald L. De Carli, SLOCOG Executive Director

# City of Camarillo

601 Carmen Drive • P.O. Box 248 • Camarillo, CA 93011-0248



Office of the Mayor  
(805) 388-5307  
FAX (805) 388-5318

January 3, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency  
2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly,

On behalf of the City of Camarillo, I would like to express my support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

Charlotte Craven  
Mayor

STATE CAPITOL  
P.O. BOX 942849  
SACRAMENTO, CA 94249-0078  
(916) 319-2078  
FAX (916) 319-2178

DISTRICT OFFICE  
1350 FRONT STREET, SUITE 6054  
SAN DIEGO, CA 92101  
(619) 645-3090  
FAX (619) 645-3094

E-MAIL  
Assemblymember.Gloria@assembly.ca.gov

# Assembly California Legislature



**TODD GLORIA**  
ASSISTANT MAJORITY WHIP  
ASSEMBLYMEMBER, SEVENTY-EIGHTH DISTRICT

COMMITTEES  
AGING AND LONG-TERM CARE  
EDUCATION  
GOVERNMENTAL ORGANIZATION  
VETERANS AFFAIRS  
WATER, PARKS, AND WILDLIFE

January 11, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

Dear Secretary Kelly,

I am writing to express my support for the Los Angeles – San Diego – San Louis Obispo Rail Corridor Agency's (LOSSAN) grant application to study alternatives for a new maintenance/layover facility for Pacific Surfliner trains in the San Diego area.

This is a project I have been an advocate for as my constituents who live adjacent to the Santa Fe Depot in Downtown San Diego are frequently disturbed by nighttime maintenance of Amtrak trains. The relocation of maintenance and servicing functions at the Santa Fe Depot have been included in agreements and planning documents for decades, but have never been realized.

In 2001, the 20-Year Rail Improvement Plan Technical Report noted that the layover facilities for the Pacific Surfliner trains are located at the San Diego station and listed a new layover facility in either San Diego or National City that would "*allow intercity trains to undergo light maintenance work and to be stored in the San Diego area*" as an improvement for the immediate period within the next three years. Subsequently, the 2013 State Rail Plan again called for a new San Diego layover facility as a mid-term project to be completed between 2016 and 2020 with a projected cost of \$32 million.

The requested grant would allow LOSSAN to conduct a study to determine the feasibility of various options for constructing a new layover facility. Heavy industrial rail yards and high density residential dwelling units are clearly incompatible land uses. The history of how these uses came to be located adjacent to one another at the Santa Fe Depot is replete with commitments that would lead prospective residents to believe that the noise and inconvenience of nighttime rail maintenance would be temporary.

For these reasons, I am proud to support LOSSAN's grant request, and urge the California State Transportation Agency to award the requested funding. Please do not hesitate to contact me if I can provide any additional information.

Sincerely,

  
TODD GLORIA  
Assemblymember, 78<sup>th</sup> District



**Diana F. Rigby**  
Superintendent



**Board Members**

Maureen Foley Claffey  
Rogelio Delgado  
Jaclyn Phuong Fabre  
Michelle Robertson  
Andy Sheaffer

**Maureen Fitzgerald**  
Assistant Superintendent  
Business Services

## Carpinteria Unified School District

January 2, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 3508  
Sacramento, CA 95814

RE: Carpinteria Train Station and TIRCP

Dear Secretary Kelly:

I would like to express the Carpinteria School District's strong support for the application being submitted by the Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor Agency under the Transit and Intercity Rail Capital Program (TIRCP) to construct a second platform at the Carpinteria train station and improve pedestrian access to the station. In particular, creating dedicated pedestrian access across Franklin Creek as part of the widening of the existing rail bridge over the creek would eliminate a very serious safety issue facing our community. Currently the single track rail bridge is the only pedestrian-accessible creek crossing between Aliso Elementary School and residential areas south of the school. Children sometimes walk along the rail tracks and use the rail bridge to walk to school, creating a serious safety issue that will only be compounded when peak hour rail service in our area is implemented.

Although we instruct our students not to use the rail bridge to walk to and from the school, the fact that not doing so would force students to walk a considerable distance out of their way encourages many to use the shortest distance to travel to school. Until dedicated pedestrian access over Franklin Creek can be developed, this safety issue will continue to impact our community.

Again, I would like to express my strong support for this project.

Sincerely,

Diana F. Rigby, Superintendent

---

1400 Linden Avenue • Carpinteria, California 93013 • Tel: (805) 684-4511 • Fax: (805) 684-0218 • [www.cusd.net](http://www.cusd.net)

*Committed to quality education for all.*

Aliso School • Canalino School • Summerland School • Carpinteria Family School • Carpinteria Middle School  
Carpinteria High School • Rincon High School • Foothill School



January 10, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency 2018 Transit and Intercity Rail Capital Program Applications

Dear Secretary Kelly:

On behalf of the California High Speed Rail Authority, I would like to express my support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service on the LOSSAN rail corridor while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

Thomas Fellenz  
Chief Executive Officer  
California High Speed Rail Authority

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County Supervisor, First District  
dwilliams@countyofsb.org

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Chief of Staff  
delliott@countyofsb.org



**ASHLEY KRUZEL**  
District Representative & Scheduler  
akruzel@countyofsb.org

**CAMERON SCHUNK**  
District Representative  
cschunk@countyofsb.org

## COUNTY OF SANTA BARBARA

December 28, 2017

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

Subject: Support for Pacific Surfliner Joint Powers Agency 2018 Transit and Intercity Rail Capital Program Application

Dear Secretary Kelly:

I want to express my support for the applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP). In particular, the badly needed infrastructure improvements in the Pacific Surfliner rail corridor identified in the application for projects north of Los Angeles are vital to increasing Pacific Surfliner service levels and critical to the ability to adjust the Surfliner schedule to meet the needs of travelers in Los Angeles, Ventura, Santa Barbara, and San Luis Obispo counties.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance.

Two projects located in my district are of particular interest to me and which I strongly support. The project to construct a second platform at the Carpinteria station and make associated access and safety improvements will have enormous benefits for the Carpinteria community, including reducing the grave safety issue that currently exists where children walk to and from school across a narrow rail bridge with no pedestrian access. Reconstructing the Ortega siding, which was removed due to storm damage in the 1990s, will restore capacity to the rail corridor by doubling the number of sidings between Ventura and Santa Barbara.



As a former state legislator, I am keenly aware of the importance of state funding to ensure the success of state-supported rail service. These important projects will build on the state's investment in rail service and have a transformative impact on our region by creating an environment in which commuting by rail becomes a more attractive option for the thousands of commuters currently stuck in traffic every morning on the 101 between Ventura and Santa Barbara, one of the most congested traffic corridors in the state. In addition to widening the corridor, we need to find ways to decrease the number of cars on the road; and increasing service and improving timing of our train system greatly increases the chances of that.

Sincerely,

A handwritten signature in black ink, appearing to read 'Das Williams', written in a cursive style.

Das Williams  
Santa Barbara County First District Supervisor



January 4, 2018

**CITY COUNCIL**

Paula Perotte  
*Mayor*

Stuart Kasdin  
*Mayor Pro Tempore*

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*Councilmember*

Michael T. Bennett  
*Councilmember*

Kyle Richards  
*Councilmember*

**CITY MANAGER**  
Michelle Greene

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor  
Agency 2018 Transit and Intercity Rail Capital Program Applications

Dear Secretary Kelly:

On behalf of the City of Goleta, I would like to express my support for the applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications. Thank you in advance for your consideration.

Sincerely,

Paula Perotte  
Mayor



January 11, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency  
2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Southern California Regional Rail Authority, operator of Metrolink commuter rail service, I would like to express my support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP). We have coordinated closely and lend our full support to these applications.

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly three million on Amtrak Pacific Surfliner intercity trains and more than five million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies and Metrolink. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

Arthur T. Leahy  
Chief Executive Officer



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CHIEF EXECUTIVE OFFICE

Darrell Johnson  
Chief Executive Officer

January 3, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency 2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Orange County Transportation Authority, I would like to express my support for the three applications submitted by the Los Angeles – San Diego – San Luis Obispo (LOSSAN) Rail Corridor Agency (Agency) under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly three million on Amtrak Pacific Surfliner intercity trains and more than five million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service on the LOSSAN rail corridor while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Secretary Brian P. Kelly  
January 3, 2018  
Page 2

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,



Darrell E. Johnson  
Chief Executive Officer

DJ:ml

c: Jennifer Bergener, Managing Director, LOSSAN Rail Corridor Agency



401 B Street, Suite 800  
San Diego, CA 92101-4231  
(619) 699-1900  
Fax (619) 699-1905  
sandag.org

January 3, 2018

File Number 3400600

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

Dear Secretary Kelly:

**SUBJECT: All Aboard 2018: Transforming Southern California Rail Travel – Consistency with Sustainable Communities Strategy**

MEMBER AGENCIES

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- Chula Vista
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- and
- County of San Diego

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- United States Department of Defense
- San Diego Unified Port District
- San Diego County Water Authority
- Southern California Tribal Chairmen's Association
- Mexico

The San Diego Association of Governments (SANDAG) has reviewed the All Aboard 2018: Transforming Southern California Rail Travel application for consideration in the Transit and Intercity Rail Capital Program (TIRCP) and has determined that the components located within its jurisdiction will implement San Diego Forward: The Regional Plan (Regional Plan), which is the SANDAG Board-adopted Regional Transportation Plan and its Sustainable Communities Strategy (SCS).

The Regional Plan calls for investing in a transportation network that provides residents and workers with transportation options that reduce greenhouse gas emissions. The proposed projects will reduce travel times, improve capacity, and increase system reliability, which will lead to increased transit ridership and reduced greenhouse gas emissions.

The SANDAG projects included within this joint application are included in the Regional Plan and will support planned mixed-use and high-density residential development near existing rail and high-frequency bus services. The proposed projects also will improve intercity and passenger rail service to each of San Diego's coastal rail stations identified in the Regional Smart Growth Concept Map.

This is one of three TIRCP applications the Los Angeles – San Diego – San Luis Obispo Rail Corridor (LOSSAN Rail Corridor) Agency is submitting in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time, and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Rail Corridor Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

SANDAG is pleased to submit this letter of both SCS consistency for the All Aboard 2018: Transforming Southern California Rail Travel projects located within its jurisdiction, which will assist in implementing the Regional Plan and support for each LOSSAN Rail Corridor Agency TIRCP application.

Sincerely,



KIM KAWADA  
Chief Deputy Executive Director

KKA/LCU/kwa



# City of Santa Barbara

## Office of Mayor

[HSchneider@SantaBarbaraCA.gov](mailto:HSchneider@SantaBarbaraCA.gov)

[www.SantaBarbaraCA.gov](http://www.SantaBarbaraCA.gov)

Helene Schneider

**Mayor**

January 5, 2018

City Hall  
735 Anacapa Street  
Santa Barbara, CA  
93101-1990

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**RE: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency 2018 Transit and Intercity Rail Capital Program Applications**

Mailing Address:  
P.O. Box 1990  
Santa Barbara, CA  
93102-1990

Tel: 805.564.5323

Fax: 805.564.5475

Dear Secretary Kelly:

On behalf of the City of Santa Barbara, I would like to express my support for the applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP). As the SBCAG representative to the Pacific Surfliner Board of Directors, I am keenly aware of how important capital investment is to the corridor north of Los Angeles in order to improve rail service, reliability, and frequency. Investment is also critical to implementing peak hour rails service, a top priority for the LOSSAN rail agency.

The agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications. Thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink, appearing to read "Helene Schneider".

Helene Schneider  
Mayor

cc: Senator Hannah-Beth Jackson  
Assemblymember Monique Limón



Please consider the environment before printing this letter.





■ 260 North San Antonio Road., Suite B ■ Santa Barbara, CA ■ 93110  
■ Phone: 805/961-8900 ■ Fax: 805/961-8901 ■ [www.sbcag.org](http://www.sbcag.org)

January 8, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency 2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Santa Barbara County Association of Governments, I would like to express my support for the applications submitted by the LOSSAN Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

LOSSAN is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, LOSSAN is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

SBCAG has determined that the projects located within Santa Barbara County are consistent with the SBCAG 2017 Sustainable Communities Strategy, as they support improved passenger rail service that will result in increased ridership, reducing vehicle miles traveled and resultant greenhouse gas emissions.

Again, I would like to express my strong support for LOSSAN's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

Marjie Kirn  
Executive Director  
Santa Barbara County Association of Governments

**Member Agencies**

Buellton ■ Carpinteria ■ Goleta ■ Guadalupe ■ Lompoc ■ Santa Barbara ■ Santa Maria ■ Solvang ■ Santa Barbara County



INNOVATING FOR A BETTER TOMORROW

December 28, 2017

SOUTHERN CALIFORNIA  
ASSOCIATION OF GOVERNMENTS  
900 Wilshire Blvd., Ste. 1700  
Los Angeles, CA 90017  
T: (213) 236-1800  
www.scag.ca.gov

The Honorable Brian P. Kelly  
Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

---

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Transportation  
Curt Hagman, San Bernardino County

**RE: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency 2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Southern California Association of Governments (SCAG), I would like to offer this letter of support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP) and that these are consistent with SCAG's 2016-2040 Regional Transportation Plan / Sustainable Communities Strategy (2016 RTP/SCS).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.



INNOVATING FOR A BETTER TOMORROW

SOUTHERN CALIFORNIA  
ASSOCIATION OF GOVERNMENTS  
900 Wilshire Blvd., Ste. 1700  
Los Angeles, CA 90017  
T: (213) 236-1800  
www.scag.ca.gov

REGIONAL COUNCIL OFFICERS

President  
Margaret E. Finlay, Duarte

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Michele Martinez, Santa Ana

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Executive/Administration  
Margaret E. Finlay, Duarte

Community, Economic &  
Human Development  
Rex Richardson, Long Beach

Energy & Environment  
Carmen Ramirez, Oxnard

Transportation  
Curt Hagman, San Bernardino County

The projects within SCAG's jurisdiction are consistent with the goals set forth in the SCAG 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), especially as they pertain to sustainable transportation options that will improve air quality and quality of life.

All of these projects will have tremendous positive effects in our region by increasing rail ridership, improving the integration of rail and transit, and reducing greenhouse gas emissions. I am pleased to express my strong support for the LOSSAN Agency's 2018 TIRCP applications. Thank you for your time and consideration. If you have any questions, you can contact me at (213) 236-1844 or by email at [ikhrata@scag.ca.gov](mailto:ikhrata@scag.ca.gov).

Sincerely,

Hasan Ikhrata  
Executive Director



1255 Imperial Avenue, Suite 1000  
San Diego, CA 92101-7490  
(619) 231-1466

January 3, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency  
2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the San Diego Metropolitan Transit System, I would like to express my support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service on the LOSSAN rail corridor while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

Paul Jablonski  
Chief Executive Officer



January 3, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**Subject: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency  
2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the San Luis Obispo Council of Governments (SLOCOG), I would like to express my support for the applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance. In addition, the LOSSAN Agency is proposing a Coachella Valley Special Events Train to provide demonstration service between Los Angeles and music festivals in the Coachella Valley.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

SLOCOG has determined that the projects located within its jurisdiction are consistent with the Sustainable Communities Strategy adopted in April 2015, as they support improved passenger rail service that will result in increased ridership, reducing vehicle miles traveled and resultant greenhouse gas emissions.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,



Ronald L. De Carli, SLOCOG Executive Director



**BUILDING AMERICA®**

January 12, 2018

Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

Re: Transit and Intercity Rail Capital Program (TIRCP) – Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency (LOSSAN) proposed Pacific Surfliner frequency increases

Dear Secretary Kelly:

On behalf of Union Pacific Railroad (UPRR), I am writing to acknowledge our engagement with LOSSAN on their effort to expand passenger rail service over the existing Pacific Surfliner route on the UPRR Santa Barbara Subdivision between Moorpark and San Luis Obispo. To determine the feasibility of their proposed service, UPRR and LOSSAN are currently involved in an in-depth analysis of the rail capacity in this corridor.

The results of this corridor analysis will determine:

1. If the corridor can support new passenger rail service and at what level of frequency
2. The necessary infrastructure improvements to support the proposed passenger service
3. Passenger station layout and related improvements
4. Scheduling requirements
5. Corridor renewal needs

Changes to LOSSAN's proposed service and related infrastructure investment included within their TIRCP application may be required and will depend on the completion of the corridor analysis. Should the state decide to award TIRCP funds to LOSSAN in support of their application, UPRR requests that the state allow flexibility for those funds to be spent on the specific requirements that are determined by our analysis and future service agreements.

As we are still within the preliminary stages of our analysis, UPRR is not able to commit to allowing the proposed Pacific Surfliner frequency increases at this time. However, UPRR is committed to finalizing our corridor analysis and supports LOSSAN's efforts to obtain funding through the TIRCP program.

Sincerely,

Wes Lujan



# Ventura County Transportation Commission

January 3, 2018

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 350B  
Sacramento, CA 95814

**RE: Support for Los Angeles – San Diego – San Luis Obispo Rail Corridor Agency  
2018 Transit and Intercity Rail Capital Program Applications**

Dear Secretary Kelly:

On behalf of the Ventura County Transportation Commission, I would like to express my support for the three applications submitted by the Los Angeles - San Diego - San Luis Obispo (LOSSAN) Rail Corridor Agency under the 2018 Transit and Intercity Rail Capital Program (TIRCP).

The 351-mile LOSSAN rail corridor travels through a six-county coastal region in Southern California and includes 41 stations served by more than 150 daily passenger trains. It is the second busiest intercity passenger rail corridor in the United States with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 5 million on Metrolink and COASTER commuter trains. Of the five stations in Ventura County, there are two stations, Oxnard and Ventura, located in Disadvantaged Communities as designated by the California Environmental Protection Agency.

The LOSSAN Agency is submitting three TIRCP applications in coordination with its member agencies. The proposed projects include high-priority capital and operational improvements that will enable more frequent and integrated intercity and commuter rail service while improving on-time performance, reducing travel time and enhancing safety. This transformative program of projects includes additional double track and sidings, bridge replacements, station and layover facility enhancements, signal and switch upgrades, and performance incentives for improved on-time performance.

Together, these projects will increase passenger rail ridership, reduce traffic congestion and greenhouse gas emissions, advance rail integration, improve safety, and provide benefits to disadvantaged and low-income communities.

Again, I would like to express my strong support for the LOSSAN Agency's 2018 TIRCP applications and thank you in advance for your consideration.

Sincerely,

A handwritten signature in blue ink that reads "Darren M. Kettle". The signature is fluid and cursive, with the first name being the most prominent.

Darren M. Kettle  
Executive Director



**California Air Resources Board  
 Calculator Tool for the  
 California State Transportation Agency  
 Transit and Intercity Rail Capital Program  
 Greenhouse Gas Reduction Fund  
 Fiscal Year 2018-19**

The California Air Resources Board (CARB) is responsible for providing the quantification methodology to estimate the greenhouse gas (GHG) emission reductions and other non-GHG outcomes, referred to as co-benefits (e.g., air pollutant emission estimates), from projects receiving monies from the Greenhouse Gas Reduction Fund (GGRF).

CARB released the California State Transportation Agency (CalSTA) Transit and Intercity Rail Capital Program (TIRCP) Draft Quantification Methodology and Draft TIRCP Calculator Tool for Fiscal Year (FY) 2018-19 for public comment in September 2017. The Draft Quantification Methodology and Draft TIRCP Calculator Tool were updated as necessary to reflect stakeholder comments and final TIRCP Guidelines for FY 2018-19. This Final TIRCP Calculator Tool accompanies the Final Quantification Methodology for FY 2018-19, available at: [www.arb.ca.gov/cci-quantification](http://www.arb.ca.gov/cci-quantification)

Instructions: Applicants must use this calculator to estimate the GHG emission reductions and air pollutant emissions associated with the quantification methodology, as applicable. This Excel file must be submitted with other documentation requirements. Please use the following file naming convention: “[Project Name]\_calc” not to exceed 20 characters. Project names may be abbreviated. Additional documentation may be necessary to substantiate the inputs to this file. Fields highlighted in yellow indicate input needed by the project applicant.

- Step 1** Define the Project: Applicants must define the project by identifying both eligible project types in Table 2 of the Quantification Methodology and the number of quantifiable components.
- Step 2** Determine the TIRCP Calculator Tool Inputs Needed: The applicant will use Table 3 in the Quantification Methodology to determine the required data inputs to estimate the GHG emission reductions and air pollutant emission co-benefits for each quantifiable component by project type, as identified in Step 1.
- Step 3** Estimate the GHG Emission Reductions and Air Pollutant Emissions for the Proposed Project for Each Component Using the TIRCP Calculator Tool: The applicant will enter the required data inputs identified in Step 2 into this TIRCP Calculator Tool to calculate the GHG emission reductions and air pollutant emission estimates of the proposed project.

**Read Me Tab (this page):**

Enter the Project Name and the contact information for person who can answer project-specific questions on the quantification calculations.

<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
<b>Contact Name:</b>	<b>Michael Litschi</b>
<b>Contact Phone Number:</b>	<b>714-560-5581</b>
<b>Contact Email:</b>	<a href="mailto:mlitschi@octa.net">mlitschi@octa.net</a>
<b>Date Completed:</b>	<b>1/9/2018</b>

**Quantifiable Component Tabs:**

Cells in yellow with headers in red indicate a direct user input is required. Cells in red indicate a direct user input is optional (note: additional supporting documentation is required if used). Green fields indicate a selection from a drop-down box is required. Gray fields indicate output or calculation fields that are automatically populated based on user entries and the quantification methods.

For each component, applicants must work from top to bottom and enter all relevant data. Some cells may not be applicable to the project type; these cells will turn black and lock. Applicants should use one tab per quantifiable component and may use as many tabs as necessary to characterize all relevant components of the proposed project, including additional GGRF funding requested from other California Climate Investments (CCI) programs. A component is a project type for which GHG emission reductions and air pollutant emissions may be estimated, evaluated and reported separately from other components within the TIRCP project. Inputs must be substantiated in the documentation provided to CalSTA and CARB; see Section C. Documentation of the Quantification Methodology.

**Submit documentation:** Save file for submittal. See Section C. Documentation of the Quantification Methodology for additional documentation requirements.

For more information on CARB’s efforts to support implementation of GGRF investments, see: <http://www.arb.ca.gov/caclimateinvestments>

Questions pertaining to TIRCP should be sent to: [TIRCPcomments@dot.ca.gov](mailto:TIRCPcomments@dot.ca.gov)

Questions on this calculator should be sent to: [GGRFProgram@arb.ca.gov](mailto:GGRFProgram@arb.ca.gov)





**California Air Resources Board  
 Calculator Tool for the  
 California State Transportation Agency  
 Transit and Intercity Rail Capital Program  
 Greenhouse Gas Reduction Fund  
 Fiscal Year 2018-19**

<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
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Input	Description	Quantified Component 1	
Identifying Descriptor (ID)	Brief description of the quantifiable component identifying it from other separable components.	Building UP: LOSSAN North Improvement Program	
<b>Funding Inputs</b>			
TIRCP Funds Requested	Total TIRCP funds requested for this separable component.	\$196,639,975	
Multi-Year	Will this component request several California Transportation Commission allocations over multiple calendar years?	Yes	
<b>Additional CCI Program 1</b>			
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.		
Additional GGRF Funds	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
<b>Additional CCI Program 2</b>			
CCI Program	Other CCI Program from which project has or will be requesting GGRF funds.		
Additional GGRF Funds	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
Total GGRF Funds Requested	Total GGRF funds requested from all CCI Programs	\$196,639,975	
<b>Project Inputs</b>			
Project Type	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.	System and Efficiency Improvements	
Service Type	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.	Heavy Rail	
Vehicle Type	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.	Heavy Rail	
Region	The region that best encompasses the geographic location for the proposed project type.	Air Basin	
Sub region	The County or Air Basin where the majority of the service occurs.	South Coast	
Year 1 (Yr1)	The first year of service or the first year the facility or rolling stock will be in use.	2023	
Year F (YrF)	The final year of service or the final year the facility or rolling stock's useful life.	2053	
Useful Life	The number of years the service is funded or the useful life of the facility or rolling stock.	30	
<b>Displaced Autos Inputs</b>		<b>Input</b>	<b>Reference</b>
Yr1 Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).	408,400	Caltrans intercity rail ridership model
YrF Ridership	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.	2,748,946	ridership 2035 model, escalated at 2
Adjustment Factor (A)	Discount factor applied to annual ridership to account for transit-dependent riders. Use: document project-specific data or system average developed from a recent, statistically valid survey or default.	0.86	Long distance commuter service
Length of Average Trip (L)	Annual passenger miles over unlinked trips directly associated with the proposed project.	86	Amtrak ridership annual reports
<b>New/Expanded Service Vehicle Inputs</b>		<b>Input</b>	<b>Reference</b>

Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.		
Annual VMT	The estimated annual VMT required to operate the new/expanded service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, kWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
<b>Displaced Vehicle/Fuel Reductions Inputs</b>		<b>Input</b>	<b>Reference</b>
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		



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**Transit and Intercity Rail Capital Program**  
**Greenhouse Gas Reduction Fund**  
**Fiscal Year 2018-19**

<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
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Input	Description	Quantified Component 2	
<b>Identifying Descriptor (ID)</b>	Brief description of the quantifiable component identifying it from other separable components.		
<b>Funding Inputs</b>			
<b>TIRCP Funds Requested</b>	Total TIRCP funds requested for this separable component.		
<b>Multi-Year</b>	Will this component request several California Transportation Commission allocations over multiple calendar years?	No	
<b>Additional CCI Program 1</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
<b>Additional CCI Program 2</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
<b>Total GGRF Funds Requested</b>	Total GGRF funds requested from all CCI Programs		
<b>Project Inputs</b>			
<b>Project Type</b>	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.		
<b>Service Type</b>	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.		
<b>Vehicle Type</b>	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
<b>Region</b>	The region that best encompasses the geographic location for the proposed project type.		
<b>Sub region</b>	The County or Air Basin where the majority of the service occurs.		
<b>Year 1 (Yr1)</b>	The first year of service or the first year the facility or rolling stock will be in use.		
<b>Year F (YrF)</b>	The final year of service or the final year the facility or rolling stock's useful life.		
<b>Useful Life</b>	The number of years the service is funded or the useful life of the facility or rolling stock.		
<b>Displaced Autos Inputs</b>		<b>Input</b>	<b>Reference</b>
<b>Yr1 Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
<b>YrF Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.		
<b>Adjustment Factor (A)</b>	Discount factor applied to annual ridership to account for transit-dependent riders. Use: document project-specific data or system average developed from a recent, statistically valid survey or default.		
<b>Length of Average Trip (L)</b>	Annual passenger miles over unlinked trips directly associated with the proposed project.		
<b>New/Expanded Service Vehicle Inputs</b>		<b>Input</b>	<b>Reference</b>

Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.		
Annual VMT	The estimated annual VMT required to operate the new/expanded service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, kWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
<b>Displaced Vehicle/Fuel Reductions Inputs</b>		<b>Input</b>	<b>Reference</b>
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		



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**Fiscal Year 2018-19**

<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
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Input	Description	Quantified Component 3	
<b>Identifying Descriptor (ID)</b>	Brief description of the quantifiable component identifying it from other separable components.		
<b>Funding Inputs</b>			
<b>TIRCP Funds Requested</b>	Total TIRCP funds requested for this separable component.		
<b>Multi-Year</b>	Will this component request several California Transportation Commission allocations over multiple calendar years?		
<b>Additional CCI Program 1</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
<b>Additional CCI Program 2</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
<b>Total GGRF Funds Requested</b>	Total GGRF funds requested from all CCI Programs		
<b>Project Inputs</b>			
<b>Project Type</b>	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.		
<b>Service Type</b>	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.		
<b>Vehicle Type</b>	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
<b>Region</b>	The region that best encompasses the geographic location for the proposed project type.		
<b>Sub region</b>	The County or Air Basin where the majority of the service occurs.		
<b>Year 1 (Yr1)</b>	The first year of service or the first year the facility or rolling stock will be in use.		
<b>Year F (YrF)</b>	The final year of service or the final year the facility or rolling stock's useful life.		
<b>Useful Life</b>	The number of years the service is funded or the useful life of the facility or rolling stock.		
<b>Displaced Autos Inputs</b>		<b>Input</b>	<b>Reference</b>
<b>Yr1 Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
<b>YrF Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.		
<b>Adjustment Factor (A)</b>	Discount factor applied to annual ridership to account for transit-dependent riders. Use: document project-specific data or system average developed from a recent, statistically valid survey or default.		
<b>Length of Average Trip (L)</b>	Annual passenger miles over unlinked trips directly associated with the proposed project.		
<b>New/Expanded Service Vehicle Inputs</b>		<b>Input</b>	<b>Reference</b>

Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.		
Annual VMT	The estimated annual VMT required to operate the new/expanded service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, kWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
<b>Displaced Vehicle/Fuel Reductions Inputs</b>		<b>Input</b>	<b>Reference</b>
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		



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**Fiscal Year 2018-19**

<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
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Input	Description	Quantified Component 4	
<b>Identifying Descriptor (ID)</b>	Brief description of the quantifiable component identifying it from other separable components.		
<b>Funding Inputs</b>			
<b>TIRCP Funds Requested</b>	Total TIRCP funds requested for this separable component.		
<b>Multi-Year</b>	Will this component request several California Transportation Commission allocations over multiple calendar years?		
<b>Additional CCI Program 1</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
<b>Additional CCI Program 2</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
<b>Total GGRF Funds Requested</b>	Total GGRF funds requested from all CCI Programs		
<b>Project Inputs</b>			
<b>Project Type</b>	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.		
<b>Service Type</b>	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.		
<b>Vehicle Type</b>	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
<b>Region</b>	The region that best encompasses the geographic location for the proposed project type.		
<b>Sub region</b>	The County or Air Basin where the majority of the service occurs.		
<b>Year 1 (Yr1)</b>	The first year of service or the first year the facility or rolling stock will be in use.		
<b>Year F (YrF)</b>	The final year of service or the final year the facility or rolling stock's useful life.		
<b>Useful Life</b>	The number of years the service is funded or the useful life of the facility or rolling stock.		
<b>Displaced Autos Inputs</b>		<b>Input</b>	<b>Reference</b>
<b>Yr1 Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
<b>YrF Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.		
<b>Adjustment Factor (A)</b>	Discount factor applied to annual ridership to account for transit-dependent riders. Use: document project-specific data or system average developed from a recent, statistically valid survey or default.		
<b>Length of Average Trip (L)</b>	Annual passenger miles over unlinked trips directly associated with the proposed project.		
<b>New/Expanded Service Vehicle Inputs</b>		<b>Input</b>	<b>Reference</b>

Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.		
Annual VMT	The estimated annual VMT required to operate the new/expanded service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, kWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
<b>Displaced Vehicle/Fuel Reductions Inputs</b>		<b>Input</b>	<b>Reference</b>
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		





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**Fiscal Year 2018-19**

<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
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Input	Description	Quantified Component 5	
<b>Identifying Descriptor (ID)</b>	Brief description of the quantifiable component identifying it from other separable components.		
<b>Funding Inputs</b>			
<b>TIRCP Funds Requested</b>	Total TIRCP funds requested for this separable component.		
<b>Multi-Year</b>	Will this component request several California Transportation Commission allocations over multiple calendar years?		
<b>Additional CCI Program 1</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
<b>Additional CCI Program 2</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
<b>Total GGRF Funds Requested</b>	Total GGRF funds requested from all CCI Programs		
<b>Project Inputs</b>			
<b>Project Type</b>	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.		
<b>Service Type</b>	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.		
<b>Vehicle Type</b>	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
<b>Region</b>	The region that best encompasses the geographic location for the proposed project type.		
<b>Sub region</b>	The County or Air Basin where the majority of the service occurs.		
<b>Year 1 (Yr1)</b>	The first year of service or the first year the facility or rolling stock will be in use.		
<b>Year F (YrF)</b>	The final year of service or the final year the facility or rolling stock's useful life.		
<b>Useful Life</b>	The number of years the service is funded or the useful life of the facility or rolling stock.		
<b>Displaced Autos Inputs</b>		<b>Input</b>	<b>Reference</b>
<b>Yr1 Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
<b>YrF Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.		
<b>Adjustment Factor (A)</b>	Discount factor applied to annual ridership to account for transit-dependent riders. Use: document project-specific data or system average developed from a recent, statistically valid survey or default.		
<b>Length of Average Trip (L)</b>	Annual passenger miles over unlinked trips directly associated with the proposed project.		
<b>New/Expanded Service Vehicle Inputs</b>		<b>Input</b>	<b>Reference</b>

Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.		
Annual VMT	The estimated annual VMT required to operate the new/expanded service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, kWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
<b>Displaced Vehicle/Fuel Reductions Inputs</b>		<b>Input</b>	<b>Reference</b>
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		



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<b>Project Name:</b>	<b>Building UP: LOSSAN North Improvement Program</b>
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Input	Description	Quantified Component 6	
<b>Identifying Descriptor (ID)</b>	Brief description of the quantifiable component identifying it from other separable components.		
<b>Funding Inputs</b>			
<b>TIRCP Funds Requested</b>	Total TIRCP funds requested for this separable component.		
<b>Multi-Year</b>	Will this component request several California Transportation Commission allocations over multiple calendar years?		
<b>Additional CCI Program 1</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 1.		
<b>Additional CCI Program 2</b>			
<b>CCI Program</b>	Other CCI Program from which project has or will be requesting GGRF funds.		
<b>Additional GGRF Funds</b>	Total GGRF funds requested or to be requested from Additional CCI Program 2.		
<b>Total GGRF Funds Requested</b>	Total GGRF funds requested from all CCI Programs		
<b>Project Inputs</b>			
<b>Project Type</b>	For the purposes of this quantification, eligible TIRCP projects fall into four project types. Select the project type that best describes this component.		
<b>Service Type</b>	The transit service (e.g., Intercity/Express Bus (Long Distance), Light Rail, Vanpool, etc.) directly associated with the proposed project. For projects that serve multiple services, select Multi-modal.		
<b>Vehicle Type</b>	The vehicle type (e.g., Transit Bus, Streetcar, Ferry, etc.) that will operate the new service or will be procured.		
<b>Region</b>	The region that best encompasses the geographic location for the proposed project type.		
<b>Sub region</b>	The County or Air Basin where the majority of the service occurs.		
<b>Year 1 (Yr1)</b>	The first year of service or the first year the facility or rolling stock will be in use.		
<b>Year F (YrF)</b>	The final year of service or the final year the facility or rolling stock's useful life.		
<b>Useful Life</b>	The number of years the service is funded or the useful life of the facility or rolling stock.		
<b>Displaced Autos Inputs</b>		<b>Input</b>	<b>Reference</b>
<b>Yr1 Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the first year (Yr1).		
<b>YrF Ridership</b>	The increase in unlinked passenger trips directly associated with the proposed project in the final year. If the ridership is not expected to change, Yr1 and YrF should be the same value.		
<b>Adjustment Factor (A)</b>	Discount factor applied to annual ridership to account for transit-dependent riders. Use: document project-specific data or system average developed from a recent, statistically valid survey or default.		
<b>Length of Average Trip (L)</b>	Annual passenger miles over unlinked trips directly associated with the proposed project.		
<b>New/Expanded Service Vehicle Inputs</b>		<b>Input</b>	<b>Reference</b>

Hybrid Vehicle	Is the vehicle for the new/expanded service, or vehicle(s) to be procured, a hybrid?		
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the vehicle for the new/expanded service, or of the new vehicle(s) to be procured.		
Model Year	The engine model year of the vehicle that will operate the new/expanded service, or of the new vehicle(s) to be procured.		
Project-Specific Emission Factor	If used, applicant must be able to demonstrate an approved carbon intensity value under the Low Carbon Fuel Standard and submit additional documentation.		
Annual VMT	The estimated annual VMT required to operate the new/expanded service or of the new vehicle(s) to be procured (e.g., 72,000). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel (i.e., gallon of diesel, kWh of electricity) required to operate the new/expanded service, or of the new rail or ferry vehicle(s) to be procured (e.g., 26,000).		
<b>Displaced Vehicle/Fuel Reductions Inputs</b>		<b>Input</b>	<b>Reference</b>
Fuel Type	The fuel type (e.g., electric, diesel, etc.) of the displaced vehicle(s) or of fuel reductions as a result of the project.		
Model Year	The average engine model year(s) of the displaced vehicle(s) or of the vehicle(s) to realize fuel reductions as a result of the project.		
Annual VMT	The estimated annual VMT of the displaced vehicle(s). For rail and ferry vehicles, applicants may alternatively use Annual Fuel.		
Annual Fuel	The estimated annual fuel reductions expected to be realized as a result of the project or the estimated annual fuel the displaced vehicle(s) would have required to operate the equivalent as the new vehicle to be procured.		



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**Project Name:** Building UP: LOSSAN North Improvement Program

	Quantified GHG Component 1	Quantified GHG Component 2	Quantified GHG Component 3	Quantified GHG Component 4	Quantified GHG Component 5	Quantified GHG Component 6	Total Project
Identifying Descriptor	Building UP: LOSSAN North Improvement Program						
GHG Emission Reduction Start Date (Year)	2023						
<b>Total CCI</b>							
Total GHG Emission Reductions (MTCO <sub>2</sub> e)	1,187,672						1,187,672
Total GGRF Funds Requested (\$)	196,639,975						196,639,975
Total GHG Emission Reductions/Total GGRF Funds Requested (MTCO <sub>2</sub> e/\$)	0.006040						0.006040
<b>TIRCP</b>							
TIRCP GHG Emission Reductions (MTCO <sub>2</sub> e)	1,187,672						1,187,672
TIRCP Funds Requested (\$)	196,639,975						196,639,975
TIRCP GHG Emission Reductions/TIRCP Funds Requested (MTCO <sub>2</sub> e/\$)	0.006040						0.006040
TIRCP Funds Requested/TIRCP GHG Emission Reductions (\$/MTCO <sub>2</sub> e)	166						166
<b>Additional CCI Program 1</b>							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO <sub>2</sub> e)							
Total Additional GGRF Funds to Implement Project (\$)							
<b>Additional CCI Program 2</b>							
CCI Program							
GHG Emission Reductions Attributable to other GGRF Programs (MTCO <sub>2</sub> e)							
Total Additional GGRF Funds to Implement Project (\$)							



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**Project Name:** Building UP: LOSSAN North Improvement Program

	Quantified Co-Benefit Component 1	Quantified Co-Benefit Component 2	Quantified Co-Benefit Component 3	Quantified Co-Benefit Component 4	Quantified Co-Benefit Component 5	Quantified Co-Benefit Component 6	Total Project
Identifying Descriptor	Building UP: LOSSAN North Improvement Program						
<b>Total CCI</b>							
Key Variables	Passenger VMT Reductions (miles)	116,758,655					116,758,655
	Fossil Fuel Use Reductions	N/A					
	Fossil Fuel Energy Use Reductions (kWh)	N/A					
Co-Benefits	ROG Emission Reductions (lbs)	46,050					46,050
	NOx Emission Reductions (lbs)	217,520					217,520
	PM2.5 Emission Reductions (lbs)	6,657					6,657
	Diesel PM Emission Reductions (lbs)	15,658					15,658
<b>TIRCP</b>							
Key Variables	Passenger VMT Reductions (miles)	116,758,655					116,758,655
	Fossil Fuel Use Reductions	N/A					
	Fossil Fuel Energy Use Reductions (kWh)	N/A					
Co-Benefits	ROG Emission Reductions (lbs)	46,050					46,050
	NOx Emission Reductions (lbs)	217,520					217,520
	PM2.5 Emission Reductions (lbs)	6,657					6,657
	Diesel PM Emission Reductions (lbs)	15,658					15,658
<b>Additional CCI Program 1</b>							
Key Variables	Passenger VMT Reductions (miles)						
	Fossil Fuel Use Reductions						
	Fossil Fuel Energy Use Reductions (kWh)						
Co-Benefits	ROG Emission Reductions (lbs)						
	NOx Emission Reductions (lbs)						
	PM2.5 Emission Reductions (lbs)						
	Diesel PM Emission Reductions (lbs)						
<b>Additional CCI Program 2</b>							
Key Variables	Passenger VMT Reductions (miles)						
	Fossil Fuel Use Reductions						
	Fossil Fuel Energy Use Reductions (kWh)						
Co-Benefits	ROG Emission Reductions (lbs)						
	NOx Emission Reductions (lbs)						
	PM2.5 Emission Reductions (lbs)						
	Diesel PM Emission Reductions (lbs)						

**Forecast Results: 2022 LOSSAN Service (13/6/3) with Endpoint OTP Increase from 69% to 90% on Pacific Surfliner & -10min LAX-GTA Travel Time  
Prepared 1/9/2018**

Route	FY2022 Baseline			Proposed			Increment					
	Annual Totals			Annual Total			Ridership	% Chg	Revenue	% Chg	Passenger Miles	% Chg
	Ridership	Ticket Revenue	Passenger Miles	Ridership	Ticket Revenue	Passenger Miles						
<b>Pacific Surfliner</b>	3,380,500	\$ 88,894,000	293,485,000	3,788,900	\$ 100,871,000	336,673,000	408,400	12.1%	\$ 11,977,000	13.5%	43,188,000	14.7%
<b>Coast Starlight</b>	482,300	\$ 47,135,000	233,001,000	480,100	\$ 47,058,000	232,707,000	-2,200	-0.5%	\$ (77,000)	-0.2%	-294,000	-0.1%
<b>Total Amtrak</b>	3,862,800	\$ 136,029,000	526,486,000	4,269,000	\$ 147,929,000	569,380,000	406,200	10.5%	\$ 11,900,000	8.7%	42,894,000	8.1%

**Notes**

Totals may not sum due to rounding.

In FY17, 69% of Pacific Surfliner ridership occurred entirely within the SAN-LAX corridor.

Scenario increase round-trip train frequency from 12/5/2 to 13/6/3 (slashes represent SAN-LAX/LAX-GTA/GTA-SLO train frequency).

Impact of Endpoint OTP change was estimated using the 2015 Amtrak econometric model and applied as postprocessing.

Impact of travel time change from 2016 TIRCP travel time elasticity calculations (applied as postprocessing).

**These forecasts are based solely upon information available to SDG as of 1/2/2018.**

**Future - year forecasts based on FY22 forecasts provided by Amtrak in February 2017.**

**These forecasts are provided for the sole use of Amtrak. They are not intended for disclosure in a financial offering statement.**

**Service Summary**

**Existing Southbound (Weekday)**

	562	564	566	768	572	774	780	782	784	590	792	796	11
San Luis Obispo						6:55						16:15	15:20
Goleta				6:35		9:13		12:35			16:25	18:48	
Los Angeles (arr.)				9:35		12:15		15:35			19:47	21:48	21:00
Los Angeles (dep.)	6:05	7:25	8:41	9:55	11:20	12:33	14:58	16:08	17:10	19:15	20:15	22:13	
San Diego	8:55	10:21	11:40	12:54	14:13	15:28	17:52	19:07	20:18	22:14	23:03	1:12	
SLO-GTA time						2:18						2:33	
GTA-LAX time				3:00		3:02		3:00			3:22	3:00	
LAX-SAN time	2:50	2:56	2:59	2:59	2:53	2:55	2:54	2:59	3:08	2:59	2:48	2:59	

**Proposed Southbound (Weekday)**

	562	564	566	768	572	774	576	578	780	784	590	792	796	11
San Luis Obispo						6:55			10:33				16:15	15:20
Goleta				6:35		9:13			12:56	13:50		16:25	18:48	
Los Angeles (arr.)				9:35		12:15			15:50	16:50		19:47	21:48	21:00
Los Angeles (dep.)	6:05	7:25	8:41	9:55	11:20	12:33	13:38	14:58	16:08	17:10	19:15	20:15	22:13	
San Diego	8:55	10:21	11:40	12:54	14:13	15:28	16:42	17:52	19:00	20:09	22:14	23:03	1:12	
SLO-GTA time						2:18			2:23				2:33	
GTA-LAX time				3:00		3:02			2:54	3:00		3:22	3:00	
LAX-SAN time	2:50	2:56	2:59	2:59	2:53	2:55	3:04	2:54	2:52	2:59	2:59	2:48	2:59	

**Existing Northbound (Weekday)**

	761	763	565	567	769	573	777	579	583	785	591	595	14
San Diego	4:00	5:55	6:57	8:21	9:20	10:41	12:05	13:30	14:47	15:58	18:43	20:52	
Los Angeles (arr.)	7:03	8:51	9:56	11:29	12:10	13:43	14:51	16:29	17:46	18:57	21:35	23:52	
Los Angeles (dep.)	7:35	9:11			12:30		15:06			19:16			10:10
Goleta	10:43	11:56			15:14		17:56			22:04			
San Luis Obispo		14:30					20:36						15:22
SLO-GTA time		2:34					2:40						
GTA-LAX time	3:08	2:45			2:44		2:50			2:48			
LAX-SAN time	3:03	2:56	2:59	3:08	2:50	3:02	2:46	2:59	2:59	2:59	2:52	3:00	

**Proposed Northbound (Weekday)**

	759	761	763	565	567	769	573	777	579	583	785	591	593	595	14
San Diego		4:00	5:55	6:57	8:21	9:20	10:41	12:05	13:30	14:47	15:58	18:43	19:49	20:52	
Los Angeles (arr.)		7:03	8:51	9:56	11:29	12:10	13:43	14:51	16:29	17:46	18:57	21:35	22:38	23:52	
Los Angeles (dep.)	4:09	7:35	9:11			12:30		15:06			19:16				10:10
Goleta	7:14	10:43	11:56			15:16		17:56			22:04				
San Luis Obispo			14:30			17:50		20:36							15:22
SLO-GTA time			2:34			2:34		2:40							
GTA-LAX time	3:05	3:08	2:45			2:46		2:50			2:48				
LAX-SAN time		3:03	2:56	2:59	3:08	2:50	3:02	2:46	2:59	2:59	2:59	2:52			



**Forecast Results: 2035 LOSSAN Service (18/9/4) with Connection to San Diego Airport Intermodal Transportation Center, Endpoint OTP Improvement from 69% to 90%, and -10min LAX-GTA Travel Time  
Prepared 1/10/2018**

Route	FY2035 Baseline			Proposed			Increment					
	Annual Totals			Annual Total			Ridership	% Chg	Revenue	% Chg	Passenger Miles	% Chg
	Ridership	Ticket Revenue	Passenger Miles	Ridership	Ticket Revenue	Passenger Miles						
Pacific Surfliner	4,272,900	\$ 112,359,000	370,956,000	6,197,600	\$ 167,150,000	557,705,000	1,924,700	45.0%	\$ 54,791,000	48.8%	186,749,000	50.3%
Coast Starlight	609,600	\$ 59,577,000	294,506,000	598,700	\$ 59,182,000	293,003,000	-10,900	-1.8%	\$ (395,000)	-0.7%	-1,503,000	-0.5%
<b>Total Amtrak</b>	<b>4,882,500</b>	<b>\$ 171,936,000</b>	<b>665,462,000</b>	<b>6,796,300</b>	<b>\$ 226,332,000</b>	<b>850,708,000</b>	<b>1,913,800</b>	<b>39.2%</b>	<b>\$ 54,396,000</b>	<b>31.6%</b>	<b>185,246,000</b>	<b>27.8%</b>

**Notes**

Totals may not sum due to rounding.  
 In FY17, 69% of ridership on Pacific Surfliner occurred entirely within the SAN-LAX corridor.  
 Scenario increase round-trip train frequency from 12/5/2 to 18/9/4 (slashes represent SAN-LAX/LAX-GTA/GTA-SLO train frequency).  
 Travel time decrease between SAN-LAX. Dwell time decrease at LAX.  
 Impact of adding San Diego Airport Intermodal Transportation Center applied as off-model postprocessing. Impact of Endpoint OTP change estimated using the 2015 Amtrak econometric model and applied as further postprocessing.  
 Impact of -10 minutes travel time in LAX-GTA corridor based on 2016 TIRCP travel time elasticity estimates and applied as postprocessing.

**Explanation of Post-processing for Connection to San Diego Airport Intermodal Transportation Center**

The incremental model is not able to directly capture the impact of adding a stop at the San Diego Airport Intermodal Transportation Center (ITC) for the following reasons:  
 The incremental model consider ridership potential at a new station by looking at the incremental population (and associated demographics) at the area immediately surrounding the station.  
 Since Old Town station is very close (as the crow flies) to SAN Airport, the number of additional passengers captured in this methodology will be negligible.  
 In addition, this method does not account for the special generator nature of an air connection compared to a more conventional station.  
 To the best of SDG and Caltrans' staff knowledge there are currently no demand forecasts explicitly reviewing the ridership potential of having Amtrak make an additional stop at the airport.  
 Airport link studies are typically multi-month study efforts including (among other aspects) passenger surveying, data collection, and/or ridership modeling efforts.  
 Due to the short timeline involved in this demand forecast, an involved effort is not possible.  
 We have therefore reviewed a number of related plans/studies, as well as Amtrak operational statistics at other airports, to provide a high-level estimate of the potential impact of the airport connection.

This scenario adds a stop at the 'San Diego Airport Intermodal Transportation Center' (ITC) for all 18 trains. Based on our understanding the ITC will be connected to the terminal via a shuttle bus as the terminals are not very close to ITC.  
 (Source: <http://www.sandiegobusiness.org/sites/default/files/june%20ADP%20PPT%20for%20EDC.pdf>)  
 The 2016 San Diego Airport 'Airport Transit Plan' suggested that approximately 170,000 passengers per year would use a shuttle from OLT station to the airport terminals assuming 15-minute headways.  
 (Source: <http://san.org/Portals/0/Documents/2008%20Master%20Plan/Airport%20Transit%20Plan%20June%202016%20v7.pdf>, p. 50 of 59 PDF pages)  
 OLT station serves Amtrak, Coaster, MTS Trolley (Green Line) and 10 MTS bus routes. It is not clear what percentage of the 170,000 passengers are from Amtrak versus other modes at OLT - we assumed one-quarter (page 18 of the Airport Transit Plan suggests that 34% of trips to/from SAN airport are local, 18% are on the I-5 Amtrak/Coaster corridor, and 12% are on the I-8/Green Line corridor - 18 / (34 + 18 + 12) is 28%, but some of these 28% of passengers will be using Coaster).  
 It appears that the 170,000 number is for 2017 (p. 57 of 59 PDF pages); using FAA's Terminal Area Forecast growth rates this corresponds to total 240,800 trips in 2035, or about 60,000 passengers allocated to Amtrak using the one-quarter ratio suggested above.  
 (Source: [https://www.faa.gov/data\\_research/aviation/taf/media/taf\\_summary\\_fy\\_2016-2045.pdf](https://www.faa.gov/data_research/aviation/taf/media/taf_summary_fy_2016-2045.pdf))  
 The shuttle from the TIC to the airport terminals is assumed to take less travel time and be of higher frequency than the shuttle from OLT to the airport terminals. In addition, there may be some mode shift from Coaster, former Amtrak-Bus 992 (at SAN station) passengers, etc. Thus we might assume 1.5x-2x as many passengers, or up to 120,000 additional passengers, will use OLT station for airport access.

These forecasts are based solely upon information available to SDG as of 1/2/2018.

Future - year forecasts based on FY22 forecasts provided by Amtrak in February 2017.

These forecasts are provided for the sole use of Amtrak. They are not intended for disclosure in a financial offering statement.

**Service Summary**

**Existing Southbound (Weekday)**

	<b>562</b>	<b>564</b>	<b>566</b>	<b>768</b>	<b>572</b>	<b>774</b>	<b>576</b>	<b>578</b>	<b>780</b>	<b>782</b>	<b>784</b>	<b>590</b>	<b>792</b>	<b>796</b>	<b>11</b>	
San Luis Obispo						6:55									15:20	
Goleta				6:35		9:13				12:35				16:25	18:48	
Los Angeles (arr.)				9:35		12:15				15:35				19:47	21:48	
Los Angeles (dep.)	6:05	7:25	8:41	9:55	11:20	12:33			14:58	16:08	17:10	19:15	20:15	22:13		
San Diego	8:55	10:21	11:40	12:54	14:13	15:28			17:52	19:07	20:18	22:14	23:03	1:12		
SLO-GTA time						2:18									2:33	
GTA-LAX time				3:00		3:02			3:00						3:22	3:00
LAX-SAN time	2:50	2:56	2:59	2:59	2:53	2:55			2:54	2:59	3:08	2:59	2:48	2:59		

**Proposed Southbound (Weekday)**

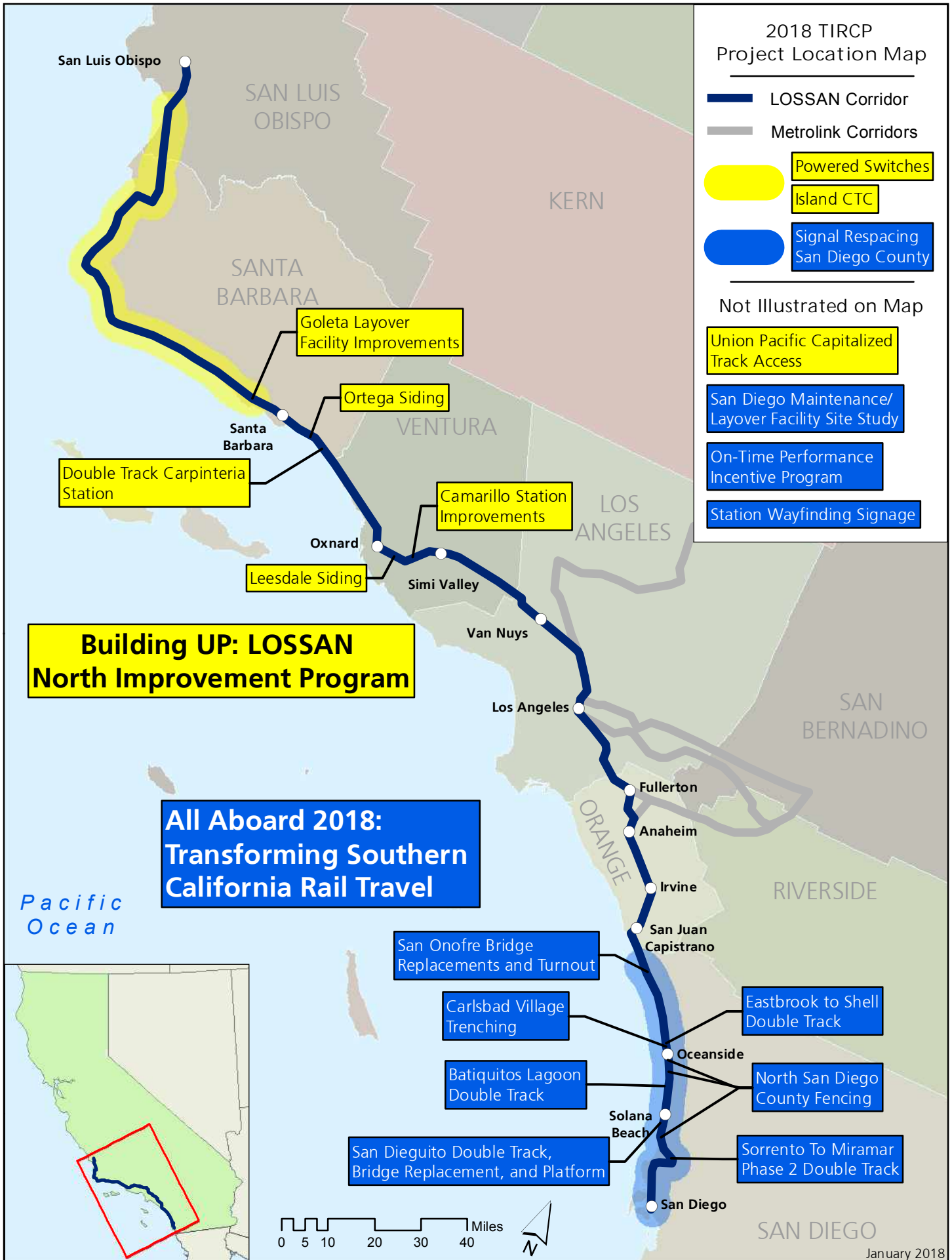
	<b>S1</b>	<b>S2</b>	<b>S3</b>	<b>S4</b>	<b>S5</b>	<b>S6</b>	<b>S7</b>	<b>S8</b>	<b>S9</b>	<b>S10</b>	<b>S11</b>	<b>S12</b>	<b>S13</b>	<b>S14</b>	<b>S15</b>	<b>S16</b>	<b>S17</b>	<b>S18</b>	<b>S19</b>	<b>11</b>	
San Luis Obispo						4:43				8:47					12:52					16:31	15:20
Goleta				5:14		7:01		9:12		11:05		13:09			15:15		16:48		19:04	21:17	
Los Angeles (arr.)				8:14		10:03		12:12		14:07		16:09			18:09		20:10		22:04	0:17	21:00
Los Angeles (dep.)	5:11	6:20	7:03	8:24	9:23	10:13	11:22	12:22	13:18	14:17	15:19	16:19	17:14	18:19	19:26	20:20	21:00	22:14			
San Diego	7:46	8:59	9:40	11:02	12:01	12:51	14:07	15:03	15:59	16:58	18:00	18:56	19:56	20:56	22:04	23:02	23:45	0:52			
SLO-GTA time						2:18				2:18											
GTA-LAX time				3:00		3:02		3:00		3:02		3:00		2:54		3:22		3:00	3:00		
LAX-SAN time	2:35	2:39	2:37	2:38	2:38	2:38	2:45	2:41	2:41	2:41	2:41	2:37	2:42	2:37	2:38	2:42	2:45	2:38			

**Existing Northbound (Weekday)**

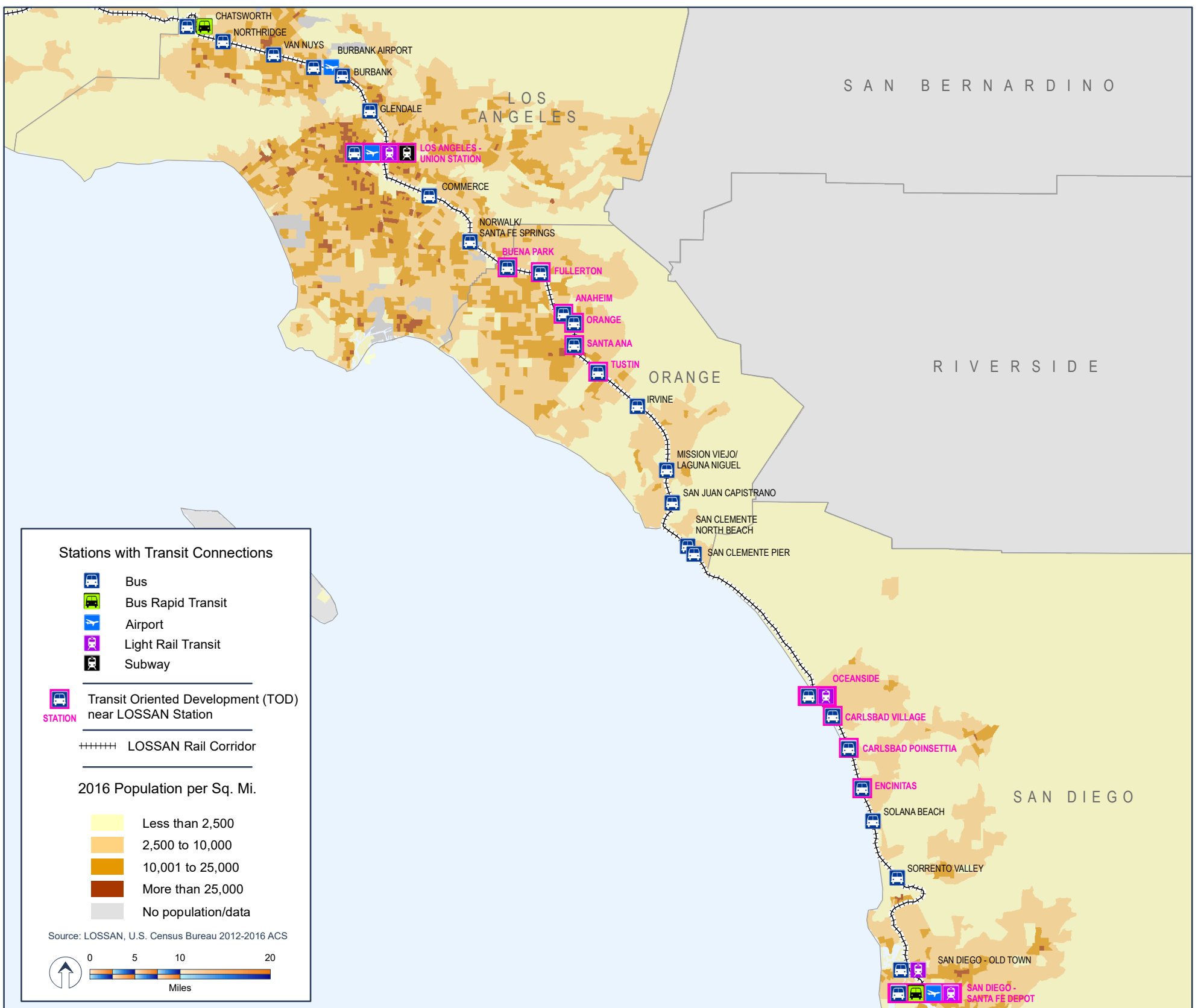
	<b>761</b>	<b>763</b>	<b>565</b>	<b>567</b>	<b>769</b>	<b>573</b>	<b>777</b>	<b>579</b>	<b>583</b>	<b>785</b>	<b>591</b>	<b>595</b>	<b>14</b>
San Diego	4:00	5:55	6:57	8:21	9:20	10:41	12:05	13:30	14:47	15:58	18:43	20:52	
Los Angeles (arr.)	7:03	8:51	9:56	11:29	12:10	13:43	14:51	16:29	17:46	18:57	21:35	23:52	
Los Angeles (dep.)	7:35	9:11		12:30		15:06			19:16				10:10
Goleta	10:43	11:56		15:14		17:56			22:04				
San Luis Obispo		14:30				20:36							15:22
SLO-GTA time		2:34				2:40							
GTA-LAX time	3:08	2:45		2:44		2:50		2:48					
LAX-SAN time	3:03	2:56	2:59	3:08	2:50	3:02	2:59	2:59	2:48	2:52	3:00		

**Proposed Northbound (Weekday)**

	<b>N1</b>	<b>N2</b>	<b>N3</b>	<b>N4</b>	<b>N5</b>	<b>N6</b>	<b>N7</b>	<b>N8</b>	<b>N9</b>	<b>N10</b>	<b>N11</b>	<b>N12</b>	<b>N13</b>	<b>N14</b>	<b>N15</b>	<b>N16</b>	<b>N17</b>	<b>N18</b>	<b>14</b>
San Diego	5:10	6:06	7:04	8:09	9:12	10:12	11:12	12:12	13:12	14:12	15:13	16:04	17:10	18:06	19:09	20:12	21:12	22:12	
Los Angeles (arr.)	7:41	8:29	9:43	10:46	11:51	12:47	13:47	14:48	15:52	16:48	17:44	18:41	19:37	20:44	21:46	22:49	23:52	0:48	
Los Angeles (dep.)	7:51		9:53	12:01		13:57			16:02		17:54		19:47		21:56		0:02		10:10
Goleta	10:36		13:01	14:47		17:05			18:52		20:42		22:37		0:44		2:50		
San Luis Obispo	13:10			17:21		21:32							1:17						15:22
SLO-GTA time	2:34			2:34		2:40			2:40				2:40						
GTA-LAX time	2:45		3:08	2:46		3:08		2:50	2:48		2:48		2:50		2:48		2:48		
LAX-SAN time	2:31	2:23	2:39	2:37	2:39	2:35	2:35	2:36	2:40	2:36	2:31	2:37	2:27	2:38	2:37	2:37	2:40	2:36	

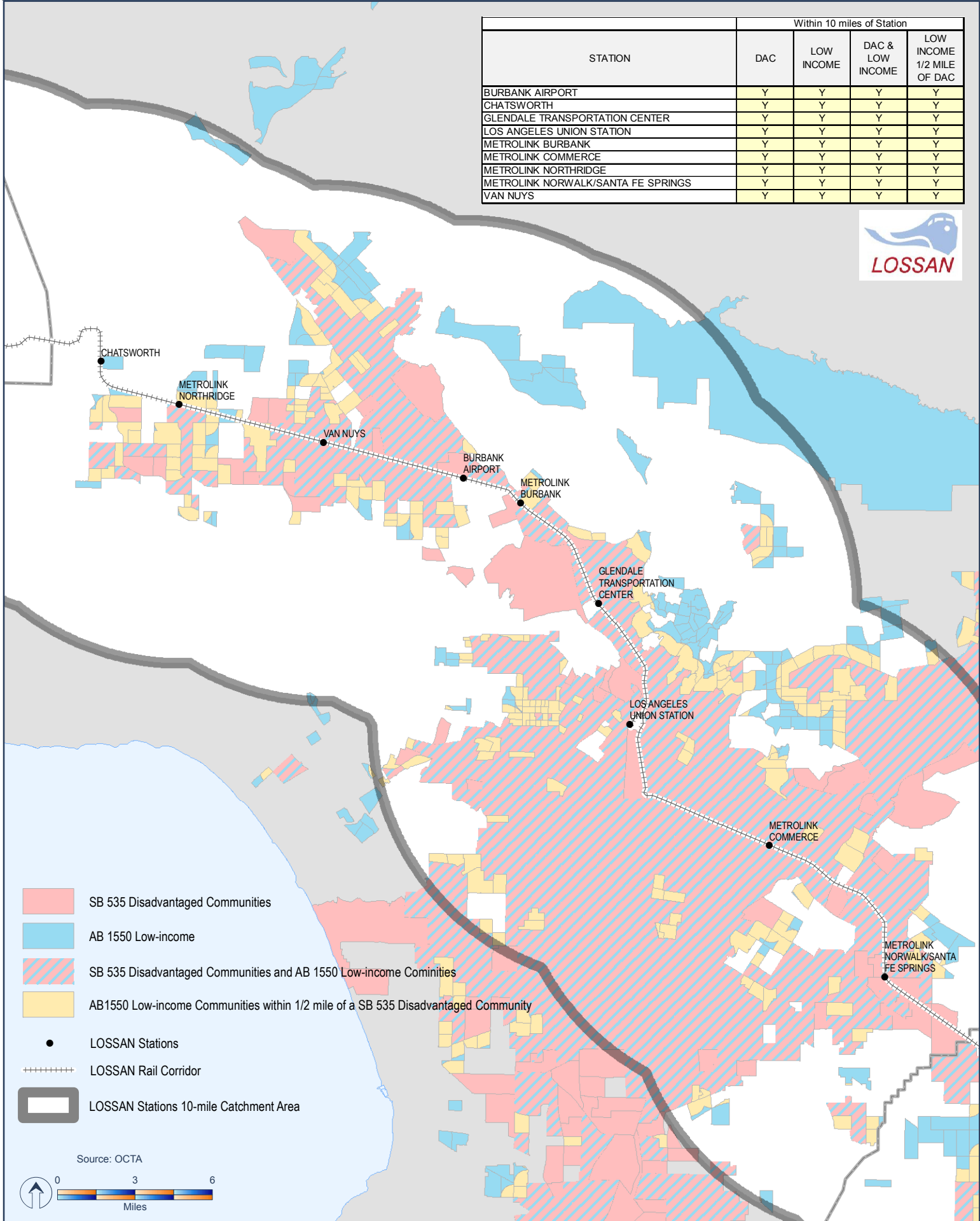


# LOSSAN Rail Corridor – Greenhouse Gas Reducing Features



# LOSSAN Corridor in Los Angeles County Disadvantaged Communities

STATION	Within 10 miles of Station			
	DAC	LOW INCOME	DAC & LOW INCOME	LOW INCOME 1/2 MILE OF DAC
BURBANK AIRPORT	Y	Y	Y	Y
CHATSWORTH	Y	Y	Y	Y
GLENDALE TRANSPORTATION CENTER	Y	Y	Y	Y
LOS ANGELES UNION STATION	Y	Y	Y	Y
METROLINK BURBANK	Y	Y	Y	Y
METROLINK COMMERCE	Y	Y	Y	Y
METROLINK NORTHRIDGE	Y	Y	Y	Y
METROLINK NORWALK/SANTA FE SPRINGS	Y	Y	Y	Y
VAN NUYS	Y	Y	Y	Y

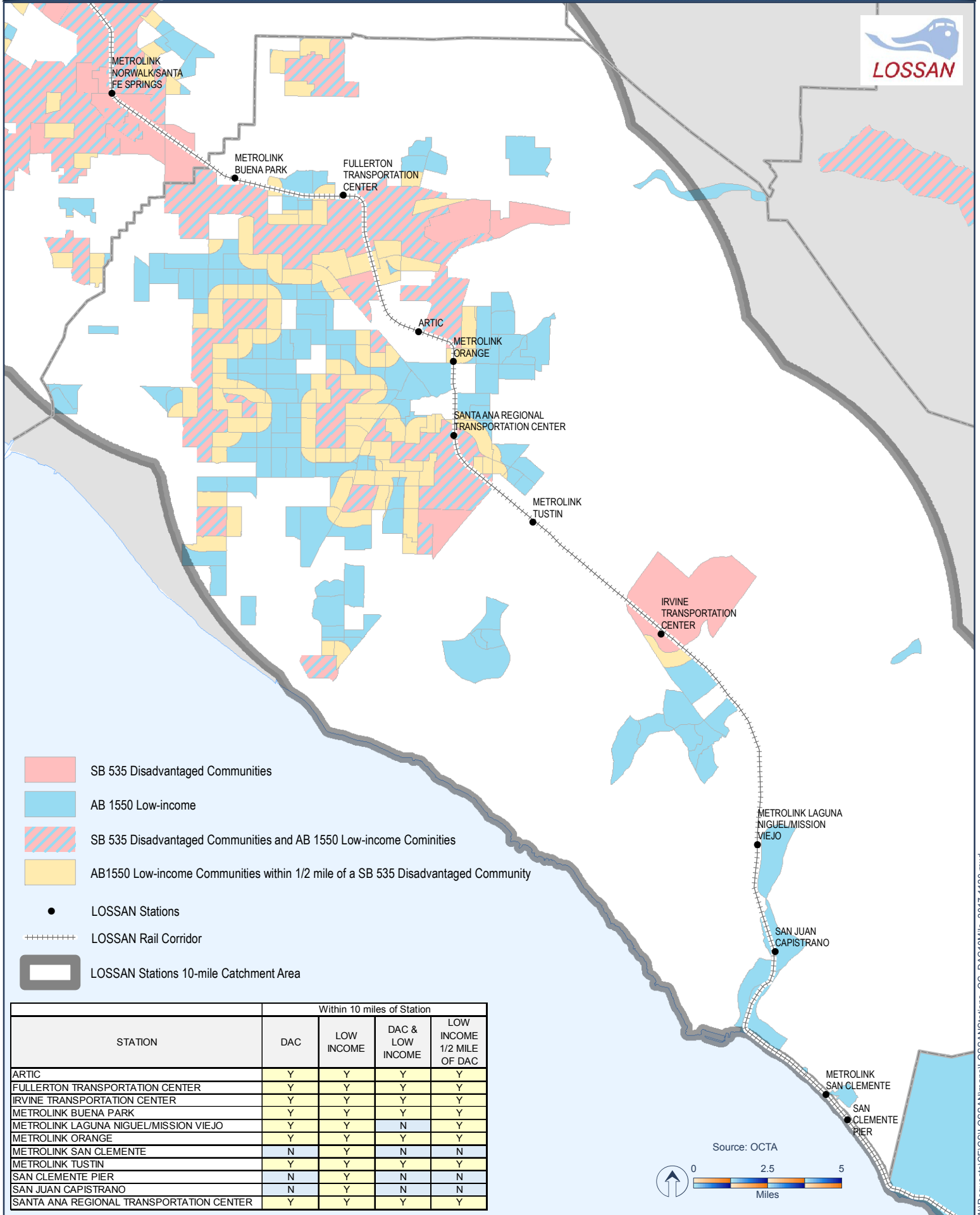


- SB 535 Disadvantaged Communities
- AB 1550 Low-income
- SB 535 Disadvantaged Communities and AB 1550 Low-income Communities
- AB 1550 Low-income Communities within 1/2 mile of a SB 535 Disadvantaged Community
- LOSSAN Stations
- LOSSAN Rail Corridor
- LOSSAN Stations 10-mile Catchment Area

Source: OCTA

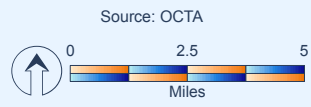


# LOSSAN Corridor in Orange County Disadvantaged Communities

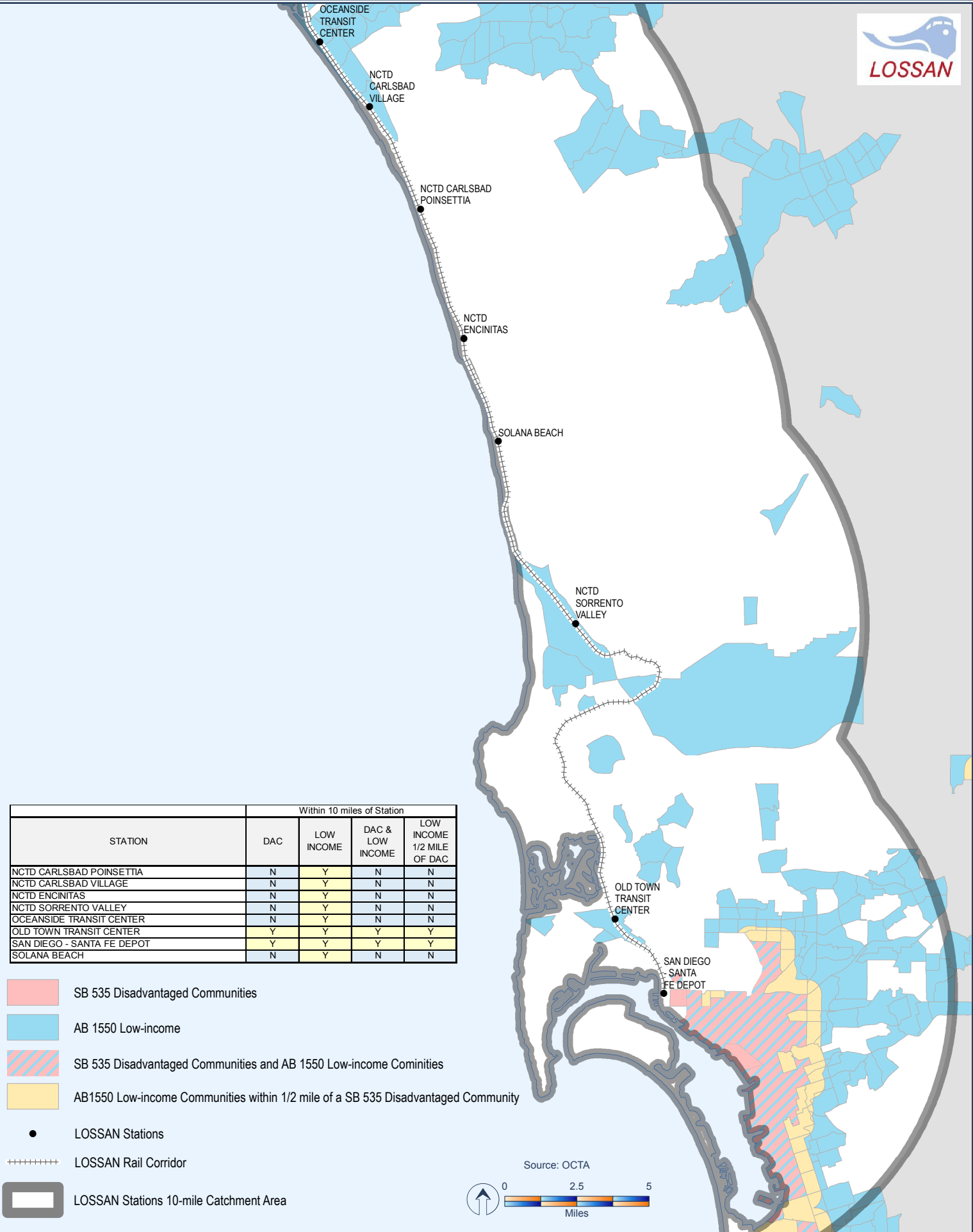


- SB 535 Disadvantaged Communities
- AB 1550 Low-income
- SB 535 Disadvantaged Communities and AB 1550 Low-income Communities
- AB 1550 Low-income Communities within 1/2 mile of a SB 535 Disadvantaged Community
- LOSSAN Stations
- LOSSAN Rail Corridor
- LOSSAN Stations 10-mile Catchment Area

STATION	Within 10 miles of Station			
	DAC	LOW INCOME	DAC & LOW INCOME	LOW INCOME 1/2 MILE OF DAC
ARTIC	Y	Y	Y	Y
FULLERTON TRANSPORTATION CENTER	Y	Y	Y	Y
IRVINE TRANSPORTATION CENTER	Y	Y	Y	Y
METROLINK BUENA PARK	Y	Y	Y	Y
METROLINK LAGUNA NIGUEL/MISSION VIEJO	Y	Y	N	Y
METROLINK ORANGE	Y	Y	Y	Y
METROLINK SAN CLEMENTE	N	Y	N	N
METROLINK TUSTIN	Y	Y	Y	Y
SAN CLEMENTE PIER	N	Y	N	N
SAN JUAN CAPISTRANO	N	Y	N	N
SANTA ANA REGIONAL TRANSPORTATION CENTER	Y	Y	Y	Y



# LOSSAN Corridor in San Diego County Disadvantaged Communities



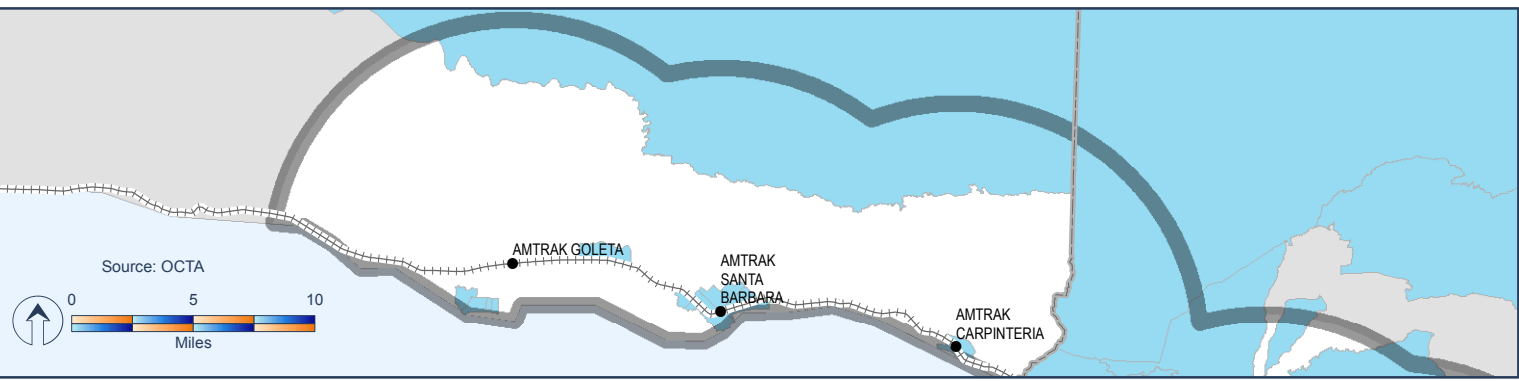
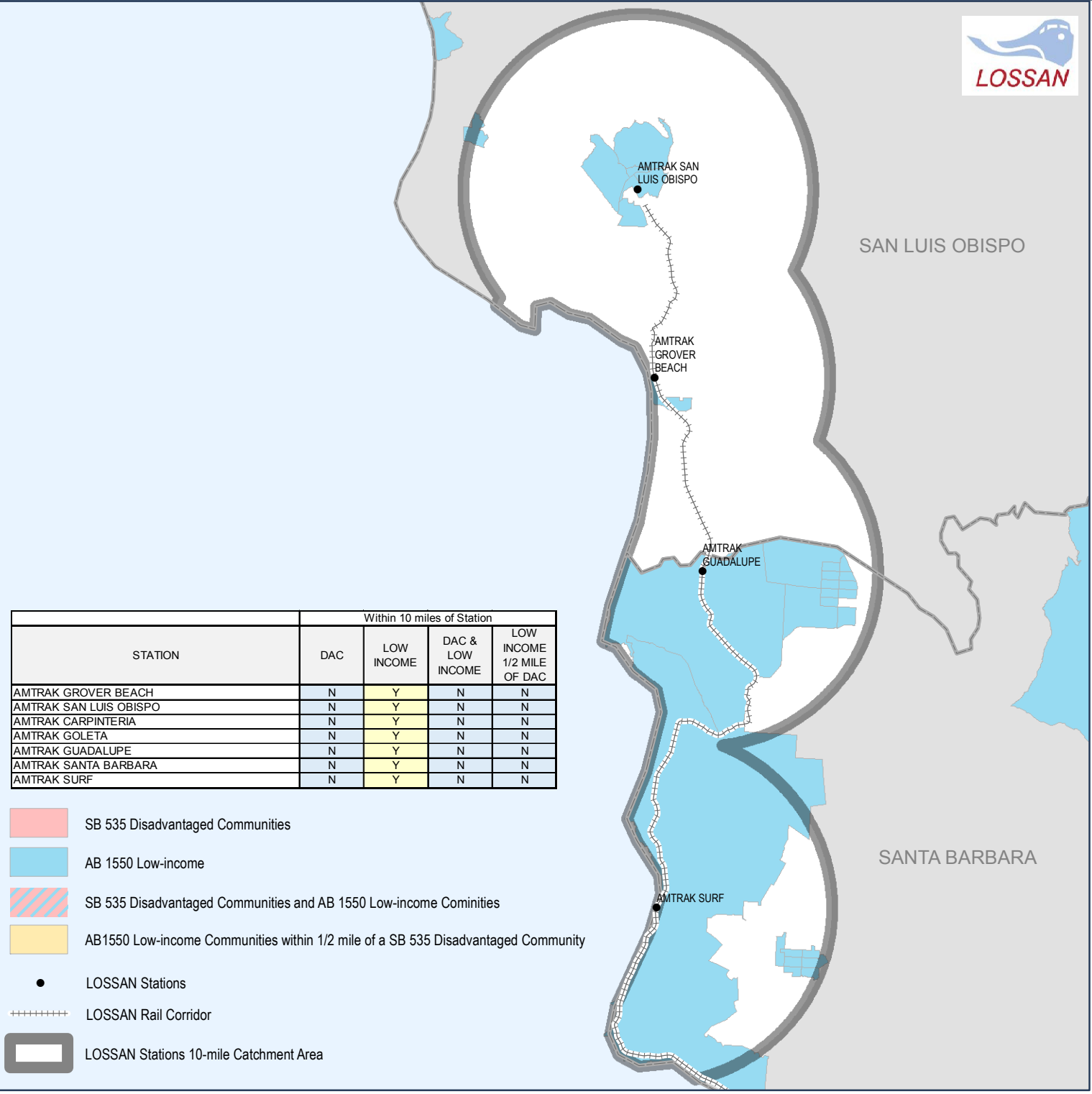
STATION	Within 10 miles of Station			
	DAC	LOW INCOME	DAC & LOW INCOME	LOW INCOME 1/2 MILE OF DAC
NCTD CARLSBAD POINSETTIA	N	Y	N	N
NCTD CARLSBAD VILLAGE	N	Y	N	N
NCTD ENCINITAS	N	Y	N	N
NCTD SORRENTO VALLEY	N	Y	N	N
OCEANSIDE TRANSIT CENTER	N	Y	N	N
OLD TOWN TRANSIT CENTER	Y	Y	Y	Y
SAN DIEGO - SANTA FE DEPOT	Y	Y	Y	Y
SOLANA BEACH	N	Y	N	N

- SB 535 Disadvantaged Communities
- AB 1550 Low-income
- SB 535 Disadvantaged Communities and AB 1550 Low-income Communities
- AB 1550 Low-income Communities within 1/2 mile of a SB 535 Disadvantaged Community
- LOSSAN Stations
- LOSSAN Rail Corridor
- LOSSAN Stations 10-mile Catchment Area

Source: OCTA

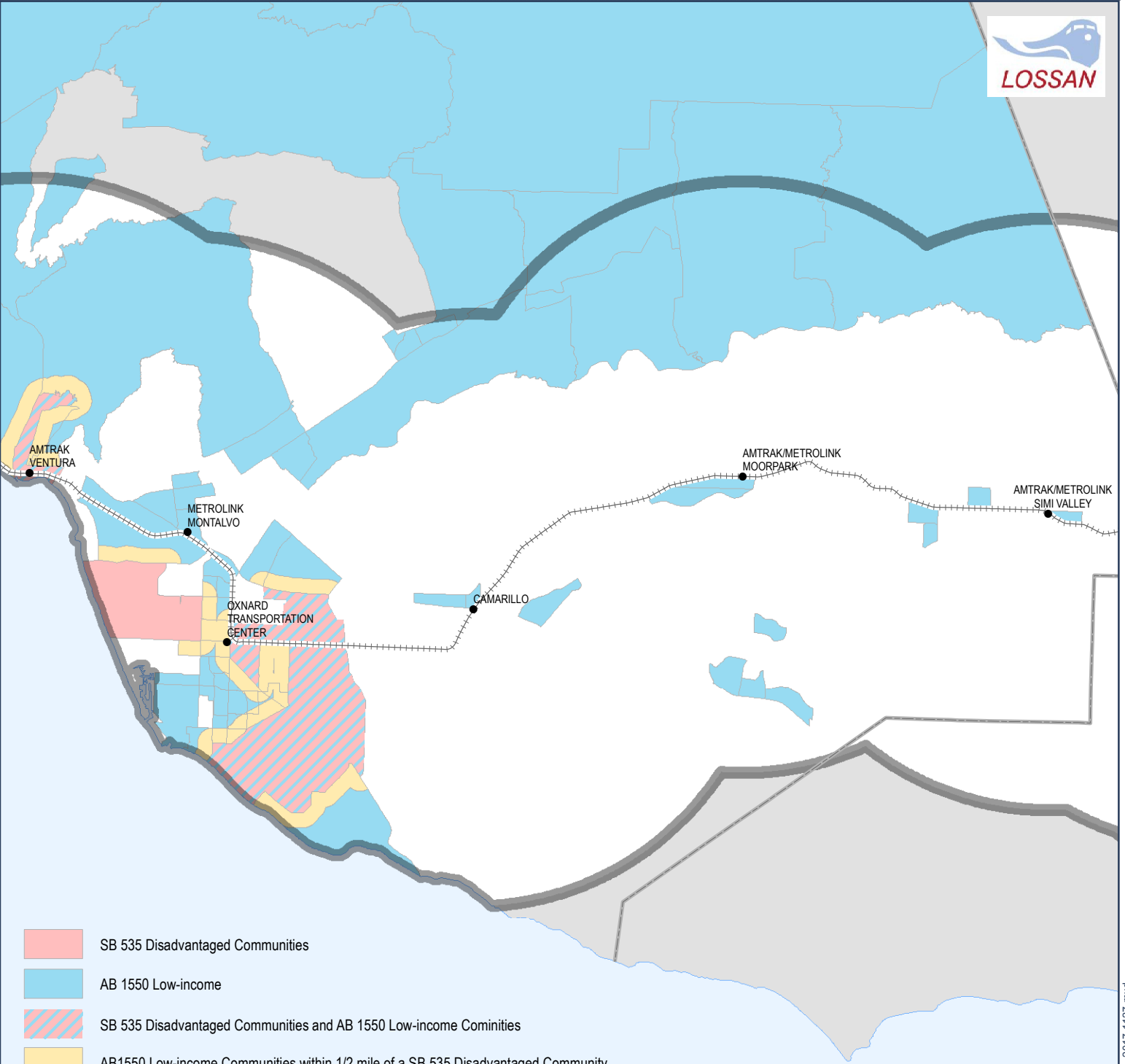


# LOSSAN Corridor in Santa Barbara and San Luis Obispo County Disadvantaged Communities



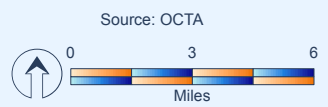


# LOSSAN Corridor in Ventura County Disadvantaged Communities



- SB 535 Disadvantaged Communities
- AB 1550 Low-income
- SB 535 Disadvantaged Communities and AB 1550 Low-income Communities
- AB 1550 Low-income Communities within 1/2 mile of a SB 535 Disadvantaged Community
- LOSSAN Stations
- LOSSAN Rail Corridor
- LOSSAN Stations 10-mile Catchment Area

STATION	Within 10 miles of Station			
	DAC	LOW INCOME	DAC & LOW INCOME	LOW INCOME 1/2 MILE OF DAC
AMTRAK VENTURA	Y	Y	Y	Y
AMTRAK/METROLINK MOORPARK	N	Y	N	N
AMTRAK/METROLINK SIMI VALLEY	Y	Y	Y	Y
CAMARILLO	Y	Y	Y	Y
METROLINK MONTALVO	Y	Y	Y	Y
OXNARD TRANSPORTATION CENTER	Y	Y	Y	Y



Building UP DAC and Low-Income Community Census Tracts  
Direct Benefit

County	DAC	BufferYN	LowIncome
San Luis Obispo	0	0	8
Santa Barbara	0	0	35
Ventura	8	27	97
TOTAL Building UP	8	27	140

Building UP DAC and Low-Income Community Census Tracts  
Corridorwide Benefit

County	DAC	BufferYN	LowIncome
San Luis Obispo	0	0	8
Santa Barbara	0	0	35
Ventura	8	27	97
Los Angeles	858	234	1210
Orange	71	112	332
San Diego	35	36	221
TOTAL CORRIDOR	972	409	1903

**Agency: LOSSAN Rail Corridor Agency**

**Project: Building UP**

**PROJECT DEVELOPMENT SCHEDULE**

Activities	2018					2019					2020					2021					2022					2023																																		
	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D						
1. Project Approval																																																												
2. Environmental Documentation																																																												
3. Environmental Approvals																																																												
4. Consultant Selection																																																												
5. Preliminary Engineering																																																												
6. Acquisition of Properties																																																												
7. Final Design																																																												
8. Advertise, bid process																																																												
9. Award bid																																																												
10. Notice to proceed																																																												
11. Construction Administration																																																												
12. Construction																																																												
13. Project Acceptance/Testing																																																												

## Metrolink Pedestrian Undercrossing

### Cost Estimate

Preliminary Design (±1.5%).....	\$70,000
Final Design (±15%).....	\$840,000
ROW/Permit (±5%).....	\$300,000
Construction Plus Contingency (±15%).....	\$5,750,000
Construction Engineering (±15%) .....	<u>\$840,000</u>
<b>Total Cost.....</b>	<b>\$7,800,000</b>

### Estimated Schedule

Design .....	Spring 2018
Construction (Pending Funding).....	Summer 2020

### Available Funding

FTA .....	\$1,150,000
City.....	<u>\$766,000</u>
<b>Total .....</b>	<b>\$1,916,000</b>

## Railroad Sealed Corridor Safety Improvements

### Cost Estimate

Preliminary Design (±1.5%).....	\$50,000
Final Design (±15%).....	\$450,000
ROW/Permit (±5%).....	\$150,000
Construction Plus Contingency (±15%).....	\$3,000,000
Construction Engineering (±15%) .....	<u>\$450,000</u>
<b>Total Cost.....</b>	<b>\$4,100,000</b>

### Estimated Schedule

Design .....	Early 2018
Construction (Pending Funding).....	Summer 2020

### Available Funding

FTA .....	\$500,000
City.....	<u>\$125,000</u>
<b>Total .....</b>	<b>\$625,000</b>

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**Total Cost For Both Projects.....\$10,400,000**

### Total Available Funding For Projects

Total FTA .....	\$1,650,000
Total City (City portions for Design).....	<u>\$891,000</u>
<b>Total.....</b>	<b>\$2,541,000</b>

**Additional Funds Required .....\$7,859,000**

## CARPINTERIA STATION EXPANSION AND PASSENGER UNDERPASS

### SUMMARY

The current station in place in Carpinteria is unstaffed, contains a single 660 foot platform, a shelter, and a ticket vending machine. The funding will allow for the design and construction of a second ADA compliant platform, a new shelter for the second platform, and will refurbish the existing platform and shelter. The project also includes the addition of a pedestrian underpass that will allow passenger to access the new platform safely. Also included will be the construction of a second set of tracks and two power switches to allow train operation on both platforms.

### LOCATION

475 Linden Ave at Fifth Street, Carpinteria, CA 93013

### SCHEDULE

- |  |                |
|--|----------------|
| ○ Completion of Environmental Document | September 2018 |
| ○ Anticipated start of PS&E            | September 2018 |
| ○ Completion of PS&E                   | January 2019   |
| ○ Completion of Right of Way phase     | April 2019     |
| ○ Project award                        | May 2019       |
| ○ Construction start                   | May 2019       |
| ○ Construction end                     | September 2020 |

### PROJECT COSTS

- |  |                             |
|--|-----------------------------|
| ○ Design / Engineering                         | \$ 1,592,000                |
| ○ Environmental                                | 430,000                     |
| ○ Construction                                 | 16,453,000                  |
| ○ Flagging                                     | 432,000                     |
| ○ Construction Management / Project Oversight* | <u>13,300,000</u>           |
| ○ <b>TOTAL</b>                                 | <b><u>\$ 32,207,000</u></b> |

\*includes railroad protective insurance, project contingencies, and Amtrak management fees

### FUNDING

**There have been no funds identified for this project. LOSSAN will propose this project for state Transit Capital and Intercity Rail Program funding.**

### CONTACT

Jennifer Bergener  
Managing Director  
The LOSSAN Rail Corridor Agency  
(714) 560-5462  
[jbergener@octa.net](mailto:jbergener@octa.net)

**NATIONAL RAILROAD PASSENGER CORPORATION**  
**Cost Estimate Carpinteria Platform, Pedestrian Underpass and Track Expansion**

Scope of Work: See Detail Below.

Date: 01/04/2018

Item	Quantity	Unit	Unit Cost	Estimated Cost
<b>DESIGN</b>				
Design-Document from Basis of Design to Issue for Bid and final as-built	1	LS	\$1,591,500	\$1,591,500
<b>PLATFORM</b>				
Option 1: Constructing a second platform to match existing platform (660 feet and a shelter) and refurbish the existing platform	1	LS	\$2,050,000	\$2,050,000
Option 2: Removal of existing platform and constructing a new island platform	0	LS	\$500,000	\$0
<b>TRACKWORK</b>				
Approximately 2000 Track Feet with drainage and subgrade	1	LS	\$1,200,000	\$1,200,000
<b>POWER SWITCH</b>				
One on each end and associated signalling equipment	2	EA	\$750,000	\$1,500,000
<b>ENVIRONMENTAL</b>				
Consultant and Geotechnical Study at 10% of Design and Project Management	1	LS	\$204,150	\$204,150
Abatement or possible removal of contaminated soil at 1% of construction	1	LS	\$224,880	\$224,880
<b>PIDS/PA</b>				
Hardware, Software and Construction	1	LS	\$915,000	\$915,000
<b>PEDESTRIAN UNDERPASS</b>				
Construction	1	LS	\$10,788,000	\$10,788,000
<b>CONSTRUCTION MANAGEMENT AT 10%</b>				
	1	LS	\$2,507,100	\$2,507,100
<b>TOTAL CONSTRUCTION COSTS</b>				<b>\$20,980,630</b>
<b>AMTRAK COSTS:</b>				
Railroad Protective Insurance	1	LS	5.00%	\$1,049,032
Project Manager's Time	3,000	HRS	\$150.00	\$450,000
Project Manager's Travel (@ Federal Perdiem Rate)	200	Days	\$350	\$70,000
Host Railroad charges (Flagging, etc....)	360	Days	\$1,200	\$432,000
Project Contingency @ 20%	1		20%	\$4,596,332
<b>TOTAL AMTRAK COSTS</b>				<b>\$ 6,597,364</b>
<b>SUB-TOTAL CONSTRUCTION COSTS &amp; AMTRAK COSTS</b>				<b>\$ 27,577,994</b>
Amtrak General & Administrative	5.81%			\$1,602,281
Amtrak Management Fee	10%			\$2,757,799
<b>TOTAL PROJECT COST</b>				<b>\$ 31,938,075</b>



# City of Carpinteria

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## COUNCIL AGENDA STAFF REPORT December 11, 2017

### ITEM FOR COUNCIL CONSIDERATION

Letter of Support Concerning the Construction of a Second Platform and a Passenger Siding at the Carpinteria Railroad Station.

### STAFF RECOMMENDATION

Action Item X ; Non-Action Item \_\_\_\_

Approve the letter of support for the construction of a second platform and a passenger siding at the Carpinteria Railroad Station, authorizing the letter to be signed by the Mayor and transmitted to the California State Transportation Agency.

Sample Motion: I move to approve the letter of support for the construction of a second platform and a passenger siding at the Carpinteria Railroad Station, giving authorization to the Mayor to sign the letter, and directing that it be transmitted to the California State Transportation Agency.

### BACKGROUND/DISCUSSION

The Pacific Surfliner intercity passenger rail service operates between San Luis Obispo and San Diego, with five daily round trips serving the Carpinteria station, two of which extend northward to San Luis Obispo. The Pacific Surfliner is the second busiest intercity rail service in the country, carrying about three million passengers annually, and is fully funded by the State of California. The service is administered by a Joint Powers Agency and governed by a nine-member board of directors representing counties and transportation agencies in the corridor. SBCAG is the board member representing Santa Barbara County.

A key element to the *101 in Motion* plan adopted in 2006 to address traffic congestion in the US 101 corridor was the *Add a Lane and a Train* solution. This proposed adding a carpool/HOV lane in both directions south of Milpas Street to the Ventura County line and improving commuter rail service from Camarillo/Oxnard to Goleta with stops in Carpinteria, Santa Barbara and Goleta. In 2008, the Measure A Program passed with overwhelming support and set the expectation that train service would be improved.

SBCAG has been working with the Surfliner JPA, the State, and other stakeholders to reschedule Pacific Surfliner service to serve the peak hour demand (morning commute) between Ventura and Santa Barbara counties. The rail right-of-way north of Moorpark is



owned by Union Pacific and operates as an active freight line, and the corridor between Oxnard and Goleta is almost exclusively single track, making it difficult to expand or retime existing service.

One long-standing project to expand capacity in the Ventura-Santa Barbara corridor is to construct a second platform and a passenger rail siding (auxiliary train tracks used to meet/pass trains) at the Carpinteria station which would allow passenger trains to "meet" one another in a way that is not currently possible and that would dramatically expand the ability to adjust the schedule. There is currently only one siding where passenger trains can now meet between Ventura and Santa Barbara (Seacliff), severely restricting scheduling options. Caltrans in coordination with the Federal Railroad Administration is currently initiating studies for a project to lengthen an existing rail siding at Seacliff to provide sufficient space for freight trains to temporarily leave the main line and allow passage of Amtrak passenger service trains.

Union Pacific has a standard siding length of 10,000 feet (this length is primarily for freight trains), which severely limits the locations where a new siding can be constructed between Ventura and Santa Barbara. One of the important characteristics of this project is to distinguish adding a second platform to an existing station from a standard rail siding, which is much longer and is meant to allow for freight train use. Constructing a second platform on the beach side adjacent to the existing platform would not be designed to allow freight use (it would be much too small), but would allow two passenger trains to meet. The other major benefits to the City include securing external funding for a pedestrian underpass and improving pedestrian access likely at Holly Avenue or Ash Avenue and safety to the elementary school are in this location. If another location could be identified that met the UP standard of 10,000 feet, the pedestrian undercrossing and bridge/pedestrian safety improvements would not be applicable.

A new state grant program, the Transit and Intercity Rail Capital Program (TIRCP), funded by Cap and Trade revenue and beginning this year augmented by SB1 revenue, makes funding available for rail capital projects that result in Greenhouse Gas emissions reductions and that expand rail capacity in the state. SBCAG is working with the Los Angeles-San Diego-San Luis Obispo (LOSSAN, the official name of the Pacific Surfliner JPA) to prepare several capital projects in the 2017/18 TIRCP funding cycle, which is a five year, \$2.4 billion program.

The potential to construct a second platform and a passenger siding at the Carpinteria train station has several significant advantages for the City, including the ability to construct a long-planned pedestrian underpass under the rail corridor at Holly or Ash Avenue, and create a dedicated pedestrian bridge over Franklin Creek to allow children to access Aliso Elementary School safely and more directly. The project would also include construction of a public parking lot on the parcel recently purchased by the City on the south side of the train station.

### **POLICY CONSISTENCY**

The addition of a second railroad platform in Carpinteria along with the construction of a pedestrian underpass under the railroad at Holly or Ash Avenue is consistent with the City's General Plan/Local Coastal Plan, in particular, Policy C-6a, and Policy C-6e.

*Policy C-6a: Seek funding sources for grade-separated crossings of the rail line to resolve conflicts with urban linkages, where such structures are considered feasible.*

*Policy C-6e: Encourage additional Amtrak stops.*

### **FINANCIAL CONSIDERATIONS**

There are no financial considerations presented at this time.

### **LEGAL AND RISK MANAGEMENT CONSIDERATIONS**

There are no legal or risk management considerations presented with this report.

### **OPTIONS**

The City Council could choose to approve the support letter as presented, amend the draft support letter, or decline to send the letter of support.

### **PRINCIPAL PARTIES EXPECTED AT MEETING**

There are no principal parties expected at the meeting.

### **ATTACHMENTS**

Attachment A: Letter of Support for the Construction of a Second Platform and a Passenger Siding at the Carpinteria Railroad Station

Staff contact:  
Brian C. Barrett  
Assistant to the Public Works Director  
(805) 755-4446; [brianb@ci.carpinteria.ca.us](mailto:brianb@ci.carpinteria.ca.us)

  
Signature

Reviewed by:  
Charles W. Ebeling, P.E., T.E.  
Public Works Director

  
Signature

Reviewed by: Dave Durlinger, City Manager

  
Signature

**Attachment A**

**Letter of Support for the Construction of a Second Platform  
and a Passenger Siding at the Carpinteria Railroad Station**

# CITY of CARPINTERIA, CALIFORNIA



December 11, 2017

The Honorable Brian P. Kelly, Secretary  
California State Transportation Agency  
915 Capitol Mall, Suite 3508  
Sacramento, CA 95814

## **Members of the City Council**

Fred Shaw - *Mayor*  
Wade T. Nomura - *Vice Mayor*  
Al Clark  
J. Bradley Stein  
Gregg A. Carty

**Subject: Construction of a Second Platform and a Passenger Siding at the Carpinteria Railroad Station**

Dear Secretary Kelly:

I would like to express the City of Carpinteria's strong support for the application being submitted by the Los Angeles-San Diego-San Luis Obispo (LOSSAN) Rail Corridor Agency under the Transit and Intercity Rail Capital Program (TIRCP) to construct a second platform at the Carpinteria train station. This project would be of immense benefit to the City not only through allowing for operational flexibility not currently possible and the potential to expand rail service in the future, but also because the project would include the first pedestrian rail undercrossing in the City, which is bifurcated by the rail corridor.

The 351-mile Pacific Surfliner Rail Corridor travels through a six-county coastal region and is the second busiest intercity passenger rail corridor in the United States, carrying three million passengers annually. Rail capacity expansion projects north of Los Angeles such as adding a second platform to the Carpinteria station are desperately needed to address the chronic highway congestion in our region by enhancing the attractiveness of rail service. The combination of long stretches of single track and few sidings in our region presents significant challenges to adjusting train schedules or expanding service. The ability to allow for more train "meets" is critical to solving both these problems. Again, I would like to express my strong support for this project.

Sincerely,

Fred Shaw  
Mayor

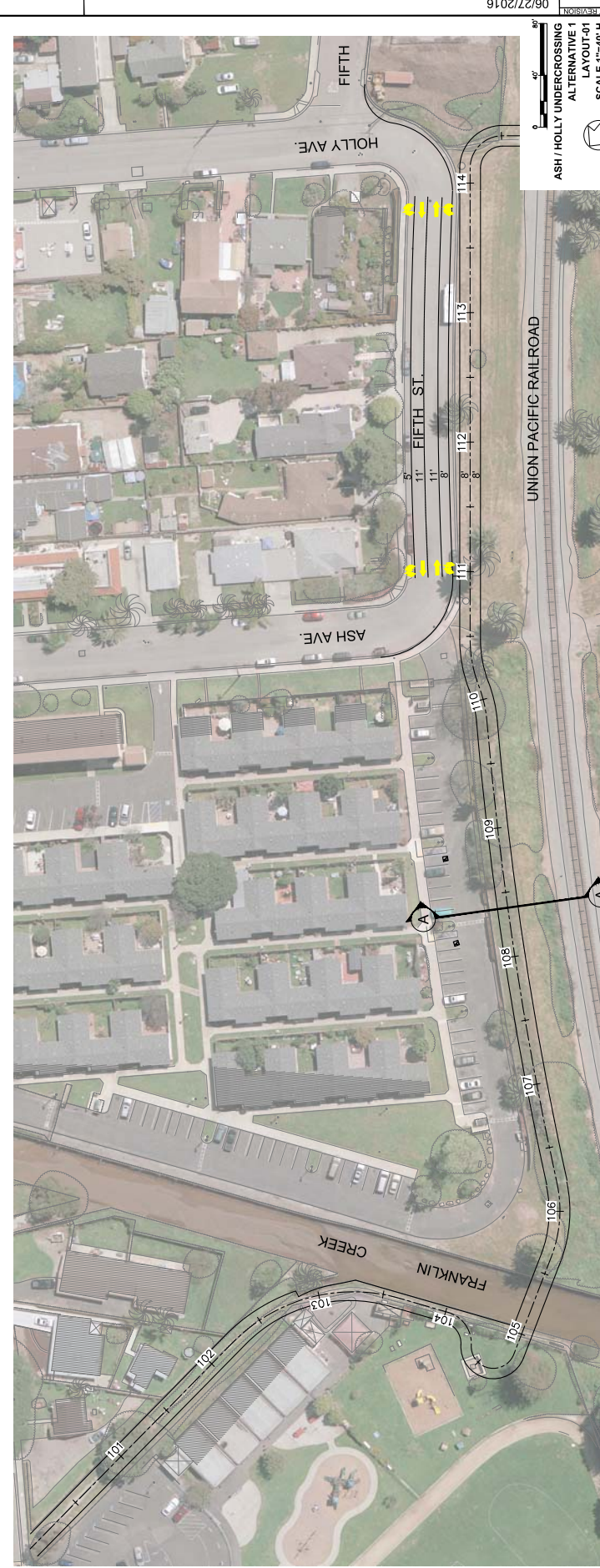
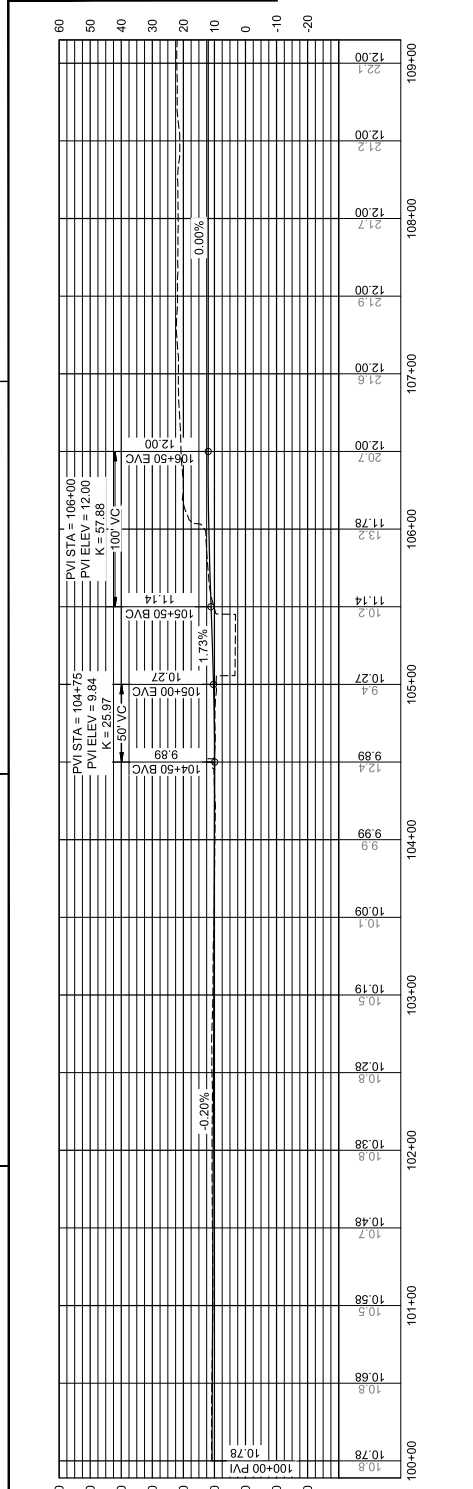


DIST	COUNTY	ROUTE	MILE POST TOTAL PROJECT	SHEET NO.	TOTAL SHEETS
05	SB	101	PM XX.X-XX.X		

REGISTERED ENGINEER - CIVIL  
 S. Onishuk  
 No. C48052  
 CIVIL

PLANS APPROVAL DATE  
 DESIGNER:  
 BENGAL ENGINEERING  
 10000 S. GARDEN ST.  
 GARDEN, CA 95117

The State of California & The County of SB, & their officers or agents shall not be responsible for the accuracy or completeness or electronic copies of the plan sheet.



DESIGNED BY	MB	DATE	DATE REVISION	REVISED BY
CHECKED BY	MD			
PROJECT ENGINEER	Scott Onishuk, PE			
CITY OF CARPINTERIA, CALIFORNIA	Matt Roberts, Project Manager			

FOR REDUCE PLANS ORIGINAL SCALE IS IN INCHES

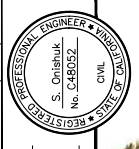
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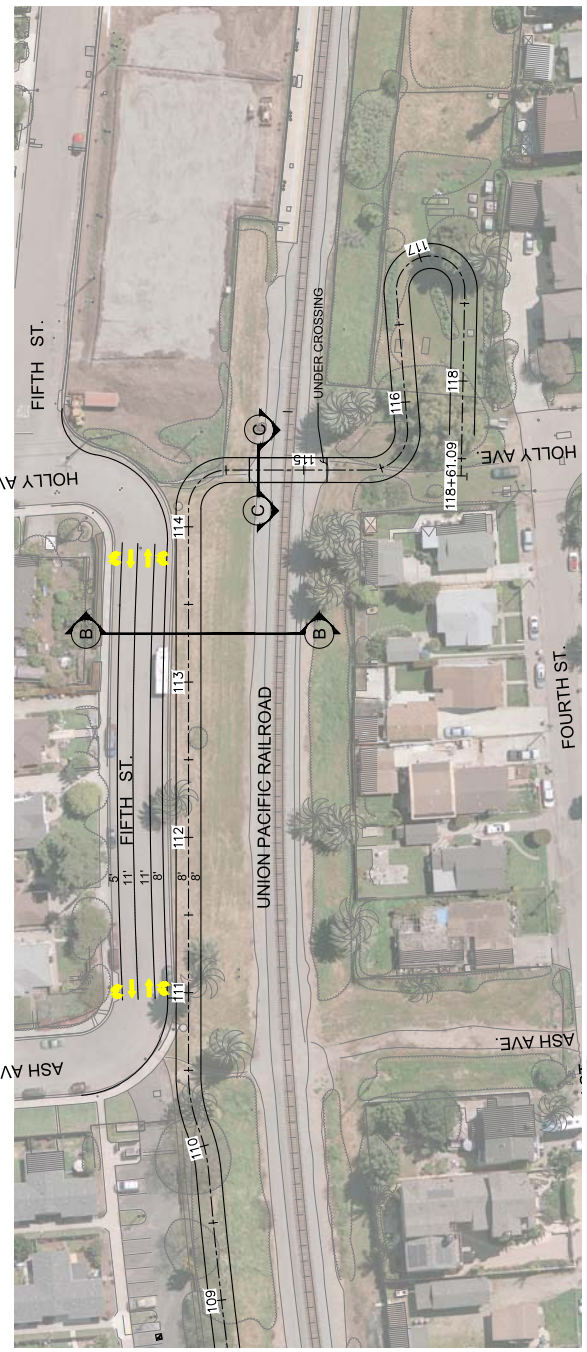
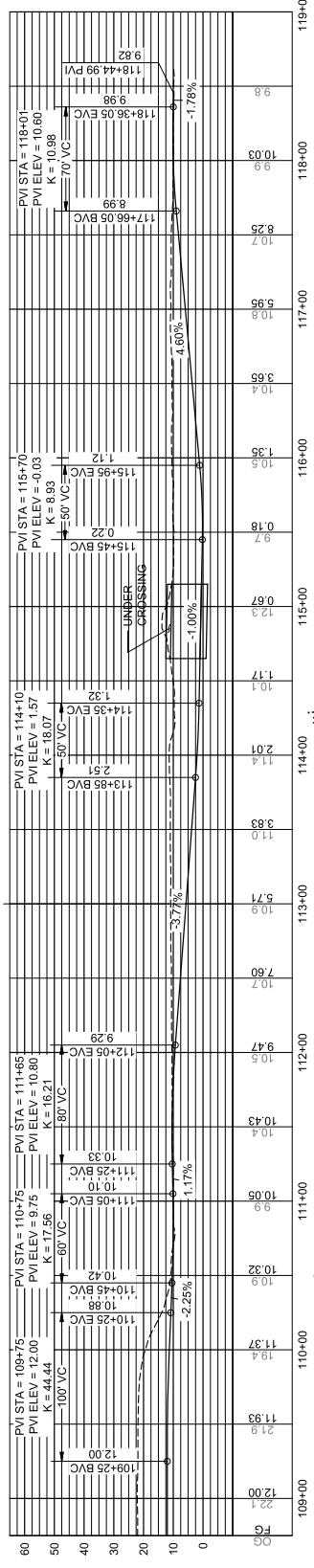


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06/27/2016  
 ASH / HOLLY UNDERCROSSING  
 ALTERNATIVE 1  
 LAYOUT SHEET  
 SCALE 1"=40' H  
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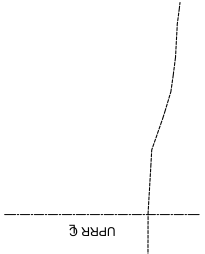
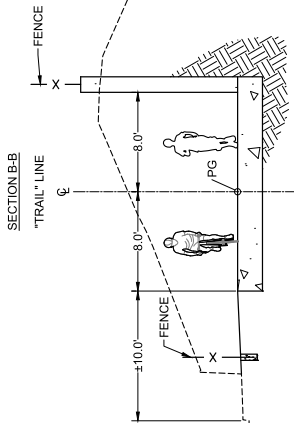
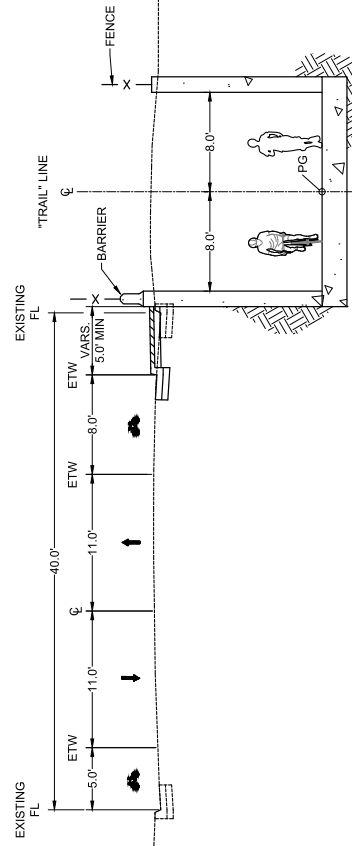
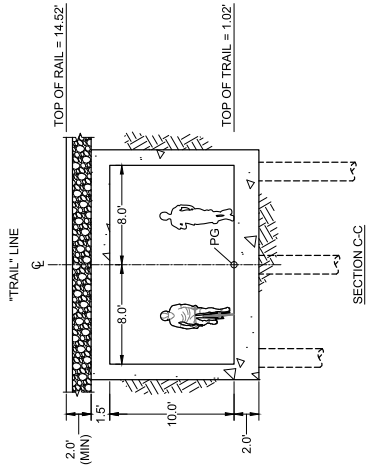
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06/27/2016

ASH / HOLLY UNDERCROSSING ALTERNATIVE 1 CROSS SECTIONS SCALE 1"=5' H&V

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Prepared for:  
City of Carpinteria  
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5775 Carpinteria Avenue  
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**FINAL REPORT**  
**Coastal Access Feasibility Study**  
**September 23, 2009**

**Contract No.: CON0033827**

Prepared by:



**8690 Balboa Avenue, Suite 200**  
**San Diego, California 92123-1502**

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## 1.0 INTRODUCTION AND BACKGROUND

Carpinteria is the southernmost city of Santa Barbara County. Founded in the late 1800s and incorporated in 1965, it is a small beach community that sits on a south facing coastline of the Pacific Ocean, with breathtaking views of the sea and the nearby Santa Barbara Channel Islands..

Carpinteria has a unique identity and a strong sense of community. It boasts a vibrant commercial economy while maintaining a small beach town atmosphere. The City is comprised of several distinct neighborhoods and districts connected by streets, recreational trails and open spaces. The community has a strong design sense and values specific design characteristics to maintain and enhance the existing character of the community.

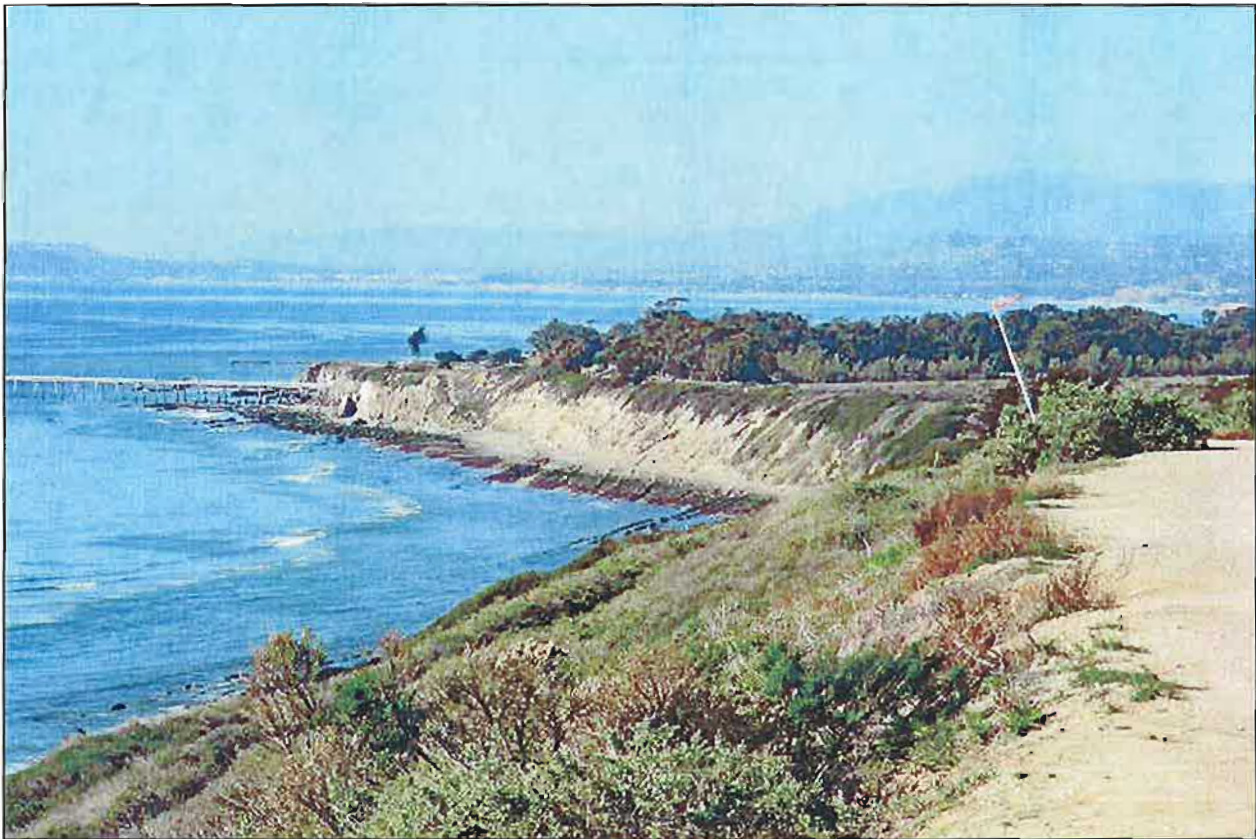


Figure 1-1: The Carpinteria Bluffs

The Union Pacific Railroad's (UP) "Coast Line" (also known as the Los Angeles to San Diego and San Luis Obispo [LOSSAN] Rail Corridor) runs through Carpinteria and has been important to the growth and development of Carpinteria over the course of its history. Prior to the construction of the highway corridor, the best way to access the City from the south was the railroad.



When the rail corridor was originally constructed in the 1870's, coastal access was not as valued as it is today. Additionally, the impacts of the railroad were not fully understood, especially advancements in trains' speeds and frequency, and in the quality of acoustic impacts.

As development flourished and the City grew to its current size, community connectivity, coastal access, and public safety at railroad crossings became issues that needed to be addressed. Today, the rail corridor creates a barrier effect within the community and causes concerns over safe and unobstructed public access to the beaches, parks, and trails. While there are currently two public and one private at-grade crossings available within the City's limits for vehicles, bicyclists, and pedestrians, additional sanctioned access points would enhance safe intercommunity and coastal access.

### **Organization of the Study**

In June 2008, the City of Carpinteria awarded a contract to HDR Engineering, Inc. (HDR) to develop a Coastal Access Feasibility Study. The study was conducted under the direction of Matthew Roberts, Director of Parks and Recreation for the City.

The contract included the following major tasks:

- Current Rail Corridor Crossing Assessment,
- Public Workshop,
- Assessment of Rail Crossing Rights,
- Rail Corridor Crossing Opportunity Appraisal,
- Rail Corridor Delineation Plan,
- Identification of Preferred Alternatives, and
- Development of Implementation Strategy

## 2.0 PURPOSE AND NEED

The purposes of the Coastal Access Feasibility Study are to:

- Identify the feasibility of new, sanctioned access points to connect Carpinteria's beaches and coastal resources with the rest of the community,
- Determine and discuss potential crossing alternatives, including grade separation of pedestrian and bicycle rail crossings, new access control and the introduction of way-finding signage,
- Refine and prioritize alternatives based on public input, and
- Finalize the Coastal Access Feasibility Study and its Implementation Strategy

The need for a Coastal Access Feasibility Study is based on the:

- Lack of connectivity throughout the community resulting from "Barrier effect" of the rail corridor. The popularity of coastal access has grown significantly since the railroad was originally installed.
- Level of current and predicted passenger and freight train traffic with increased potential risk of conflict at uncontrolled crossings
- Limited number of sanctioned crossings, which creates demand for unsanctioned crossing locations throughout the City, and
- The hazardous practice of trespassing over railroad tracks to reach coastal destinations.

Carpinteria has an extensive and expanding system of local and regional recreational trails for the benefit and enjoyment of its residents and visitors. This network could be enhanced through increased coastal access opportunities resulting in the elimination of the need to make unsanctioned crossings of the rail corridor. The City's trail system has helped to reduce the use of the railroad as an unsanctioned coastal trail. Better connectivity through new, sanctioned rail crossings would benefit the general public as well as all owners and users of the rail system.

Union Pacific's "Coast Line" is an active rail corridor traversing through the City of Carpinteria. A rail corridor naturally creates a barrier effect, making it necessary to use sanctioned "existing at-grade" crossings in order to safely cross from one side of the rail line to the other.

The Coast Line, also known as the LOSSAN (Los Angeles to San Diego and San Luis Obispo) rail corridor, provides a freight rail connection between Southern and Northern California, and is an important adjunct to the UP's main freight route through the Central Valley. Depending on business conditions, or in the event of a track outage or maintenance activity on the main line, the Coast Line can see temporary increases in freight volumes. Thus, the Coast Line is a regularly-used freight corridor with potential "surge capacity".



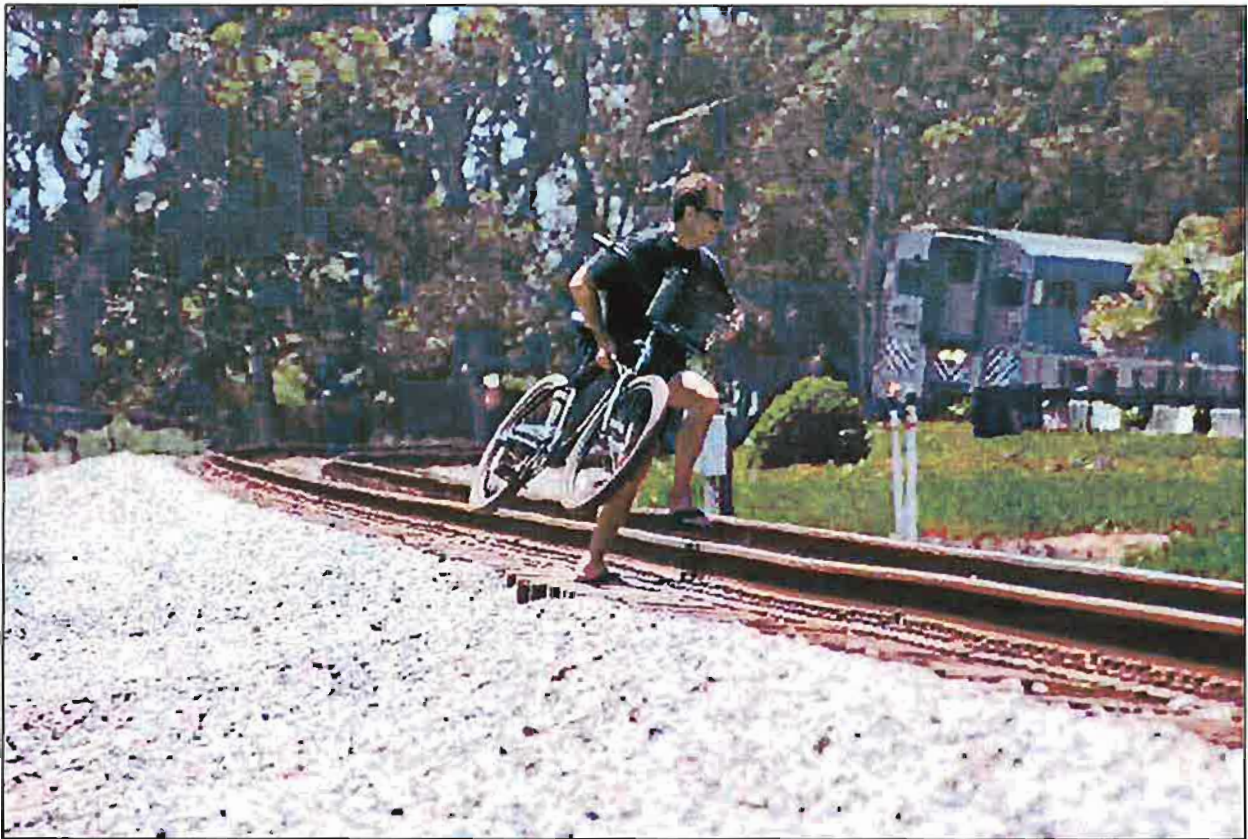
**Figure 2-1: Amtrak train near Calle Ocho. The active rail corridor creates a “Barrier Effect” between neighborhoods and coastal resources within the City of Carpinteria**

Currently, twelve passenger trains and approximately eight freight trains pass through Carpinteria on a daily basis.

Train speed limits within the City vary, with maximum speed limits for passenger trains of 55 miles per hour (mph) and 40 mph for freight trains. The speed of trains serving the Carpinteria rail station will be slower as they approach or depart the station.

The only sanctioned public rail crossings in Carpinteria are in the Downtown area, at Palm Avenue and Linden Avenue.

An insufficient number of sanctioned crossings, and the great distance between the two sanctioned locations and locations of high crossing demand, have resulted in a number of demand-generated potentially unofficial and unsafe crossings over the railroad tracks at various locations throughout the City. Over time, many people have developed volunteer trails that cross the rail corridor away from any sanctioned access point.



**Figure 2-2: Bicyclist crossing rail ROW in advance of approaching train, between Calle Ocho and Carpinteria Creek (looking west)**

These crossings are unpermitted and can be hazardous. At many points in the community, the rail line curves as it moves through Carpinteria, resulting in short sight lines. Trains passing through Carpinteria regularly announce their approach through use of their horns, and the active nature of the rail corridor means a train could be approaching at any time. A train's mass and its stopping distances (especially those not preparing to stop at Carpinteria's passenger rail station) make it unwise to assume the train can stop in time to avoid a conflict at these crossings. Additionally, there is the phenomenon that an object like a train approaching directly at someone does not always convey the speed at which the object is traveling, adding to the hazard of crossing the track at unsanctioned crossing locations. People judge large objects as moving slower than smaller ones. Because they are large objects, drivers underestimate train speeds. This general bias is further compounded by "object familiarity." When drivers see the train, they base speed judgment on their more common experience of judging motion of automobiles, much smaller objects. Speed underestimation is then reinforced.

Commonly held "advance warning" notions, such as vibration caused by an approaching train, wheel/track contact noise, and locomotive noise, have not proven to be successful all the time. Other than the train horn, there can be little indication that a train is approaching. Use of continuous welded rail over the past decade has reduced wheel and track noise. With some operations of Amtrak's *Pacific Surfliner* service,

which serves Carpinteria, the locomotive may even be operating from the rear of the train. In “Push” mode, the train’s engineer operates the train from a station in the Cab car, which is now the leading car. The locomotive(s) can be up to approximately six hundred feet behind the front of the train. The sound of the engine noise alone might not be easily heard by someone crossing the track ahead of the train.



**Figure 2-3: Amtrak train traveling southbound in “Push” mode (note the red lights indicating the “rear” of the train)**

It is in the context of this Purpose and Need for improved coastal access that the City of Carpinteria has commissioned a feasibility study to evaluate opportunities for projects and to recommend actions to enhance the safety of residents and visitors as they cross the rail corridor within the City.

### 3.0 RELATED STUDIES AND PLANNING EFFORTS

Creation of a Coastal Access Feasibility Study is consistent with a number of studies and planning documents produced by the City of Carpinteria, other agencies and stakeholders. This section will provide summaries of those studies.

#### **Carpinteria General Plan and Local Coastal Land Use Plan**

Convenient and enhanced access between Carpinteria's coastal resources, such as the Carpinteria City Beach, Tar Pits Park, The Carpinteria Bluffs and Carpinteria State Beach, has long been a goal of the City, as articulated in its General Plan/Coastal Plan.

The Carpinteria community is bisected by the railroad corridor with coastal access, schools, residential and commercial districts on both sides of the tracks. With just two public crossings in the entire community, one at Palm Avenue and one at Linden Avenue, many unsanctioned necessity-based crossings have been created.



**Figure 3-1: Palm Avenue Crossing, looking east toward Carpinteria Creek – one of only two sanctioned public at-grade crossings in the City**

The City's General Plan/Coastal Plan envisions trail expansion, improved coastal access, railroad safety improvements and increased coastal access and recreation opportunities. The Coastal Access Feasibility Study is supportive of these objectives, specifically:

Circulatory Element Policies

- C-3e. In addition to existing at grade railroad crossings located at Linden, Palm, Dump Road, and Sandyland Cove Road, establish at grade or grade separated railroad crossings in order to improve vehicular and emergency access to the Beach neighborhood and ensure that emergency access routes and crossings of U.S. 101 are maintained. [10-year]
- C-6: Provide adequate safe railroad crossings and to effectuate community design of buffers that will attenuate rail-related noise.
- C-6a. Seek funding sources for grade-separated crossings of the rail line to resolve conflicts with urban linkages, where such structures are considered feasible. [10-year]
- C-6c. Encourage development of available railroad rights-of -way for alternative transportation, bicycle, recreation, trail, parking related, and other appropriate uses.

Open Space Conservation Policy

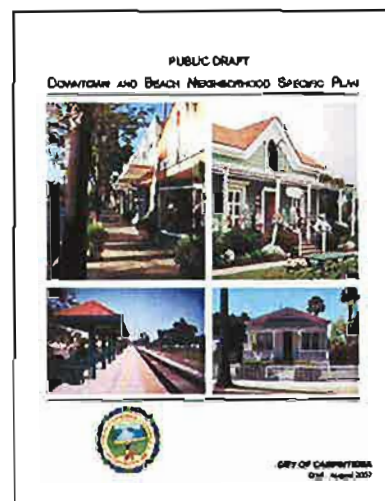
- OSC-15c. Pursue development of a trail and/or boardwalk system along the coastline. Continue the development of a coastline trail to extend from Santa Claus Lane to Rincon Beach Park with vertical access points placed as frequently as possible to encourage public access.

**City of Carpinteria – Downtown District and Beach Neighborhood Specific Plan (Draft July 2007)**

This draft plan for the downtown district and the Beach Neighborhood lays out details for the planning and development of these important areas of the City. Under the “Public Realm” section, the Specific Plan identifies a need to “provide access to the downtown businesses and the beach by better linking them into a coherent and high-quality environment”.

The draft Specific Plan supports the expansion of the Coastal Vista Trail through the length of the City, on the south (ocean) side of the railroad tracks.

The draft Specific Plan also identifies a planned pedestrian and Emergency Vehicle crossing at Holly Avenue (at-grade), between Fourth and Fifth Streets.



## **California Coastal Commission – Public Access Action Plan**

The California Coastal Commission also recognizes the safety concerns of informal rail crossings in its Public Access Action Plan. The Public Access Action Plan, a comprehensive evaluation of coastal access in California, identifies key issues and makes recommendations to resolve problem areas to improve coastal access in accordance with the Coastal Act.

The Public Access Action Plan notes that up and down the California coast, people have crossed railroad tracks informally for decades. However, increased use has created more liability and safety concerns in addition to raising the issue of the public's right to cross. The plan recommends that the Commission continue to coordinate with local governments and railroad companies to resolve these conflicts arising from concerns about public safety and the public's need to cross the tracks to access the coast in certain locations.

The Commission also recognizes that the needs of railroads and the needs of beachgoers crossing the railroad track are vastly different. It is not possible or practical to add a formal crossing structure at every informal pathway crossing the tracks. The Commission recommends identification and implementation of safety-enhancing solutions as opportunities arise. General solutions presented by the Commission include pursuing both above and below-grade crossing alternatives.

Provision of a series of coastal access points spaced throughout the length of the City of Carpinteria along with recommended measures to increase safety and reduce the risk of accidents or fatalities as a result of unsanctioned rail crossing is consistent with the Coastal Commission's Public Access Action Plan.

## **California Public Utilities Commission – Pedestrian-Rail Crossings in California (May 2008)**

In addition to its duties as an agency overseeing California's utility companies, the California Public Utilities Commission (CPUC) has authority over railroads and is responsible for rail safety, including oversight over railroad crossings. In their May 2009 report "Pedestrian-Rail Crossings in California"<sup>1</sup> the CPUC notes that its federal counterpart is the Federal Railroad Administration (FRA) and states:

"The FRA and CPU recognize that at-grade crossings present inherent hazards to the traveling public, particularly crossings on freight or passenger main lines, and as such recommend eliminating at-grade crossings wherever possible, through barricading the roadway/pathway approaches or the crossing or through grade-separation."<sup>2</sup>

Providing grade-separated pedestrian and bicycle access points in the City of Carpinteria is consistent with the CPUC's philosophy and guidelines.

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<sup>1</sup> <http://docs.cpuc.ca.gov/PUBLISHED/GRAPHICS/83568.PDF>

<sup>2</sup> Ibid, page 1



## Coastal Conservancy – Completing the California Coastal Trail (January 2003)

This document provides a blueprint for the development of the California Coastal Trail which is defined as:

“A continuous public right-of-way along the California Coastline; a trail designed to foster appreciation and stewardship of the scenic and natural resources of the coast through hiking and other complementary modes of non-motorized transportation.”



The report notes that trails along different parts of the California Coast will all be unique, representing local character, but will be tied together through a series of guiding principles, including:

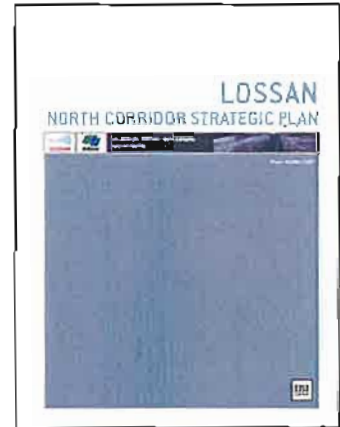
- **Proximity:** Wherever feasible, the Coastal Trail should be within sight, sound, or at least the scent of the sea. The traveler should have a persisting awareness of the Pacific Ocean. It is the presence of the ocean that distinguishes the seaside trail from other visitor destinations.
- **Connectivity:** The trail should effectively link starting points to destinations. Like pearls on a string, our parks, ports, communities, schools, trailheads, bus stops, visitor attractions, inns, campgrounds, restaurants, and other recreational assets are strung along the edge of our coast. They are already connected by roads, streets, and highways. Our challenge is to create alternative non-motorized connections that are sufficiently appealing to draw travelers out of their automobiles.
- **Integrity:** The Coastal Trail should be continuous and separated from motor traffic. Continuity is vitally important: if a chain is missing a link, it is useless.
- **Respect:** The trail should be located and designed with a healthy regard for the protection of natural habitats, cultural and archaeological features, private property rights, neighborhoods, and agricultural operations along the way.
- **Feasibility:** To achieve timely, tangible results with the resources that are available, both interim and long-term alignments of the Coastal Trail will need to be identified.”

These guiding principles have been considered in the identification and development of Coastal Access Feasibility Study projects. The City's vision of policies call for a Coastal Trail that is consistent with the tenets of California's Coastal Trail guidelines. For more information on the California Coastal Trail, visit

[http://www.californiacoastaltrail.info/cms/pages/trail/complete\\_trail.html](http://www.californiacoastaltrail.info/cms/pages/trail/complete_trail.html).

## LOSSAN North Rail Corridor Strategic Plan (October 2007)

This Strategic Plan<sup>3</sup> examined the current and future needs of the northern portion of the Los Angeles-San Diego-San Luis Obispo (LOSSAN) rail corridor, and identified a twenty-year program of improvements that would increase rail capacity, reduce travel time, and improve operational reliability for passenger rail services. Other rail-related considerations described in the Plan include reducing noise from train horns and enhancing safety through crossing improvement projects such as considered in this Coastal Access Feasibility Study. Such projects would reduce trespasser issues, improve bicycle and pedestrian access, and address the barrier effect of the rail corridor.



The LOSSAN Rail Corridor Agency is led by a board of elected officials representing rail owners, operators, and planning agencies along Amtrak's *Pacific Surfliner* corridor between San Diego and San Luis Obispo. Current (2009) representatives from Santa Barbara County include County Supervisor Salud Carbajal and Santa Barbara Mayor Marty Blum.

Projects identified in the Strategic Plan that would be located in or near Carpinteria include:

**SB-Ventura Siding (Immediate).** This project would add a new siding between Santa Barbara and Ventura County, to meet capacity needs, and could be either Carpinteria Siding or Ortega Siding (at approximately MP 373.22).

**Carpinteria Siding (Near-Term).** This project would construct a new siding at the Carpinteria Station. The siding would be 2,640-feet long, and would include power turnout switches at both ends and a new passenger platform.

**Sandyland Siding (Vision)** This project would add a new 11,000-foot siding from Milepost (MP) 373.25 to MP 378.10, near the Carpinteria Siding. This project would widen two pre-stressed concrete box bridges, the first over Franklin Creek and the second over Santa Monica Creek. Road crossings of the new siding would include Sandyland Cove Road and Apple Street. This siding would parallel the Carpinteria Salt Marsh Reserve.

**Rincon Siding (Vision).** This proposed siding would begin at approximately MP 380.3 just east of Viola Fields and continue east ("railroad south") toward Rincon County Beach, ending at MP 381.3. Much of the siding would be hidden in the cut below the top of the bluffs, so that visual impacts would be minimized.

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<sup>3</sup> Available for download at: [http://149.136.20.80/rail/dor/assets/File/LOSSAN\\_North\\_Strategic.pdf](http://149.136.20.80/rail/dor/assets/File/LOSSAN_North_Strategic.pdf) or [http://www.sandag.org/uploads/projectid/projectid\\_260\\_9781.pdf](http://www.sandag.org/uploads/projectid/projectid_260_9781.pdf)

The project timelines for these improvements were based on rail modeling conducted as part of the Strategic Plan's development. "Immediate" projects were identified as needed to address bottlenecks and capacity constraints in the 2006 traffic "Base Case" model. "Near Term" projects were identified as needed based on 2015 rail traffic model. "Vision" projects were identified as needed based on expected 2025 rail traffic.

**Santa Barbara County Association of Governments  
(SBCAG) – 101 in Motion Program (Ongoing)**



Since 2002, SBCAG, in partnership with the City of Carpinteria and seven other entities has been developing long-term ideas and solutions to address traffic congestion in the south coast area on US Hwy 101. In October 2005, a package of improvement projects was unanimously approved.

As one component of these improvements, a new commuter rail service would be established between either Camarillo or Oxnard in Ventura County and Goleta in Santa Barbara County, and would also serve Carpinteria.

Measure A was recently approved by a two thirds affirmative vote in Santa Barbara county, thereby authorizing a ½ cent sales tax to be used to fund transportation projects including new commuter rail service.

In order to inaugurate a commuter rail service, the 101 in Motion website<sup>4</sup> notes a need for rail capacity projects (such as those called for in the LOSSAN North Strategic Plan), The 101 in Motion plan calls for initial service levels of two round trips per day. There remain additional details to be resolved, including an agreement with Union Pacific, a provider to operate the rail service (such as Metrolink), and governance and funding issues with Ventura County.

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<sup>4</sup> <http://www.101inmotion.com>

## 4.0 EXISTING AND FUTURE/PLANNED CONDITIONS

This section provides an overview of the existing conditions along the rail corridor in Carpinteria, including a discussion about current and forecast rail services and numbers of trains, and the findings of field reviews conducted to identify locations where unsanctioned rail crossings were occurring, the destinations visited by those crossing the rail corridor, and potential crossing opportunities.



Figure 4-1: Amtrak train passing private Dump Road crossing

### Current Rail Services Operating Through Carpinteria

#### Existing Passenger Rail Services

Passenger rail services through Carpinteria include Amtrak California's *Pacific Surfliner* (a partnership between the California Department of Transportation and Amtrak) and Amtrak's *Coast Starlight*. Figure 4-1 shows an Amtrak train as it passes the private Dump Road at-grade crossing.

The *Pacific Surfliner* serves Carpinteria and provides five daily roundtrips between Santa Barbara and Los Angeles (with continuing service north to San Luis Obispo and south to Orange County and San Diego).

The *Coast Starlight* is Amtrak’s premiere long-distance West Coast service. Operating between Los Angeles and Seattle, Washington, one daily northbound train and one daily southbound train pass through Carpinteria, but do not stop.

**Future Planned and Expanded Passenger Rail Services**

To better serve the travel demand of the region, Amtrak has long considered increasing *Pacific Surfliner* service between Los Angeles, Santa Barbara and San Luis Obispo. By the year 2020, daily service frequencies will expand from five to seven roundtrips between Los Angeles and Santa Barbara, as well as from two to three roundtrips between Santa Barbara and San Luis Obispo.

A proposed new service, the *Coast Daylight*, would provide a direct rail connection between Los Angeles and San Francisco, by way of San Luis Obispo (the *Coast Starlight* does not serve the San Francisco Peninsula – rather, it provides a stop in Oakland.) The initial service frequency would be two trains (one in each direction.)

Lastly, there have long been discussions about a potential commuter rail service that could run between Ventura and Santa Barbara Counties, in order to relieve congestion on U.S. Highway 101. As part of its “101 in Motion” program, Santa Barbara County Association of Governments (SBCAG) developed an option that would consider new commuter rail service with initial addition of four trains per day through Carpinteria – two morning northbound trips (toward Santa Barbara and Goleta, and three afternoon southbound trips (toward Ventura, Oxnard, and Camarillo), all with stops in Carpinteria. For planning purposes, the LOSSAN North Strategic Plan considered 3-4 round trips per day by 2020, reflecting potential growth in demand.

**Current and Forecast Rail Volumes**

On an average day, about twenty trains pass through the City of Carpinteria. By the year 2020 that number will almost double to between 35 and 37 trains each day. Table 4.1 provides details on these services and volumes. Increased rail traffic will worsen the risk of conflict at unsanctioned crossings.

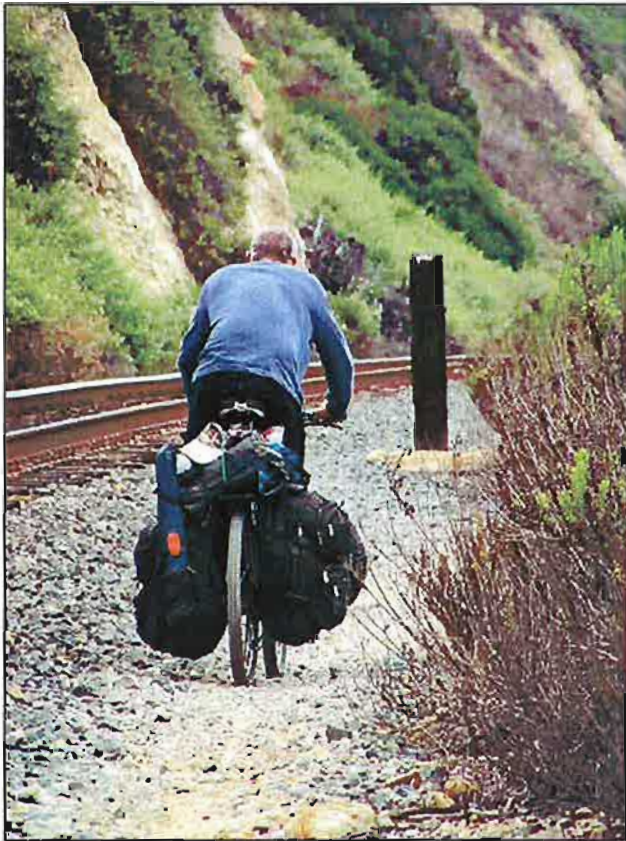
Current and Proposed Services	Current (2008) Daily Trains	Forecast (2020) Daily Trains
Amtrak Pacific Surfliner	10	14
Amtrak Coast Starlight	2	2
Coast Daylight (Proposed)	-	2
Ventura – Santa Barbara Intercounty Commuter Rail (under study)	-	6-8
Union Pacific Freight Services	7-8	11-12
<b>Total Average Daily Trains</b>	<b>19-20</b>	<b>35-37</b>

Source: LOSSAN North Strategic Plan (July 2007)

## Trespass Activity

UPRR, as owner of the rail corridor, has posted a notice of “No Trespassing, Parking or Dumping” along its rail right-of-way. Within the City of Carpinteria, only a single “No Trespassing” sign can be found, near the Palm Avenue at-grade crossing. Figure 4-2 shows that posted notice.

Notwithstanding that notice, there has long been a pattern and practice of unsanctioned crossing of the UPRR rail corridor at points throughout the City, as well as use of the corridor as a means for walkers and bicyclists to get between Carpinteria and surrounding areas northwest and southeast.



**Figure 4-3: Bicyclist traveling within the UPRR rail ROW, near Carpinteria Bluffs**



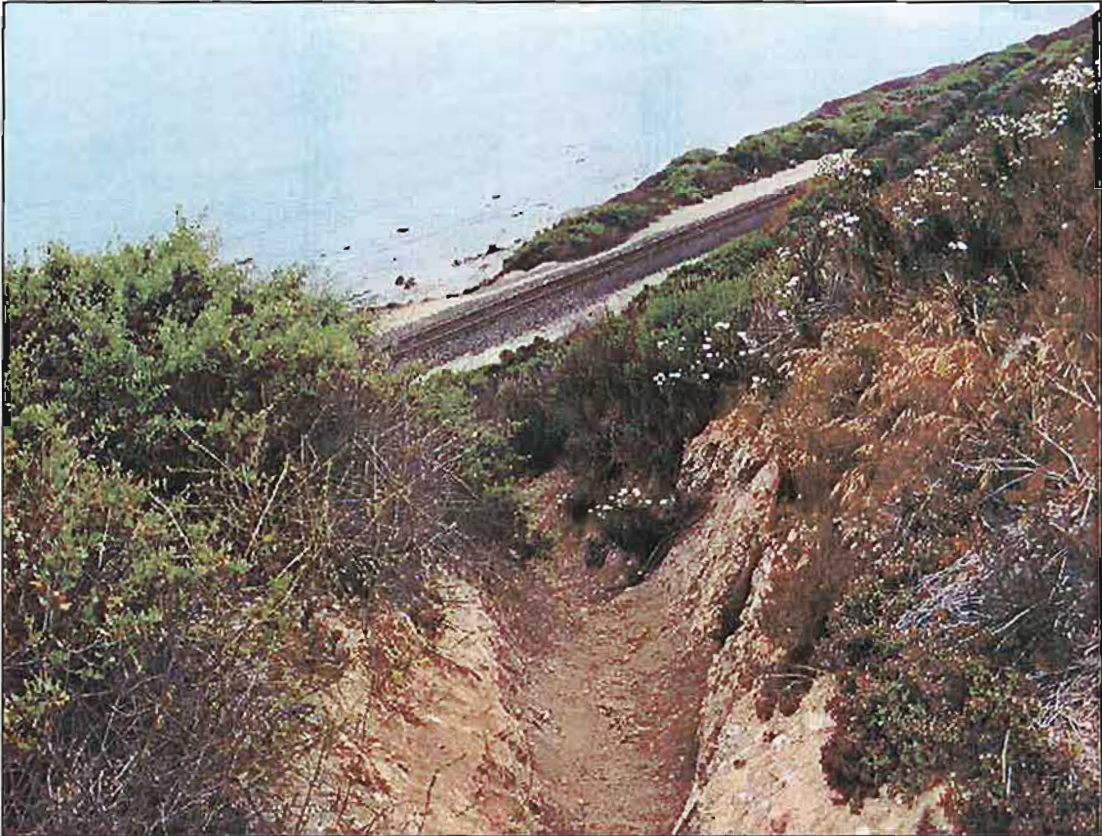
**Figure 4-2: Photo of a UPRR “No Trespassing” sign, near Palm Avenue**

### Field Review of Unsanctioned Rail Corridor Crossings and Evidence of Public Access

Field reviews of the rail corridor conducted for this study revealed numerous trails throughout the community that have been established as a result of long term, regular use of unsanctioned crossings. These also serve as evidence of routine public access.

HDR team members conducted a thorough field reconnaissance along the railroad corridor within the City limits on June 13, 2008 to identify locations that showed signs of pedestrian and bicycle crossings. A map showing the assessment of access activity and concern at each of twelve locations within the City attached as Exhibit 4-1. The twelve locations of concern fall within three areas of the community: the Carpinteria Bluffs, the residential and urbanized area between Dump Road and Ash Avenue, and the northern area of the rail corridor between Franklin Creek and the City Limits.

Based on the evidence found, demand for access at each location was classified as minor, moderate, or major.



**Figure 4-4: Representative example of an unsanctioned trail established between Carpinteria Bluffs Area 1 and the rail ROW**





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The information gathered during the field review assisted greatly in developing a list of potential locations to provide sanctioned coastal access within the City of Carpinteria, based on past and current usage.

## Section 1: The Carpinteria Bluffs

### Location 1: East of US-101/Rincon Road (Highway 150) Interchange

Field review of the project study area commenced at the eastern end of Carpinteria near the US-101/Rincon Road (Highway 150) interchange. The rail corridor is on a sharply descending slope depressed at this location, relative to the bluffs, and access is difficult. Notwithstanding this difficulty, there were two fairly steep trails leading down from the bluffs to the railroad tracks, providing a route toward Rincon County Beach. Figure 4-4 (preceding page) shows one of these trails.

Figure 4-5 shows another steep, unsanctioned trail that has been established just across the rail corridor from the trail from the bluff to the rail ROW shown in Figure 4-4. This trail includes a rope that appears to be used to assist those persons climbing up or down the bluff from the rail ROW to the beach below. This is a relatively difficult access route. Within Location 1, access activity is rated moderate on the rail ROW, and minor between the ROW, the bluffs, and the beach below the ROW.

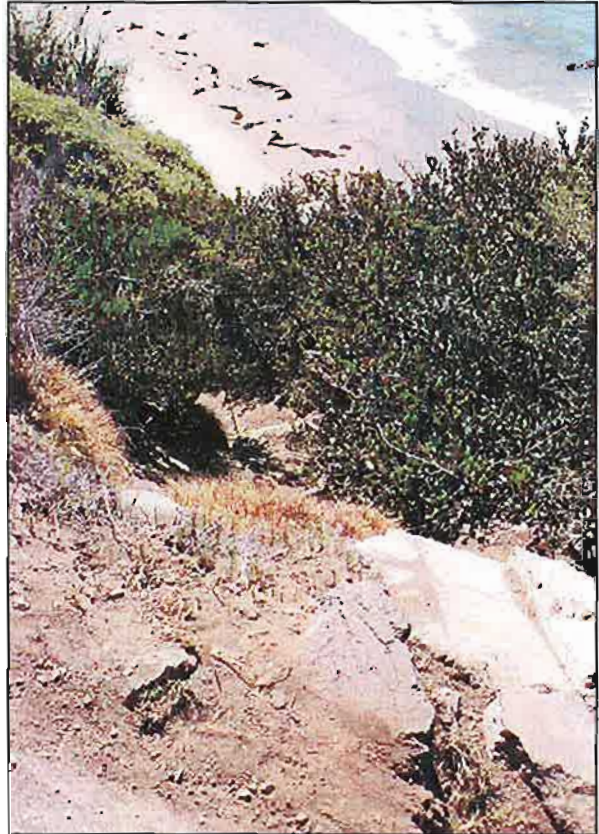
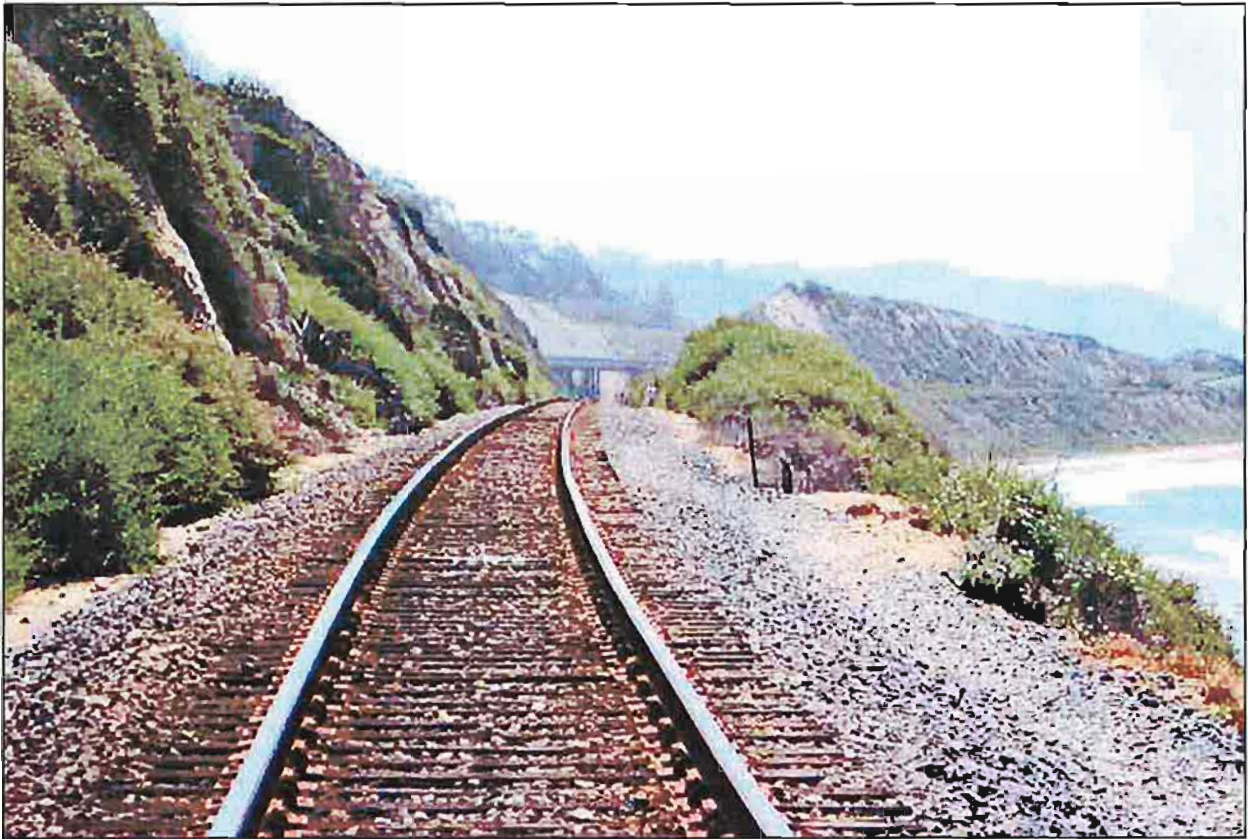


Figure 4-5: Trail from Rail ROW to beach below bluff, with rope assist

Figure 4-6 shows a view from the rail ROW adjacent to this area of the Bluffs, looking southeast toward Rincon County Beach. A Highway 101 overcrossing of the rail corridor can be seen in the background. Connectivity between Carpinteria and Rincon County Beach is limited. Currently, US-101 Freeway is the only legitimate major route by which bicyclists can travel between Carpinteria and Rincon County Beach/Ventura County.



**Figure 4-6: View of the rail ROW near Carpinteria Bluffs Area 1, looking toward Rincon County Beach. Note the path in the ballast on the ocean side of the alignment**

There is only one legitimate pedestrian route between Carpinteria and Rincon County Beach, which is to walk along the beach at sea level. Some travelers opt to trespass along the rail corridor. A common access point is near Viola Fields or Carpinteria Bluffs Area 1. To address this situation, the City has developed plans to construct a recreational trail here, to provide a direct connection between the Carpinteria Bluffs and Rincon County Beach. This trail segment project is titled the Carpinteria Rincon Trail. A potential new crossing could provide a sanctioned alternative crossing that could move bicyclists from both the short stretch of US-101 Freeway as well as from the rail corridor, to a safe, pleasant recreational trail linking the Carpinteria Bluffs and Rincon County Beach. This access would provide an access for pedestrians as well. The connection would also link to Highway 150.



**Figure 4-7: Steep drop-off between rail corridor and bluffs limits easy access to the coastline between Carpinteria and Rincon County Beach**

The ROW is relatively narrow here, with steep banks on the inland side and an even steeper drop-off toward the beach on the ocean side, as illustrated in Figure 4-7.

### Location 2: East of US-101/Bailard Avenue Interchange

Moving farther west along the rail corridor, the elevation difference between the bluffs and the rail corridor becomes less pronounced. As the rail line passes parallel to Viola Fields, the track is only slightly depressed relative to the adjacent development. This change in relative elevation can be seen in Figure 4-8. This makes access to and across the rail corridor much easier.

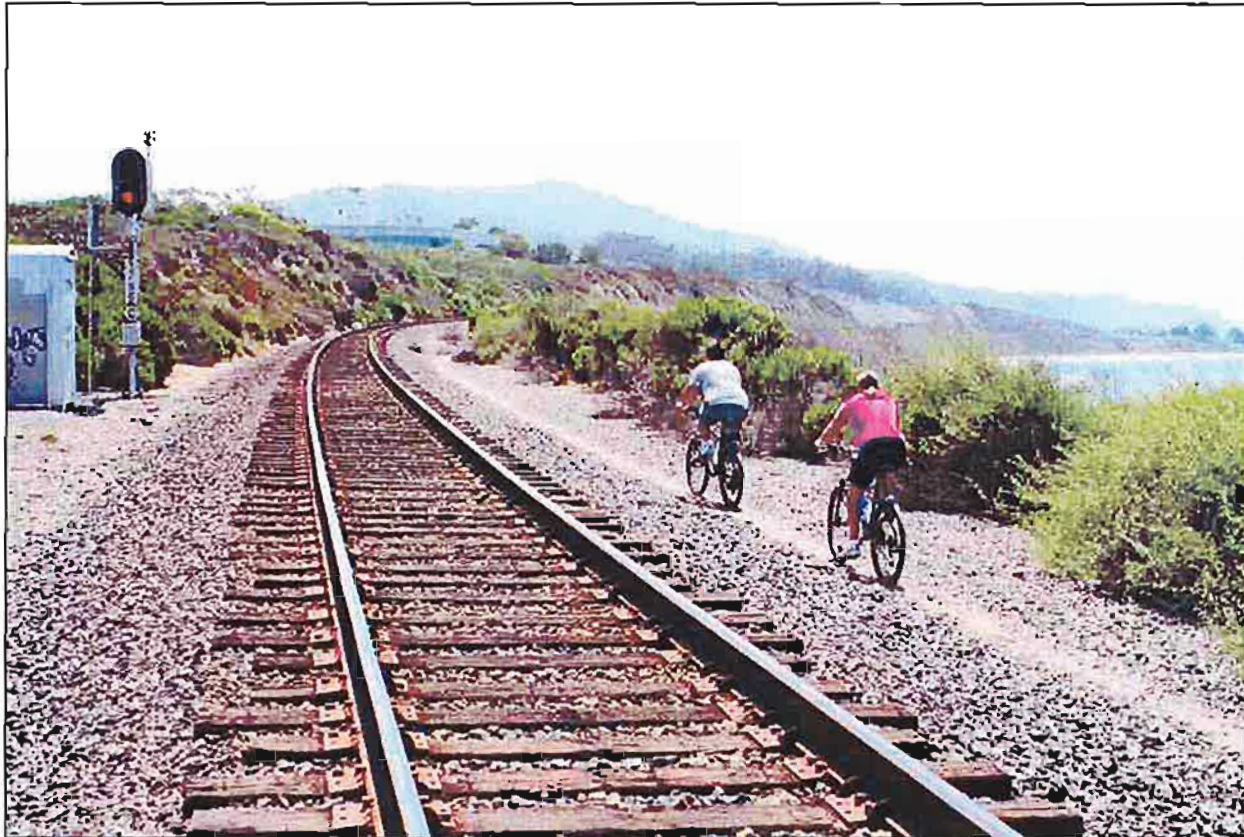


Figure 4-8. Bicyclists using Rail ROW, near Viola Fields

Near Viola Fields in the Carpinteria Bluffs Nature Preserve, the City has developed a decomposed granite recreational trail, similar to those in other coastal areas of the City. The trail runs within the Carpinteria Bluffs Open Space, between Viola Fields and an area approximately 1,500 feet west of Bailard Avenue, at the end of the dirt road adjacent to the driving range, which is approximately 2,000 feet east of Dump Road off Carpinteria Avenue. A view from this trail, looking across the open space and toward Carpinteria Avenue, is shown in Figure 4-9.

A fence along the edge of the trail (on the ocean side) helps to define the trail boundary and was provided to reduce unsanctioned crossing of the rail corridor. Figure 4-10 shows an unsanctioned trail leading to the rail ROW this fence helps to block, but also shows evidence that despite the introduction of the fence, bicycles are being lifted over

the fence in order to access the rail corridor. Location 2 exhibits major access activity both on the rail ROW and on both sides of the tracks.



**Figure 4-9. A volunteer trail leading from Bailard Avenue/Carpinteria Avenue parking area to the recreational trail**



**Figure 4-10. Evidence of unsanctioned crossing activity near Bluffs Area 1**

### **Location 3: Near Driving Range**

Location 3 is defined as that area of the rail corridor between the current end of the City-provided recreational trail (at the end of the dirt road between the driving range and the tracks) and Dump Road. In this area the tracks are at the same level as the Bluffs. Established “volunteer” trails from throughout the Bluffs area converge here, indicating that this is a major crossing point for those trying to reach the Pacific Harbor Seal Sanctuary or the old road bed that leads from the bluff top down to the beach approximately 330 feet from the terminus of the recreational trail. The Public trail at this point turns north toward Carpinteria Avenue, however a popular unsanctioned trail enters private property and crosses the track at an unsanctioned location. Figures 4-11 and 4-12 provide two views of the area.

Figure 4-13 shows a group of people crossing the railroad tracks at Location 3.

There have been several development ideas for the privately owned property at Location 3, most recently a residential development to be called “Summerwind at the Bluffs”. It is anticipated that a condition of development for a future project here would provide an opportunity to provide access across the rail corridor, as well as to locate a sanctioned rail crossing here. Location 3 shows major access activity throughout this area.



**Figure 4-11: Existing recreational trail within the Carpinteria Bluffs Open Space, as it approaches its current termination point at Location 3**



**Figure 4-12: View of rail corridor from recreational trail, looking east toward Rincon County Beach**



**Figure 4-13: Pedestrians crossing rail ROW at Location 3**

#### Location 4 – Near Dump Road



Figure 4-14: View of Dump Road at-grade rail crossing, looking north toward Carpinteria Avenue

Dump Road is a private roadway leading from Carpinteria Avenue through a property currently owned by Venoco Inc. It features a private at-grade crossing over the rail corridor, before terminating at Casitas Pier (which is owned by the City and leased to Venoco) from which offshore oil and gas drilling platforms are staffed and serviced. The pier is shown in Figure 4-15.



Figure 4-15: Casitas Pier



**Figure 4-16: The Carpinteria Seal Sanctuary is another major attraction/destination for those persons visiting the Carpinteria Bluffs**

In addition to the beach, the Carpinteria Pacific Harbor Seal Sanctuary is a major attraction for both residents and visitors (Figure 4-16). This site is one of only three such haul out / rookeries on the southern California coast, and it offers an opportunity to observe the seals from an appropriate distance.

The seals are protected, and beach access in this area is restricted during pupping and breeding periods, December 1 to May 31.

Tar Pits Park begins just west of the Dump Road crossing.

Figure 4-17 shows a view from the City's Coastal Vista recreational trail, looking west across Dump Road toward Tar Pits Park.

Location 4 shows evidence of moderate access activity, as most persons arriving there do so by way of Location 3 or Location 5.



**Figure 4-17: Recreational trail, looking west across Dump Road toward Tar Pits Park**

## **Section 2: Residential/Downtown Area of Carpinteria**



**Figure 4-18: Looking north toward tracks, which are on a berm relative to adjoining land uses**

### **Location 5: Calle Ocho**

West of Dump Road, the nature of the land uses along the rail corridor changes. Section 1 of the rail corridor through Carpinteria is primarily open space and recreational uses (with a few commercial/office buildings) in Section 2 the rail corridor is adjacent to residential and commercial areas of Carpinteria.

The rail corridor is on a berm for the first 1500 feet, relative to the adjoining property on either side of the tracks. Otherwise, within Section 2, the rail ROW is at-grade with surrounding properties. Figure 4-18



shows the berm, from the Tar Pits Park side, approximately 500 feet west of Dump Road, as well as evidence of minor crossing activity.

The next point at which unsanctioned crossings occur is near the corner of Calle Ocho and Calle Arena, about 1600 feet (railroad-wise) west of Dump Road. This unsanctioned crossing location is located in a residential neighborhood. The end of Calle Ocho and the beach provides points at which pedestrians and bicyclists can access Tar Pits Park or nearby Carpinteria State Beach Park. Calle Ocho shows evidence of major crossing activity. Figure 4-19 provides a panorama view of the rail corridor from the northern side of the tracks, looking toward Tar Pits Park.



**Figure 4-19: View of Unsanctioned Crossing at Calle Ocho**

Residential properties are located directly adjacent to the rail ROW, and there is physical evidence that suggests certain properties have over time potentially encroached on Union Pacific-owned property. Some properties even have gates and pathways from the rear of their properties directly accessing the rail ROW and track.



**Figure 4-21: Existing drainage crossing east of Calle Ocho**



**Figure 4-22: Panoramic view of existing drainage under crossing near Calle Ocho**

Interestingly, there is an existing drainage crossing of the rail corridor approximately 250 feet east of Calle Ocho, through which persons can access coastal resources without

having to directly cross over the rail line. With some upgrades, this drainage undercrossing could present an opportunity to provide sanctioned access between the coastal and inland sides of the rail corridor. Figure 4-21 provides a close-up view, and Figure 4-22 provides a wide-angle view of this existing facility, both looking south toward the coast.

Recognizing that many residents and visitors access Tar Pits Park via Carpinteria State Beach, there is a welcome sign on the ocean side of the crossing, providing a map and other information about the park. This sign is shown in Figure 4-23.

Location 5 exhibits major access activity.

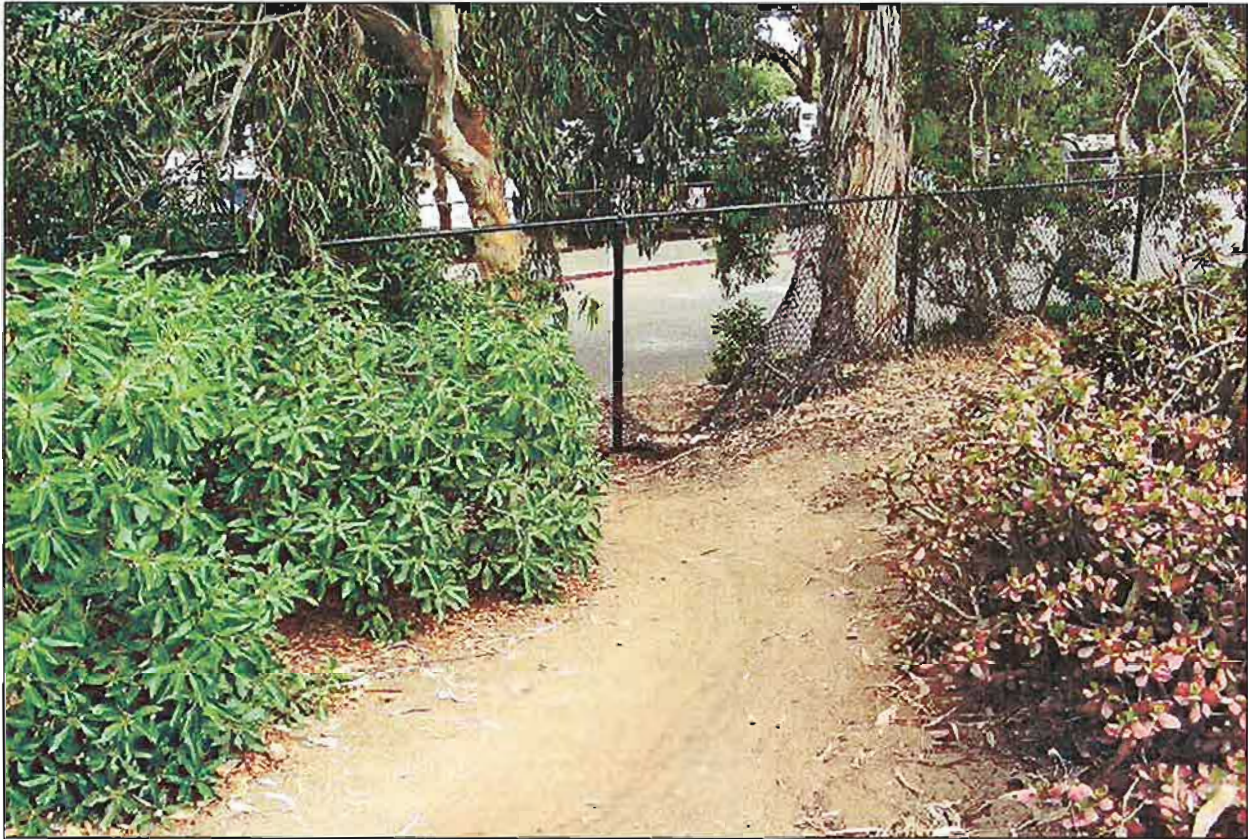
### **Location 6: Between Calle Ocho, Carpinteria Creek, and Palm Avenue**

From Calle Ocho (Tar Pits Park) to Palm Avenue, there is no legitimate, sanctioned access between the rail ROW, the coast and the neighboring residential community. Just west of Calle Ocho, the rail corridor curves as it approaches a rail bridge over Carpinteria Creek, before beginning a straight (tangent) section through Downtown Carpinteria.



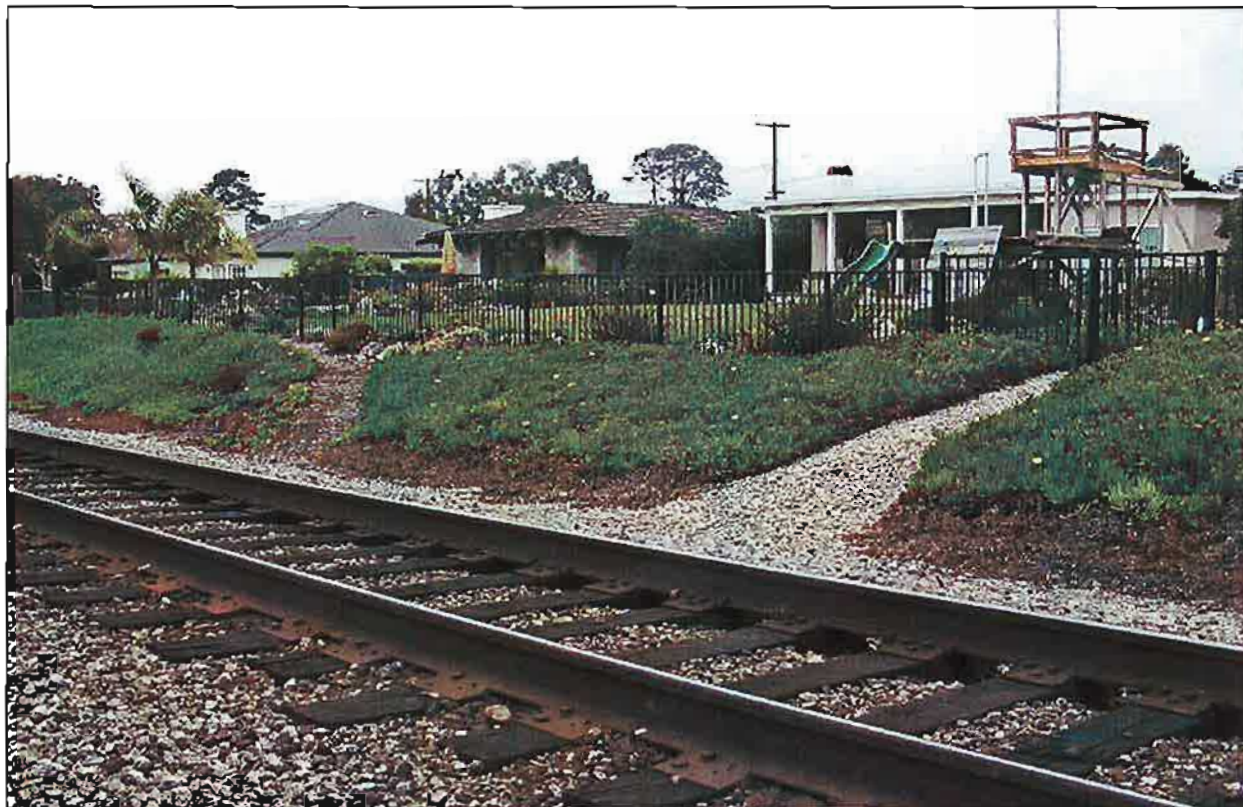
Figure 4-23: Tar Pits Park Welcome sign

To the ocean side of the rail corridor is a portion of Carpinteria State Beach, which includes an RV parking area and public restrooms. While there is an existing fence between the park and the rail ROW, the fence has been cut and torn away approximately 820 feet east of Carpinteria Creek. Figure 4-24 shows this unsanctioned opening in the fence, and evidence of major long-term access activity. This opening connects the residential neighborhood north of the tracks with the beach. Absent a connection, residents would have to travel a long way to utilize a sanctioned crossing.



**Figure 4-24: Unsanctioned access point between Carpinteria State Beach Park and rail ROW, near Carpinteria Creek.**

On the inland side are a number of residential properties, a few of which are shown in



**Figure 4-25: Representative view of residential properties adjacent to rail ROW at Location 6**

**Note the backyard gates that open onto the rail ROW, and also note the clearly established and maintained trails from the properties onto the tracks.**

Figure 4-26 shows children standing on the railroad tracks in this same area, just after a train has passed. While an approaching train would sound its horn, the restricted sight lines as a result of the curved track at this location make it particularly important to ensure that unsanctioned trespass opportunities on the tracks are reduced through the provision of alternative routes.

Location 6 shows minor activity along the rail corridor, and moderate access activity between the rail ROW and Carpinteria State Beach.



**Figure 4-26: Children standing on tracks near Location 6**

## Location 7: Carpinteria Creek Bridge

Figure 4-27 shows the rail bridge that crosses Carpinteria Creek. At this location there is evidence of public access near the foot of the bridge, leading down toward the creek bed and toward Carpinteria State Beach. Location 7 shows minor access activity.



Figure 4-27: Rail structure over Carpinteria Creek, looking southeast

South of the US 101 Freeway, there are five crossings of Carpinteria Creek (and four sanctioned ones):

1. Vehicle/pedestrian bridge at Carpinteria Avenue (Sanctioned)
2. Pedestrian/bicyclist bridge at 8<sup>th</sup> Street/Calle Ocho (Sanctioned)
3. Railroad structure on UP rail ROW (Unsanctioned)
4. Vehicle/pedestrian bridge at former 4<sup>th</sup> Street, now part of Carpinteria State Beach Park (Sanctioned)
5. On the beach (Sanctioned)

There is evidence of regular use of the railroad structure to cross Carpinteria Creek. While the railroad bridge and the 4<sup>th</sup> Avenue bridge are fairly close together (within approximately 160 feet of each other), the next closest northern pedestrian crossing is at 8<sup>th</sup> Street – about 1600 feet upstream of the railroad bridge. From the adjoining residential neighborhood, the only entry and exit points are at Carpinteria Avenue, the 8<sup>th</sup> Street pedestrian bridge, and across the rail corridor at Calle Ocho.

Figure 4-28 shows evidence of moderate use of the rail corridor to cross Carpinteria Creek, as well as to move between the rail bridge and the vehicle/pedestrian bridge in the State Beach Park.

#### **Location 8: Palm Avenue**

West of Carpinteria Creek, the rail ROW enters the Downtown area of Carpinteria. Palm Avenue is the first roadway that crosses the rail corridor within the Downtown District. Location 8 shows major access activity over the rail ROW. Palm Avenue features a sanctioned, at-grade rail crossing with signals and crossing arms. Figure 4-29 shows the crossing and equipment, looking south toward the ocean.



**Figure 4-28: Evidence of unsanctioned access between rail bridge and pedestrian bridge near Carpinteria Creek**



**Figure 4-29: Palm Avenue At-Grade Crossing**

On the inland side are a mixed-use live/work condominium development and a warehouse, as seen in Figure 4-30.

As can be seen in Figure 4-30, there is a split-rail fence (augmented with chain link) on the south (ocean) side of the rail corridor, as well as a fence on the north (inland) side. The width of the rail ROW in this area makes it an attractive route to move



**Figure 4-30: Live/Work development on north side of rail ROW**

efficiently from east to west along the spine of the community, and there is evidence in the form of volunteer trails to support the contention of moderate access activity in this location.



On the ocean side of the rail corridor is the main entrance to Carpinteria State Beach, as shown in Figure 4-31.



**Figure 4-31: The main entry point to the State Beach is from Palm Avenue**



Figure 4-32: Rail ROW at Palm Avenue, looking west

### Location 9: Linden Avenue

The next roadway in the Downtown District crossed by the rail corridor is Linden Avenue. Figure 4-33 shows a view from Linden Avenue near the rail corridor, looking south toward Carpinteria City Beach. In addition to being the main access route between Carpinteria Avenue and the City Beach, Linden Avenue is one of the City's main commercial streets, and is lined with retail and commercial establishments. Linden Avenue also provides the only vehicular access to the Beach Neighborhood, and the closest sanctioned rail crossing opportunity for bicyclists and pedestrians. Correspondingly, Location 9 exhibits major access activity.



Figure 4-33: Linden Avenue crossing, looking south toward ocean

Like Location 8, Location 9 exhibits major access activity across the rail corridor. There is moderate activity along the rail corridor, particularly between Palm and Linden Avenues, as well as between Holly Avenue and Ash Avenue.

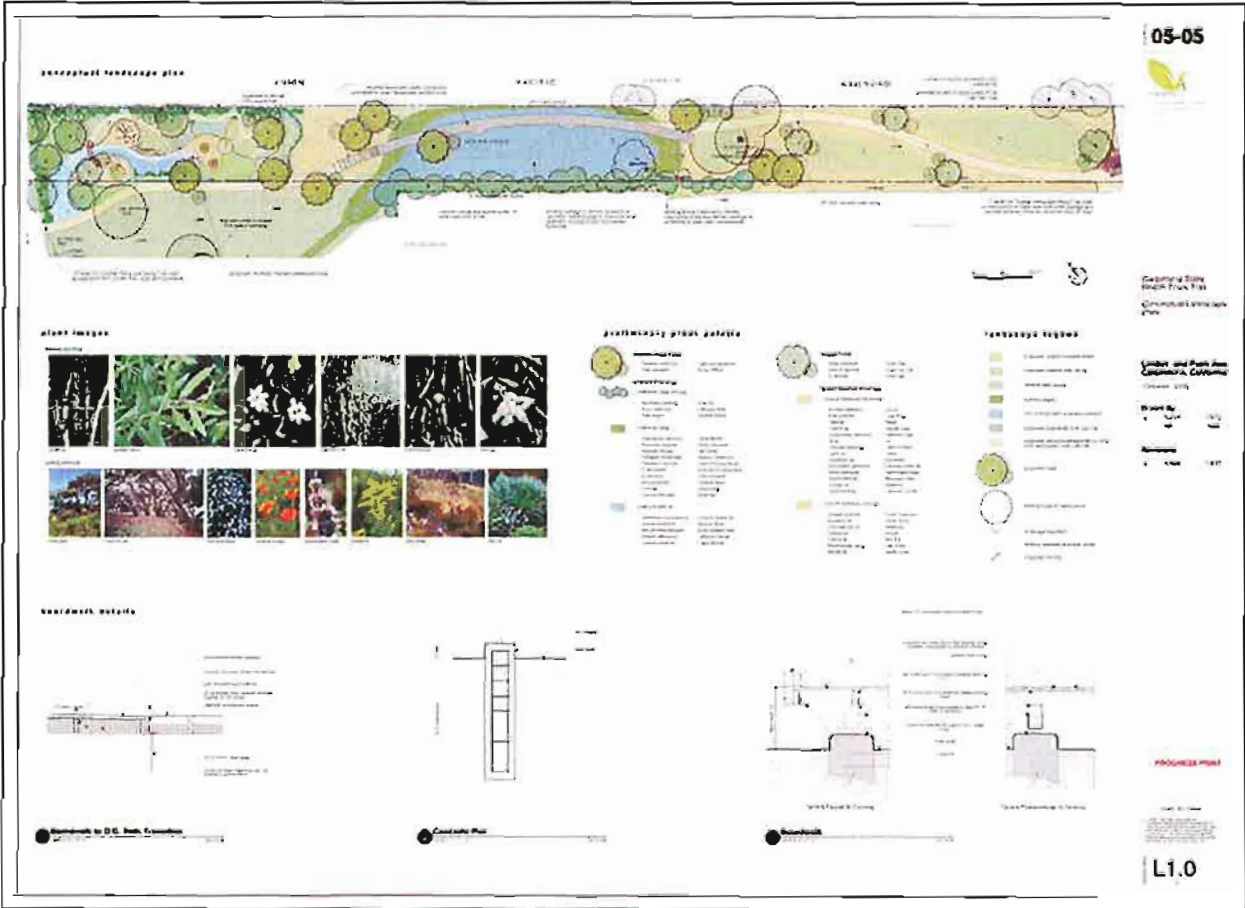


Figure 4-34: Conceptual layout of new linear park and trail corridor between Palm Avenue and Linden Avenue (Source: City of Carpinteria)

The City is in the process of developing a new linear park and trail corridor on the south side of the rail corridor. This trail would run between Palm Avenue and Linden Avenue, as shown in Figure 4-34. One purpose of the trail is to discourage use of the rail corridor for access between Palm and Linden. In addition to a recreational trail, the park features landscaping and a bioswale, along with educational information designed to inform and educate all who visit the facility.

The Carpinteria Rail Station can be accessed via Linden Avenue (at 5<sup>th</sup> Street). The station provides access to Amtrak’s *Pacific Surfliner* intercity passenger rail service, with five round trips each day between Los Angeles and Santa Barbara/Goleta (two of which continue north to San Luis Obispo). The City’s Downtown District and Beach Neighborhood Specific Plan calls for the construction of a new, historic replica Depot to better serve the traveling public, visitors and residents. Figure 4-35 shows a view of the rail corridor from near Holly Avenue, looking east toward Linden Avenue. The rail station can be seen to the left.



**Figure 4-35: Rail ROW from near Holly Avenue, looking east**

Should a second track and platform be added at a future date to provide additional passenger handling capacity at the station, a new track and platform could be provided on the south (ocean) side of the rail ROW.

#### **Location 10: Holly Avenue**

Holly Avenue is one of three streets within the Beach Neighborhood that do not connect over the rail corridor with the neighborhood on the north side of the tracks (the others being Ash and Elm Avenues (discussed in the next subsection). Access activity at the Holly Avenue location is classified as Major. Figure 4-36 shows the view from the tracks near Holly Avenue, looking west toward Ash Avenue, and Figure 4-37 provides a panoramic view of Holly Avenue from 4<sup>th</sup> Street, looking north toward the rail corridor.



Figure 4-36: View from the rail ROW near Holly Avenue, looking west



Figure 4-37: Holly Avenue at 4th Street, looking north toward rail corridor

## Location 11: Ash Avenue

Ash Avenue is the western most north-south street within the Beach Neighborhood that does not have a through connection across the rail corridor. Ash Avenue (like Holly Avenue) has available, undeveloped city-owned street ROW on its northern edge adjacent to the rail corridor, as shown in Figure 4-38. There is evidence of major access activity at this location, as shown in Figure 4-39. Crossing the rail corridor at Ash Avenue provides a shorter route to Aliso School, Carpinteria Avenue, and the Downtown District than going out to Linden Avenue and crossing the rail corridor at the existing, sanctioned at-grade crossing.



Figure 4-38: Ash Avenue at 4th Street, looking north toward rail corridor

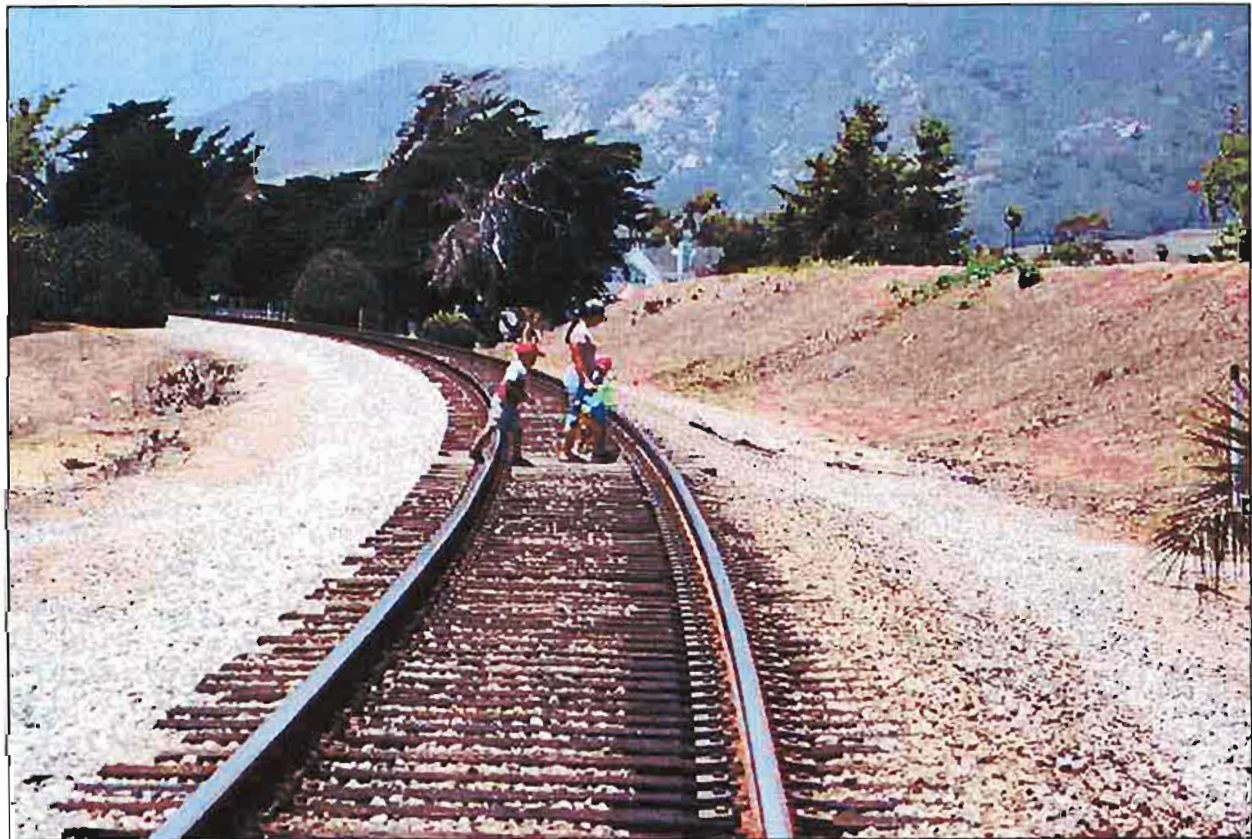


Figure 4-39: Rail corridor near Ash Avenue, looking west

### Area 3: Western Coastal Area of Carpinteria

#### Location 12 – Franklin Creek

Just west of Ash Avenue is Franklin Creek. Aliso Elementary School is located just across Franklin Creek, and borders the rail ROW.

Crossing the rail corridor at Ash Avenue offers the shortest route to reach Aliso School for students living in the Beach neighborhood. Once the rail corridor has been crossed, two route alternatives exist. The first, legitimate route is to take Ash Avenue to 7<sup>th</sup> Street, then travel along 7<sup>th</sup> Street to the school (which is at the corner of 7<sup>th</sup> Street and Carpinteria Avenue.)

A second, unsanctioned route involves walking parallel along the edge of the tracks, across the railroad bridge over Franklin Creek (see Figure 4-40), and then into an access way that runs from the tracks toward the school (Figures 4-41 and 4-42.) It appears this route is sometimes used by students or others to get between Carpinteria Avenue (and the school) and the rail corridor.



Figure 4-40: Railroad bridge over Franklin Creek, looking west





**Figure 4-41: Looking toward pathway that leads from rail corridor toward 7th Street and Aliso School, parallel to Franklin Creek**



**Figure 4-42: Pathway from rail corridor toward 7th Street and Aliso School (seen at left)**

### Location 13: Sandyland Cove Road

Sandyland Cove Road is a private roadway that crosses the rail ROW approximately 1000 feet west of Franklin Creek. The roadway provides access to a gated beachfront development that is outside the Carpinteria City Limits in unincorporated Santa Barbara County. A private vehicle crossing is located at this location, as seen in Figure 4-43. Evidence from field reviews suggests that pedestrians and bicyclists use the rail ROW as an alternative to move between the area around Santa Claus Lane and downtown Carpinteria, avoiding the area at which Carpinteria Avenue begins as an offramp from southbound U.S. 101.



Figure 4-43: Private railroad crossing at Sandyland Cove Road

### Location 14: Carpinteria Salt Marsh Reserve

The final location discussed in this field review is Location 14, at Estero Way, where an unimproved rail crossing provides access to the Carpinteria Salt Marsh Preserve, a unit of the University of California's (UC) Natural Reserve System. This crossing does not have any signals or crossing arms – signage only.

Figure 4-44 shows (clockwise from left) an information sign from the City of Carpinteria explaining and providing facts about the Salt Marsh, a view of the rail ROW, looking west toward Santa Claus Lane, and a view through the fence which surrounds the UC-administered reserve. Vehicular access to the facility is very limited.

Access activity here is primarily pedestrians and bicyclists traveling from west of Carpinteria (above Santa Claus Lane), who use the rail ROW as an alternative to travel via Carpinteria Avenue.



Figure 4-44: Collage of images from rail ROW near Estero Way

## 5.0 RAIL INCIDENTS WITHIN THE CITY OF CARPINTERIA

### Rail Incidents within the greater Carpinteria Area.

There has been one fatal rail incidents reported over the past two years within the greater Carpinteria area. It was a July 2007 pedestrian fatality within the rail ROW July 2007, in which Carpinteria resident and business owner Alan Shapiro and his dog were struck and killed while walking along the railroad tracks at the western edge of Carpinteria, near Santa Claus Lane.

Most recently, in October 2009, a Carpinteria resident fell while crossing the tracks at Calle Ocho (Location 5) and was unable to get up due to injuries. The approaching train was able to stop just in time to prevent further injury or death.

### Trends in Rail Trespass Incidents and Fatalities

According to a March 2008 Federal Railroad Administration (FRA) report entitled "Rail Trespasser Fatalities"<sup>5</sup>, California leads the nation in the number of fatalities as a result of trespassing within a rail ROW, with a range of between 137 and 261 fatalities annually (as measured over a four-year period between 2000 and 2004).

Separately, the FRA's Office of Safety maintains records of trespasser casualties. While the data is not available on a City-level, an online search of the FRA's website reveals the following statistics for incidents throughout Santa Barbara County over the last four years for which data is available (2005-2008), as shown in Table 5-1.

Rail Operator	2005 Fatalities/Injuries	2006 Fatalities/Injuries	2007 Fatalities/Injuries	2008 Fatalities/Injuries
Amtrak	2 / 0	1 / 2	1 / 3	1 / 0
UPRR	0 / 0	3 / 0	1 / 0	0 / 0
Total Incidents	2	6	5	1

Source: FRA<sup>6</sup>

Periodically, there are enforcement sweeps of the rail corridor in other areas of Santa Barbara County. A recent "Officer on the Train" effort conducted Thursday, June 25, 2009<sup>7</sup> cited or warned 32 trespassers found within the rail corridor, as well as five

<sup>5</sup> Available for download from: [http://www.fra.dot.gov/downloads/safety/tdreport\\_final.pdf](http://www.fra.dot.gov/downloads/safety/tdreport_final.pdf)

<sup>6</sup> Source: <http://safetydata.fra.dot.gov/OfficeofSafety/publicsite/query/QuerySas.aspx>

<sup>7</sup> <http://www.thedailysound.com/062609railsafety>

drivers at crossings. This sweep was jointly staffed by Union Pacific Police, Santa Barbara City Police Department, and the Santa Barbara County Sherriff's Department.

### **Estimated Frequency of Rail Corridor Crossings**

Within the scope of this study, it is difficult to establish an accurate count of how many people cross the rail corridor at undesignated/unofficial locations. Difficulties include the length of the corridor, the number of locations at which people make unsanctioned crossings, and the times of day when people cross.

The number of potential crossings varies by such factors as the time of day, the season, and the weather. In addition to the City's 14,194 residents<sup>8</sup>, the Carpinteria Valley Chamber of Commerce suggests that there are approximately 800,000 visitors to Carpinteria each year<sup>9</sup>. A study conducted for the City by a San Francisco State University researcher<sup>10</sup> used a five-year average of 1.6 million annual visitors to the City's beaches. This study also determined that 60% of visitation occurs during the "high" season between Memorial Day and Labor Day, with the other 40% spread throughout remaining months.

The three most common areas where people cross the rail corridor are:

- The Bluffs,
- Near Calle Ocho, and
- Downtown between Holly Street and Ash Street.

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<sup>8</sup> Source: 2000 Census information

<sup>9</sup> Source: Carpinteria Valley Chamber of Commerce, <http://www.carpchamber.org/todo.html>

<sup>10</sup> Economic Analysis of Beach Spending and the Recreational Value of Beaches in Carpinteria, Undated. Available on the web at <http://userwww.sfsu.edu/~pqking/carpinteria.pdf>

## 6.0 EXISTING RAIL CROSSING RIGHTS

Existing Rail Crossing rights consist of easements at the City's existing at-grade crossings at Palm and Linden Avenues.

### Prescriptive Rights

According to the California Coastal Commission, Prescriptive Rights refer to public rights that are acquired over private lands through continual use. The public may acquire the right to use trails to the beach, informal parking areas, and bluff tops for recreational activities. A right of access is acquired through use and is, essentially, an easement that comes into being without the explicit consent of the owner.



Figure 6-1: Long-term crossings of the rail corridor by pedestrians visiting the Carpinteria Bluffs, may have created a prescriptive right of access

The basic criteria for determining a public prescriptive right include that the land has been used:

- Continuously for the prescriptive period of five years, as if it were public land, and necessary for the convenience of the user;
- In a manner that is open, notorious, and clearly visible to the owner of the property;
- In a manner that is hostile and adverse to the owner (i.e., the owner has not granted permission for the use);
- Without significant objections or bona fide attempts by the fee owner to prevent or halt such use.

In order to determine prescriptive rights eligibility, an investigation including on-site inspections and interviews should be conducted. The most important source of evidence is from individuals who are familiar with the past and current uses of the property. Typically, prescriptive trails or sites may provide access to various beaches or remote coastal areas or points of interest.

According to the Coastal Commission, one such crossing in Carpinteria that may be eligible for the Prescriptive Rights eligibility is Dump Road. Although it is privately owned, evidence of prescriptive rights exists at the crossing. In 2007, the Coastal Commission began an investigation into whether a prescriptive right of access at Dump Road has been established. That inquiry is ongoing.

Based on evidence compiled in this report it is possible that there are other locations where crossing the tracks have become a widely-accepted practice that may warrant the addition of a sanctioned crossing or crossings through the prescriptive rights proceedings.

## 7.0 ALTERNATIVE CROSSING OPTIONS

### Crossing Types and Designs

There are three alternatives that can be considered for the addition of new sanctioned crossings:

- Overcrossings,
- Undercrossings, or
- At-grade crossings.

These three crossing types are discussed in more detail below. Each type presents a unique set of benefits and impacts to the community. The location and natural features of the area where a crossing may be constructed could determine the most prudent selection for the crossing. For example, in an area where the track is depressed and the surrounding terrain is elevated an overcrossing could be appropriate. The City's Local Coastal Plan visual resource policies will provide guidance in determining an appropriate choice.

The relative benefits and challenges associated with each crossing option are discussed below.

### Overcrossing

An overcrossing would be the most expensive of the three types of crossings available. An overcrossing would also create the largest impact to the views and overall character of the community. However, if there is a location where the track is depressed an overcrossing would be a convenient selection that could have reduced visual impacts. Figure 7-1 shows a representative example of an overcrossing structure used to continue a recreational trail over a major roadway.<sup>11</sup>



**Figure 7-1: Representative example of a pedestrian/bicyclist overcrossing**

### Benefits/Challenges

Construction of overcrossings across the railroad tracks in Carpinteria would have a number of benefits and challenges. The benefits include elimination of pedestrian/train

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<sup>11</sup> Source: [http://www.wsdot.wa.gov/Projects/SR99/Shoreline\\_NCTHOV/images.htm](http://www.wsdot.wa.gov/Projects/SR99/Shoreline_NCTHOV/images.htm)



conflicts and minimum construction impact when the overcrossing is at the same level as the surface streets and satisfies minimum vertical clearance requirements over the tracks. The challenges, on the other hand, would include: constructability, potential adverse visual impact (elevated to satisfy minimum vertical clearance requirements over the tracks), high construction cost, potential for attracting graffiti, high maintenance costs, inconvenient pedestrian and wheelchair access, and an inability to build at multiple locations due to their high cost.

Overcrossings would have visual impacts not in keeping with maintaining coastal vistas and they would be out-of-character with Carpinteria's built environment. With the exception of at Rincon/Carpinteria Bluffs Area 3, it is likely there would be significant community opposition to their construction. Overcrossings would require the largest project footprint, as they would need to be tall enough to provide clearance above the railroad tracks, and their ramps would need to meet ADA standards, resulting in significant structures with long approaches. Elevators on either side of the rail corridor could eliminate the need for ramps, but would be prohibitively expensive to construct, and would have high operating and maintenance costs.

Access inconveniences associated with overcrossing bridges could encourage continued trespass and unsanctioned access and result in underutilization of the investment.

### **At-Grade Crossing**

An at-grade crossing would provide the shortest, most direct access alternative, compared to an over or undercrossing. However, it is the least safe option and presents the highest risk for crossing incidents to occur. In the case of other similar proposed pedestrian at-grade crossing projects, both the California Public Utilities Commission (CPUC) and Union Pacific Railroad (UPRR) have previously stated that they would not likely support an at-grade crossing, and would protest a CPUC application for such a crossing. The CPUC has also previously stated that at-grade crossings would only be considered for construction if (1) a grade-separated crossing is physically impossible, and (2) the provision of such a crossing at that location meets a public need. There appear to be no locations within Carpinteria that present a physical impossibility to a grade separation option. Figure 7-2 shows a representative example of an at-grade pedestrian/bicyclist crossing.



**Figure 7-2: Example of an at-grade crossing**

UPRR is generally opposed to the introduction of new, additional at-grade crossings, but might consider approval of an at-grade crossing in exchange for the closure of two at-grade crossings elsewhere along the corridor within the City of Carpinteria. Given the already-limited number of existing, sanctioned crossings, reducing the number of locations would be inconsistent with the intent of the Coastal Access Feasibility Study and the City's General Plan/Local Coastal Plan.

Additional benefits and challenges of an at-grade crossing are summarized below.

### **Benefits/Challenges**

The benefits of at-grade crossings include minimal cost of construction, reduced construction impacts as compared to other alternatives, and uninterrupted city street traffic and railroad operations during construction.

The challenges would be continued and unresolved potential for crossing incidents, unwillingness of the CPUC and the railroad to approve such a crossing, increased noise impacts due to the newly created need for bells and whistles to warn pedestrians of an approaching train, the loss of opportunity for future creation of a "Quiet Zone".

### **Undercrossings**

An undercrossing would provide a convenient access to coastal resources, would avoid the conflicts that an at-grade crossing presents, and would have reduced expense and visual impacts compared to those of an overcrossing. While in some cases an undercrossing can create a "Tunnel Effect", intimidating some users due to limited view, these effects can be minimized through good design and adequate night time lighting.

The benefits of an undercrossing include: elimination of pedestrian/train conflicts, minimum visual impact, lower construction and maintenance cost compared to an overcrossing, and minimum disruption of community activities during construction. The challenges would include: potential drainage and groundwater issues to be addressed both during construction and for the life of the project, disruption of railroad operations during construction, graffiti, and perceptions of inadequate safety.

Of the three alternatives to provide access across the rail corridor, undercrossings would be preferable for most locations within Carpinteria, except where the existing depression of the railroad would make an overcrossing a logical choice since the users would not have to significantly alter their path to use the overcrossing. The only location at which this situation exists is Location 1 (Carpinteria Bluffs Area 3). Therefore, with that exception, undercrossings are recommended for further consideration.

## 8.0 POTENTIAL LOCATIONS FOR NEW SANCTIONED CROSSINGS

### New Access Conceptual Location and Design

Five locations are identified as potential rail crossing locations. These five were developed as a result of the field review and the City's Trail Master Plan, as well as prioritized as a result of public input and comment. The following locations are recommended:

- Ash Avenue (or Holly Avenue)
- Calle Ocho
- Dump Road
- Carpinteria Bluffs Area 1
- Carpinteria Bluffs Area 3

Providing new access points at the referenced locations would:

- Dramatically enhance pedestrian and bicyclist safety by eliminating potential interaction with passing trains
- Create a continuous trail network throughout the coastal portions of the City
- Offer a safer, shorter route between the Beach Neighborhood and Aliso School

These locations are discussed in more detail below to describe the increased accessibility provided by the proposed crossing, potential visual impacts, issues for future consideration during design, construction and operation, and the crossing's expected public use and acceptance.

### Ash Avenue

An Ash Avenue crossing is recommended primarily to improve the access between the Beach Neighborhood and downtown Carpinteria, as well as to Aliso School. An Americans with Disabilities Act (ADA) compliant undercrossing is recommended for the location to create the most convenient and direct access, while minimizing visual impacts and cost of construction. As an ADA accessible facility, the undercrossing would provide ramps at an appropriate grade for wheel chair access. In addition to increased



Figure 8-1: Near Ash Avenue looking south toward rail ROW with Beach Neighborhood in background

coastal access, this bridge and the undercrossing could also provide increased access and connectivity with the Carpinteria rail station. Table 8-1 provides a summary assessment of an Ash Avenue undercrossing.

<b>Table 8-1 Assessment of Ash Avenue Access Location</b>	
<b>Accessibility:</b>	Downtown Carpinteria, Beach Neighborhood, coastal resources, future connection to Coastal Access Trail, Aliso School
<b>Potential visual Impacts:</b>	Limited, as crossing would be located below-grade. Stairways, ramps, lighting, and associated landscaping could be seen. There would be visual impacts from the fence installed to prevent trespass over the rail corridor, by channeling pedestrians and bicyclists to the nearest sanctioned crossing location.
<b>Issues for future consideration:</b>	Water table issues near coast, potential relocation of utilities within the rail ROW
<b>Expected public use and acceptance:</b>	This undercrossing would provide enhanced access to residents and visitors, and would increase safety by avoiding the inherent conflicts of trespassing over the rail corridor. Anticipated public use and acceptance at this location is high.

## Holly Avenue

As an alternative to an Ash Avenue crossing, an undercrossing could be considered at Holly Avenue. Holly Avenue is a possible alternative to Ash Avenue, as both 5<sup>th</sup> Street and Holly Avenue have significant available right-of-way. Additionally, Holly Avenue is designated as a “Federal Aid” highway, which might improve potential funding opportunities. Ash Avenue is preferred however, due both to its proximity to Aliso School and its greater distance from the existing Linden Avenue railroad crossing.

Should a future second track be constructed at the station to provide additional boarding capacity (perhaps as part of a future commuter rail service), this undercrossing would provide a safe connection between the two tracks. The closer connection with the rail station that Holly Avenue provides presents an opportunity for potential funding or a shared project through coordination with Caltrans Division of Rail and Amtrak, as part of a Carpinteria Rail Station improvement project.

Table 8-2 provides a summary assessment of a Holly Avenue undercrossing.

**Table 8-2**  
**Assessment of Holly Avenue Access Location**

**Accessibility:** Downtown Carpinteria, Carpinteria Rail Station and passenger platforms, Beach Neighborhood, coastal resources, future connection to Coastal Access Trail, Aliso School (Similar accessibility to that provided at Ash Avenue)

**Potential visual Impacts:** Limited, as crossing would be located below-grade. Stairways, ramps, lighting, and associated landscaping could be seen. There would be visual impacts from the fence installed to prevent trespass over the rail corridor, by channeling pedestrians and bicyclists to the nearest sanctioned crossing location.

**Issues for future consideration:** Water table issues near coast, potential relocation of utilities within the rail ROW, need to plan for potential construction of a future second track at Carpinteria rail station.

**Expected public use and acceptance:** This undercrossing would provide enhanced access to residents and visitors, and would increase safety by avoiding the inherent conflicts of trespassing over the rail corridor. This location could also serve to provide access between track platforms should a second track be added to provide additional rail capacity. Anticipated public use and acceptance at this location is high.

### **Calle Ocho**

Calle Ocho represents the only access point for the residential neighborhood on the inland (north) side of the rail corridor to connect with the ocean side on the south. All of the streets in this area begin at Carpinteria Avenue. A sanctioned crossing at the end of Calle Ocho, near the intersection of Calle Arena, would provide enhanced pedestrian and bicyclist access to Tar Pits Park, to the Coastal Vista Trail, and to associated paths that are located on the ocean side of the tracks. There appears to be sufficient public right-of-way at the end of Calle Ocho for an ADA-compliant undercrossing to be constructed.



**Figure 8-2: Potential Calle Ocho access crossing location as viewed from Tar Pits Park, looking north**

Figure 8-3 shows a view from the end of Calle Ocho, looking south toward the rail corridor and the ocean. As an alternative, coastal access could be provided by way of a gently-sloping pathway along the railroad right of way to an existing drainage undercrossing approximately 500 feet to the east (south). A pathway to this drainage crossing can be seen in Figure 8-4. This drainage crossing could be modified for pedestrian access to the trail network. In addition, given the historic nature of Tar Pits Park<sup>12</sup> and its use by the Chumash Indians, this could indicate the potential presence of sensitive archeological artifacts at or near this location, the drainage crossing alternative might be an option to avoid excavation, should that prove necessary.



**Figure 8-3: Potential Calle Ocho access crossing location, looking south**



**Figure 8-4: Potential alternative Calle Ocho crossing location, looking toward Tar Pits Park**

<sup>12</sup> <http://www.carpinteria.com/activities/parks/tarpits/>

Figure 8-5 shows the existing drainage under the rail ROW which could be potentially modified to provide an alternative access under the rail corridor. This access could either be provided separately or as part of another undercrossing directly under the tracks at Calle Ocho. It is likely that a new structure and or upgrades would need to be provided in order to meet UPRR standards.



Figure 8-5: Potential alternative Calle Ocho crossing location, looking south toward Tar Pits Park

Table 8-3 Assessment of Calle Ocho Access Location
<p><b>Accessibility:</b> Enhanced connectivity between residential neighborhood north of rail corridor and coastal resources including Tar Pits Park, Carpinteria State Beach, and Carpinteria Bluffs (via Coastal Access Trail)</p>
<p><b>Potential visual Impacts:</b> Limited, as crossing would be located below-grade. Stairways, ramps, lighting, and associated landscaping could be seen. There would be visual impacts from the fence installed to prevent trespass over the rail corridor, by channeling pedestrians and bicyclists to the nearest sanctioned crossing location.</p>
<p><b>Issues for future consideration:</b> Water table issues near coast, potential relocation of utilities within the rail ROW, potential for historic and/or archaeological artifacts at Tar Pits Park.</p>
<p><b>Expected public use and acceptance:</b> This undercrossing would provide enhanced access to residents and visitors, and would increase safety by avoiding the inherent conflicts of trespassing over the rail corridor. There could be initial resistance to the perceived inconvenience of using the undercrossing instead of the more-direct current route taken by trespassing across the rail corridor. Property owners west of Calle Ocho and east of Carpinteria Creek might be unhappy with the new fence (which to reduce visual impacts could be located on the ocean side of the rail corridor), as it would require them to cross the rail corridor by means of the Calle Ocho undercrossing.</p>



## Dump Road

While a private at-grade crossing currently exists at Dump Road, it is recommended that access to the crossing be opened to all. This may be possible with an agreement between the City and Venoco Inc. or by formal investigation of Prescriptive Rights at the crossing. The California Coastal Commission is currently conducting such an investigation. It is recommended that the at-grade crossing be upgraded to provide adequate pedestrian and bicycle crossing facilities. As compared to the construction of a new grade separated crossing, the cost of these improvements would be minimal. The upgraded Dump Road crossing would increase access to Tar Pits Park, Pacific Harbor Seal Sanctuary and the existing Coastal Access Trail network on both sides of Dump Road. Table 8-4 provides a summary assessment of the Dump Road crossing.



Figure 8-6: Dump Road private at-grade crossing, looking north toward Carpinteria Avenue

<b>Table 8-4 Assessment of Dump Road Access Location</b>	
<b>Accessibility:</b>	Enhanced potential connectivity for pedestrians and bicyclists between Carpinteria Avenue and coastal resources including Tar Pits Park, Carpinteria State Beach, and Carpinteria Bluffs (via Coastal Access Trail)
<b>Potential visual Impacts:</b>	There would be minimal additional impacts associated with pedestrian/bicyclist gates, sidewalk upgrades and associated improvements directly adjacent to the existing crossing. There would be visual impacts from the fence installed to prevent trespass over the rail corridor, channeling pedestrians and bicyclists to the nearest sanctioned crossing location.
<b>Issues for future consideration:</b>	Need for coordination with and or agreement with Venoco to perfect an easement along Dump Road.
<b>Expected public use and acceptance:</b>	This new crossing would provide enhanced access to residents and visitors, and would increase safety by avoiding the inherent conflicts of trespassing over the rail corridor. Expected use and acceptance – high.

## Carpinteria Bluffs – Area 1

A new access crossing is recommended at this location to increase access between Tar Pits Park, the Harbor Seal Overlook, and the trails at Carpinteria Bluffs. The undercrossing would be located approximately 1600 feet east of the Dump Road crossing in the area where the majority of unsanctioned crossings take place.

The proposed undercrossing could be designed to provide clearance to accommodate Sheriff or Lifeguard patrol vehicles (but not large trucks), in order to increase emergency vehicle access to this portion of the bluffs. Extension of the existing Coastal Access Trail east from Dump Road toward this location could also provide enhanced emergency vehicle access. Table 8-5 provides a summary assessment of the Carpinteria Bluffs Area 1 access location.



Figure 8-7: Proposed Carpinteria Bluffs Area 1 access undercrossing location

<b>Table 8-5 Assessment of Carpinteria Bluffs Area 1 Access Location</b>	
<b>Accessibility:</b>	Enhanced connectivity between Carpinteria Bluffs and coastal resources including the Coastal Access Trail network, Seal Sanctuary, Tar Pits Park, and beaches.
<b>Potential visual impacts:</b>	Limited, as crossing would be located below-grade. Ramps, lighting, and associated landscaping could be seen. There would be visual impacts from the fence installed to prevent trespass across the rail corridor, channeling pedestrians and bicyclists to the nearest sanctioned crossing location.
<b>Issues for future consideration:</b>	Potential relocation of utilities within the rail ROW
<b>Expected public use and acceptance:</b>	This undercrossing would provide enhanced access for residents and visitors, and would increase safety by avoiding the inherent conflicts of trespassing over the rail corridor. There could be initial resistance to the perceived inconvenience of using the undercrossing instead of the more-direct current route taken by trespassing across the rail corridor. Expected use and acceptance – high

### Carpinteria Bluffs – Area 3

The proposed crossing in this area would connect the network of trails north of the tracks to the trails to Rincon Point on the south side of the tracks, linking Rincon County Beach Park with the Carpinteria Bluffs, and representing an important expansion of the California Coastal Trail. This new connection would eliminate the need for bicyclists to ride on the shoulder of busy U.S. Highway 101 in order to reach Rincon Beach. Due to the elevation change between the bluffs and of the UPRR track below it, this is the one location within Carpinteria where an overcrossing could be an appropriate alternative, minimizing the visual impacts in this undeveloped area. As a related project, additional parking would be added at the intersection of Rincon Road/Highway 150 and Carpinteria Avenue.



**Figure 8-8: Artist's rendering of conceptual overcrossing structure at Carpinteria Bluffs Area 3 (Source: City of Carpinteria)**

## 9.0 UNDERCROSSING TYPE SELECTION ALTERNATIVES AND CONSTRUCTION PHASING

Three typical undercrossing alternative types that were considered for Carpinteria:

1. UPRR Standard Precast Concrete Box Girder Underpass,
2. Precast Concrete Segmental Arch Cut and Cover Tunnel, and
3. Reinforced Concrete Box Tunnel

The chapter provides a discussion of each undercrossing type. Following this discussion is a recommendation as to the types of structure deemed most suitable for use in Carpinteria, as well as an outline of the typical phasing that could be expected in a crossing's construction.

### UPRR Standard Precast Concrete Box Girder Underpass



**Figure 9-1: Artist's rendering of a conceptual UPRR Standard Precast Concrete Box Girder Underpass (Source: City of Encinitas)**

This alternative would consist of constructing a single span UPRR standard prestressed/precast concrete box girder bridge (see Figure 9-2, UPRR Precast Concrete Box Girder Underpass Elevation View [Typical]). At each potential access crossing location, the crossing would be depressed to provide a minimum of 8 feet of clearance under the structure. The span length of the bridge structure would be 42 feet. This span length would provide for 10 feet of walkway width (with 2' shoulders) and sloped approach embankments so that pedestrians would not feel unduly constrained while walking under the bridge. The trail surface material would be crushed

decomposed granite, with the exception of that under the bridge, which would be precast concrete (PCC.) This material is consistent with that used on other City trails.

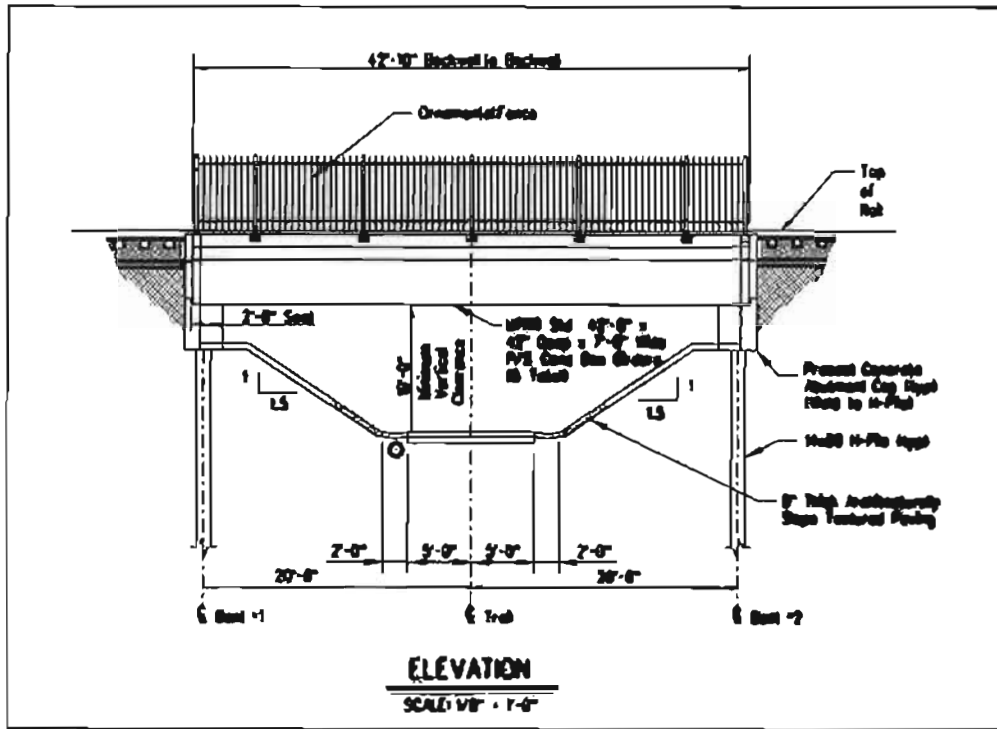


Figure 9-1: UPRR Precast Concrete Box Girder Underpass Elevation View (Typical)

**Table 9-1  
Alternative 1: UPRR Standard Precast Concrete Box Girder Underpass**

Advantages	Disadvantages
<ul style="list-style-type: none"> <li>■ Grade-separated crossing of UPRR facilities</li> <li>■ Least intimidating underpass option for users due to wide opening.</li> <li>■ Lowest typical project cost, compared to all underpass alternatives</li> <li>■ Proposed bridge is a UPRR preferred bridge type, resulting in shorter UPRR review process</li> <li>■ Shortest UPRR /Amtrak Absolute Track Outage Window compared to other studied grade-separation alternatives</li> <li>■ Less excavation of material under UPRR track compared to other studied grade-separation alternatives</li> </ul>	<ul style="list-style-type: none"> <li>■ Underpasses require additional security measures to mitigate potential for vandalism</li> <li>■ Construction Staging - significant rail operation interruptions during construction</li> <li>■ Requires significant excavation</li> </ul>

## Precast Concrete Segmental Arch Cut and Cover Tunnel

This alternative consists of constructing a series of precast concrete segmental arch sections capable of spanning 16 feet (see Figures 9-2 and 9-3, Precast Concrete Segmental Arch Cut and Cover Tunnel Elevation View (Typical)). This span length would provide for 10 feet of walkway width (with 3' shoulders). The arch segments would bear on precast concrete spread footing sections to minimize construction time. This type of construction is not uncommon to UPRR and requires minimal maintenance to the structure.

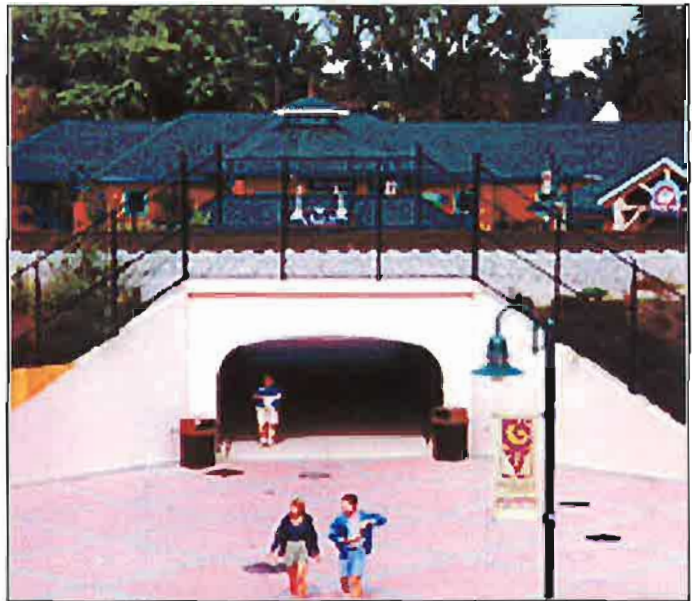


Figure 9-2: Representative example of arch cut-and-cover tunnel

The crossing would be depressed to provide a minimum of 6'-8" (at the outer edge) to 9'-2" (at the mid-span) of vertical clearance through the structure. The pedestrian approaches surface material would all be crushed decomposed granite, with the exception of under the bridge, which would be PCC.

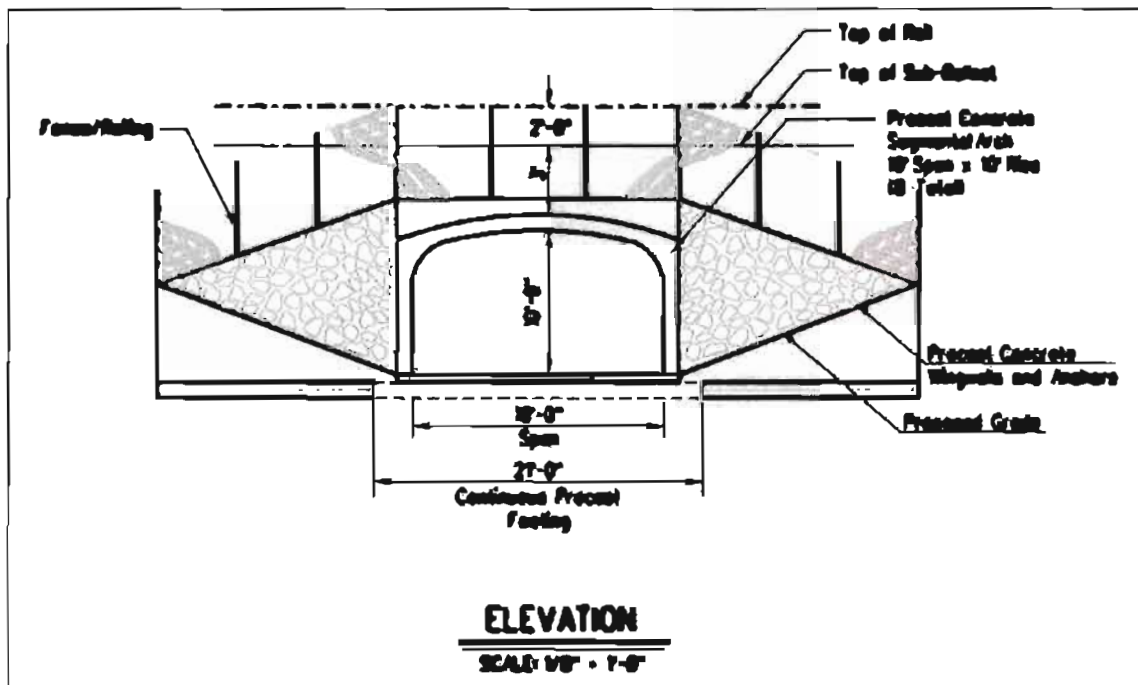


Figure 9-3: UPRR Precast Concrete Segmental Arch Cut and Cover Tunnel Elevation View (Typical)

This structure requires a three foot cover below the subgrade at each location, resulting in a deeper excavation and longer approach ramps. This alternative would cause significant impacts to rail operations and would require substantial coordination and effort by UPRR. A significant disadvantage to this alternative is that the user could feel like they are in a tunnel (compared to Alternative 1), creating anxiety due to perceived safety concerns – though this could be mitigated through lighting and design. Table 9-2 summarizes the advantages and disadvantages of Alternative 2:

<b>Table 9-2</b>	
<b>Alternative 2: Precast Concrete Segmental Arch Cut and Cover Tunnel</b>	
<b>Advantages</b>	<b>Disadvantages</b>
<ul style="list-style-type: none"> <li>■ Grade-separated crossing of UPRR facilities</li> <li>■ Proposed structure requires minimal structure maintenance.</li> <li>■ Esthetic structure system –consistent with Carpinteria’s existing built environment and trail network design.</li> </ul>	<ul style="list-style-type: none"> <li>■ Underpasses require additional security measures to mitigate potential for vandalism</li> <li>■ Construction Staging - significant rail operation interruptions during construction</li> <li>■ Tunnel Effect - intimidating underpass option for users due to limited view – Could be offset by lighting and design.</li> <li>■ Potential maintenance Issue: Graffiti.</li> <li>■ Most expensive alternative</li> <li>■ Longest required UPRR and Amtrak Absolute Track Outage Window</li> </ul>



## Reinforced Concrete Box Tunnel



**Figure 9-4: Example of Concrete Box Tunnel (Typical) (Photo Credit/Copyright: Dr. Duncan Pepper<sup>13</sup>)**

Figure 9-4 shows a representative example of concrete box tunnel, here used under a British roadway. This alternative would see constructions of a reinforced concrete box (RCB) tunnel with an opening of 14' wide by 8' tall, as shown in Figure 9-5, Reinforced Concrete Box Tunnel Elevation View (Typical)). This span length would provide for 10 feet of walkway width (with 1' shoulders). This type of construction is not uncommon to UPRR and requires minimal maintenance to the structure. The pedestrian approaches surface material would be crushed decomposed granite, with the exception of under the bridge, which would be PCC.

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<sup>13</sup>Copyright Dr. Duncan Pepper. Used under Creative Commons License. Original photo downloaded from <http://www.geograph.org.uk/photo/1361337>

The proposed alternative would call for the construction of the RCB by jacking precast RCB segments under the UPRR track while maintaining railroad operations. The limits of the jacking operation is only required for the limits of the tunnel to support the existing track. The remainder of the tunnel would be constructed by cut and cover construction method. This alternative would require substantial coordination and effort by UPRR and the Contractor during the jacking of the RCB under the existing UPRR track. Table 9-3 provides a summary of the advantages and disadvantages of this structure type.

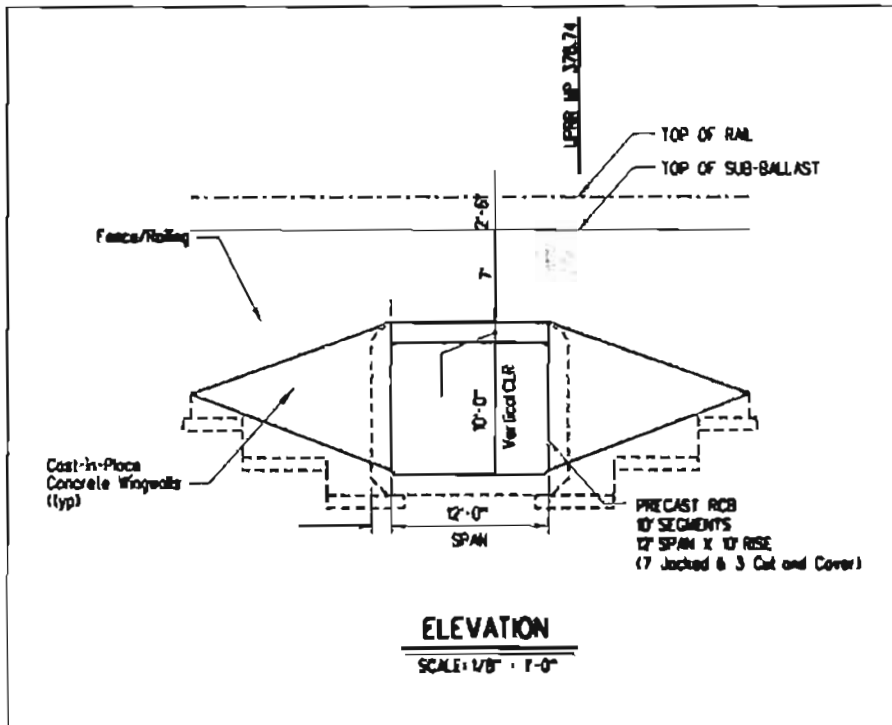


Figure 9-5: Reinforced Concrete Box Tunnel Elevation View (Typical)

Table 9-3 Alternative 3: Reinforced Concrete Box Tunnel	
Advantages	Disadvantages
<ul style="list-style-type: none"> <li>■ Grade-separated crossing of UPRR facilities</li> <li>■ No UPRR track removal required during construction, and no UPRR/Amtrak train service outage required</li> <li>■ Proposed structure requires minimal structure maintenance</li> </ul>	<ul style="list-style-type: none"> <li>■ Underpasses require additional security measures to mitigate potential for vandalism</li> <li>■ UPRR discourages construction methods of this type due to possible movement of track during jacking of the RCB</li> <li>■ Tunnel Effect - intimidating underpass option for users due to limited view</li> <li>■ Maintenance Issue: graffiti</li> <li>■ The second most expensive alternative</li> <li>■ More construction cost risk involved if unfavorable geological conditions are encountered or movement of UPRR track during the jacking operation</li> </ul>

### Recommended Structure Alternatives

Alternatives 1 and 2 could be potential alternatives for use in developing new access locations within Carpinteria.

Recently, the City of Encinitas (a coastal community in San Diego County) selected a series of pedestrian and bicycle undercrossings using Alternative 1 – UPRR Standard Precast Concrete Box Girder Underpass. This project’s (conducted by another firm) extensive conceptual designs for the various crossings, developed as part of preliminary engineering and environmental clearance, were originally rejected by the public as too sterile and “freeway-like”, but ultimately approved requiring an extensive redesign of the undercrossings. Recognizing that design preferences and sensitivities might be similar in Carpinteria, early and active public involvement in the design process would be important in the selection of either Alternative type 1 or 2.

Alternative 3 – Reinforced Concrete Box Tunnel – is not recommended. Its potential tunnel effect is more pronounced than that of Alternative 2, the segmental arch cut and cover tunnel. While this effect could be mitigated through the use of innovative elements, such as the potential for exploring provision of lighting to reduce the perception of tunnel effects, it is the least esthetically attractive of the three choices.

Whichever Alternative is ultimately selected, there would be advantages to using the same design at all three undercrossing locations. These advantages would be maintaining a consistent look throughout the community, and could save the City time and money in engineering and could speed UPRR's approval process.

### **Conceptual Construction Phasing**

Depending on the selection of UPRR Standard Precast Concrete Box Girder or Precast Concrete Segmental Arch Cut and Cover alternatives for the new undercrossing access locations, the following section provides a description of the construction phasing that would be required at all locations during their installation.

#### UPRR Standard Precast Concrete Box Girder Alternative

This alternative would require the Contractor to establish a series of short track outage windows to drive steel piling and one temporary weekend work window, stopping UPRR and Amtrak train service for an estimated 12 to 14 hours. During the track outages, UPRR and Amtrak will be required to suspend track operations to complete the construction of the bridge.

#### Phase 1: Preparatory Work

1. Drive piling for proposed substructure (4-hour track windows)
2. Install rail joints to convert track to track panels (by UPRR forces)

#### Phase 2: Construct Bridge:

1. Remove track panels (1-hour by UPRR forces).
2. Excavate to limits of precast concrete girders and caps (1-hour)
3. Install precast concrete caps (4-hours).
4. Install elastomeric bearing pads, pre-stressed concrete box girders and steel tees (2-hours)
5. Place ballast for UPRR track (1-hour).
6. Install track panels by UPRR forces.
7. UPRR track returned to service for train operation.

Note: Estimated UPRR track outage: 9-12 hours.

### Phase 3: Complete Underpass Construction:

1. Excavate under precast girders for pedestrian walkway underpass.
2. Install drainage, gutter and pump system.
3. Install asphalt concrete pavement surface material for pedestrian walkway underpass.
4. Construct asphalt concrete pavement for trail.
5. Install underpass and trail lighting.
6. Install ornamental fence.
7. Place landscaping.
8. Complete work and demobilize.

### Precast Concrete Segmental Arch Cut and Cover Alternative

Work Windows – Alternative 2 would require the Contractor to establish a temporary work window, stopping UPRR and Amtrak train service for an estimated 20 to 24 hours. During the track outages, UPRR and Amtrak would suspend track operations to allow construction of the structure(s). Depending on the project implementation schedule (and the availability of funding), it might be possible to complete undercrossings at multiple locations simultaneously, minimizing the work window stoppages and also the impacts to the neighborhoods on both sides of the rail corridor.

Construction of an underpass crossing would be completed in three phases:

#### Phase 1: Advance Preparation for UPRR Track Removal & Train Service Outage:

1. Mobilization (moving needed equipment and supplies to the construction site)
2. Drive temporary shoring sheet pile to stabilize ground adjacent to existing UPRR track prior to track removal and excavation.
3. UPRR installs rail joints to convert track to track-panels.
4. Excavate outer limits of proposed concrete arch segments that are to be placed in existing railroad track area.
5. Deliver pre-cast concrete arch segments

#### Phase 2: Track Removal & Train Service Outage:

1. UPRR removes track-panel (1-hours).
2. Install temporary shoring to stabilize railroad track (2-hours).
3. Excavate below track (2-hours).

4. Finalize grading/compaction for precast concrete footing (2-hour).
5. Install pre-cast concrete footing (3-hours).
6. Install 8"x 16" concrete arch segments (2-hours).
7. Install mastic material between concrete arch segments (1-hour).
8. Install fill over arch segments and compact to 90 % (3-hours).
9. Place 6" sub-ballast for UPRR track (1-hour).
10. Place 6" ballast for UPRR track (1-hour).
11. UPRR place track panels and bolt to existing track (1-hour).
12. UPRR place 6" ballast, tamp ballast and line track (2-hours).

**Note:** Estimated UPRR track out of service for train operation: 20-24 hours.

#### Phase 3: Finish Underpass Construction:

1. Install remaining precast concrete arch segments, wing-walls and embankment retaining wall.
2. Install AC pavement surface material for pedestrian walkway approaches and underpass.
3. Install drainage/pump system.
4. Install lighting and electrical for underpass pump system.
5. Install security fence.
6. Install approach walkways and landscaping.
7. Complete work and demobilize

## 10.0 RELATED PROJECTS

In addition to the proposed crossing locations discussed in the previous section, there are some related projects that, while not crossing the rail corridor itself, would be important Coastal Access Plan adjuncts to enhance access and improve pedestrian and bicyclist movement across and along the rail corridor.

These related projects include:

- Dump Road sidewalk/bicycle path,
- Palm Avenue to Tar Pits Park trail and linear park,
- New pedestrian/bicyclist bridge over Franklin Creek,
- Security fencing along key segments the length of rail corridor within Carpinteria, and
- New wayfinding and directional signage.

### Dump Road Sidewalk/Bicycle Path

Dump Road provides a connection between Carpinteria Avenue and the coast. It is presently a private road owned by Venoco, Inc.

An agreement to allow pedestrian and bicycle access through the construction of a sidewalk and/or recreational trail to allow a shorter, more-direct connection between Carpinteria Avenue and coastal resources would dramatically improve access between sections of the community, though this supportive project would not eliminate unsanctioned crossings. As noted earlier, the California Coastal Commission is investigating prescriptive easement rights that might exist at Dump Road.

### Palm Avenue to Tar Pits Park Trail and Linear Park

The City has completed its design for a linear park on the ocean side of the rail corridor between Linden and Palm Avenues. The continuation of such a trail/park from Palm Avenue to Tar Pits Park would provide enhanced access while reducing unsanctioned crossing of the rail corridor. The trail would cross Carpinteria Creek, possibly over an expanded roadway bridge within Carpinteria State Beach, and then would run along the edge of the Railroad right of way before joining existing trails in Tar Pits Park. The combination of the trail enhancements and the proposed crossing would help



**Figure 10-1: Potential connection between Carpinteria State Beach and new section of trail and linear park**

create a continuous trail network throughout the coastal portion of the City and increase access points to areas of recreation. Figure 10-1 shows one of the areas that would be improved through this project – an improved, sanctioned connection between Carpinteria State Beach and Tar Pits Park.

### **Pedestrian/Bicyclist Bridge across Franklin Creek**

As noted in the field review, there is strong evidence to suggest that students traveling to and from Aliso School (and others) are crossing Franklin Creek by way of the railroad bridge and then using a path that runs between the flood control and the school fence in order to take a short cut, instead of using the 7<sup>th</sup> Street bridge.

As a means by which to discourage this route, a new pedestrian/bicyclist bridge west of 5<sup>th</sup> Street could provide a more-direct “Safe Route to School”, as well as provide an alternative route for bicyclists that would lead them toward the Ash Street undercrossing and then to the Coastal Vista trail.

At the least, the current situation in which access is provided from the rail corridor to the pathway that leads to and from Aliso School should be corrected by blocking that path with fencing.

### **Rail Corridor Delineation**

Because of ongoing safety concerns even after the development of the five new, sanctioned access locations, additional methods to reduce unsanctioned crossings at points away from the new locations should be provided. These measures will help to better delineate the rail corridor, and to direct pedestrians and bicyclists to the new crossings. This could be particularly important for the many visitors to Carpinteria, who may not be



**Figure 10-2: A pedestrian/bicyclist bridge over Franklin Creek could reduce unsanctioned use of the rail ROW to reach Aliso School**



**Figure 10-3: Example of a “No-Climb”-type fence used by Metrolink along its rail right-of-way**



as familiar with local destinations.

Methods of deterring unsanctioned rail crossings include:

- Fencing
- Signage
- Landscaping
- Public Education (Operation Lifesaver), and
- Law enforcement deterrence campaigns.

Some of these delineation methods may be required by the UPRR as part of any agreement or corridor improvement project. The railroad will be an important partner in the effort to better identify the rail corridor and to encourage the use of new sanctioned rail crossings.

## Fencing

As appropriate crossings are established, it is recommended that a fence be installed along the rail right of way in key locations throughout the City. The California Public Utilities Commission (CPUC) calls this “channelization”, and in its “Pedestrian-Rail Crossings in California”<sup>14</sup> observes that such fencing helps to direct pedestrians and bicyclists toward appropriate crossing locations, and away from inappropriate crossing of railroad tracks.



Figure 10-4: Representative example of a potential wayfinding sign.

The height of the fence would likely vary according to topography. The CPUC suggests a minimum height of between 4-8 feet, to discourage climbing over. The City of Carpinteria has used fencing between 4-5 feet.

In some instances, fencing is provided on both sides of the rail corridor, in order to minimize intrusion into the rail corridor. However, this might not be necessary in Carpinteria. Rather, depending on the location within the rail corridor the fence could be located on one side or the other, so long as the fencing met the goal of preventing access to the rail ROW.

<sup>14</sup> Available for download from: <http://docs.cpuc.ca.gov/PUBLISHED/GRAPHICS/83568.PDF>

Several options for fencing materials can be considered. One option is a “no-climb” fence design used by Metrolink. This fencing option offers excellent security, and it is very resistant to vandalism or attempts to cut it.

Another potential option could be a variation on the concrete split-rail look fencing used elsewhere in Carpinteria, with a height of between 4-5 feet. Regardless of the fence type selected, introducing native plantings such as blackberry, fuchsia flowered Gooseberry – *Ribes speciosum*, and/or California rose, and the thorns these plants produce could deter trespass, while reducing the visual impacts of a fence.

UPRR would have to provide its approval of the ultimate fence design used. Ideally, the fence would be situated at the outer edge of UPRR’s rail right-of-way. In some constrained areas, the fence might have to be located within the rail right-of-way, which would require UPRR agreement.

### Signage

New wayfinding signs would be located at the new access crossing locations. In selected other areas that showed evidence of unsanctioned crossing activity, the signs would direct people toward the nearest access crossing, as well as provide information on nearby coastal resources, along with a “You Are Here”-type map. Also, signs would be posted periodically along the railroad right-of-way to discourage trespassing and to warn against unsanctioned entry.

### Public Rail Safety Education

A public rail safety education program could enhance these deterrents by educating the public about the dangers of unsanctioned crossings of the rail corridor. The Operation Lifesaver program has several educational options for both adults and children to present this information to the community. A rail safety presentation could be of particular benefit to the students of the Aliso School.

### Law Enforcement Deterrence Campaigns

Educational/outreach efforts could be potentially augmented with random patrols of the railroad right-of-way by local Sheriff’s deputies, whose presence would discourage either through warning or citing persons found trespassing within the rail corridor itself.



Figure 10-5: Representative example of a “No Trespassing” sign

## 11.0 PUBLIC/STAKEHOLDER INPUT

This section describes the public workshop held as part of the Coastal Access Feasibility Study's development, and the comments and project prioritization that came from the involvement of community members. Additionally, this segment provides an overview of stakeholder input to-date on the Coastal Access Feasibility Study.

### Public Workshop

One public workshop was held October 20, 2008, at Carpinteria City Hall. After an introduction by Matthew Roberts, the City's Parks and Recreation Director and City Project Manager, two presentations were made on the status of both the Coastal Access Plan, as well as efforts by Santa Barbara County to address access issues near Santa Claus Lane.

A public meeting was held Monday, October 20, 2008, to provide an opportunity for the public to learn about the study process used in developing the Coastal Access Feasibility Study and the projects which it contains.

An important function of this meeting was also to receive feedback on the emerging Plan from the public, including their views on project prioritization. There might not be sufficient resources to complete all of the Plan's projects in one phase, and the planning for these rail crossing improvements should reflect the desires and priorities of the community.

Key questions for those attending the meeting, and their responses, are shown below:

Please rank the proposed new access crossings and related projects by the priority in which you think they should be developed?

- Crossing Location (From South to North Project Priority)
- Rincon
- Carpinteria Bluffs
- Dump Road
- Calle Ocho
- Tar Pit Park to Palm Avenue Rail Trail
- Ash Avenue
- Pedestrian/Bicycle Bridge over Franklin Creek

What do you see as the key challenge(s) for implementing the Coastal Access Feasibility Study?

- Challenge Ranking
- Funding
- Environmental Clearance
- Cooperation and Agreement from Key Stakeholders
- Public Acceptance

## Comments on the Coastal Access Feasibility Study/Project Prioritization

Comments on the project were received from the public, both at the workshop and through emails. Comments included:

- "Good work by the way"
- "Quiet Zones would be perfect for Calle Ocho. If we used under bridge already there! Saves money too! Anything for safe crossing is worth it, you need to select busiest crossings."
- "You are on the "right track." Keep up the good work!"
- "It makes a lot of sense to utilize the existing underpass near the end of Calle Ocho. I have had a friend hit and killed by a train as he crossed at Calle Ocho. I have seen one very close call where someone tripped on the tracks when a train was coming, and I have had a close call myself. I think an attractive trail could be created and the safety of the crossing could be secured."
- "I am not in favor of a full blown building and restriction project. I am in favor of keeping the bluffs natural and folks being able to move naturally. I don't like the warning noise and railroad crossings."
- "Seek PUC (Public Utilities Commission) funding."
- "View (Environmental Clearance) considerations"
- "(Gain) Railroad buy-in"
- "Take a look at the following websites:"

<http://docs.cpuc.ca.gov/published/graphics/83568.pdf>

<http://www.techtransfer.berkeley.edu/railroad08downloads/gilbert.pdf>

Other website of interest:

[www.fra.dot.gov/downloads/safety/tdreport\\_final.pdf](http://www.fra.dot.gov/downloads/safety/tdreport_final.pdf)

## Project Prioritization

One feedback question asked of the public workshop participants and during the public comment period was: "If the projects can't be constructed simultaneously, in which priority would you like to see them done?"

Based on comments received, the results of this feedback were:

Project	Priority
Carpinteria Bluffs Area 1	1
Calle Ocho	2
Ash Street	3
Rincon/Carpinteria Bluffs Area 3	4
Dump Road	5

This prioritization is reflected in the proposed phasing of crossing locations.

### **Stakeholder Involvement**

The project team has been in contact with key stakeholders throughout the study process. At this point, they are generally in favor of the ideas and projects recommended in this Coastal Access Feasibility Study, and they look forward to providing input and comments on the study once it is released.

### **Union Pacific Railroad**

UPRR representatives have been kept informed about this project since its inception. The railroad is generally supportive of efforts to increase safety, and to reduce trespasser activity and unsanctioned crossing of its right-of-way. On the subject of railroad crossings, the UPRR notes on its "Railroad Crossings" webpage that "Ultimately, the safest crossing is no crossing at all."<sup>15</sup>

UPRR is aware of the proposed Coastal Access Feasibility Study and its projects. UPRR provided right-of-way mapping for the portion of the rail corridor that passes through Carpinteria. UPRR would be open to a review of any proposed grade separation projects put forward by the City of Carpinteria. UPRR would request that the City enter into a "Construction and Maintenance Agreement" with it so that the railroad would be reimbursed for any staff time spent in review and comment on planning documents or engineering designs. This agreement would also provide that UPRR would also construct and maintain the structure on its right-of-way on behalf of the City, and at the City's (or other funding sources') expense.

In order to gain the railroad's approval for construction of an undercrossing, it would be important that all alternatives be constructed in a manner that minimizes UPRR and Amtrak train service interruptions. Given their operating schedules, it is likely that UPRR would only grant construction "Absolute Work Windows" (during which UPRR freight service and Amtrak passenger train services would be temporarily suspended) either at night or during weekends, and during specific construction activities.

### **California Public Utilities Commission**

Jose Pereya has recently replaced Varoujan Jinbachian as the CPUC rail representative for Santa Barbara County. Varoujan had been briefed and was supportive both of the proposed projects in the Study, as well as that the City was taking this action to reduce unsanctioned crossing of the rail corridor.

### **California Coastal Commission**

The California Coastal Commission is aware of this study, and looks forward to receiving a copy of the document when it has been finalized.

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<sup>15</sup> Retrieved from [http://www.uprr.com/she/safety/xing\\_safety/location.shtml](http://www.uprr.com/she/safety/xing_safety/location.shtml)

## **California State Parks**

Scott Cramolini, Supervising Ranger, Carpinteria State Beach Park, attended the public workshop on October 20, 2008, and noted his enthusiastic support for the recommendations proposed in the Coastal Access Feasibility Study. California State Parks will continue to be involved and an active partner in the future development of the Coastal Access Plan, should it be approved by the Carpinteria City Council.

## **Santa Barbara Supervisor Salud Carbajal**

Supervisor Carbajal's office was contacted early in the study to make him aware of the Study's development. He and his staff will continue to monitor the progress of the study, and its findings.

## 12.0 ESTIMATED PROJECT COSTS

A summary table of the estimated project costs for the recommended access points and for related Coastal Access Feasibility Study projects is provided below. A detailed breakdown of the planning-level estimate of costs can be found in Appendix A.

<b>Table 12-1 Estimate of Probable Project Costs Carpinteria Coastal Access</b>	
<b>New Crossings</b>	<b>Estimate</b>
Ash Street Undercrossing	\$2,225,000
Calle Ocho Undercrossing	\$1,948,000
Carpinteria Bluffs Undercrossing	\$1,688,000
Dump Road Pedestrian Improvements	\$637,000
Carpinteria Rincon Trail over crossing—includes connecting trail	\$1,800,000
<i>Subtotal:</i>	<i>\$8,298,000.00</i>
<b>Related Projects</b>	<b>Estimate</b>
Franklin Creek Pedestrian Bridge and School Access Paths	\$532,000
Linden to Tar Pit Park Trail	\$430,000
Fencing and Wayfinding	\$1,018,000 – \$2,875,000
<i>Subtotal:</i>	<i>\$1,980,000 – \$3,837,000</i>
<b>Total Estimate:</b>	<b>\$10,278,000 – \$12,135,000</b>

**Note:** The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails. The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

## **13.0 ENVIRONMENTAL CONSIDERATIONS**

This report is exempt from California Environmental Quality Act (CEQA) review as a feasibility study per Guidelines 15262. The purpose of the Coastal Access Feasibility Study is to identify new rail crossing opportunities and associated issues for future consideration as the Study's projects advance through the environment clearance and permitting phases, and as part of engineering design and construction.

A more detailed analysis of environmental considerations would be part of any California Environmental Quality Act (CEQA) process. This section provides a consideration of environmental factors that would need to be examined and an initial assessment of their potential level of impact as a result of the implementation of the Coastal Access Feasibility Study.

### **Traffic and Circulation**

It is not anticipated that any new access crossings and related projects in the Coastal Access Feasibility Study would have a significant impact on traffic volumes or traffic flow. It is likely that some bicyclist traffic that currently uses Carpinteria Avenue or other on street routes might divert to take advantage of the new route built in the future.

Pedestrian and bicyclist circulation would be greatly enhanced through implementation of the Coastal Access Feasibility Study's projects. Development of a continuous coastal recreational trail on the ocean side of the community, along with access points across the rail corridor, would enhance circulation between the coastal and inland areas of Carpinteria.

### **Air Quality**

Providing enhanced access to coastal resources for pedestrians and bicyclists could encourage increased walking and riding along the coast. Increased access would be supportive of the already walkable nature of the coastal area and downtown Carpinteria, and could help promote reduced use of automobiles with potential air quality benefits.

### **Noise and Vibration**

Noise and vibration impacts of short duration would be experienced during construction of coastal access improvement projects, and could be temporarily significant, especially during night and weekend work windows. Once the projects were in place, there could be the potential for noise associated with pedestrians and bicyclists as they travel along the corridor, but this could be minimal and would likely not represent a significant impact.



## **Energy**

Significant energy impacts as a result of the projects studied in the Coastal Access Feasibility Study are not expected. Energy requirements for the projects would be minimal. Existing trails along the rail corridor are not lighted, in keeping with the character of the community. It is likely that lighting would be provided in the undercrossings at access locations. Energy-efficient approaches such as the use of natural lighting and low-wattage LED lighting could be employed to maximize sustainability through reduced energy consumption, and t reduced maintenance costs.

## **Land Use and Planning, Communities and Neighborhoods, Property and Environmental Justice**

Typically, a new impact is created if a project creates a new physical barrier that isolates one part of the community from another. The rail corridor by its nature creates such a barrier. Therefore, providing new, sanctioned locations at which the railroad tracks could be safely crossed would reduce the barrier effect the rail corridor represents. However, for those properties that lie directly adjacent to the rail corridor, particularly between Carpinteria Creek and Dump Road, new fencing that may be installed to channel access to the sanctioned crossing locations would represent a barrier to unsanctioned access across the railroad tracks.

There is a need for some right-of-way acquisition associated with the new access locations, both within the Union Pacific Railroad's right-of-way, as well as within the Carpinteria Bluffs area, Dump Road, and perhaps Carpinteria State Beach, although the state could own the trail within its boundaries. In locations such as Ash Avenue or Holly Avenue, any required right-of-way appears to be already owned by the City of Carpinteria.

The nature of the land uses adjoining the rail corridor are largely rural, suburban, and park. There are no anticipated significant impacts to property as a result of the Coastal Access Feasibility Study.

Likewise, there are no foreseeable environmental justice issues as a result of the Coastal Access Feasibility Study.

## **Aesthetics and Visual Resources**

The Coastal Access Feasibility Study recognizes the unique and fragile nature of Carpinteria's bluffs and coastal resources. That is why undercrossings have been recommended as the most aesthetically pleasing alternative, with the least impact on visual resources.

While no designs were developed during this phase of the project study, it is anticipated that undercrossings would feature colors and textures to minimize their appearance, yet ensure safety and attractiveness through appropriate lighting and landscaping. New trail segments would continue to feature the natural elements of existing Carpinteria recreational trails, to enhance continuity and a feeling of connectedness.

## **Public Utilities**

A potential utility impact is any potential conflict between an access point and a utility. In the development of undercrossings of the rail corridor, it is likely that there would be a need for the relocation of underground utilities that run beneath the rail right-of-way. A representative sampling of existing utilities was taken using Dig Alert data. Future project development phases would identify the exact location and nature of utilities that would be impacted, and appropriate relocation costs developed.

Potential utilities that could be impacted include:

- Water supply lines,
- Wastewater conveyance lines,
- Wastewater and water pump stations,
- Storm drains,
- Fiber optic lines,
- Telecommunications lines, and
- Liquid petroleum, crude oil, natural gas and other fuel lines.

## **Hazardous Materials and Wastes**

There are no major areas of hazardous materials or waste that would be impacted by Coastal Access Feasibility Study projects. The only potential site would be Venoco's operations near Dump Road, but the nature of the project improvements at that location would not have a hazardous materials or wastes impact.

## **Cultural and Paleontological Resources**

There are likely cultural and/or paleontological resources that might be impacted through undercrossing projects in the Coastal Access Feasibility Study, particularly in the area of Tar Pits Park, which has long been recognized as having historic and cultural significance. In the next phase of project development, and certainly prior to any excavation, it is recommended that existing databases such as the California Historical Resources Information System (CHRIS) be used to identify resources. Field surveys might be used to determine potential impacts in any of the following resource categories:

- Prehistoric Archaeological Sites
- Historic Archaeological Sites
- Traditional Cultural Properties
- Historic Structures
- Paleontological Resources, or
- Cultural Landscapes.

## **Geology and Soils**

The topography of Carpinteria is generally flat along the rail corridor, with the exception of the area of the Bluffs. Appropriate geotechnical assessments would need to be completed prior to any construction of undercrossings or overcrossings.

### **Hydrology and Water Resources**

Along the Carpinteria Bluffs portion of the rail corridor, no significant hydrological and water resource issues are anticipated. Appropriate drainage facilities would need to be provided for each undercrossing access point. At the Ash Avenue or Holly Avenue undercrossing locations, there would likely be significant drainage and water table issues that would require further study, and strategies to address and mitigate these issues would have to be developed and incorporated into an undercrossing design. Additionally, there could be issues associated with the proposed new bicycle/pedestrian bridge over Franklin Creek. Consultation with the Santa Barbara County Flood Control District and other stakeholders would be required.

### **Biological Resources and Wetlands**

Impacts to biological resources would likely be minimal as a result of the Coastal Access Feasibility Study's projects. One consideration would need to be an assessment of whether or not there needed to be accommodation of wildlife movement/migration corridors in the design of fencing, in case its introduction might create a barrier that restricts or impacts wildlife movement.

Carpinteria's Salt Marsh Reserve is a recognized wetlands area. There would likely be no impacts to the Salt Marsh Reserve through the Coastal Access Feasibility Study as no projects have been impacting the wetlands have been identified.

### **Section 4(f) and 6(f) Resources**

The projects described in the Coastal Access Feasibility Study would expand the City's network of recreational and bicycle trails. It could also see the expansion of the linear park which is planned between Palm and Linden Avenues to include a segment between Palm Avenue and Tar Pits Park. There would be an impact to Carpinteria State Beach as a result of this project, though it could be consistent with future planning for the enhancement of this state beach unit. Continuing coordination with California State Parks and the staff of the Carpinteria State Beach is required.

## 14.0 POTENTIAL FUNDING SOURCES

This section provides an overview about potential funding sources, both public and private. Despite the current economic downturn, there are a variety of sources from which the City of Carpinteria can seek support for developing the Coastal Access Feasibility Study's recommended projects. Many of the sources listed are drawn from "Pedestrian and Bicycle Facilities in California"<sup>16</sup>, a document produced on behalf of the California Department of Transportation (Caltrans).

For rail improvement projects in California, the bulk of funding comes from the State, followed by support from Amtrak (on Amtrak corridors, such as the *Pacific Surfliner*), with local funding the third-most important source.

### State Sources/Funding Programs

Caltrans Division of Rail – The Division of Rail (DOR) provides planning and financial support for three intercity passenger corridors in California, of which the Pacific Surfliner is one. The DOR works with its local partners, such as the LOSSAN Rail Corridor Agency, to identify and prioritize rail improvement projects. Funding programs include the Section 190 Grade Separation Fund, Public Transportation Account, and the State Transportation Improvement Program (STIP).

#### Section 190 – Grade Separation Fund

This fund, administered by the PUC, provides monies for the construction of rail/highway grade separations. Priority for project funding is determined based on a number of factors including traffic and train volumes at the crossing, and past experience in accidents and rail incidents. This is not anticipated to be a viable funding opportunity for Carpinteria's projects, given relatively low traffic volumes and past experience in accidents and rail incidents at Carpinteria crossings, as well as the focus on non-highway pedestrian/bicycle crossings.

#### Public Transportation Account

This account is funded through gasoline and diesel fuel sales taxes. It can be a source of funding for intercity passenger rail capital projects, particularly transportation planning, and might serve to assist in the planning for one or more of the Coastal Access projects described in this Feasibility Study.

#### State Transportation Improvement Program (STIP)

The California Transportation Commission (CTC) oversees the State Transportation Improvement Program (STIP). Regional planning organizations, such as SBCAG, propose projects for inclusion in the STIP by December 15 (in odd-numbered years),

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<sup>16</sup> Available for download at [http://www.dot.ca.gov/hq/traffops/survey/pedestrian/TR\\_MAY0405.pdf](http://www.dot.ca.gov/hq/traffops/survey/pedestrian/TR_MAY0405.pdf)

and the CTC determines funding in April of the following year. Carpinteria could propose Coastal Access projects for inclusion in the local Regional Transportation Improvement Program (RTIP) and in the STIP.

A useful area of local assistance provided by Caltrans through the STIP process is "Transportation Enhancement Activities." These TEA projects help address transportation and quality of life issues. Eligible projects must fall within one of twelve categories in order to be eligible<sup>17</sup>.

1. Provision of facilities for bicyclists and pedestrians
2. Safety and educational programs for bicyclists and pedestrians
3. Acquisition of scenic easements and scenic or historic sites
4. Scenic or historic highway programs
5. Landscaping and other beautification
6. Historic preservation
7. Rehabilitation of Historic Transportation Buildings, structures or facilities
8. Preservation of abandoned rail corridors
9. Control and removal of outdoor advertising
10. Archaeological planning and research
11. Mitigation of water pollution from highway runoff
12. Establishment of transportation museums

In all cases, there needs to be a connection between the larger transportation network and the proposed project. Many of the Coastal Access projects provide such connections. In recent years of STIP funding, however, a lower priority has been given to bicycle/pedestrian improvements, in favor of highway projects.

Notwithstanding, this could be an important funding source for an undercrossing at either Holly Avenue or Ash Avenue, so long as that project is tied to the improvement of the Carpinteria Rail Station or to the construction of the Carpinteria Siding project.

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<sup>17</sup> <http://www.dot.ca.gov/hq/TransEnhAct/Eligibility.html>

## **Local/Regional Programs**

### **City Funding**

Given the mobility benefits increased access between neighborhoods would provide, the City could opt to provide some funding from its general or special fund revenues, particularly as a local match to leverage monies available through other funding sources.

### **Santa Barbara County Measure A**

Approved by almost 80 percent of Santa Barbara County voters in November 2008, this measure extends an existing ½ cent sales tax to provide for road repair, traffic relief and transportation safety projects. It replaces the previous Measure D, which was originally approved in 1989 for a 20-year term, ending in 2010.

A Transportation Investment Plan was adopted by the County Board of Supervisors in March, 2008 developed a program of projects for both the North County and South Coast portions of the county. The City of Carpinteria is slated to receive approximately \$22.78M over the 30-year course of Measure A.

Funding set aside in the following categories could be applied to the design and construction of coastal access projects (with representative examples):

- Safe Routes to School: \$13M total available (Franklin Creek Ped/Bike Bridge)
- Bike and Pedestrian Program: \$13M total available (Various projects)
- Commuter/Passenger Rail: \$25M total available (Holly or Ash Avenue Undercrossing)

### **Federal Programs**

#### ***Transportation Enhancement Activities (TEA)***

Ten percent of each state's annual Surface Transportation Program (STP) must be set aside for Transportation Enhancement Activities. Three of the twelve defined TEA categories are bicycle and pedestrian related:

- Provision of Facilities for Bicyclists and Pedestrians
- Provision of Safety and Educational Activities for Pedestrians and Bicyclists
- Preservation of Abandoned Railway Corridors

TEA funds may be used for the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects such as training, brochures and route maps related to safe bicycle use.

### ***Congestion Mitigation and Air Quality (CMAQ)***

Bicycle projects, especially those that would reduce automobile use, vehicle miles traveled, and their respective emissions, would be eligible for funding. Given the largely recreational nature of the crossings and trails in this study, the likelihood of this source is low.

### ***Regional Surface Transportation Program (RSTP)***

The Regional Surface Transportation Program (RSTP) is a block grant program that annually makes approximately \$320 million available statewide for roads, bridges, transit capital and bicycle and pedestrian projects. Metropolitan Planning Organizations (MPOs) can transfer monies from other federal transportation funding sources to the RSTP program if they want more flexibility in how they allocate their funds.

Eligible applicants for RSTP funds include cities, counties, MPOs.

### ***Safe Routes to Schools Program (SR25)***

The Safe Routes to School program is a state program using federal transportation funds. This program is meant to improve school commute routes by eliminating barriers to bicycle and pedestrian travel through rehabilitation, new projects, and traffic calming. A local match of 10% is required for this competitive program, which allocates \$18M annually. Since it is a capital program, planning grants are not available through this program.

### ***Highway Safety Improvement Program (HSIP)***

HSIP is a new program under the Safe, Accountable, and Flexible Efficient Transportation Equity Act.: a Legacy for Users (SAFETEA-LU) The SAFETEA-LU bill governs federal surface transportation spending. The \$286.4 billion measure contains a host of provisions and earmarks intended to improve and maintain the surface transportation infrastructure in the United States, including the Interstate Highway System, transit systems around the country, bicycling and pedestrian facilities, and freight rail operations. SAFETEA-LU is set to expire in 2009. It is expected that a replacement bill will provide another six year program of funding opportunities.

HSIP funds must be used for projects that identify a specific safety problem that can be corrected or improved. Any public-owned road, bicycle or pedestrian path or trail is eligible. The maximum funding amount per project is \$1 million, and the federal share is 90%.

Eligible public agencies must submit an application to the California Department of Transportation (Caltrans) in order to compete for these funds

## 15.0 RECOMMENDATIONS AND NEXT STEPS

This section provides a summary of findings and recommendations for enhancing coastal access within Carpinteria.

### Findings

- Carpinteria's coastal resources are a major attraction for both residents and visitors to the City, and draw many thousands to the Carpinteria Bluffs, beaches and parks each year.
- Carpinteria suffers from a lack of locations at which to cross over the rail corridor that passes through the city, particularly in the Bluffs and coastal residential neighborhood areas. This scarcity of crossing points has resulted in unsanctioned crossings at various locations, as identified in this Coastal Access Feasibility Study, which represents a continuing potential hazard.
- Anticipated additional rail volumes over the next 20 years indicate that the risks are likely to increase if no actions are taken.
- Provision of new crossing locations throughout the community would address this need.
- Development of undercrossings at key points within the City could provide the best new access between coastal and inland resources, eliminating at those locations the potential for interactions between pedestrians, bicyclists and trains.
- Based on the work conducted in this study, establishment of such undercrossings is feasible.

### Recommendations

- Enter into an agreement with Union Pacific, to provide a mechanism for its review and comment on proposed Coastal Access Projects.
- Consider beginning preliminary engineering on one or more projects. The preliminary engineering phase would include the design of vertical and horizontal alignments for the various alternatives proposed.
- Conduct appropriate environmental clearance (as detailed in Section 14)
- There are a number of opportunities for the City to partner with various agencies and stakeholders, to the benefit of all. Examples of such partnership opportunities include:



- Seeking inclusion of Carpinteria Coastal Access Projects as part of the design of future LOSSAN North rail corridor improvement projects, particularly Carpinteria Siding, Sandyland Siding, and Rincon Siding. Local projects that could be incorporated into these rail improvement projects would include the Franklin Creek pedestrian bridge, Holly or Ash Avenue undercrossing, and a Carpinteria Bluffs Area 3 undercrossing, respectively.
- Collaborating with Union Pacific Railroad to identify mutually-beneficial actions that could reduce unsanctioned crossings of the rail corridor.
- Developing local support for regional projects such as those identified above, as a way to advance both regional rail programs (like the Santa Barbara-Ventura Intercounty Commuter Rail Service and Amtrak passenger rail services) and to enhance access opportunities.

## **Next Steps**

### **Project Phasing**

This Coastal Access Feasibility Study has identified a series of projects that would provide connectivity and access between the coastal and inland areas of the City of Carpinteria. The City can opt to implement all of the Plan's projects collectively, or may wish to pursue completion of projects on an individual basis or in phases, depending on the availability of funding resources.

The City can work with its Santa Barbara County representatives to LOSSAN to incorporate coastal access projects into the future design of rail improvement projects that would be located in or near Carpinteria.

### **Coordination with Other Agencies**

#### ***California Coastal Commission***

Projects within the Coastal Zone require the filing of a Coastal Development Application. The City of Carpinteria has established a Local Coastal Program. As part of the application for a Coastal Development Permit, there would need to be a Local Agency Review. This local review would note any required local discretionary approvals, and their status.

### ***UPRR Involvement***

For projects located within the UPRR ROW, the City will need to enter into a Construction and Maintenance Agreement in order to reimburse UP for the costs of its review and approval of a project. Additionally, UP (and its contractors) will construct the project on behalf of the City. As part of this process, appropriate Construction Encroachment Permits will also need to be obtained.

The City will also have to obtain Right-of-Entry permits for each project, and provide the required level of railroad protective liability insurance.

**APPENDIX A**  
**ESTIMATE OF PROBABLE PROJECT COSTS**

**ESTIMATE OF PROBABLE PROJECT COST  
CARPINTERIA COASTAL ACCESS**

<b>New Crossings</b>		<b>Estimate</b>
Ash Street Undercrossing		\$2,225,000
Calle Ocho Undercrossing		\$1,948,000
Carpinteria Bluffs Undercrossing		\$1,688,000
Dump Road Pedestrian Improvements		\$637,000
	<b>Subtotal:</b>	<b>\$6,498,000</b>
<b>Related Projects</b>		<b>Estimate</b>
Franklin Creek Pedestrian Bridge and School Access Paths		\$532,000
Linden to Tar Pit Park Trail		\$430,000
Fencing and Wayfinding		\$1,018,000 - \$2,875,000
	<b>Subtotal:</b>	<b>\$1,980,000 - \$3,837,000</b>
	<b>Total Estimate:</b>	<b>\$8,478,000 - \$10,335,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.  
The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

**ESTIMATE OF PROBABLE PROJECT COST  
FRANKLIN CREEK PEDESTRIAN BRIDGE AND SCHOOL ACCESS PATHS**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Construction Costs</b>				
Pedestrian Bridge	SF	1,200	\$250	\$300,000
Crushed Decomposed Granite Access Path	CY	20.0	\$70	\$1,400
<b>Subtotal Construction Costs:</b>				<b>\$301,400</b>
<b>Cost Contingency 30%:</b>				<b>\$90,420</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$392,000</b>
<b>Other Project Costs</b>				
Engineering PS&E (10% of construction cost)	LS	1	\$39,200.00	\$39,200.00
Environmental Permitting	LS	1	\$25,000.00	\$25,000.00
Construction Management (6% of construction cost)	LS	1	\$23,520.00	\$23,520.00
Construction Administration (City at 3% of construction cost)	LS	1	\$11,760.00	\$11,760.00
Right-of-way/Encroachment Agreement	LS	1	\$10,000.00	\$10,000.00
Public Outreach Program	LS	1	\$30,000.00	\$30,000.00
<b>Total other Project Costs (rounded):</b>				<b>\$140,000</b>
<b>Estimate of Probable Total Project Cost:</b>				<b>\$532,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.

The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

**ESTIMATE OF PROBABLE PROJECT COST  
ASH STREET UNDERCROSSING**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Construction Costs</b>				
MOBILIZATION/DEMObILIZATION @ 10%	LS	1	\$86,600	\$86,600
CLEARING AND GRUBBING	AC	1	\$2,000	\$2,000
STRUCTURAL EXCAVATION	CY	2,700	\$60	\$162,000
STRUCTURAL BACKFILL	CY	400	\$60	\$24,000
CONCRETE V-DITCH (W=36")	LF	600	\$12	\$7,200
CONCRETE V-DITCH (W=12")	LF	40	\$10	\$400
CONCRETE (PCC) SWALE DRAIN TO CATCH BASINS	LF	70	\$12	\$840
CATCH BASIN TYPE 1 (LOCAL DEPRESSION & INLET PROTECTION)	EA	8	\$4,400	\$35,200
WATERPROOFING ON ARCH BRIDGE STRUCTURE	SF	0	\$6	\$0
PRECAST CONC. BRIDGE, HEADWALLS, WINGWALLS, FOUNDATIONS	LS	1	\$245,000	\$245,000
SET PRECAST CONC. CONSPAN INSTALLATION	LS	8	\$1,740	\$13,920
SET STRUCTURAL CONC. CONSPAN FOOTING FOUNDATION	CY	10	\$1,740	\$17,400
3" CRUSHED AGGREGATE BASE FOR WALKWAY UNDER BRIDGE	CY	10	\$43	\$430
3" PCC PAVEMENT FOR WALKWAY PATH	SF	1,400	\$9	\$12,600
CHAINLINK FENCE (WINGWALLS, HEADWALLS)	LF	120	\$28	\$3,360
STORM DRAIN SUMP PUMP STATION (500 GPM)	LS	1	\$190,000	\$190,000
TRACK REMOVAL	LF	1	\$5,000	\$5,000
TRACK CONSTRUCTION (TRACK, JOINTS, WELDS)	LS	1	\$12,000	\$12,000
CONCRETE CURB & GUTTER (MOD. TYPE D)	LF	200	\$15	\$3,000
3" CRUSHED DECOMPOSED GRANITE FOR WALKWAY	CY	20	\$48	\$960
RE-GRADE CRUSHED DECOMPOSED GRANITE WALKWAY	SF	2,000	\$2	\$4,000
FIBER OPTIC LINE RELOCATION (MCI & AT&T)	LF	1,000	\$100	\$100,000
PUBLIC WALKWAY LIGHTING	LF	1	\$7,500	\$7,500
18" RCP (UNDERPASS TO DETENSION BASIN)	LF	100	\$90	\$9,000
TEMPORARY SHORING PROTECTION (SHEETPILE)	LF	1	\$10,000	\$10,000
CRUSHED DECOMPOSED GRANITE ACCESS PATH	CY	95	\$70	\$6,650
RAMP RETAINING WALL	SF	3,600	\$57	\$205,200
STAIR RETAINING WALL	SF	1,100	\$57	\$62,700
4" CRUSHED AGGREGATE BASE FOR WALKWAY	CY	170	\$43	\$7,310
3" PCC PAVEMENT FOR WALKWAY	SF	13,500	\$6	\$81,000
CONCRETE STAIRS	CY	11	\$500	\$5,500
GUARD RAIL (WALL MOUNTED)	LF	500	\$20	\$10,000
<b>Subtotal Construction Costs:</b>				<b>\$1,330,770</b>
<b>Cost Contingency 30%:</b>				<b>\$399,231</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$1,731,000</b>

**ESTIMATE OF PROBABLE PROJECT COST  
ASH STREET UNDERCROSSING**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Other Project Costs</b>				
CONSTRUCTION ADMIN. (CITY) @ 3% OF CONSTRUCTION COST	LS	1	\$51,930	\$51,930
ENGINEERING PS&E (10% OF CONSTRUCTION COST)	LS	1	\$173,100	\$173,100
CONSTRUCTION MANAGEMENT (6% OF CONSTRUCTION COST)	LS	1	\$103,860	\$103,860
UPRR COSTS (FLAGGING, INSPECTION, PLAN REVIEW, AGREEMENT)	LS	1	\$100,000	\$100,000
ENVIRONMENTAL PERMITTING	LS	1	\$25,000	\$25,000
RIGHT-OF-WAY/ENCROACHMENT AGREEMENT	LS	1	\$10,000	\$10,000
PUBLIC OUTREACH PROGRAM	LS	1	\$30,000	\$30,000
<b>Total other Project Costs (rounded):</b>				<b>\$494,000</b>
<b>Estimate of Probable Total Project Cost:</b>				<b>\$2,225,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.  
The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

**ESTIMATE OF PROBABLE PROJECT COST  
LINDEN TO TARPIT PARK TRAIL**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Construction Costs</b>				
PEDESTRIAN BRIDGE	SF	1,400	\$150	\$210,000
CRUSHED DECOMPOSED GRANITE ACCESS PATH	CY	230	\$70	\$16,100
<b>Subtotal Construction Costs:</b>				<b>\$226,100</b>
<b>Cost Contingency 30%:</b>				<b>\$67,830</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$294,000</b>
<b>Other Project Costs</b>				
ENGINEERING PS&E (10% OF CONSTRUCTION COST)	LS	1	\$29,400	\$29,400
ENVIRONMENTAL PERMITTING	LS	1	\$25,000	\$25,000
CONSTRUCTION MANAGEMENT (6% OF CONSTRUCTION COST)	LS	1	\$17,640	\$17,640
CONSTRUCTION ADMIN. (CITY) @ 3% OF CONSTRUCTION COST	LS	1	\$8,820	\$8,820
UPRR COSTS (FLAGGING, SIGNAL DESIGN & PLAN REVIEW)	LS	1	\$15,000	\$15,000
RIGHT-OF-WAY/ENCROACHMENT AGREEMENT	LS	1	\$10,000	\$10,000
PUBLIC OUTREACH PROGRAM	LS	1	\$30,000	\$30,000
<b>Total other Project Costs (rounded):</b>				<b>\$136,000</b>
<b>Estimate of Probable Total Project Cost:</b>				<b>\$430,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.  
The estimates would be refined during the design phase. Estimates do not include right-of-way costs.





**ESTIMATE OF PROBABLE PROJECT COST  
CALLE OCHO**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Construction Costs</b>				
MOBILIZATION/DEMObILIZATION @ 10%	LS	1	\$86,600	\$86,600
CLEARING AND GRUBBING	AC	1	\$2,000	\$2,000
STRUCTURAL EXCAVATION	CY	2,700	\$60	\$162,000
STRUCTURAL BACKFILL	CY	400	\$60	\$24,000
CONCRETE V-DITCH (W=36")	LF	600	\$12	\$7,200
CONCRETE V-DITCH (W=12")	LF	40	\$10	\$400
CONCRETE (PCC) SWALE DRAIN TO CATCH BASINS	LF	70	\$12	\$840
CATCH BASIN TYPE 1 (LOCAL DEPRESSION & INLET PROTECTION)	EA	8	\$4,400	\$35,200
WATERPROOFING ON ARCH BRIDGE STRUCTURE	SF	0	\$6	\$0
PRECAST CONC. BRIDGE, HEADWALLS, WINGWALLS, FOUNDATIONS	LS	1	\$245,000	\$245,000
SET PRECAST CONC. CONSPAN INSTALLATION	LS	8	\$1,740	\$13,920
SET STRUCTURAL CONC. CONSPAN FOOTING FOUNDATION	CY	10	\$1,740	\$17,400
3" CRUSHED AGGREGATE BASE FOR WALKWAY UNDER BRIDGE	CY	10	\$43	\$430
3" PCC PAVEMENT FOR WALKWAY PATH	SF	1,400	\$9	\$12,600
CHAINLINK FENCE (WINGWALLS, HEADWALLS)	LF	120	\$28	\$3,360
STORM DRAIN SUMP PUMP STATION (500 GPM)	LS	1	\$190,000	\$190,000
TRACK REMOVAL	LF	1	\$5,000	\$5,000
TRACK CONSTRUCTION (TRACK, JOINTS, WELDS)	LS	1	\$12,000	\$12,000
CONCRETE CURB & GUTTER (MOD. TYPE D)	LF	200	\$15	\$3,000
3" CRUSHED DECOMPOSED GRANITE FOR WALKWAY	CY	20	\$48	\$960
RE-GRADE CRUSHED DECOMPOSED GRANITE WALKWAY	SF	2,000	\$2	\$4,000
FIBER OPTIC LINE RELOCATION (MCI & AT&T)	LF	1,000	\$100	\$100,000
PUBLIC WALKWAY LIGHTING	LF	1	\$7,500	\$7,500
18" RCP (UNDERPASS TO DETENSION BASIN)	LF	100	\$90	\$9,000
TEMPORARY SHORING PROTECTION (SHEETPILE)	LF	1	\$10,000	\$10,000
RAMP RETAINING WALL	SF	2,900	\$57	\$165,300
4" CRUSHED AGGREGATE BASE FOR WALKWAY	CY	48	\$43	\$2,064
3" PCC PAVEMENT FOR WALKWAY	SF	3,800	\$6	\$22,800
GUARD RAIL (WALL MOUNTED)	LF	460	\$20	\$9,200
<b>Subtotal Construction Costs:</b>				<b>\$1,151,774</b>
<b>Cost Contingency 30%:</b>				<b>\$345,532</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$1,498,000</b>



**ESTIMATE OF PROBABLE PROJECT COST  
CALLE OCHO**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Other Project Costs</b>				
CONSTRUCTION ADMIN. (CITY) @ 3% OF CONSTRUCTION COST	LS	1	\$44,940	\$44,940
ENGINEERING PS&E (10% OF CONSTRUCTION COST)	LS	1	\$149,800	\$149,800
CONSTRUCTION MANAGEMENT (6% OF CONSTRUCTION COST)	LS	1	\$89,880	\$89,880
UPRR COSTS (FLAGGING, INSPECTION, PLAN REVIEW, AGREEMENT)	LS	1	\$100,000	\$100,000
ENVIRONMENTAL PERMITTING	LS	1	\$25,000	\$25,000
RIGHT-OF-WAY/ENCROACHMENT AGREEMENT	LS	1	\$10,000	\$10,000
PUBLIC OUTREACH PROGRAM	LS	1	\$30,000	\$30,000
			<b>Total other Project Costs (rounded):</b>	<b>\$450,000</b>
			<b>Estimate of Probable Total Project Cost:</b>	<b>\$1,948,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.  
The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

**ESTIMATE OF PROBABLE PROJECT COST  
DUMP ROAD**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Construction Costs</b>				
MOBILIZATION/DEMobilIZATION @ 7.5%	LS	1	\$24,800	\$24,800
CLEARING AND GRUBBING	AC	1	\$2,000	\$2,000
CONCRETE CROSSING PANELS (4 - 8' PANELS)	TF	32	\$510	\$16,320
4" CRUSHED AGGREGATE BASE FOR WALKWAY	CY	11	\$43	\$467
TYPE B MODIFIED CURB RAMP	LS	2	\$1,000	\$2,000
PUBLIC WALKWAY LIGHTING	LF	110	\$50	\$5,500
MODIFIED NO. 8 WARNING DEVICE*	LS	1	\$300,000	\$300,000
3" CRUSHED DECOMPOSED GRANITE FOR WALKWAY	CY	67	\$48	\$3,200
3" PCC PAVEMENT FOR WALKWAY	SF	880	\$6	\$5,280
<b>Subtotal Construction Costs:</b>				<b>\$359,567</b>
<b>Cost Contingency 30%:</b>				<b>\$107,870</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$468,000</b>
<b>Other Project Costs</b>				
ENGINEERING PS&E (10% OF CONSTRUCTION COST)	LS	1	\$46,800	\$46,800
ENVIRONMENTAL PERMITTING	LS	1	\$25,000	\$25,000
CONSTRUCTION MANAGEMENT (6% OF CONSTRUCTION COST)	LS	1	\$28,080	\$28,080
CONSTRUCTION ADMIN. (CITY) @ 3% OF CONSTRUCTION COST	LS	1	\$14,040	\$14,040
RIGHT-OF-WAY/ENCROACHMENT AGREEMENT	LS	1	\$10,000	\$10,000
PUBLIC OUTREACH PROGRAM	LS	1	\$30,000	\$30,000
UPRR COSTS (FLAGGING, SIGNAL DESIGN & PLAN REVIEW)	LS	1	\$15,000	\$15,000
<b>Total other Project Costs (rounded):</b>				<b>\$169,000</b>
<b>Estimate of Probable Total Project Cost:</b>				<b>\$637,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.  
The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

**ESTIMATE OF PROBABLE PROJECT COST  
CARPINTERIA BLUFFS**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Construction Costs</b>				
MOBILIZATION/DEMObILIZATION @ 10%	LS	1	\$86,600	\$86,600
CLEARING AND GRUBBING	AC	1	\$2,000	\$2,000
STRUCTURAL EXCAVATION	CY	2,700	\$60	\$162,000
STRUCTURAL BACKFILL	CY	400	\$60	\$24,000
CONCRETE V-DITCH (W=36")	LF	600	\$12	\$7,200
CONCRETE V-DITCH (W=12")	LF	40	\$10	\$400
CONCRETE (PCC) SWALE DRAIN TO CATCH BASINS	LF	70	\$12	\$840
CATCH BASIN TYPE 1 (LOCAL DEPRESSION & INLET PROTECTION)	EA	8	\$4,400	\$35,200
WATERPROOFING ON ARCH BRIDGE STRUCTURE	SF	0	\$6	\$0
PRECAST CONC. BRIDGE, HEADWALLS, WINGWALLS, FOUNDATIONS	LS	1	\$245,000	\$245,000
SET PRECAST CONC. CONSPAN INSTALLATION	LS	8	\$1,740	\$13,920
SET STRUCTURAL CONC. CONSPAN FOOTING FOUNDATION	CY	10	\$1,740	\$17,400
3" CRUSHED AGGREGATE BASE FOR WALKWAY UNDER BRIDGE	CY	10	\$43	\$430
3" PCC PAVEMENT FOR WALKWAY PATH	SF	1,400	\$9	\$12,600
CHAINLINK FENCE (WINGWALLS, HEADWALLS)	LF	120	\$28	\$3,360
STORM DRAIN SUMP PUMP STATION (500 GPM)	LS	1	\$190,000	\$190,000
TRACK REMOVAL	LF	1	\$5,000	\$5,000
TRACK CONSTRUCTION (TRACK, JOINTS, WELDS)	LS	1	\$12,000	\$12,000
CONCRETE CURB & GUTTER (MOD. TYPE D)	LF	200	\$15	\$3,000
3" CRUSHED DECOMPOSED GRANITE FOR WALKWAY	CY	20	\$48	\$960
RE-GRADE CRUSHED DECOMPOSED GRANITE WALKWAY	SF	2,000	\$2	\$4,000
FIBER OPTIC LINE RELOCATION (MCI & AT&T)	LF	1,000	\$100	\$100,000
PUBLIC WALKWAY LIGHTING	LF	1	\$7,500	\$7,500
18" RCP (UNDERPASS TO DETENSION BASIN)	LF	100	\$90	\$9,000
TEMPORARY SHORING PROTECTION (SHEETPILE)	LF	1	\$10,000	\$10,000
RAMP RETAINING WALL	SF	400	\$57	\$22,800
CRUSHED DECOMPOSED GRANITE ACCESS PATH	CY	121.0	\$70	\$8,470
<b>Subtotal Construction Costs:</b>				<b>\$983,680</b>
<b>Cost Contingency 30%:</b>				<b>\$295,104</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$1,279,000</b>

**ESTIMATE OF PROBABLE PROJECT COST  
CARPINTERIA BLUFFS**

Description	Unit	Quantity	Unit Cost	Estimate
<b>Other Project Costs</b>				
CONSTRUCTION ADMIN. (CITY) @ 3% OF CONSTRUCTION COST	LS	1	\$38,370	\$38,370
ENGINEERING PS&E (10% OF CONSTRUCTION COST)	LS	1	\$127,900	\$127,900
CONSTRUCTION MANAGEMENT (6% OF CONSTRUCTION COST)	LS	1	\$76,740	\$76,740
UPRR COSTS (FLAGGING, INSPECTION, PLAN REVIEW, AGREEMENT)	LS	1	\$100,000	\$100,000
ENVIRONMENTAL PERMITTING	LS	1	\$25,000	\$25,000
RIGHT-OF-WAY/ENCROACHMENT AGREEMENT	LS	1	\$10,000	\$10,000
PUBLIC OUTREACH PROGRAM	LS	1	\$30,000	\$30,000
<b>Total other Project Costs (rounded):</b>				\$409,000
<b>Estimate of Probable Total Project Cost:</b>				\$1,688,000

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.

The estimates would be refined during the design phase. Estimates do not include right-of-way costs.

**ESTIMATE OF PROBABLE PROJECT COST  
FENCING AND WAYFINDING**

Description	Unit	Quantity	Unit Cost	Split Rail Estimate	Steel Fence Estimate
<b>Construction Costs</b>					
FENCING FROM ALISO SCHOOL AREA TO BAILARD AVE	LF	12,000	50-150	\$600,000	\$1,800,000
SIGNS	EA	12	\$500	\$6,000	\$6,000
<b>Subtotal Construction Costs:</b>				<b>\$606,000</b>	<b>\$1,806,000</b>
<b>Cost Contingency 30%:</b>				<b>\$181,800</b>	<b>\$541,800</b>
<b>Total Construction Cost with 30 % Contingency (rounded):</b>				<b>\$788,000</b>	<b>\$2,348,000</b>
<b>Other Project Costs</b>					
ENGINEERING PS&E (10% OF CONSTRUCTION COST)	LS	1	\$78,800	\$78,800	\$234,800
ENVIRONMENTAL PERMITTING	LS	1	\$25,000	\$25,000	\$25,000
CONSTRUCTION MANAGEMENT (6% OF CONSTRUCTION COST)	LS	1	\$47,280	\$47,280	\$140,880
CONSTRUCTION ADMIN. (CITY) @ 3% OF CONSTRUCTION COST	LS	1	\$23,640	\$23,640	\$70,440
UPRR COSTS (FLAGGING, SIGNAL DESIGN & PLAN REVIEW)	LS	1	\$15,000	\$15,000	\$15,000
RIGHT-OF-WAY/ENCROACHMENT AGREEMENT	LS	1	\$10,000	\$10,000	\$10,000
PUBLIC OUTREACH PROGRAM	LS	1	\$30,000	\$30,000	\$30,000
<b>Total other Project Costs (rounded):</b>				<b>\$230,000</b>	<b>\$527,000</b>
<b>Estimate of Probable Total Project Cost:</b>				<b>\$1,018,000</b>	<b>\$2,875,000</b>

**Notes:**

The estimate is to provide a preliminary cost to the conceptual design of the coastal access trails.  
The estimates would be refined during the design phase. Estimates do not include right-of-way costs.





**APPENDIX B**  
**DESIGN CRITERIA**



## DESIGN CRITERIA

The design criteria used in the development of Coastal Access Plan projects are based on design standards and guidelines from the following sources:

- American Railway Engineering and Maintenance of Way Association (AREMA)
- Americans with Disabilities Act (ADA)
- California Public Utilities Commission (CPUC)
- Union Pacific Railroad (UPRR) "Guidelines for Design and Construction of Grade Separation Underpass Structures" (see Appendix C).
- Caltrans Highway Design Manual, 2002

The general design criteria from the agencies noted below are applicable to the development of alternatives:

### **ADA Accessibility Guidelines (Amended 2002):**

- Headroom requirements (Section 4.4.2): 80" (6'-8") minimum
- Landings requirements (Section 4.8.4): 60" x 60" (5' x 5') minimum
- Clear widths for two wheelchairs (Figure 2): 60" (5') minimum
- Accessible Route for 90 degree turn minimum depth of leg (Figure 7a): 48" (4')
- Accessible Route Turn around an Obstruction (Figure 7b): 42" (3'-6") passage width minimum if the obstruction is less than 48" (4').
- Components of a Single Ramp Run and Sample Ramp Dimensions (Figure 16): Ramp slope 1:12 maximum.

### **Caltrans Highway Design Manual, 2002:**

- The minimum width of walkway for pedestrian overcrossings should be 8 feet. Determination of the width and height of pedestrian undercrossings requires individual analysis to insure adequate visibility through the structure and approaches (see Index 105.2). Pedestrian ramps should be provided on all pedestrian separation structures. The ramp should have a maximum longitudinal slope of 8.33% with a maximum rise of 30" between landings. The landing should be a minimum of 60" in length. The design utilizes a maximum longitudinal grade of 5% to eliminate the requirement of hand railing along the trail.

### **Railroad Clearances:**

- Permanent - Minimum horizontal structure clearance: 12'-0" (UPRR), 8'-6" (CPUC)
- Temporary - Minimum shoring horizontal clearance: 12'-0" from centerline of track (would require a variance from UPRR for construction of underpass alternative).

### **California Public Utilities Commission (CPUC):**

- Horizontal and vertical clearances General Order (GO) No. 26-D.
- Protection of crossings at-grade GO No. 75-C.

**APPENDIX C**  
**DIGALERT DESIGN LOOKUP**

Design Lookup on 07/02/08 10:46 AM  
County: SANTA BARBARA Place: CARPINTERIA  
Grids: 1018G02

ATTATL  
ATT TRANSMISSION  
WALTER WERSTIUK  
22311 BROOKHURST ST SUITE 203  
HUNTINGTON BEACH, CA 92646  
(714)963-7964

CSA01  
CARPINTERIA SANITARY DISTRICT  
EDDIE SAENZ  
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(805)684-7214  
eddies@carpsan.com

CVWDDIST  
CARPINTERIA VALLEY WTR DIST  
BRIAN KING  
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QWEST  
KIM JORDAN  
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SC GAS - SANTA BARBARA  
SAM SIFUENTES  
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SPRINT  
TIBOR LAKEY  
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IRVINE, CA 92612  
(800)659-9698  
tibor.x.laky@sprint.com

USCE09  
UTI FOR SC EDISON DISTRIBUTION  
EDISON OPERATOR  
,  
(626)302-1212

UVZSTABAR  
UTI FOR VERIZON - SANTA BARBARA  
GLEN ERICKSEN  
424 S PATTERSON AVE  
SANTA BARBARA, CA 93111  
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VENOCP (Venono?)  
VENOCO-CARPINTERIA  
JOHN O'CONNOR  
5675 CARPINTERIA  
CARPINTERIA, CA 93013  
(805)745-4515

## GOLETA LAYOVER FACILITY EXPANSION

### SUMMARY

Currently the Goleta Layover Facility in can only accommodate one train for servicing and maintenance activities. This funding would allow for the design and construction of an additional layover track to double the servicing area. The project includes new track, a powered switch, a new asphalt roadway, ground power, maintenance area lighting, as well as compressed air, and water. A maintenance storage building and security fencing will also be constructed. In addition to the design, a geotechnical study and any necessary geostabilization work will be performed.

### LOCATION

25 South La Patera Lane, Goleta, CA 93117

### SCHEDULE

○ Completion of Environmental Document	September 2018
○ Anticipated start of PS&E	September 2018
○ Completion of PS&E	January 2019
○ Completion of Right of Way phase	April 2019
○ Project award	May 2019
○ Construction start	May 2019
○ Construction end	February 2020

### PROJECT COSTS

○ Design / Engineering	\$ 260,000
○ Geotechnical/Geostabilization	825,000
○ Construction	5,511,000
○ Flagging	216,000
○ Construction Management / Project Oversight*	<u>3,310,000</u>
○ <b>TOTAL</b>	<b><u>\$ 10,122,000</u></b>

\*includes railroad protective insurance, project contingencies, and Amtrak management fees

### FUNDING

**There have been no funds identified for this project. LOSSAN will propose this project for state Transit Capital and Intercity Rail Program funding.**

### CONTACT

Jennifer Bergener  
Managing Director  
The LOSSAN Rail Corridor Agency  
(714) 560-5462  
[jbergener@octa.net](mailto:jbergener@octa.net)

**NATIONAL RAILROAD PASSENGER CORPORATION**  
**Cost Estimate Goleta Expansion**

Scope of Work: See Detail Below.

Date: 12/28/2017

Item	Quantity	Unit	Unit Cost	Estimated Cost
<b>DESIGN</b>				
Design-Document from BOD through IFB for Goleta Layover Facility Expansion	1	LS	\$260,000	\$260,000
<b>TRACKWORK</b>				
Demo existing rails and ties and replace with new rails, ties, switch and derail	1	LS	\$525,000	\$525,000
<b>POWER SWITCH</b>				
	1	EA	\$1,500,000	\$1,500,000
<b>ASPHALT</b>				
Excavation, backfill and compaction for subgrade preparation 30' x 900' x 6"	1	LS	\$225,000	\$225,000
<b>ELECTRICAL</b>				
Main (1200 Amp) Subpanel (480V, Compressor, Lighting and Accessory)	1	LS	\$250,000	\$250,000
<b>AIR COMPRESSOR</b>				
Pad and 50HP Compressor and associated piping	1	LS	\$150,000	\$150,000
<b>DRIP PANS (40 ft panel)</b>				
	8	EA	\$25,000	\$200,000
<b>DRAINAGE (Tied into existing oil water separator tank)</b>				
Install underdrain including storm drain segment, connection to existing storm drain, cleanouts, filter fabric, permeable material, excavation, disposal and backfill. Construct drain line from new fuel pad drain inlet to oil/water separator including trenching, disposal, backfill and paving.	1	LS	\$220,000	\$220,000
<b>GEOSTABILIZATION AND GEOTECHNICAL SURVEY</b>				
Torque Down Pile	1	LS	\$825,000	\$825,000
<b>LIGHTING (20 FT Apart)</b>				
	45	EA	\$6,200	\$279,000
<b>CONCRETE CURB, GUTTER AND CAST IN PLACE CONCRETE</b>				
Construct concrete berm, curb and gutter for new fueling area Excavation, compaction and subgrade preparation	1	LS	\$125,000	\$125,000
<b>FENCING AND GATE</b>				
Rod iron fence and automatic gate	2000	LF	\$350	\$700,000
<b>WATER CABINET</b>				
Including water source from the City and main backflow	10	EA	\$30,000	\$300,000
<b>PREFABRICATED STORAGE BUILDING</b>				
Including water and power	1	EA	\$150,000	\$150,000
<b>ENVIRONMENTAL</b>				
Study, testing and possible soil contamination removal	1	LS	\$150,000	\$150,000
<b>CONSTRUCTION MANAGEMENT @ 10%</b>				
	1	LS	\$737,555	\$737,555
<b>TOTAL DESIGN AND CONSTRUCTION COSTS</b>				<b>6,596,555</b>
<b>AMTRAK COSTS:</b>				
Railroad Protective Insurance	1	LS	5.00%	\$329,828
Project Manager's Time	800	HRS	\$150.00	\$120,000
Project Manager's Travel (@ Federal Perdiem Rate)	60	Days	\$350	\$21,000
Host Railroad charges (Flagging, etc....)	180	Days	\$1,200	\$216,000
Project Contingency @ 20%	1		20%	\$1,456,677
<b>TOTAL AMTRAK COSTS</b>				<b>\$ 2,143,504</b>
<b>SUB-TOTAL CONSTRUCTION COSTS &amp; AMTRAK COSTS</b>				<b>\$ 8,740,059</b>
Amtrak General & Administrative	5.81%			\$507,797
Amtrak Management Fee	10%			\$874,006
<b>TOTAL PROJECT COST</b>				<b>\$ 10,121,863</b>

**Leesdale Siding Extension - Estimated Construction Cost  
Double Track from East to Camarillo**

Construction Items	Quantity	Unit	Unit	
			Cost	Cost
Clearing and Grubbing	1	LS	\$ 40,000	\$ 40,000
Ditch Grading (assumes 10' flat bottom ditch 3' deep)	32,978	CY	\$ 15	\$ 494,667
Track Removal*	-	TF	\$ 50	\$ -
Tunout Removal (#11 or #15)*	1	EA	\$ 10,000	\$ 10,000
Tunout Removal (#24)*	1	EA	\$ 15,000	\$ 15,000
Track (Rail, Ties, Ballast)	18,550	TF	\$ 250	\$ 4,637,500
Track Shift	1,780	TF	\$ 100	\$ 178,000
No. 11 Turnout	-	EA	\$ 250,000	\$ -
Billboard Impact	-	EA	\$ 50,000	\$ -
Bridge	-	TF	\$ 18,000	\$ -
CBC Extension	2	LS	\$ 50,000	\$ 100,000
Culvert Extensions (Est. 5 Culverts at 25' ea)	125	LF	\$ 175	\$ 21,875
Concrete Road Crossing	174	TF	\$ 350	\$ 60,900
Railroad Signal Modification*	4	EA	\$ 50,000	\$ 200,000
Traffic Signal Modification	1	EA	\$ 50,000	\$ 50,000
Remove RR Signal *	2	EA	\$ 50,000	\$ 100,000
RR Signaling*	1	LS	\$ 1,000,000	\$ 1,000,000
<b>Construction Subtotal</b>				\$ 6,907,942
Contingency			30%	\$ 2,072,383
<b>Construction Items Total</b>				\$ 8,980,324
Engineering			8%	\$ 718,426
Construction Management			15%	\$ 1,347,049
RR Review	1	LS	\$ 25,000	\$ 25,000
Permitting	1	LS	\$ 20,000	\$ 20,000
Utility Service (signals and turnouts)	1	LS	\$ 20,000	\$ 20,000
RR Flagging	150	Day	\$ 1,200	\$ 180,000
RR Signal Design	1	LS	\$ 125,000	\$ 125,000
<b>Total Cost</b>				<b>\$ 11,415,799</b>
*Railroad Cost includes furnish and install of new materials				
<u>Assumptions/Exclusions</u>				
Fiber Optic Relocation by Utility				

**Leesdale Siding Extension - Estimated Construction Cost  
Double Track from West to Oxnard**

Construction Items	Quantity	Unit	Unit	
			Cost	Cost
Clearing and Grubbing	1	LS	\$ 40,000	\$ 40,000
Ditch Grading (assumes 10' flat bottom ditch 3' deep)	29,307	CY	\$ 15	\$ 439,600
Track Removal*	250	TF	\$ 50	\$ 12,500
Tunout Removal (#11 or #15)*	3	EA	\$ 10,000	\$ 30,000
Tunout Removal (#24)*	-	EA	\$ 15,000	\$ -
Track (Rail, Ties, Ballast)	16,485	TF	\$ 250	\$ 4,121,250
Track Shift	2,900	TF	\$ 100	\$ 290,000
No. 11 Turnout	1	EA	\$ 250,000	\$ 250,000
Billboard Impact	1	EA	\$ 50,000	\$ 50,000
Bridge	104	TF	\$ 18,000	\$ 1,872,000
CBC Extension	5	LS	\$ 50,000	\$ 250,000
Culvert Extensions (Est. 5 Culverts at 25' ea)	125	LF	\$ 175	\$ 21,875
Concrete Road Crossing	302	TF	\$ 350	\$ 105,700
Railroad Signal Modification*	3	EA	\$ 50,000	\$ 150,000
Traffic Signal Modification	3	EA	\$ 50,000	\$ 150,000
Remove RR Signal *	2	EA	\$ 50,000	\$ 100,000
RR Signaling*	1	LS	\$ 1,000,000	\$ 1,000,000
<b>Construction Subtotal</b>				\$ 8,882,925
Contingency			30%	\$ 2,664,878
<b>Construction Items Total</b>				\$ 11,547,803
Engineering			8%	\$ 923,824
Construction Management			15%	\$ 1,732,170
RR Review	1	LS	\$ 25,000	\$ 25,000
Permitting	1	LS	\$ 20,000	\$ 20,000
Utility Service (signals and turnouts)	1	LS	\$ 20,000	\$ 20,000
RR Flagging	300	Day	\$ 1,200	\$ 360,000
RR Signal Design	1	LS	\$ 125,000	\$ 125,000
<b>Total Cost</b>				<b>\$ 14,753,797</b>
*Railroad Cost includes furnish and install of new materials				
<u>Assumptions/Exclusions</u>				
Fiber Optic Relocation by Utility				



## VENTURA COUNTY TRANSPORTATION COMMISSION

950 County Square Dr., Suite 207 Ventura, California 93003 (805) 642-1591 fax (805) 642-4860

January 11, 2008

Mr. John Barna  
Executive Director  
California Transportation Commission  
1120 N Street  
Room 2221 (MS-52)  
Sacramento, CA 95814

Dear Mr. Barna:

The Ventura County Transportation Commission (VCTC) supports the nomination of the Leesdale Siding Extension project for funding through the Proposition 1B Trade Corridors Improvement Fund (TCIF). VCTC voted the project as the County's second priority for TCIF funds on January 11, 2008. The project is needed to improve freight throughput and reduce delays along this busy stretch of the Coast Rail Main Line between Oxnard and Camarillo.

The project has also been endorsed by the Los Angeles/Inland Empire Corridor group under the Tier 2 list.

VCTC provides its assurance that the project meets the screening criteria included in the TCIF Guidelines adopted November 27, 2007 as follows:

- The project is eligible for funding because it is included in regional rail plans including the LOSSAN Corridor Strategic Business Plan. The project meets the 1:1 funding match requirement; and the requested TCIF funds of \$7.5 million is for construction purposes only.
- The project will be ready to go to construction by December 2013.
- The project does not result in additional pollutant emissions and is environmentally cleared under CEQA part 15260 et. seq. The project also satisfies the Local Air Quality Screening.
- The project will stimulate economic activity, enhance trade value and preserve jobs.

Additional details in support of the above listed assurances are included in the project nomination application.

If you have any questions or require additional information, please contact Peter De Haan, Director of Transportation Programming and Grants, at (805) 642-1591, extension 105.

Sincerely,

Darren Kettle  
Executive Director

# Leesdale Freight Siding Extension 2



Ventura County Transportation Commission's #2 Priority  
For Trade Corridors Improvement Fund (TCIF) Funds

## Rail Speed Enhancements On the Union Pacific (UP) Coast Rail Line



TCIF Project  
Applicant:

**VCTC**

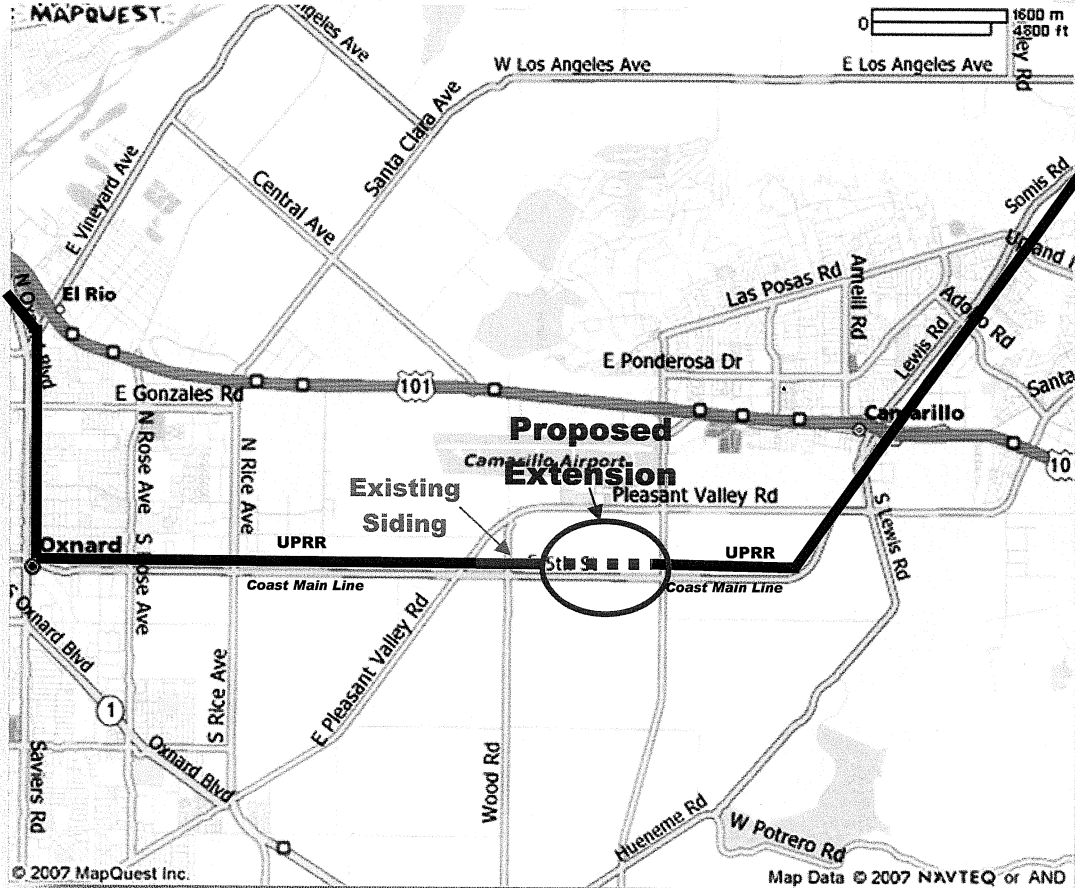
Peter De Haan  
Dir. Programming,  
Grants & Legislation

(805) 642-1591  
Ext. 106



# Project Location Map

## Leesdale Freight Siding Extension



# TRADE CORRIDORS IMPROVEMENT FUND (TCIF) LEESDALE FREIGHT SIDING EXTENSION PROJECT NOMINATION

## APPLICATION

### Summary Narrative

Description: The project would extend the existing 3,700 foot-long Leesdale Freight siding between Mile Post (MP) 409.16 and Las Posas Road to about 7,000 feet in total length. The project is located on the Union Pacific Railroad (UP) Coast Main Line right of way between the Camarillo Station at Mile Post (MP) 413.3 and the Oxnard Station at MP 404.3 in the County of Ventura. The Leesdale siding and future extension run parallel to 5<sup>th</sup> Street on the north side of the street between Pleasant Valley Road and Las Posas Road (see *Figure 1*). The project would also equip both sides of the siding with remote-controlled switching equipment, and modify the Las Posas Road and Pleasant Valley Road grade crossing signal systems to accommodate the siding.

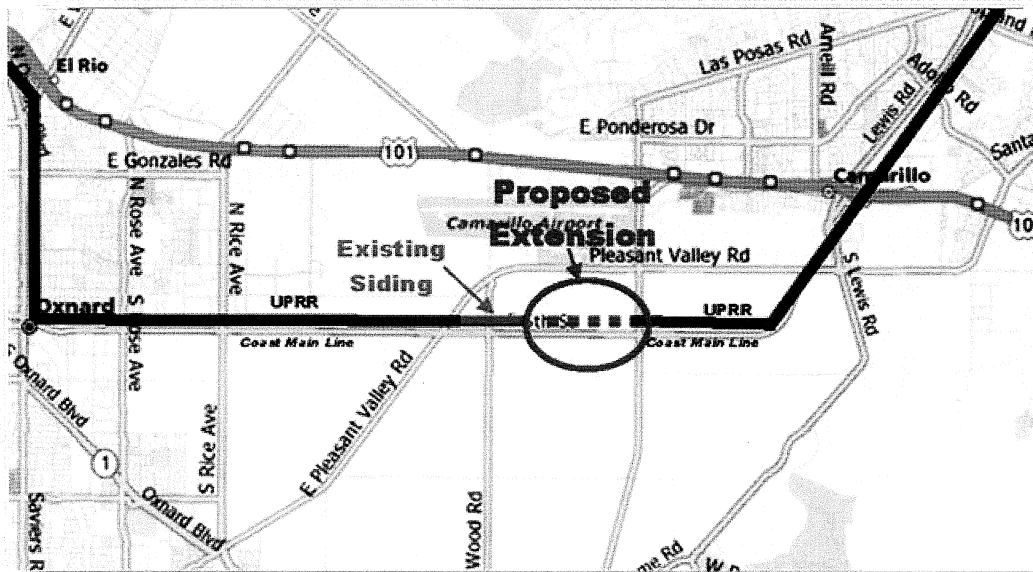


Figure 1: Project Vicinity Map

Project Background: The Port of Hueneme serves international businesses and ocean carriers from the Pacific Rim and Europe. The Port's commercial operation is primarily focused on automobiles, agricultural projects, general/project cargo, and fuel oil. During the 30-year period, trucks have dominated shipment to and from the Port of Hueneme. In comparatively recent times, however, set-up (fully assembled, ready to drive) automobile shipments by rail from the Port have increased. According to the LOSSAN North Strategic Plan (October 2007), UP operates an average of up to 13 freight trains on the Coast corridor each day. These trains include both through trains (moving through but not stopping) and trains serving local customers. The report also mentions that given the increase demand for freight service from overseas, and the utility and additional capacity for moving freight provided by the Coast Route, it is likely that the number of average daily freight trains operating on the Coast Route could rise over the next 20

years, depending on business conditions. The study estimated an increase of two UP trains per day by 2015, and four trains per day by 2025 based on planning estimates provided by UP for purposes of the study.

Near the vicinity of the project is the Short-Line Railroad known as the Ventura County Railway (VCRR) that operates between the cities of Port Hueneme and Oxnard in western Ventura County. The line is currently used for freight service only, and is operated by the Rail America Corporation from the Port of Hueneme. Should operations expand at the Port of Hueneme, the only deep-water port between San Pedro and Oakland, additional freight activity from the VCRR might be seen. This could increase the number of UP trains operating on the UP Coast rail corridor and through the project area. Freight activity is also expected to increase on the Coast Route in the vicinity of the project from growth at the Ports of Los Angeles and Long Beach.

In addition to freight service, Metrolink operates 6 passenger trains through the project area, and Amtrak operates 10 daily Pacific Surfliner trains and 2 Coast Starlight long-distance trains. Passenger service is also expected to increase in the future if funding permits.

Purpose and Need: The current length of the Leesdale siding of 3,700 feet is too small to accommodate the common freight train length of 5,500 feet. Extending the length of the Leesdale siding to allow for longer freight trains and “running meets” will increase capacity, improve reliability, and reduce travel times. Furthermore, the switches at the Leesdale siding are non-powered, and must be manually operated resulting in delays. According to the LOSSAN North Strategic Plan, delays from manually-adjusted switches are between 5 – 10 minutes per switch on average. The project would install new remote-controlled switches at both ends of the siding, improving travel times and reliability. Without improvements to increase capacity (such as the siding extension), there is a limit to the number of trains per day that can run on the existing single-track rail corridor. A rise in rail traffic volumes would impact reliability and on-time performance for all trains (freight and passenger), and increase trip times due to delays. Ultimately, capacity issues would preclude the expanded train volumes needed to meet demand and improve service.

Project Scope & Anticipated Benefits: The project would extend the existing Leesdale Freight siding from 3,700 linear feet to about 7,000 linear feet. It also includes the construction of drainage improvements, culverts and bridges, and the relocation of utilities. There are no grade crossings in this area so there is no need to modify crossings. The extension will run east from the current terminus east of Wood Road to just west of Las Posas Road. The existing Leesdale Siding is not a Centralized Traffic Control (CTC) siding and requires manual operation to change the direction of the switches on either side. This manual operation requires the train crew to contact the UP dispatchers in Omaha, Nebraska which results in delays to train operations. The project would replace the manual switches with remote-controlled switching equipment on both sides of the siding. The Las Posas Road and Pleasant Valley Road grade crossing signal systems would be modified to accommodate the siding.

Project benefits include more efficient use of the existing Coast Route, reduced freight and passenger travel times, increased capacity and improved reliability. The new remote-controlled switches at each end of the siding will save on average 5 – 10 minutes per switch, and will allow an increase in reverse trains as well as peak direction trains on the Coast line. The project will also allow for more consistent passenger rail service and reduce delays at the Camarillo Rail Station by allowing more efficient train meets at the station and eliminate the current problem of trains blocking passengers from crossing the tracks to board trains. The project would provide about 3,000 feet of new track (Output).

Description of the transportation corridor and the function of the proposed project within the corridor: The project is on the Coast line and serves a vital function in providing a rail link between the metropolitan areas of Southern California, the Central Coast, and the nation. Land use adjacent to the project between Camarillo and Oxnard is predominately agricultural (see *Figure 2*). The project is part of a nine mile segment in Ventura County of single track with short sidings. There are a total of 16 weekday scheduled train movements through this segment, both freight and passenger service. Freight and passenger trains often have to hold out of the segment when another train is operating in the opposite

direction. At times when one or more trains become late, this segment of single track greatly impairs the ability of train dispatchers to adjust train movements and recover to normal operation. The extension of the existing freight siding would provide additional capacity, reduced trip times, and improve operational reliability for both freight and passenger rail traffic.



Figure 2: Aerial map showing agricultural area adjacent to project

## A) Screening Criteria

### 1. Eligibility:

**a) Planning:** The project is included in the LOSSAN North Corridor Strategic Plan (October 2007), the LOSSAN Corridor Strategic Business Plan (December 2007), the Southern California Regional Rail Authority's (SCRRA) Strategic Assessment (January 2007), and the adopted Southern California Regional Transportation Plan (RTP).

Project	LOSSAN North Strategic Plan	LOSSAN North Business Plan	SCRRA Strategic Assessment	RTP
Leesdale Freight Siding Extension	✓	✓	✓	✓

**b) Match:** The project satisfies the 1:1 funding match requirement. VCTC is requesting \$7.5 million in TCIF to match \$7.5 million in Proposition 1B Transit (PTMISEA) funds needed for construction. Construction is estimated at \$15 million, and the requested TCIF funds would only be used for construction. The remaining \$5.8 million needed for project design and other support cost needs would also come from Prop 1B Transit funds. The Proposition 1B Transit guidelines adopted December 5, 2007 do not preclude the use PTMISEA funds to match TCIF funds, therefore, VCTC believes that the funds can be used as a match. VCTC assures that the local match will be available to construct the project. Any additional funding needed to complete the project would be provided by VCTC using eligible VCTC funds.

Project	Total project cost	TCIF request	Identified matching funds	State of matching funds*	Match source	Other funding	Source
Leesdale Freight Siding Extension	\$20.81M	\$7.5M	\$7.5M	\$0	Prop 1B Transit	\$0	N/A

**2. Deliverability:** The project will begin construction by the December 31, 2013 TCIF deadline. With available funding beginning in FY2008/09, the project would be ready to go to construction in early 2009 and would be completed by June 2010.

**3. Economic/Jobs Growth:** The Los Angeles County Economic Development Corporation (LAEDC) conducted an economic/jobs growth analysis in January 2008 of the 54 projects recommended by the five-county LA/Inland Empire Corridor for TCIF program funds (Tier 1 and Tier 2 projects), including the Leesdale Freight Siding project. The LAEDC reports that the collective importance of these projects greatly exceeds their individual contributions since their primary value derives from the larger network. The LAEDC estimates were derived using a custom model based on multipliers from the Regional Input-Output Modeling System (RIMS II) that was developed by the U.S. Department of Commerce, Bureau of Economic Analysis. The project-specific analysis conducted by the LAEDC for the Leesdale Siding project estimated that the project will generate \$36 million in economic output. This is the amount firms in the local area will earn in business revenues, most of it going to construction, architecture and engineering firms plus their subcontractors and suppliers. The LAEDC estimates that during the construction period, the project will generate total employment equivalent to 290 full-time jobs for one year. As with the economic output, the employment estimate includes both direct and indirect jobs. Workers in positions sustained in whole or part by economic activity related to the construction will share \$12 million in wages. Additionally, the LAEDC estimates that the state will recoup roughly \$0.99 million from the state income taxes and the state share of the sales taxes related to the project construction activity; and cities, counties and transportation authorities in Ventura County will share \$0.10 million in local taxes from project-related sales taxes (7.25%).

**4. Air Quality:**

**Local Air Quality Impacts Screening Questions and Answers**

Questions	Answers
<b>1. Does the project provide a regional air quality benefit?</b>	Yes. The project would reduce trip delays resulting from reduced train idling due to congested train meets using the single track. Furthermore, because the improvement is to be constructed within an existing (since 1938) railroad right of way and is air quality neutral, it is exempt from environmental clearance under CEQA part 15260 et. seq.
<b>2. Does the project increase the expected future level of polluting activity in specific neighborhoods or communities?</b>	No. This project is not expected to increase the expected future level of polluting activity in specific neighborhoods or communities because there are no sensitive receptors (residences, schools, hospitals, day care) within 1000 feet. The surrounding area is agricultural.
<b>3. Does project design avoid or mitigate any emission increases resulting from the increased activity?</b>	The siding extension will help to reduce rail congestion in the area reducing emissions from idling trains.

<p><b>4. Does a screening assessment show localized impacts?</b></p>	<p>No negative localized impacts are anticipated given the agricultural nature of the surrounding environment.</p>
<p><b>5. Are there mitigation opportunities in the impacted area?</b></p>	<p>None are required.</p>

**B) Evaluation Criteria:**

**1. Freight System Factors:**

- **Throughput:** The project adds capacity to the Coast Main line and thereby provides for increased volume of freight traffic by improved capacity and operational efficiency. The project would provide about 3,000 feet of additional track that will also improve the counter-flow trains on this stretch of the Coast Route.
- **Velocity:** The project increases the speed of freight traffic moving through the distribution system by reducing time spent waiting for other trains to pass on the single track line. Furthermore, according to the LOSSAN North Strategic Plan, delays from manually-adjusted switches are between 5 – 10 minutes per switch on average. The project would eliminate this delay.
- **Reliability:** The project would increase reliability on the rail line. The lack of passing sidings impairs the train dispatchers’s ability to adjust train operations when one train is late. A delay to one train cascades into delays to several others. The project, therefore, provides operating flexibility to recover from late trains and reduces the variability and unpredictability of travel time.

**2. Transportation System Factors:**

- **Safety:** The project does not present a safety risk because the adjacent area is primarily agricultural, and the project area is within the UP rail right-of-way. The project does not cross any street crossings, but will modify the Las Posas Road and Pleasant Valley Road grade crossing signal systems to accommodate the siding for improved safety. The project also improves rail safety by improving train meets and localized congestion.
- **Congestion Reduction/Mitigation:** The project reduces daily hours of delay on the system and improves access to freight facilities by decreasing the travel time for freight trains traveling through the project on the Coast line. Travel time saved from having to manually adjust switches on the siding would average up to 20 minutes.
- **Key Transportation Bottleneck Relief:** The stretch of rail in the vicinity of the project is experience growing congestion. There already exists two opposing train meets (one in the morning and the other in the afternoon) on the single track that create congestion, The siding extension will allow either freight or passenger trains to pass with greater ease and relieve congestion at the Camarillo Rail station that blocks passengers from boarding trains.
- **Multi-modal Strategy:** The project is part of a larger multi-modal transportation strategy for the movement of goods to and from the Port of Hueneme that includes the movement of goods by rail, truck and pipeline. The Leesdale siding is part of a larger effort to reduce truck vehicle miles traveled to and from the Port of Hueneme by creating alternatives to the freeway. As such, the project supports a multi-modal approach to increase port and transportation system capacity throughput by increasing the capacity of the existing rail system while reducing truck vehicle miles hours traveled on the roads.

- **Interregional Benefits:** The project is on the Coast Route and serves a vital function in providing a rail link between the metropolitan areas of Southern California, the Central Coast, and the nation. The Port of Hueneme is the top seaport in the United States for citrus export and ranks among the top ten ports in the country for automobile and banana imports. Its position near the Santa Barbara Channel has also made the Port of Hueneme the primary support facility for the offshore oil industry in California's Central Coast Area. The project, therefore, helps to significantly improve the link between local and regional corridors as well as statewide, national and international trade.

### 3. Community Impact Factors:

- **Air Quality Impact:** The project would reduce trip delays resulting from reduced train idling due to congested train meets using the single track. Because the improvement is to be constructed within an existing (since 1938) railroad right of way and is air quality neutral, it is exempt from environmental clearance under CEQA part 15260 et. seq.
- **Community Impact Mitigation:** Because the project is in an agricultural area, there are no sensitive receptors within 1,000 feet of the project, within the existing UP right-of-way, and does not affect any road crossing, among other considerations, the community impact is not significant.
- **Economic/Jobs Growth:** The Los Angeles County Economic Development Corporation (LAEDC) conducted an economic/jobs growth analysis in January 2008 of the 54 projects recommended by the five-county LA/Inland Empire Corridor for TCIF program funds (Tier 1 and Tier 2 projects), including the Leesdale Freight Siding project. The LAEDC reports that the collective importance of these projects greatly exceeds their individual contributions since their primary value derives from the larger network. The LAEDC estimates were derived using a custom model based on multipliers from the Regional Input-Output Modeling System (RIMS II) that was developed by the U.S. Department of Commerce, Bureau of Economic Analysis. The project-specific analysis conducted by the LAEDC for the Leesdale Siding project estimated that the project will generate \$36 million in economic output. This is the amount firms in the local area will earn in business revenues, most of it going to construction, architecture and engineering firms plus their subcontractors and suppliers. The LAEDC estimates that during the construction period, the project will generate total employment equivalent to 290 full-time jobs for one year. As with the economic output, the employment estimate includes both direct and indirect jobs. Workers in positions sustained in whole or part by economic activity related to the construction will share \$12 million in wages. Additionally, the LAEDC estimates that the state will recoup roughly \$0.99 million from the state income taxes and the state share of the sales taxes related to the project construction activity; and cities, counties and transportation authorities in Ventura County will share \$0.10 million in local taxes from project-related sales taxes (7.25%).



# 2008 Project Programming Request

## (Project Information)

General Instructions

<input checked="" type="checkbox"/> New Project		<input type="checkbox"/> Amendment (Existing Project)		<b>Date:</b> 01/14/08	
<b>Caltrans District</b>	<b>EA</b>	<b>PPNO</b>	<b>MPO ID</b>	<b>TCRP No.</b>	
07					
<b>County</b>	<b>Route/Corridor</b>	<b>Project Sponsor/Lead Agency</b>		<b>MPO</b>	<b>Element</b>
VEN	Coast Route	Ventura County Transp. Commission		SCAG	RAIL
<b>Project Title</b>					
Leesdale Freight Siding Extension					
<b>PM Bk</b>	<b>PM Ahd</b>	<b>Project Mgr/Contact</b>	<b>Phone</b>	<b>E-mail Address</b>	
409.16	409.82	Peter De Haan	(805) 642-1591	pdehaan@goventura.org	
<b>Location, Project Limits, Description, Scope of Work, Legislative Description</b>					
Extend the existing 3,700 foot-long Leesdale Freight siding between Mile Post (MP) 409.16 and Las Posas Road to about 7,000 feet in total length. Project is located on the Union Pacific Railroad (UP) right of way between Pleasant Valley Road and Las Posas Road. The project would equip siding with remote-controlled switching equipment, and modify nearby grade crossing signal systems to accommodate the siding.					
<b>Component</b>	<b>Implementing Agency</b>		<b>AB 3090</b>	<b>Letter of No Prejudice</b>	
PA&ED	Ventura County Transportation Commission		<input type="checkbox"/>	<input type="checkbox"/>	
PS&E	Union Pacific		<input type="checkbox"/>	<input type="checkbox"/>	
Right of Way	N/A		<input type="checkbox"/>	<input type="checkbox"/>	
Construction	Union Pacific		<input type="checkbox"/>	<input type="checkbox"/>	
<b>Legislative Districts</b>					
<b>Assembly:</b> 35			<b>Senate:</b> 19		
<b>Congressional:</b> 23					
<b>Purpose and Need</b>					
The current length of the Leesdale siding of 3,700 feet is too small to accommodate the common freight train length of 5,500 feet. Extending the length of the Leesdale siding to allow for longer freight trains and "running meets" will increase capacity, improve reliability, and reduce travel times. Furthermore, the switches at the Leesdale siding are non-powered, and must be manually operated resulting in delays. The project would install new remote-controlled switches at both ends of the siding, improving travel times and reliability. Without improvements to increase capacity (such as the siding extension), there is a limit to the number of trains per day that can run on the existing single-track rail corridor. Ultimately, capacity issues would preclude the expanded train volumes needed to meet demand and improve service.					
<b>Project Benefits</b>					
Project benefits include more efficient use of the existing Coast Route, reduced freight and passenger travel times, increased capacity and improved reliability. The new remote-controlled switches at each end of the siding will save on average 5 – 10 minutes per switch, and will allow an increase in reverse trains as well as peak direction trains on the Coast line. The project would provide about 3,000 feet of new track (Output). Project is estimated to generate \$36 million in economic output, and total employment equivalent to 290 full-time jobs for one year.					
<b>Project Milestone</b>					<b>Date</b>
Project Study Report Approved					01/30/07
Begin Environmental (PA&ED) Phase					01/30/07
Circulate Draft Environmental Document			CE	N/A	N/A
Draft Project Report					N/A
End Environmental Phase (PA&ED Milestone)					01/30/07
Begin Design (PS&E) Phase					07/01/08
End Design Phase (Ready to List for Advertisement Milestone)					01/31/09
Begin Right of Way Phase					N/A
End Right of Way Phase (Right of Way Certification Milestone)					N/A
Begin Construction Phase (Contract Award Milestone)					04/30/09
End Construction Phase (Construction Contract Acceptance Milestone)					06/30/10
Begin Closeout Phase					07/30/10
End Closeout Phase (Closeout Report)					01/30/11





## 2008 Project Programming Request (Funding Information)

(dollars in thousands and escalated to the programmed year)

Date: 01/14/08

<b>County</b>	<b>CT District</b>	<b>PPNO</b>	<b>TCRP Project No.</b>	<b>EA</b>
VEN	07	0	0	0
<b>Project Title:</b> Leesdale Freight Siding Extension				

Existing Total Project Cost									Implementing Agency	
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total		
E&P (PA&ED)	0	0	0	0	0	0	0	0		
PS&E	0	0	0	0	0	0	0	0		
R/W SUP (CT)	0	0	0	0	0	0	0	0		
CON SUP (CT)	0	0	0	0	0	0	0	0		
R/W	0	0	0	0	0	0	0	0		
CON	0	0	0	0	0	0	0	0		
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>		
Proposed Total Project Cost									Implementing Agency	
E&P (PA&ED)	0	0	0	0	0	0	0	0		
PS&E	0	1,250	0	0	0	0	0	1,250		
R/W SUP (CT)	0	0	0	0	0	0	0	0		
CON SUP (CT)	0	4,563	0	0	0	0	0	4,563		
R/W	0	0	0	0	0	0	0	0		
CON	0	15,000	0	0	0	0	0	15,000		
<b>TOTAL</b>	<b>0</b>	<b>20,813</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20,813</b>		

<b>Fund No. 1:</b>									<b>Program Code</b>
<b>Existing Funding</b>									<b>Funding Agency</b>
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)	0	0	0	0	0	0	0	0	
PS&E	0	0	0	0	0	0	0	0	
R/W SUP (CT)	0	0	0	0	0	0	0	0	
CON SUP (CT)	0	0	0	0	0	0	0	0	
R/W	0	0	0	0	0	0	0	0	
CON	0	0	0	0	0	0	0	0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Proposed Funding</b>									<b>Notes</b>
E&P (PA&ED)								0	
PS&E								0	
R/W SUP (CT)								0	
CON SUP (CT)								0	
R/W								0	
CON		7,500						7,500	
<b>TOTAL</b>	<b>0</b>	<b>7,500</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,500</b>	

<b>Fund No. 2:</b>									<b>Program Code</b>
<b>Existing Funding</b>									<b>Funding Agency</b>
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)	0	0	0	0	0	0	0	0	
PS&E	0	0	0	0	0	0	0	0	
R/W SUP (CT)	0	0	0	0	0	0	0	0	
CON SUP (CT)	0	0	0	0	0	0	0	0	
R/W	0	0	0	0	0	0	0	0	
CON	0	0	0	0	0	0	0	0	
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
<b>Proposed Funding</b>									<b>Notes</b>
E&P (PA&ED)								0	
PS&E		1,250						1,250	
R/W SUP (CT)								0	
CON SUP (CT)		4,563						4,563	
R/W								0	
CON		7,500						7,500	
<b>TOTAL</b>	<b>0</b>	<b>13,313</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13,313</b>	



## 2008 Project Programming Request (Funding Information)

(dollars in thousands and escalated to the programmed year)

Date: 01/14/08

County	CT District	PPNO	TCRP Project No.	EA
VEN	07			
Project Title: Leesdale Freight Siding Extension				

Existing Total Project Cost									Implementing Agency
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)									Ventura County Transportation
PS&E									Union Pacific
R/W SUP (CT)									
CON SUP (CT)									
R/W									N/A
CON									Union Pacific
<b>TOTAL</b>									
Net Change									
E&P (PA&ED)									
PS&E		1,250						1,250	
R/W SUP (CT)									
CON SUP (CT)		4,563						4,563	
R/W									
CON		15,000						15,000	
<b>TOTAL</b>		<b>20,813</b>						<b>20,813</b>	
Proposed New Result									
E&P (PA&ED)									
PS&E		1,250						1,250	
R/W SUP (CT)									
CON SUP (CT)		4,563						4,563	
R/W									
CON		15,000						15,000	
<b>TOTAL</b>		<b>20,813</b>						<b>20,813</b>	

Fund No. 1:	Existing Funding									Program Code
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	Funding Agency	
E&P (PA&ED)										
PS&E										
R/W SUP (CT)										
CON SUP (CT)										
R/W										
CON										
<b>TOTAL</b>										
Change									Notes	
E&P (PA&ED)										
PS&E										
R/W SUP (CT)										
CON SUP (CT)										
R/W										
CON		7,500						7,500		
<b>TOTAL</b>		<b>7,500</b>						<b>7,500</b>		
Proposed Funding										
E&P (PA&ED)										
PS&E										
R/W SUP (CT)										
CON SUP (CT)										
R/W										
CON		7,500						7,500		
<b>TOTAL</b>		<b>7,500</b>						<b>7,500</b>		



## 2008 Project Programming Request (Funding Information)

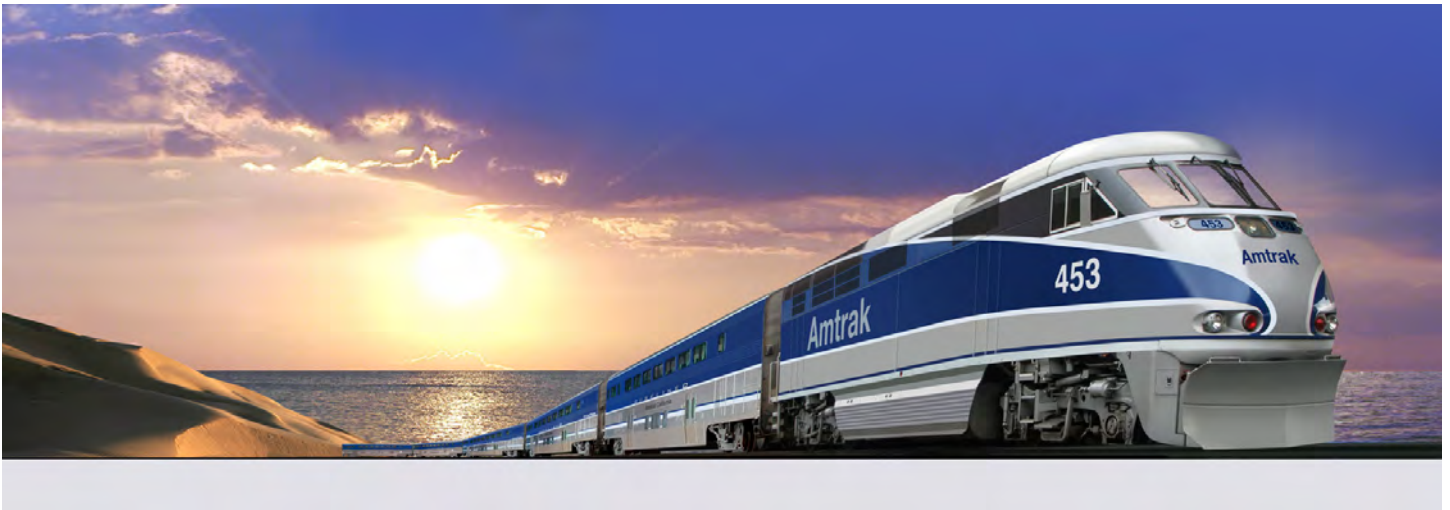
(dollars in thousands and escalated to the programmed year)

Date: 01/14/08

County	CT District	PPNO	TCRP Project No.	EA
VEN	07			
Project Title: Leesdale Freight Siding Extension				

Fund No. 2:									Program Code
Existing Funding									Funding Agency
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Change									Notes
E&P (PA&ED)									
PS&E		1,250						1,250	
R/W SUP (CT)									
CON SUP (CT)		4,563						4,563	
R/W									
CON		7,500						7,500	
TOTAL		13,313						13,313	
Proposed Funding									
E&P (PA&ED)									
PS&E		1,250						1,250	
R/W SUP (CT)									
CON SUP (CT)		4,563						4,563	
R/W									
CON		7,500						7,500	
TOTAL		13,313						13,313	

Fund No. 3:									Program Code
Existing Funding									Funding Agency
Component	Prior	08/09	09/10	10/11	11/12	12/13	13/14+	Total	
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Change									Notes
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									
Proposed Funding									
E&P (PA&ED)									
PS&E									
R/W SUP (CT)									
CON SUP (CT)									
R/W									
CON									
TOTAL									



# PROJECT STUDY REPORT

CALIFORNIA DEPARTMENT OF TRANSPORTATION  
DIVISION OF RAIL



# **PROJECT STUDY REPORT**

## **Siding Upgrade and Extension Project Santa Barbara County**

**August 2011**

Approved: \_\_\_\_\_ Date \_\_\_\_\_  
WILLIAM D. BRONTE  
Chief  
Division of Rail

Prepared by  
Division of Rail

# **Siding Upgrade and Extension Project Santa Barbara County**

## **Project Description**

The state-supported *Pacific Surfliner* passenger rail service operates on Union Pacific Railroad (UPRR) right of way in Santa Barbara County. Rail traffic along this segment of the corridor is being impacted by a lack of sufficient sidings. Existing sidings are too short and spaced too far apart to allow for effective train meets and passing opportunities. The current standard length necessary to allow most freight trains to take a siding during a train meet is 10,000 feet. Unfortunately there is only one siding over 9,000 feet in Santa Barbara County. Longer CTC sidings will allow more efficient train meets between passenger and freight trains and provide a more efficient operation.

The Department recognizes the operational need for more passing opportunities and is currently conducting a modeling effort, in cooperation with UPRR and other stakeholders, to determine the most efficient locations for siding projects. Once this modeling is complete we will know which siding improvement projects will generate the greatest increase in reliability and capacity along the rail line. We will use the funding from this project to complete the environmental review, design, engineering, permitting, and construction for the highest priority siding, creating an improved and longer passing track in Santa Barbara County.

## **Scope of Work**

The study area, in Santa Barbara County, covers 108 miles of the UPRR's coast line. The proposed section of rail under consideration spans Milepost (MP) 380.7 to MP 273.2. Current sidings between these MP's include several locations that have high potential for improving both freight and passenger train operations. Selection of the final siding to be upgraded and extended will be based on upon the modeling results (ie. train operational benefits), engineering feasibility, and environmental constraints.

Once the highest priority siding is determined, work will begin on the environmental approval and the preparation of detailed Plans, Specifications, and Estimates (PS&E). In this stage, project information is reviewed and updated, the purpose and scope is refined, design surveys and maps are obtained, technical reports are completed, and final right of way requirements are determined. Depending on the selected siding, the final project design will include grading, Centralized Traffic Control (CTC) signal systems, power switches, and new rail, ties, and other track materials.

## **Project Need**

The sidings under study are located along the second busiest rail corridor in the nation, the Los Angeles to San Diego and San Luis Obispo (LOSSAN) rail corridor. This 351-mile long corridor serves a vital function in providing a rail link between the metropolitan areas of Southern California, the Central Coast, and the national rail system. This portion of the corridor is serviced by intercity passenger rail and freight rail services. Currently,

this portion of the track is used by ten daily Amtrak Pacific Surfliner trains, two Amtrak long distance trains, and approximately 8-12 UPRR freight trains.

While the current standard length for a freight siding is 10,000 feet, many of the sidings north of Los Angeles are limited in length (3,000 to 5,000 feet) and do not have the capacity to hold a modern freight. This, in essence, forces the shorter passenger trains into the siding in order to allow slower and longer freights to clear before being permitted to continue. Specifically, the rail line through Santa Barbara County consists of only one siding over 9,000 feet. Depending on maximum track speeds and the distance between sidings, trains typically wait 20 minutes or longer before they are allowed onto the main track to proceed.

While there is a clear need for a siding project in this area given current conditions, there is an overwhelming need in light of future plans for expanded rail service. Over the next 20 years, planned expansions in intercity, commuter, and freight rail services will require an improved LOSSAN corridor. Without capacity improvement projects there is a limit to the number of trains per day that can run on the single-track rail corridor. Also, any rise in rail traffic volumes, especially freight activity, would impact reliability and on-time performance for all trains (passenger and freight), and increase trip times due to delays. Ultimately, capacity issues would preclude expansion of train volumes to meet demand and improve passenger rail service.

Several factors drive the need for improvements to the LOSSAN corridor, including:

- Growth in population, employment, and travel demand. Over the next twenty years, California's population is projected to rise from approximately 37 million to over 44 million. The LOSSAN corridor has seen a dramatic increase in population and an imbalance in the jobs/housing equation, leading to longer commutes and increased traffic congestion.
- Capacity of the intercity transportation system. Current capacity is inadequate to meet the projected increase in travel demand, as well as the rising demand for goods movement as our economy (both in California and nationally) relies increasingly on imported goods shipped to Southern California ports and carried by rail.
- Travel time. Implementation of needed rail improvement projects in this area could reduce total travel time between Los Angeles, Santa Barbara, and San Luis Obispo by up to 25 percent.
- Reliability. Maintaining on-time performance (OTP) is a key consideration, and delays in one portion of the corridor have a ripple effect elsewhere. Rail improvement projects help significantly increase reliability and OTP. Due to increasing train volumes, current OTP is approximately 75%. As recently as 2010 OTP was greater than 80%.
- Cost-effectiveness. The State of California provides support, funding, and planning assistance for the Pacific Surfliner service, including operating assistance and capital funding for rail improvement projects, station construction and maintenance, and equipment purchases and maintenance. Improvements that increase capacity, reduce travel time, and improve reliability help maintain and

attract ridership on the service. Additional ridership maximizes the cost-effectiveness of the state's investment by reducing operating subsidies, allowing funds to be used on other rail improvements or to expand service. Moreover, the efficiencies as a result of rail improvements carry over to all users of the rail corridor, and benefit commuter rail and freight services as well, making them more reliable and cost effective.

## **Benefits**

Overall, a siding improvement project, which results in the creation of a new segment of double track, will allow for increased train frequencies, improved operational reliability, increased capacity, and decreased train delays.

By identifying the most beneficial location for a siding project and upgrading and extending the siding to create a new segment of double track, this project will provide a crucial opportunity to schedule train meets, allow more trains to operate simultaneously in this section of the corridor, and reduce trip times as less time will be spent waiting on sidings. These projects will result in increased on-time performance by eliminating or reducing dispatcher hold times; increase speeds through switches and sidings; and improve train meets (thereby clearing bottlenecks) by providing sidings that will permit running meets for passenger trains. All of these positive factors will help make rail travel a more viable transportation alternative.

## **Project Schedule**

Modeling to determine the most critical siding improvement location will be complete by Fall 2011. Once funding is available we will begin the design, environmental, engineering, and permitting for this project. It is anticipated that the PS&E will be completed in Fiscal Year (FY) 2015-2016 and construction will be completed in FY 2016-2017.

Begin Environmental (PA&ED) Phase	09/01/12
Circulate Draft Environmental Document	09/01/13
Draft Project Report	10/01/13
End Environmental Phase (PA&ED Milestone)	12/01/13
Begin Design (PS&E) Phase	01/01/14
End Design Phase (Ready to List for Advertisement Milestone)	06/01/15
Begin Construction Phase (Contract Award Milestone)	09/01/15
End Construction Phase (Construction Contract Acceptance Milestone)	09/01/17
Begin Closeout Phase	10/01/17
End Closeout Phase (Closeout Report)	11/01/18



## Project Management

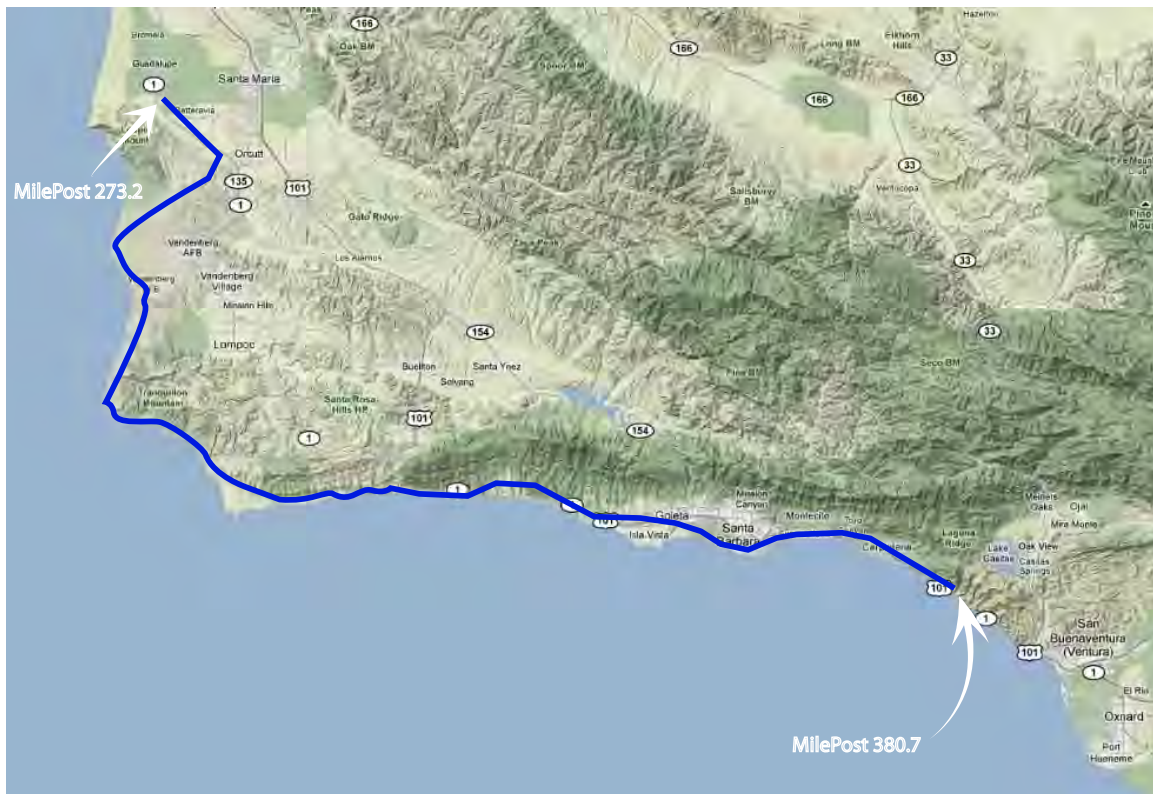
Environmental, design, engineering, permitting, and construction will be completed by UPRR and its consultants. The Department's Division of Rail staff will provide project oversight.

## Project Cost Estimate

Total cost for this siding improvement project is estimated at \$14.450 million. E&P (PA&ED) \$2 million, PS&E \$2 million and \$10.45 million.

## Environmental Clearance

Based upon preliminary evaluation completed for this project for the increase of existing passenger service on rail lines already in use, it is determined that the project will most likely meet the criteria to be certified as statutorily exempt from preparation of an environmental impact report under Section 21080(b)(11) of the California Environmental Quality Act (CEQA), and Section 15275 of Title 14, Guidelines for Implementation of the CEQA. Environmental review and documentation will take place in accordance with 23 CFR 771.117 of the National Environmental Protection Act (NEPA). All specialty environmental laws and regulations will be considered in the siting and design of the project and appropriate coordination and studies conducted as necessary. If there are significant issues that indicate that a statutory exemption is not appropriate, an Initial Study will be conducted and the required procedures and documentation will be met.



Ortega Siding

Location: SANTA BARBARA SUB, 373.9 - 374.9

Description of Work: Caltrans - Santa Barbara Subdivision MP 373.9 to 374.9 - Construct New Siding at Ortega - Carpinteria Valley, CA

Phase	Description	QTY	Unit	Amt	Total in 2015\$	Subtotal in 2015\$
Engineering	Engineering	1	LS	200000	\$ 200,000	
	Contract Engineering	1	LS	200000	\$ 200,000	
	Flagging	120	MD	1300	\$ 156,000	
						\$ 625,424
Track	Mainline	4381	TF		\$ 1,326,303	
	Siding	5500	TF		\$ 1,660,052	
		2031	TF		\$ 110,575	
	PPTO	2	EA		\$ 503,493	
	DERAIL	2	EA		\$ 184,462	
	Road Crossing	49	TF		\$ 26,950	
						\$ 4,287,796
Track Removal					\$ 66,270	\$ 74,545
Site work					\$ 10,220,716	\$ 11,496,915
Drainage					\$ 387,000	\$ 435,322
Concrete					\$ 200,000	\$ 224,973
Signal					\$ 1,595,149	\$ 1,794,326
Bridge					\$ 378,000	\$ 425,199
Equipment Rental					\$ 100,000	\$ 112,486
Homeline Freight					\$ 465,579	\$ 523,014
Contingency (30%)						\$ 6,000,000
GRAND TOTAL						\$ 26,000,000





U.S. Department  
of Transportation  
**Federal Railroad  
Administration**

# Grant/Cooperative Agreement

1. RECIPIENT NAME AND ADDRESS California Department of Transportation, Division of Rail Rail 1120 N St Rm 3400 Sacramento, CA 95814-5680		2. AGREEMENT NUMBER: FR-HSR-0026-11-01-00	3. AMENDMENT NO. 0
1A. IRS/VENDOR NO. 680274794		4. PROJECT PERFORMANCE PERIOD: FROM 04/01/2011 TO 05/02/2013	5. FEDERAL FUNDING PERIOD: FROM 04/01/2011 TO 05/02/2013
1B. DUNS NO. 840881648		6. ACTION New	
7. CFDA#: 20.319		9. TOTAL OF PREVIOUS AGREEMENT AND ALL AMENDMENTS 0	
8. PROJECT TITLE Pacific Surfliner Corridor-PE NEPA Ortega		10. AMOUNT OF THIS AGREEMENT OR AMENDMENT 950,000	
		11. TOTAL AGREEMENT AMOUNT 950,000	

12. INCORPORATED ATTACHMENTS  
THIS AGREEMENT INCLUDES THE FOLLOWING ATTACHMENTS, INCORPORATED HEREIN AND MADE A PART HEREOF:  
Special Provisions, Attachment 1  
PRIIA of 2008 Clauses for Individual Construction Projects, Attachment 1A (Not Applicable)  
American Recovery and Reinvestment Act of 2009, Attachment 1B  
General Provisions, Attachment 2  
  
Award Attachments:  
Statement of Work, Attachment 3  
Quarterly Progress Report for FRA, Attachment 4

13. STATUTORY AUTHORITY FOR GRANT/ COOPERATIVE AGREEMENT  
American Recovery and Reinvestment Act of 2009, Public Law 111-5 (February 17, 2009)

14. REMARKS

GRANTEE ACCEPTANCE		AGENCY APPROVAL	
15. NAME AND TITLE OF AUTHORIZED GRANTEE OFFICIAL Mr. William Bronte		17. NAME AND TITLE OF AUTHORIZED FRA OFFICIAL Ms. Gina Christodoulou-AO	
16. SIGNATURE OF AUTHORIZED GRANTEE OFFICIAL Electronically Signed	16A. DATE 04/07/2011	18. SIGNATURE OF AUTHORIZED FRA OFFICIAL Electronically Signed	18A. DATE 04/08/2011

**AGENCY USE ONLY**

19. OBJECT CLASS CODE: 41010      20. ORGANIZATION CODE: 9013000000

21. ACCOUNTING CLASSIFICATION CODES				
DOCUMENT NUMBER	FUND	BY	BPAC	AMOUNT
FR-HSR-0026-11-01-00	2709120718	2011	91010029Y0	950,000

## Special Provisions, Attachment 1

### 1. Identification of Awarding Agency and Grantee:

The Grantee and the Administrator of the FRA, acting by delegation from the Secretary of Transportation, have entered into this Cooperative Agreement ("Agreement") to conduct and fund this project, as more specifically set forth in the Statement of Work, Attachment 3, attached hereto and made a part hereof ("the Project").

### 2. Scope:

The Grantee shall furnish all personnel, facilities, equipment, and other materials and services (except as otherwise specified herein) necessary to perform the approved Project, as set forth in the Statement of Work (Attachment 3), and in accordance with the representations, certifications and assurances set forth in the Grantee's application(s), and any amendments thereto ("Application"), incorporated herein by reference and made a part hereof.

### 3. Awarding Agency Participation:

The FRA will provide, on an "as available" basis, one professional staff person, to be designated as the Grant Manager, to review work or work products in progress, and arrange for the review of the Project results upon completion. If this award is made as a cooperative agreement, FRA will have substantial programmatic involvement. Substantial involvement means that, after award, technical, administrative, or programmatic staff will assist, guide, coordinate, or otherwise participate in Project activities.

### 4. Term:

Unless sooner terminated in accordance with its terms, this Agreement shall be valid for the period described in Section 4 of the Grant/Cooperative Agreement. This time frame includes the period for both completion of the Project, and completion and submission of a final report on Project results, as described in Section 11 and/or other deliverables as agreed to between the parties.

### 5. Total Project Cost; Cost-Sharing Responsibility:

- a. The total estimated cost of the Project is \$1,200,000.00.
- b. FRA funding assistance is limited to 79.1667% of the estimated cost for completing the Project or \$950,000.00, whichever is less. Costs for completing the Project in excess of the amounts set forth in this section will be the responsibility of the Grantee.
- c. Grantee funding assistance shall not be less than 20.8333% of the total cost of the Project. Consequently, of the amount specified in subparagraph (a) of this section, Grantee funding is not to be less than \$250,000.00. The Grantee may provide its funding assistance under this subsection from permissible non-Grantee sources.
- d. When requesting payment, the Grantee must identify: (1) the total amount of costs; (2) Grantee funding assistance applied to the Project; and (3) the balance of Federal assistance dollars requested for payment.
- e. Funding responsibility for the Project under this Agreement is recapped as follows:

FRA Funding Assistance	+	Grantee Cash Contribution	+	Grantee In-Kind Contribution Total	=	Total Project Funding
\$950,000.00	+	\$250,000.00	+	\$0	=	\$1,200,000.00

f. In accordance with Attachment 2, Sections 7c.(5) and d.(1) herein, FRA hereby authorizes the incurrence of pre-agreement costs by the Grantee on or after February 17, 2009, in anticipation of Agreement award, but such costs are allowable only to the extent that they are otherwise allowable under the terms of this Agreement.

**6. Program Income:**

a. The Grantee is encouraged to earn income to defray Project costs. Unless prohibited by 49 C.F.R. Part 18.25 or 49 C.F.R. Part 19.24, as applicable, or otherwise agreed to in writing to by FRA and the Grantee, any program income derived from the Project shall be committed under this Agreement to further eligible objectives of the Project.

b. Program income shall be proportionally deducted from Project outlays, which shall include both the Federal and non-Federal shares of Project costs, as applicable.

**7. Payment Method:**

Payment of FRA funding through FRA’s Office of Financial Services, shall be made on a reimbursable basis whereby the Grantee will be reimbursed, after the submission of proper invoices, for actual expenses incurred.

The Grantee will use the Automated Clearing House (ACH) Electronic Vendor Payment method for transfer of reimbursed funds and submit an SF 270 form.

Unless directed otherwise, requests for payment shall be made via email to [9-AMC-AMZ-FRA-INVOICES@FAA.GOV](mailto:9-AMC-AMZ-FRA-INVOICES@FAA.GOV) or by mail to:

MMAC/DOT/FRA  
 AMZ-150, Accounts Payable  
 P.O. Box 268943  
 Oklahoma City, OK 73126

Or via Federal Express to:

MMAC/DOT/FRA  
 AMZ-150, Accounts Payable  
 HQ Bldg, Rm 272-F  
 6500 S MacArthur Blvd  
 Oklahoma City, OK 73169

**8. Reports, Presentations and Other Deliverables:**

Whether for technical examination, administrative review, or publication, all submittals shall be of a professional quality and suitable for their intended purpose.

**9. Progress Reports:**

Four quarterly progress reports following the form of Attachment 4 shall be submitted for periods: January 1- March 31, April 1-June 30, July 1-September 30, and October 1-December 31. The Grantee shall furnish one (1) copy to the Grant Manager on or before the thirtieth (30th) calendar day of the month following the end of the quarter being reported. Each report shall set forth concise statements concerning activities relevant to the Project, and shall include, but not be limited to, the following:

- a) Relate the state of completion of items in the Statement of Work to expenditures of the relevant budget elements.
- b) An account of significant progress (findings, events, trends, etc.) made during the reporting period.
- c) A description of any technical and/or cost problem(s) encountered or anticipated that will affect completion of the grant within the time and fiscal constraints as set forth in the Agreement, together with recommended solutions or corrective action plans (with dates) to such problems, or identification of specific action that is required by the FRA, or a statement that no problems were encountered.
- d) An outline of work and activities planned for the next reporting period.

**10. Quarterly Federal Financial Report:**

The Grantee shall furnish one (1) copy of a quarterly financial status report to the Grant Manager, and one (1) copy to the Administrative Officer, on or before the thirtieth (30th) calendar day of the month following the end of the quarter being reported. The Grantee shall use SF-425, Federal Financial Report, in accordance with the instructions accompanying the form, to report all transactions, including Federal cash, Federal expenditures and unobligated balance, recipient share, and program income.

**11. Interim and/or Final Report(s):**

If required, interim reports will be due at intervals specified in the Statement of Work. Within 90 days of the Project completion date or termination by FRA, the Grantee shall furnish one (1) hard copy and one (1) reproducible master original to the Grant Manager, and one (1) hard copy to the FRA Administrative Officer of a Summary Project Report. A final version of this report, detailing the results and benefits of the Grantee's improvement efforts, shall be furnished by the expiration date of this Agreement.

**12. Administrative Responsibility:**

Jennifer Capps, Office of Financial Management, is designated as FRA's Administrative Officer for this Project. All FRA administrative duties under this Agreement are to be performed by the Administrative Officer, unless otherwise specified.

**13. Grant Manager:**

- a. Cherron Riddick, Office of Railroad Policy and Development, is designated as FRA's Grant Manager. The Grant Manager will oversee the technical administration of this Agreement and act as technical liaison with the Grantee. The Grant Manager is not authorized to change the Statement of

Work or specifications as stated in this Agreement, to make any commitments or otherwise obligate the FRA, or authorize any changes which affect this Agreement's monetary amount, the delivery schedule, period of performance or other terms or conditions.

b. The FRA official authorized to sign this Agreement is the only individual who can legally commit or obligate FRA for the expenditure of public funds. The technical administration of this Agreement shall not be construed to authorize the revision of the terms and conditions of this Agreement.

**14. Delivery/Mailing Addresses:**

Unless directed otherwise, all deliverables and copies of reports required to be delivered to the Grant Manager under this Agreement shall be delivered F.O.B. destination, under transmittal letter, to:

Federal Railroad Administration  
 Office of Railroad Policy and Development  
 1200 New Jersey Avenue, SE (Mail Stop 20)  
 Washington, DC 20590  
 ATTN: Cherron Riddick

Unless directed otherwise, all deliverables and copies of reports required to be delivered to the Administrative Officer under this Agreement shall be delivered F.O.B. destination, under transmittal letter, to:

Federal Railroad Administration  
 Office of Financial Management  
 1200 New Jersey Avenue, SE (Mail Stop 45)  
 Washington, DC 20590  
 ATTN: Jennifer Capps

**15. Governing Regulations:**

The Grantee acknowledges that its performance shall be governed by and in compliance with the following Administrative and Cost Principles:

For State, Local and/or Tribal Governmental Entities:

- 49 C.F.R. Part 18, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments"
- OMB Circular A-87, "Cost Principles for State and Local Governments," as amended.

For non-profit and for-profit:

- 49 C.F.R. Part 19, "Uniform Administrative Requirements for Grants and Cooperative Agreements With Institutions of Higher Education, Hospitals, and Other Non-Profit Organizations" (applies to non-profit and for-profit organizations)
- OMB Circular A- 21, "Cost Principles for Educational Institutions" (applies to educational institutions)
- OMB Circular A-122, "Cost Principles for Nonprofit Organizations" (applies to private non-profit organizations)
- Federal Acquisition Regulation, 48 C.F.R. Chapter I, Subpart 31.2, "Contracts with Commercial Organizations" (applies to for-profit organizations).



These identified circulars and regulations are hereby incorporated into this Agreement by reference as if fully set out herein.

## American Recovery and Reinvestment Act of 2009 Clauses, Attachment 1B

1. The Grantee will comply with the following clauses, which are an integral part of the Agreement to which these clauses are attached and made a part thereof.

### Section 1. Grantee Certifications.

The American Recovery and Reinvestment Act of 2009 (Recovery Act) requires three certifications, which the Grantee shall address as follows:

**a. Maintenance of Effort Certification (Recovery Act Section 1201).** A Maintenance of Effort Certification was required from each State within thirty days of enactment of the Recovery Act (February 17, 2009) pursuant to section 1201 of the Recovery Act. With respect to the Recovery Act funds provided through this Agreement, the Grantee may rely on an existing certification submitted by the State to the Secretary of Transportation, so long as the Grantee certifies to the Administrator (c/o the Grant Manager identified in Attachment 2, section 14) as to the existence and continued validity of the existing certification. If a new certification is required, it should be submitted to the Secretary of Transportation, c/o Joel Szabat, Deputy Assistant Secretary of Transportation for Policy, at [TigerTeam.Leads@dot.gov](mailto:TigerTeam.Leads@dot.gov). Certifications may be submitted via e-mail as electronic, scanned copies, with original signed versions to be submitted via U.S. mail.

**b. Responsible Investments Certification (Recovery Act Section 1511).** With respect to and prior to the receipt of the funds made available through this Agreement, the Governor or the head of the State Department of Transportation shall certify to the Secretary of Transportation that the infrastructure investments to be funded herein have received the full review and vetting required by law and that the Governor or head of the State Department of Transportation accepts responsibility that the infrastructure investments are an appropriate use of taxpayer dollars. The certification shall include a description of the investments, the estimated total cost, and the amount of Recovery Act funds to be used, and shall be submitted to the Secretary of Transportation, c/o Joel Szabat, Deputy Assistant Secretary of Transportation for Policy, at [TigerTeam.Leads@dot.gov](mailto:TigerTeam.Leads@dot.gov). Certifications may be submitted via e-mail as electronic, scanned copies, with original signed versions to be submitted via U.S. mail. As required by the Recovery Act, Certifications under Section 1511 shall be immediately posted on an appropriate State website and linked to the website established by the Recovery Act Accountability and Transparency Board. No funds will be reimbursed until such posting is made.

**c. Appropriate Use of Funds Certification (Recovery Act Section 1607).** An Appropriate Use of Funds Certification was required from each State within 45 days of enactment of the Recovery Act (February 17, 2009) pursuant to section 1607 of the Recovery Act. With respect to the Recovery Act funds provided through this Agreement, the Grantee may rely on an existing certification submitted by the State to the Secretary of Transportation, so long as the Grantee certifies to the Administrator (c/o the Grant Manager identified in Attachment 2, Section 14) of the existence and continued validity of the existing certification. If a new certification is required, it should be submitted to the Secretary of Transportation, c/o Joel Szabat, Deputy Assistant Secretary of Transportation for Policy, at [TigerTeam.Leads@dot.gov](mailto:TigerTeam.Leads@dot.gov). Certifications may be submitted via e-mail as electronic, scanned copies, with original signed versions to be submitted via U.S. mail.

**d. Department of Transportation Guidance.** The Department has issued guidance on compliance with the certification requirements of the Recovery Act, which is found at

<http://www.dot.gov/recovery/certguidance.htm>. The Grantee should refer to this guidance in evaluating the continued validity of any existing certifications and in preparing any new certifications required under this section 1.

## **Section 2. Whistleblower Protections.**

An employee of the Grantee may not be discharged, demoted, or otherwise discriminated against as a reprisal for disclosing, including a disclosure made in the ordinary course of an employee's duties, to the Recovery Accountability and Transparency Board, an inspector general, the Comptroller General, a member of Congress, a State or Federal regulatory or law enforcement agency, a person with supervisory authority over the employee (or such other person working for the employer who has the authority to investigate, discover, or terminate misconduct), a court or grand jury, the head of a Federal agency, or their representatives, information that the employee reasonably believes is evidence of – (1) gross mismanagement of an agency contract or grant relating to Recovery Act funds; (2) a gross waste of Recovery Act funds; (3) a substantial and specific danger to public health or safety related to the implementation or use of Recovery Act funds; (4) an abuse of authority related to the implementation or use of Recovery Act funds; or (5) a violation of law, rule, or regulation related to an agency contract (including the competition for or negotiation of a contract) or grant, awarded or issued relating to Recovery Act funds.

## **Section 3. False Claims Act.**

The Grantee and any sub-grantee awarded funds made available under the Recovery Act and through this Agreement shall promptly refer to the Department of Transportation Inspector General any credible evidence that a principal, employee, agency, contractor, sub-grantee, subcontractor, or other person has submitted a false claim under the False Claims Act or has committed a criminal or civil violation of laws pertaining to fraud, conflict of interest, bribery, gratuity, or similar misconduct involving Recovery Act funds.

## **Section 4. Prohibited Activities.**

None of the funds provided through this Agreement may be used for any casino or other gaming establishment, aquarium, zoo, golf course or swimming pool.

## **Section 5. Recovery Act Funding Announcement.**

The Grantee is strongly encouraged to post a sign at all fixed project locations at the most publicly accessible location and a plaque in all purchased or rehabilitated rail cars announcing that the project or equipment was funded by the U.S. Department of Transportation, Federal Railroad Administration, with funds provided through the American Recovery and Reinvestment Act. The configuration of the signs or plaques will be consistent with guidance issued by the Office of Management and Budget and/or the Department of Transportation and approved by the FRA.

## **Section 6. Reporting Requirements.**

**a. Periodic Reports.** The Grantee shall submit periodic reports to the FRA Administrator, as required by section 1201(c) of the Recovery Act, and as described in this section, not later than February 17, 2011, and February 17, 2012. The periodic reports shall include information describing: (1) the amount of Federal funds appropriated, allocated, obligated, and outlayed under this Agreement; (2) the number of projects that have been put out to bid under this Agreement and the amount of Federal funds associated with such projects; (3) the number of projects for which contracts have been awarded under this Agreement and the amount of Federal funds associated with such contracts; (4) the number of projects for which work has begun under such contracts and the amount

of Federal funds associated with such contracts; (5) the number of projects for which work has been completed under such contracts and the amount of Federal funds associated with such contracts; (6) the number of direct, on-project jobs created or sustained by the Federal funds provided for projects under this Agreement and, to the extent possible, the estimated indirect jobs created or sustained in the associated supplying industries, including the number of jobs created and the total increase in employment since February 17, 2009; and (7) information tracking the actual aggregate expenditures by the Grantee from Grantee sources (both internal and external) for projects eligible for funding under this Agreement during the period beginning on February 17, 2009 through September 30, 2010, as compared to the level of such expenditures that were planned to occur during such period as of February 17, 2009. The Department of Transportation or the FRA may issue additional guidance on the preparation and submission of periodic reports.

#### **b. Jobs Accountability Reports.**

i. As required by Section 1512(c) of the Recovery Act, and consistent with Office of Management and Budget (OMB) Guidance, dated June 22, 2009 and found at ([http://www.whitehouse.gov/omb/assets/memoranda\\_fy2009/m09-21.pdf](http://www.whitehouse.gov/omb/assets/memoranda_fy2009/m09-21.pdf)), the Grantee shall submit a jobs accountability report to <http://www.FederalReporting.gov> not later than ten days after the end of each quarter. The report shall contain: (1) the total amount of Recovery Act funds received pursuant to this Agreement; (2) the amount of Recovery Act funds received that were expended or obligated to projects or activities; and (3) a detailed list of all projects or activities for which Recovery Act funds were expended or obligated, including—(A) the name of the project or activity; (B) a description of the project or activity; (C) an evaluation of the completion status of the project or activity; (D) an estimate of the number of jobs created and the number of jobs retained by the project or activity; and (E) detailed information on any subcontracts or subgrants awarded by the Grantee to include the data elements required to comply with the Federal Funding Accountability and Transparency Act of 2006 (Public Law 109-282), allowing aggregate reporting on awards below \$25,000 or to individuals, as prescribed by the Director of the Office of Management and Budget.

ii. Information from these reports will be made available to the public. The reporting responsibility should be passed down from the Grantee to the sub-grantee/sub-recipient or vendor, in order to ensure that the necessary information is provided to the Grantee, which is ultimately responsible for reporting the required elements. The Office of Management and Budget may issue additional guidance on the preparation and submission of jobs accountability reports. The Grantee must also register with the Central Contractor Registration database (<http://www.ccr.gov>) or complete other registration requirements as determined by the Director of the Office of Management and Budget. A DUNS Number (<http://www.dnb.com>) is one of the requirements for registration in the Central Contractor Registration.

#### **Section 7. Contract Awards**

As required by Section 1554 of the Recovery Act, the Grantee shall to the maximum extent possible award contracts funded under this Agreement as fixed-priced contracts through the use of competitive procedures. In rare circumstances where the Grantee awards a contract that is not fixed-price and not awarded using competitive procedures, the Grantee shall publicly and electronically post a summary of such contract on its website and electronically link such posting to the website created and maintained by the Recovery Accountability and Transparency Board pursuant to section 1526 of the Recovery Act.

#### **Section 8. Davis-Bacon Act Provisions.**

As required by section 1606 of the American Recovery and Reinvestment Act of 2009, all laborers and mechanics employed by contractors and subcontractors on the Project funded directly by or

assisted in whole or part by and through this Agreement shall be paid wages at rates not less than those prevailing on projects of a character similar in the locality as determined by the Secretary of Labor in accordance with subchapter IV of chapter 31 of title 40, United States Code.

## General Provisions, Attachment 2

### 1. Definitions. As used in this Agreement:

- a. **Agreement** means this Grant Agreement or Cooperative Agreement, including all attachments.
- b. **Application** means the signed and dated proposal by or on behalf of the Grantee, as may be amended, for Federal financial assistance for the Project, together with all explanatory, supporting, and supplementary documents heretofore filed with and accepted or approved by FRA.
- c. **Approved Project Budget** means the most recently dated written statement, approved in writing by FRA, of the estimated total cost of the Project, the items to be deducted from such total in order to calculate the estimated net Project cost, the maximum amount of Federal assistance for which the Grantee is currently eligible, the specific items (including contingencies specified) for which the total may be spent, and the estimated cost of each of such items. The term "Approved Project Budget" also includes "Financial Plan" as used in 49 C.F.R. Part 19.
- d. **Awarding Agency** means (1) with respect to a grant, the Federal agency, and (2) with respect to a subgrant, the party that awarded the subgrant. In the case of a Federal Agency, the term "Awarding Agency" also includes "Federal Awarding Agency" as used in 49 C.F.R. Part 19.
- e. **Federal Railroad Administration** is an operating administration of the U.S. Department of Transportation.
- f. **Federal Government** means the United States of America and any executive department or agency thereof.
- g. **Grantee** means any entity that receives Federal grant assistance directly from FRA for the accomplishment of the Project.
- h. **Project** means the task or set of tasks set forth in the approved Application which the Grantee carries out pursuant to this Agreement, as set forth in the Statement of Work (Attachment 3).
- i. **Subgrantee** means any entity that receives FRA assistance from an FRA Grantee, rather than from FRA directly. The term "subgrantee" does not include "third party contractor."
- j. **U.S. DOT** means the U.S. Department of Transportation, including its operating administrations.

### 2. Accomplishment of the Project:

#### a. General Requirements:

The Grantee agrees to carry out the Project in a sound, economical, and efficient manner, and in accordance with the provisions of this Agreement, grant guidance, the Application, the Approved Project Budget, the Statement of Work, Project schedules, and all applicable laws, regulations, and published policies. This includes, but is not limited to the following, as applicable:

- 1) U.S. DOT regulations, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments" (common grant management rule), 49 C.F.R. Part 18, applies to Projects with governmental bodies.
- 2) U.S. DOT regulations, "Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and Other Nonprofit Organizations," 49 C.F.R. Part 19, applies to Projects with institutions of higher education and private nonprofit organizations. 49 C.F.R. Part 19 also applies to grants and cooperative agreements with private for-profit organizations.

**b. Application of Federal, State, and Local Laws and Regulations.**

- 1) Federal Laws and Regulations. The Grantee understands that Federal laws, regulations, policies, and related administrative practices to this Agreement on the date the Agreement was executed may be modified from time to time. The Grantee agrees that the most recent of such Federal requirements will govern the administration of this Agreement at any particular time, except if there is sufficient evidence in this Agreement of a contrary intent. Likewise, new Federal laws, regulations, policies and administrative practices may be established after the date the Agreement has been executed and may apply to this Agreement. To achieve compliance with changing Federal requirements, the Grantee agrees to include in all sub-assistance agreements and third party contracts financed with FRA assistance, specific notice that Federal requirements may change and the changed requirements will apply to the Project as required. All limits or standards set forth in this Agreement to be observed in the performance of the Project are minimum requirements.
- 2) State or Territorial Law and Local Law. Except to the extent that a Federal statute or regulation preempts State or territorial law, nothing in this Agreement shall require the Grantee to observe or enforce compliance with any provision thereof, perform any other act, or do any other thing in contravention of any applicable State or territorial law; however, if any of the provisions of this Agreement violate any applicable State or territorial law, or if compliance with the provisions of this Agreement would require the Grantee to violate any applicable State or territorial law, the Grantee agrees to notify the FRA immediately in writing in order that FRA and the Grantee may make appropriate arrangements to proceed with the Project as soon as possible.

**c. Funds of the Grantee.** Unless approved otherwise by FRA, the Grantee agrees to complete all actions necessary to provide the matching contributory funds or cost share of the Project costs, if applicable, at or before the time that such funds are needed to meet Project expenses.

**d. Changed Conditions of Performance (Including Litigation).** The Grantee agrees to notify FRA immediately of any change in local law, conditions, or any other event that may affect its ability to perform the Project in accordance with the terms of this Agreement. In addition, the Grantee agrees to notify FRA immediately of any decision pertaining to the Grantee's conduct of litigation that may affect FRA's interests in the Project or FRA's administration or enforcement of applicable Federal laws or regulations. Before the Grantee may name FRA as a party to litigation for any reason, the Grantee agrees first to inform FRA; this proviso applies to any type of litigation whatsoever, in any forum.

**e. No FRA Obligations to Third Parties.** Absent FRA's express written consent, and notwithstanding any concurrence by FRA in or approval of the award of any contract of the Grantee (third party contract) or subcontract of the Grantee (third party subcontract) or the solicitation thereof, FRA shall not be subject to any obligations or liabilities to third party contractors or third party subcontractors or any other person not a party to this Agreement in connection with the performance of the Project.

**3. Ethics:**

a. **Standards of Conduct.** The Grantee agrees to maintain a written code or standards of conduct that shall govern the performance of its officers, employees, board members, or agents engaged in the award and administration of contracts supported by Federal funds. The code or standards shall provide that the Grantee's officers, employees, board members, or agents may neither solicit nor accept gratuities, favors or anything of monetary value from present or potential contractors or subgrantees. The Grantee may set minimum rules where the financial interest is not substantial or the gift is an unsolicited item of nominal intrinsic value. As permitted by State or local law or regulations, such code or standards shall provide for penalties, sanctions, or other disciplinary actions for violations by the Grantee's officers, employees, board members, or agents, or by contractors or subgrantees or their agents.

1) **Personal Conflict of Interest.** The Grantee's code or standards must provide that no employee, officer, board member, or agent of the Grantee may participate in the selection, award, or administration of a contract supported by Federal funds if a real or apparent conflict of interest would be involved. Such a conflict would arise when any of the parties set forth below has a financial or other interest in the firm selected for award:

- a) The employee, officer, board member, or agent;
- b) Any member of his or her immediate family;
- c) His or her partner; or
- d) An organization that employs, or is about to employ, any of the above.

2) **Organizational Conflicts of Interest.** The Grantee's code or standards of conduct must include procedures for identifying and preventing real and apparent organizational conflicts of interests. An organizational conflict of interest exists when the nature of the work to be performed under a proposed third party contract, may, without some restrictions on future activities, result in an unfair competitive advantage to the contractor or impair the contractor's objectivity in performing the contract work.

b. **Existing Provisions.** This section does not require the Grantee to implement a new code or standards of conduct where a State statute, or written code or standards of conduct, already effectively covers all of the elements of a.

#### 4. **Approved Project Budget:**

The Grantee agrees to carry out the Project in accordance with the Approved Project Budget, written approval of which the Grantee shall secure prior to being reimbursed under this Agreement. If the Approved Project Budget is included in this Agreement as Attachment 3, execution of the Agreement shall constitute such written approval. The Grantee agrees to obtain the prior written approval of FRA's Associate Administrator for Railroad Development or the Associate Administrator for Railroad Safety, as applicable, for any revisions to the Approved Project Budget that equal or exceed 10 percent any line item or pertain to a line item involving contingency or miscellaneous costs. For revisions to the Approved Project Budget that are less than 10 percent of any line item, and do not involve contingency or miscellaneous costs, the Grantee agrees to notify FRA of the revisions to the Approved Project Budget. Any revisions to the Approved Project Budget must not affect total project costs or the respective cost-sharing responsibilities set forth in Attachment 1, Section 5.

#### 5. **Accounting Records:**

a. **Project Accounts.** The Grantee agrees to establish and maintain for the Project either a separate set of accounts or accounts within the framework of an established accounting system, in a manner consistent with 49 C.F.R. § 18.20, or 49 C.F.R. § 19.21, as amended, whichever is applicable.

b. **Funds Received or Made Available for the Project.** Consistent with the provisions of 49 C.F.R. § 18.21, or 49 C.F.R. § 19.21, as amended, whichever is applicable, the Grantee agrees to record in the Project Account, and deposit in a financial institution all Project payments received by it from FRA pursuant to this Agreement and all other funds provided for, accruing to, or otherwise received on account of the Project (Project Funds). The Grantee is encouraged to use financial institutions owned at least 50 percent by minority group members.

c. **Documentation of Project Costs and Program Income.** All costs charged to the Project, including any approved services contributed by the Grantee or others, shall be supported by properly executed payrolls, time records, invoices, contracts, or vouchers describing in detail the nature and propriety of the charges. The Grantee also agrees to maintain accurate records of all Program Income derived from Project implementation.

d. **Checks, Orders, and Vouchers.** The Grantee agrees that all checks, payrolls, invoices, contracts, vouchers, orders, or other accounting documents pertaining in whole or in part to the Project shall be clearly identified, readily accessible, and, to the extent feasible, kept separate from documents not pertaining to the Project.

## 6. Record Retention:

a. **Submission of Proceedings, Contracts and Other Documents.** During the course of the Project and for three years thereafter, the Grantee agrees to retain intact and to provide any data, documents, reports, records, contracts, and supporting materials relating to the Project as FRA may require. Reporting and record-keeping requirements are set forth in-

- 1) 49 C.F.R. Part 18 for governmental Grantees; and
- 2) 49 C.F.R. Part 19 for private non-profit and for-profit Grantees.

Project closeout does not alter these requirements.

## b. Audit and Inspection.

1) General Audit Requirements. A Grantee that is:

- a) a State, local government or Indian tribal government agrees to comply with the audit requirements of 49 C.F.R. § 18.26 and OMB Circular A-133, and any revision or supplement thereto.
- b) an institution of higher education or nonprofit organization agrees to comply with the audit requirements of 49 C.F.R. § 19.26 and OMB Circular A-133, and any revision or supplement thereto.
- c) a private for-profit organization agrees to comply with the audit requirements of OMB Circular A-133.

The Grantee agrees to obtain any other audits required by FRA. Project closeout will not alter the Grantee's audit responsibilities. Audit costs for Project administration and management are allowable under this Project to the extent authorized by OMB Circular A-87, Revised; OMB Circular A-21, Revised; or OMB Circular A-122, Revised.

2) Inspection by Federal Officials. The Grantee agrees to permit the Secretary and the

Comptroller General of the United States, or their authorized representatives, to inspect all Project work, materials, payrolls, and other data, and to audit the books, records, and accounts of the Grantee and its contractors pertaining to the Project. The Grantee agrees to require each third party contractor whose contract award is not based on competitive bidding procedures as defined by the Secretary to permit the Secretary of Transportation and the Comptroller General of the United States, or their duly authorized representatives, to inspect all work, materials, payrolls, and other data and records involving that contract, and to audit the books, records, and accounts involving that contract as it affects the Project.

## 7. Payments:

**a. Request by the Grantee for Payment.** The Grantee's request for payment of the Federal share of allowable costs shall be made to FRA at the address shown in Section 7 of Attachment 1, Special Provisions, and will be acted upon by FRA as set forth in this section. Each payment made to the Grantee must comply with Department of the Treasury regulations, "Rules and Procedures for Funds Transfers," 31C.F.R. Part 205. To receive a Federal assistance payment, the Grantee must:

- 1) Have demonstrated or certified that it has made a binding commitment of non-Federal funds, if applicable, adequate when combined with Federal payments, to cover all costs to be incurred under the Project to date. A Grantee required by Federal statute or this Agreement to provide contributory matching funds or a cost share agrees:
  - a) to refrain from requesting or obtaining Federal funds in excess of the amount justified by the contributory matching funds or cost share that has been provided; and
  - b) to refrain from taking any action that would cause the proportion of Federal funds made available to the Project at any time to exceed the percentage authorized under this Agreement. The requirement for contributory matching funds or cost share may be temporarily waived only to the extent expressly provided in writing by FRA.
- 2) Have submitted to FRA all financial and progress reports required to date under this Agreement; and
- 3) Have identified the source(s) of financial assistance provided under this Project, if applicable, from which the payment is to be derived.

### **b. Payment by FRA.**

- 1) Reimbursement Payment by FRA. FRA uses the reimbursement method, whereby the Grantee agrees to:
  - a. Complete and submit Standard Form 3881, "Payment Information Form - ACH Payment Vendor Payment System," to FRA; and
  - b. Complete and submit Standard Form 270, "Request for Advance or Reimbursement," to FRA.
- 2) Upon receipt of a payment request and adequate accompanying information (invoices in accordance with applicable cost principles), FRA will authorize payment by direct deposit, or if requested by the Grantee, by issuance of a treasury check (allow 30 day processing time for issuance of check), provided the Grantee: (i) is complying with its obligations under this Agreement, (ii) has satisfied FRA that it needs the requested Federal funds during the requisition period, and (iii) is making adequate and timely progress toward Project completion. If all these circumstances are



present, FRA may reimburse allowable costs incurred by the Grantee up to the maximum amount of FRA's share of the total Project funding.

3) Other Payment Information.

a. The Grantee agrees to adhere to and impose on its subgrantees all applicable foregoing "Payment by FRA" requirements of this Agreement.

b. If the Grantee fails to adhere to the foregoing "Payment by FRA" requirements of this Agreement, FRA may revoke the portion of the Grantee's funds that has not been expended.

c. **Allowable Costs.** The Grantee's expenditures will be reimbursed only if they meet all requirements set forth below:

1) Conform with the Project description, the Statement of Work, and the Approved Project Budget and all other terms of this Agreement;

2) Be necessary in order to accomplish the Project;

3) Be reasonable for the goods or services purchased;

4) Be actual net costs to the Grantee (i.e., the price paid minus any refunds, rebates, or other items of value received by the Grantee that have the effect of reducing the cost actually incurred);

5) Be incurred (and be for work performed) after the effective date of this Agreement, unless specific authorization from FRA to the contrary is received in writing;

6) Unless permitted otherwise by Federal status or regulation, conform with Federal guidelines or regulations and Federal cost principles as set forth below:

a. For Grantees that are governmental organizations, the standards of OMB Circular A-87, Revised, "Cost Principles for State and Local Governments" apply;

b. For Grantees that are institutions of higher education, the standards of OMB Circular A-21, Revised, "Cost Principles for Educational Institutions" apply;

c. For Grantees that are private nonprofit organizations, the standards of OMB Circular A-122, Revised, "Cost Principles for Nonprofit Organizations" apply; and

d. For Grantees that are for-profit organizations, the standards of the Federal Acquisition Regulation, 48 C.F.R. Chapter I, Subpart 31.2, "Contracts with Commercial Organizations" apply.

7) Be satisfactorily documented; and

8) Be treated uniformly and consistently under accounting principles and procedures approved and prescribed by FRA for the Grantee, and those approved or prescribed by the Grantee for its subgrantees and contractors.

d. **Disallowed Costs.** In determining the amount of Federal assistance FRA will provide, FRA will exclude:

1) Any Project costs incurred by the Grantee before the obligation date of this Agreement, or

amendment or modification thereof, whichever is later, unless specifically allowed by this Agreement, otherwise permitted by Federal law or regulation, or unless an authorized representative of FRA states in writing to the contrary;

- 2) Any costs incurred by the Grantee that are not included in the latest Approved Project Budget; and
- 3) Any costs attributable to goods or services received under a contract or other arrangement that is required to be, but has not been, concurred in or approved in writing by FRA.

The Grantee agrees that reimbursement of any cost under the "Payment by FRA," part of this Agreement does not constitute a final FRA decision about the allowability of that cost and does not constitute a waiver of any violation by the Grantee of the terms of this Agreement. The Grantee understands that FRA will not make a final determination about the allowability of any cost until an audit of the Project has been completed. If FRA determines that the Grantee is not entitled to receive any part of the Federal funds requested, FRA will notify the Grantee stating the reasons therefore. Project closeout will not alter the Grantee's obligation to return any funds due to FRA as a result of later refunds, corrections, or other transactions. Nor will Project closeout alter FRA's right to disallow costs and recover funds on the basis of a later audit or other review. Unless prohibited by law, FRA may offset any Federal assistance funds to be made available under this Project as needed to satisfy any outstanding monetary claims that the Federal Government may have against the Grantee. Exceptions pertaining to disallowed costs will be assessed based on their applicability, as set forth in the applicable Federal cost principals or other written Federal guidance.

**e. Bond Interest and Other Financing Costs.** To the extent permitted in writing by FRA, bond interest and other financing costs are allowable.

**f. Requirement to Remit Interest.** The Grantee agrees that:

- 1) Any interest earned by the Grantee on FRA funds must be remitted to FRA, except as provided by 31 U.S.C. § 6503, or the Indian Self-Determination Act, 25 U.S.C. § 450 et seq., and any regulations thereunder that may be issued by the U.S. Secretary of the Treasury.
- 2) Irrespective of whether the Grantee has deposited funds in an interest-bearing account, the Grantee agrees to pay to FRA interest on any FRA funds that the Grantee has drawn down and failed to spend for eligible Project activities. Unless waived by FRA, interest will be calculated at rates imposed by the U.S. Secretary of the Treasury beginning on the fourth day after the funds were deposited in the Grantee's bank or other financial depository. This requirement does not apply to any Grantee that is a state, state instrumentality, or Indian Tribal Government, except as permitted under applicable state law and by regulations that may be issued by the U.S. Secretary of the Treasury.
- 3) Upon notice by FRA to the Grantee of specific amounts due, the Grantee agrees to promptly remit to FRA any excess payment of amounts or disallowed costs, including any interest due thereon.

**g. De-obligation of Funds.** FRA reserves the right to de-obligate unspent FRA funds prior to Project closeout.

## 8. Property, Equipment and Supplies:

Unless otherwise approved by FRA, the following conditions apply to property, equipment, and supplies financed under this Agreement:

a. **Use of Property.** The Grantee agrees that Project property, equipment, and supplies shall be used for the provision of the Project activity for the duration of its useful life, as determined by FRA. Should the Grantee unreasonably delay or fail to use Project property, equipment, or supplies during its useful life, the Grantee agrees that FRA may require the Grantee to return the entire amount of FRA assistance expended on that property, equipment, or supplies. The Grantee further agrees to notify FRA immediately when any Project property or equipment is withdrawn from use in the Project activity or when such property or equipment is used in a manner substantially different from the representations made by the Grantee in its Application or the text of the Project description.

b. **General Federal Requirements.**

1) a Grantee that is a governmental entity agrees to comply with the property management standards of 49 C.F.R. §§ 18.31, 18.32, and 18.33, including any amendments thereto, and other applicable guidelines or regulations that are issued.

2) a Grantee that is not a governmental entity agrees to comply with the property standards of 49 C.F.R. §§ 19.30 through 19.37 inclusive, including any amendments thereto, and other applicable guidelines or regulations that are issued. Exceptions to the requirements of 49 C.F.R. §§ 18.31, 18.32, and 18.33, and 49 C.F.R. §§ 19.30 through 19.37 inclusive, must be specifically approved by FRA.

c. **Maintenance.** The Grantee agrees to maintain the Project property and equipment in good operating order, and in accordance with any guidelines, directives, or regulations that FRA may issue.

d. **Records.** The Grantee agrees to keep satisfactory records with regard to the use of the property, equipment, and supplies, and submit to FRA, upon request, such information as may be required to assure compliance with this section of this Agreement.

e. **Transfer of Project Property.** The Grantee agrees that FRA may:

1) require the Grantee to transfer title to any property, equipment, or supplies financed with FRA assistance made available by this Agreement, as permitted by 49 C.F.R. § 18.32(g) or 49 C.F.R. §§ 19.30 through 19.37 inclusive, whichever may be applicable.

2) direct the disposition of property or equipment financed with FRA assistance made available under this Agreement, as set forth by 49 C.F.R. §§ 18.31 and 18.32 or 49 C.F.R. §§ 19.30 through 19.37 inclusive, whichever may be applicable.

f. **Withdrawn Property.** If any Project property, equipment, or supplies are not used for the Project for the duration of its useful life, as determined by FRA, whether by planned withdrawal, misuse or casualty loss, the Grantee agrees to notify FRA immediately. Disposition of withdrawn property, equipment, or supplies shall be in accordance with 49 C.F.R. §§ 18.31 and 18.32 for a Grantee that is a governmental entity, or 49 C.F.R. §§ 19.30 through 19.37 inclusive, for a Grantee that is an institution of higher education or a private organization.

g. **Encumbrance of Project Property.** Unless expressly authorized in writing by FRA, the Grantee agrees to refrain from:

1) Executing any transfer of title, lease, lien, pledge, mortgage, encumbrance, contract, grant anticipation note, alienation, or other obligation that in any way would affect FRA interest in any Project property or equipment; or

2) Obligating itself in any manner to any third party with respect to Project property or equipment.

The Grantee agrees to refrain from taking any action or acting in a manner that would adversely affect FRA's interest or impair the Grantee's continuing control over the use of Project property or equipment.

**9. Relocation and Land Acquisition:**

The Grantee agrees to comply with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 U.S.C. §§ 4601 et seq.; and U.S. DOT regulations, "Uniform Relocation and Real Property Acquisition for Federal and Federally Assisted Programs," 49 C.F.R. Part 24.

**10. Flood Hazards:**

The Grantee agrees to comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, 42 U.S.C. § 4012a(a), with respect to any construction or acquisition Project.

**11. Procurement:**

**a. Federal Standards.** The Grantee agrees to comply with the Procurement Standards requirements set forth at 49 C.F.R. § 18.36 or 49 C.F.R. §§ 19.40 through 19.48 inclusive, whichever may be applicable, and with applicable supplementary U.S. DOT or FRA directives or regulations. If determined necessary for proper Project administration, FRA reserves the right to review the Grantee's technical specifications and requirements.

**b. Buy American.** The Grantee shall comply with the Buy America provisions set forth in 49 U.S.C. 24405(a) for the Project with respect to the use of steel, iron, and manufactured goods produced in the United States, subject to the conditions therein set forth.

**c. Cargo Preference -- Use of United States-Flag Vessels.** Pursuant to U.S. DOT, Maritime Administration regulations, "Cargo Preference -- U.S.-Flag Vessels," 46 C.F.R. Part 381, the Grantee shall insert the following clauses in contracts let by the Grantee in which equipment, materials or commodities may be transported by ocean vessel in carrying out the Project:

As required by 46 C.F.R. Part 381, The contractor agrees -

1) To utilize privately owned United States-flag commercial vessels to ship at least 50% of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, materials, or commodities pursuant to this contract to the extent such vessels are available at fair and reasonable rates for United States-flag commercial vessels.

2) To furnish within 20 days following the date of loading for shipments originating within the United States, or within 30 working days following the date of loading for shipment originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in paragraph (1) above to the recipient (through the prime contractor in the case of subcontractor bills-of lading) and to the Division of Cargo Preference and Domestic Trade, Maritime Administration, 1200 New Jersey Avenue, SE, Washington, D.C. 20590, marked with appropriate identification of the Project.

3) To insert the substance of the provisions of this clause in all subcontracts issued pursuant to this contract

**d. Notification Requirement.** With respect to any procurement for goods and services (including construction services) having an aggregate value of \$500,000 or more, the Grantee agrees to:

1) specify in any announcement of the awarding of the contract for such goods or services the amount of Federal funds that will be used to finance the acquisition; and

2) express the said amount as a percentage of the total costs of the planned acquisition.

**e. Debarment and Suspension; and Drug-Free Work Place.** The Grantee agrees to obtain certifications on debarment and suspension from its third party contractors and subgrantees and otherwise comply with U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 C.F.R. Part 1200, and "Government wide Requirements for Drug-Free Workplace (Grants)," 49 C.F.R. Part 32.

**f. Notification of Third Party Contract Disputes or Breaches.** The Grantee agrees to notify FRA of any current or prospective major dispute, breach, or litigation pertaining to any third party contract. If the Grantee seeks to name FRA as a party to litigation for any reason, the Grantee agrees first to inform FRA before doing so. This proviso applies to any type of litigation whatsoever, in any forum.

**g. Participation by Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals.**

1) The Grantee agrees to: (a) provide maximum practicable opportunities for small businesses, including veteran-owned small businesses and service disabled veteran-owned small businesses, and (b) implement best practices, consistent with our nation's civil rights and equal opportunity laws, for ensuring that all individuals – regardless of race, gender, age, disability, and national origin – benefit from activities funded through this Agreement.

2) An example of a best practice under (b) above would be to incorporate key elements of the Department's Disadvantage Business Enterprise (DBE) program (see 49 C.F.R. Part 26) in contracts under this Agreement. This practice would involve setting a DBE contract goal on contracts funded under this Agreement that have subcontracting possibilities. The goal would reflect the amount of DBE participation on the contract that the Grantee would expect to obtain absent the effects of discrimination and consistent with the availability of certified DBE firms to perform work under the contract. When a DBE contract goal has been established by a Grantee, the contract would be awarded only to a bidder/offer that has met or made (or in the case of a design/build project, is committed to meeting or making) documented, good faith efforts to reach the goal. Good faith efforts are defined as efforts to achieve a DBE goal or other requirement of this Agreement which, by their scope, intensity, and appropriateness to the objective can reasonably be expected to achieve the goal or other requirement.

3) The Grantee must provide FRA a plan for incorporating the above best practice into its implementation of the Project within 30 days following execution of this Agreement. If the Grantee is not able to substantially incorporate Part 26 elements in accordance with the above-described best practice, the Grantee agrees to provide the FRA with a written explanation and an alternative program for ensuring the use of contractors owned and controlled by socially and economically disadvantaged individuals.

## 12. Metric System:

The Grantee agrees to use the metric system of measurement in its Project activities to the extent practicable, in conformance with applicable regulations, guidelines, and policies that U.S. DOT or FRA may issue. The Metric Conversion Act of 1975, as amended by the Omnibus Trade and Competitiveness Act of 1988 (15 U.S.C. 205), designates the metric system of measurement as the preferred system of weights and measures for United States trade and commerce, and it requires that each agency use the metric system of measurement in its procurements, grants, and other business-related activities, except to the extent that such use is impracticable or likely to cause significant inefficiencies or loss of markets to U.S. firms.

### 13. Patent Rights:

- a. If any invention, improvement, or discovery of the Grantee or any of its third party contractors is conceived or first actually reduced to practice in the course of or under this Project, and that invention, improvement, or discovery is patentable under the laws of the United States of America or any foreign country, the Grantee agrees to notify FRA immediately and provide a detailed report. The rights and responsibilities of the Grantee, third party contractors and FRA with respect to such invention, improvement, or discovery will be determined in accordance with applicable Federal laws, regulations, policies, and any waiver thereof.
- b. If the Grantee secures a patent with respect to any invention, improvement, or discovery of the Grantee or any of its third party contractors conceived or first actually reduced to practice in the course of or under this Project, the Grantee agrees to grant to FRA a royalty-free, non-exclusive, and irrevocable license to use and to authorize others to use the patented device or process for Federal Government purposes.
- c. The Grantee agrees to include the requirements of the "Patent Rights" section of this Agreement in its third party contracts for planning, research, development, or demonstration under the Project.

### 14. Rights in Data and Copyrights:

- a. The term "subject data" used in this section means recorded information, whether or not copyrighted, that is developed, delivered, or specified to be delivered under this Agreement. The term includes graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design-type documents; machine forms such as punched cards, magnetic tape, or computer memory printouts; and information retained in computer memory. Examples include, but are not limited to: computer software, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, and related information. The term does not include financial reports, cost analyses, and similar information incidental to Project administration.
- b. The following restrictions apply to all subject data first produced in the performance of this Agreement:
  - 1) Except for its own internal use, the Grantee may not publish or reproduce such data in whole or in part, or in any manner or form, nor may the Grantee authorize others to do so, without the written consent of FRA, until such time as FRA may have either released or approved the release of such data to the public; this restriction on publication, however, does not apply to grant agreements with academic institutions.
  - 2) As authorized by 49 C.F.R. § 18.34, or 49 C.F.R. § 19.36, as applicable, FRA reserves a royalty-free, non-exclusive and irrevocable license to reproduce, publish or otherwise use, and to

authorize others to use, for Federal Government purposes:

- a) Any work developed under a grant, cooperative agreement, sub-grant, sub-agreement, or third party contract, irrespective of whether or not a copyright has been obtained; and
- b) Any rights of copyright to which a Grantee, subgrantee, or a third party contractor purchases ownership with Federal assistance.
- c. When FRA provides assistance to a Grantee for a Project involving planning, research, or development, it is generally FRA's intent to increase the body of knowledge, rather than to limit the benefits of the Project to those parties that have participated therein. Therefore, unless FRA determines otherwise, the Grantee understands and agrees that, in addition to the rights set forth in preceding portions of this section of this Agreement, FRA may make available to any FRA Grantee, subgrantee, third party contractor, or third party subcontractor, either FRA's license in the copyright to the "subject data" derived under this Agreement or a copy of the "subject data" first produced under this Agreement. In the event that such a Project which is the subject of this Agreement is not completed, for any reason whatsoever, all data developed under that Project shall become subject data as defined herein and shall be delivered as FRA may direct.
- d. To the extent permitted by State law, the Grantee agrees to indemnify, save and hold harmless FRA, its officers, agents, and employees acting within the scope of their official duties against any liability, including costs and expenses, resulting from any willful or intentional violation by the Grantee of proprietary rights, copyrights, or right of privacy, arising out of the publication, translation, reproduction, delivery, use, or disposition of any data furnished under this Agreement. The Grantee shall not be required to indemnify FRA for any such liability arising out of the wrongful acts of employees or agents of FRA.
- e. Nothing contained in this section on rights in data, shall imply a license to FRA under any patent or be construed as affecting the scope of any license or other right otherwise granted to FRA under any patent.
- f. The requirements of this section of this Agreement do not apply to material furnished to the Grantee by FRA and incorporated in the work carried out under this Agreement, provided that such incorporated material is identified by the Grantee at the time of delivery of such work.
- g. Unless FRA determines otherwise, the Grantee agrees to include the requirements of this section of this Agreement in its third party contracts for planning, research, development, or demonstration under the Project.

**15. Acknowledgment of Support and Disclaimer:**

- a. An acknowledgment of FRA support and a disclaimer must appear in any grantee publication, whether copyrighted or not, based on or developed under the Agreement, in the following terms:

"This material is based upon work supported by the Federal Railroad Administration under a grant/cooperative agreement, dated ." (Fill-in appropriate identification of grant/cooperative agreement)

- b. All grantee publications must also contain the following:

"Any opinions, findings, and conclusions or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the Federal

Railroad Administration and/or U.S. DOT."

c. The Grantee agrees to cause to be erected at the site of any construction, and maintain during construction, signs satisfactory to FRA identifying the Project and indicating that FRA is participating in the development of the Project.

**16. Reprints of Publications:**

At such time as any article resulting from work under this Agreement is published in a scientific, technical, or professional journal or publication, two reprints of the publication should be sent to FRA's Grant Manager, clearly referenced with the appropriate identifying information.

**17. Site Visits:**

FRA, through its authorized representatives, has the right, at all reasonable times, to make site visits to review Project accomplishments and management control systems and to provide such technical assistance as may be required. If any site visit is made by FRA on the premises of the Grantee, subgrantee, contractor, or subcontractor under this Agreement, the Grantee shall provide and shall require its subgrantees or subcontractors to provide, all reasonable facilities and assistance for the safety and convenience of FRA representatives in the performance of their duties. All site visits and evaluations shall be performed in such a manner as will not unduly delay work being conducted by the Grantee, subgrantee, contractor, or subcontractor.

**18. Safety Oversight:**

To the extent applicable, the Grantee agrees to comply with any Federal regulations, laws, or policy and other guidance that FRA or U.S. DOT may issue pertaining to safety oversight in general, and in the performance of this Agreement, in particular.

**19. Civil Rights:**

The Grantee agrees to comply with all civil rights laws and regulations, in accordance with applicable Federal directives, except to the extent that the FRA determines otherwise in writing. These include, but are not limited to, the following: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) (as implemented by 49 C.F.R. Part 21), which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§ 1681-1683, and 1685-1686), which prohibits discrimination on the basis of sex, (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 1601-1607), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended, relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§ 523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§ 290 dd-3 and 290 ee-3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title V111 of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing, (i) 49 U.S.C. § 306, which prohibits discrimination on the basis of race, color, national origin, or sex in railroad financial assistance programs; (j) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance was made; and (k) the requirements of any other nondiscrimination statute(s) which may apply to the Grantee.

**20. Americans With Disabilities Act:**



The Grantee agrees to utilize funds provided under this Agreement in a manner consistent with the requirements of the Americans With Disabilities Act of 1990, as amended (42 U.S.C. § 12101 et seq.).

**21. Environmental Protection:**

- a. All facilities that will be used to perform work under this Agreement shall not be so used unless the facilities are designed and equipped to limit water and air pollution in accordance with all applicable local, state and Federal standards.
- b. The Grantee will conduct work under this Agreement, and will require that work that is conducted as a result of this Agreement be in compliance with the following provisions, as modified from time to time, all of which are incorporated herein by reference: section 114 of the Clean Air Act, 42 U.S.C. 7414, and section 308 of the Federal Water Pollution Control Act, 33 U.S.C. 1318, and all regulations issued thereunder. The Grantee certifies that no facilities that will be used to perform work under this Agreement are listed on the List of Violating Facilities maintained by the Environmental Protection Agency ("EPA"). The Grantee will notify the Administrator as soon as it or any contractor or subcontractor receives any communication from the EPA indicating that any facility which will be used to perform work pursuant to this Agreement is under consideration to be listed on the EPA's List of Violating Facilities; provided, however, that the Grantee's duty of notification hereunder shall extend only to those communications of which it is aware, or should reasonably have been aware. The Grantee will include or cause to be included in each contract or subcontract entered into, which contract or subcontract exceeds Fifty Thousand Dollars (\$50,000.00) in connection with work performed pursuant to this Agreement, the criteria and requirements of this section and an affirmative covenant requiring such contractor or subcontractor to immediately inform the Grantee upon the receipt of a communication from the EPA concerning the matters set forth herein.
- c. The Grantee may not expend any of the funds provided in this agreement on construction or other activities that represent an irretrievable commitment of resources to a particular course of action affecting the environment until after all environmental and historic preservation analyses required by the National Environmental Policy Act (42 U.S.C. 4332)(NEPA), the National Historic Preservation Act (16 U.S.C. 470(f))(NHPA), and related laws and regulations have been completed and the FRA has provided the Grantee with a written notice authorizing the Grantee to proceed.
- d. The Grantee shall assist the FRA in its compliance with the provisions of NEPA, the Council on Environmental Quality's regulations implementing NEPA (40 C.F.R. Part 1500 et seq.), FRA's "Procedures for Considering Environmental Impacts" (45 Fed. Reg. 40854, June 16, 1980), as revised May 26, 1999, 64 Fed. Reg. 28545), Section 106 of the NHPA, and related environmental and historic preservation statutes and regulations. As a condition of receiving financial assistance under this agreement, the Grantee may be required to conduct certain environmental analyses and to prepare and submit to the FRA draft documents required under NEPA, NHPA, and related statutes and regulations (including draft environmental assessments and proposed draft and final environmental impact statements).
- e. No publicly-owned land from a park, recreational area, or wildlife or waterfowl refuge of national, state, or local significance as determined by the Federal, State, or local officials having jurisdiction thereof, or any land from an historic site of national, state or local significance as so determined by such officials shall be used by the Grantee without the prior written concurrence of FRA. The Grantee shall assist the FRA in complying with the requirements of 49 U.S.C. §303(c).
- f. The Grantee agrees to facilitate compliance with the policies of Executive Order No. 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations," 42 U.S.C. '4321 note, except to the extent that the FRA determines otherwise in writing.

**22. Project Completion, Audit, Settlement, and Closeout:**

- a. **Project Completion.** Within 90 days of the Project completion date or termination by FRA, the Grantee agrees to submit a final Federal Financial Report (Standard Form 425), a certification or summary of Project expenses, and third party audit reports, as applicable.
- b. **Audits.** Each governmental Grantee agrees to undertake the audits required by 49 C.F.R. § 18.26 and OMB Circular A-128 or any revision or supplement thereto. Each non-governmental Grantee agrees to undertake the audits required by 49 C.F.R. § 19.26 and OMB Circular A-133 or any revision or supplement thereto.
- c. **Remittance of Excess Payments.** If FRA has made payments to the Grantee in excess of the total amount of FRA funding due, the Grantee agrees to promptly remit that excess and interest as may be required by the "Payment by FRA" section of this Attachment.
- d. **Project Closeout.** Project closeout occurs when all required Project work and all administrative procedures described in 49 C.F.R. Part 18, or 49 C.F.R. Part 19, as applicable, have been completed, and when FRA notifies the Grantee and forwards the final Federal assistance payment, or when FRA acknowledges the Grantee's remittance of the proper refund. Project closeout shall not invalidate any continuing obligations imposed on the Grantee by this Agreement or by the FRA's final notification or acknowledgment.

**23. Right of FRA to Terminate:**

- a. Upon written notice, the Grantee agrees that FRA may suspend or terminate all or part of the financial assistance provided herein if the Grantee has violated the terms of this Agreement, or if FRA determines that the purposes of the statute under which the Project is authorized would not be adequately served by continuation of Federal financial assistance for the Project. Any failure to make reasonable progress on the Project or other violation of this Agreement that significantly endangers substantial performance of the Project shall provide sufficient grounds for FRA to terminate this Agreement.
- b. In general, termination of any financial assistance under this Agreement will not invalidate obligations properly incurred by the Grantee and concurred in by FRA before the termination date, to the extent those obligations cannot be canceled. However, if FRA determines that the Grantee has willfully misused Federal assistance funds by failing to make adequate progress, failing to make reasonable use of the Project property, facilities, or equipment, or failing to adhere to the terms of this Agreement, FRA reserves the right to require the Grantee to refund the entire amount of FRA funds provided under this Agreement or any lesser amount as may be determined by FRA.
- c. Expiration of any Project time period established for this Project does not, by itself, constitute an expiration or termination of this Agreement.

**24. Transparency Act Requirements—Reporting Subawards and Executive Compensation (Does not Apply to American Recovery and Reinvestment Act Funds):**

The Grantee will insert the following clause in all first-tier subgrants of \$25,000 or more--

**a. Reporting of First-Tier Subawards.**

- 1) Applicability. Unless you are exempt as provided in paragraph d. of this section, you must report each action that obligates \$25,000 or more in Federal funds that does not include Recovery funds (as defined in section 1512(a)(2) of the American Recovery and Reinvestment Act of 2009, Pub. L. 111-

5) for a subaward to an entity (see definitions in subsection e. of this section).

2) Where and when to report.

a. You must report each obligating action described in subsection a.1. of this section to <http://www.fsr.gov>.

b. For subaward information, report no later than the end of the month following the month in which the obligation was made. (For example, if the obligation was made on November 7, 2010, the obligation must be reported by no later than December 31, 2010.)

3) What to report. You must report the information about each obligating action that the submission instructions posted at <http://www.fsr.gov> specify.

**b. Reporting Total Compensation of Recipient Executives.**

1) Applicability and what to report. You must report total compensation for each of your five most highly compensated executives for the preceding completed fiscal year, if—

a. the total Federal funding authorized to date under this award is \$25,000 or more;

b. in the preceding fiscal year, you received—

(1) 80 percent or more of your annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

(2) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at 2 CFR 170.320 (and subawards); and

c. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 ([15 U.S.C. 78m\(a\), 78o\(d\)](#)) or [section 6104 of the Internal Revenue Code of 1986](#). (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/execomp.htm>.)

2) Where and when to report. You must report executive total compensation described in subsection b.1. of this section:

a. As part of your registration profile at <http://www.ccr.gov>.

b. By the end of the month following the month in which this award is made, and annually thereafter.

**c. Reporting of Total Compensation of Subrecipient Executives.**

1) Applicability and what to report. Unless you are exempt as provided in subsection d. of this section, for each first-tier subrecipient under this award, you shall report the names and total compensation of each of the subrecipient's five most highly compensated executives for the subrecipient's preceding completed fiscal year, if—

a. in the subrecipient's preceding fiscal year, the subrecipient received—

(1) 80 percent or more of its annual gross revenues from Federal procurement contracts (and subcontracts) and Federal financial assistance subject to the Transparency Act, as defined at [2 CFR 170.320](#) (and subawards); and

(2) \$25,000,000 or more in annual gross revenues from Federal procurement contracts (and subcontracts), and Federal financial assistance subject to the Transparency Act (and subawards); and

b. The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 ([15 U.S.C. 78m\(a\), 78o\(d\)](#)) or [section 6104 of the Internal Revenue Code of 1986](#). (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>.)

2) Where and when to report. You must report subrecipient executive total compensation described in subsection c.1. of this section:

a. To the recipient.

b. By the end of the month following the month during which you make the subaward. For example, if a subaward is obligated on any date during the month of October of a given year (i.e., between October 1 and 31), you must report any required compensation information of the subrecipient by November 30 of that year.

**d. Exemptions.**

If, in the previous tax year, you had gross income, from all sources, under \$300,000, you are exempt from the requirements to report:

a. Subawards,

and

b. The total compensation of the five most highly compensated executives of any subrecipient.

**e. Definitions. For purposes of this section:**

1) Entity means all of the following, as defined in 2 CFR part 25:

a. A Governmental organization, which is a State, local government, or Indian tribe;

b. A foreign public entity;

c. A domestic or foreign nonprofit organization;

d. A domestic or foreign for-profit organization;

e. A Federal agency, but only as a subrecipient under an award or subaward to a non-Federal entity.

2) Executive means officers, managing partners, or any other employees in management positions.

3) Subaward:

a. This term means a legal instrument to provide support for the performance of any portion of the

substantive project or program for which you received this award and that you as the recipient award to an eligible subrecipient.

b. The term does not include your procurement of property and services needed to carry out the project or program (for further explanation, see Sec. — .210 of the attachment to OMB Circular A-133, “Audits of States, Local Governments, and Non-Profit Organizations”).

c. A subaward may be provided through any legal agreement, including an agreement that you or a subrecipient considers a contract.

4) Subrecipient means an entity that:

a. Receives a subaward from you (the recipient) under this award; and

b. Is accountable to you for the use of the Federal funds provided by the subaward.

5) Total compensation means the cash and noncash dollar value earned by the executive during the recipient's or subrecipient's preceding fiscal year and includes the following (for more information see [17 CFR 229.402\(c\)\(2\)](#)):

a. Salary and bonus.

b. Awards of stock, stock options, and stock appreciation rights. Use the dollar amount recognized for financial statement reporting purposes with respect to the fiscal year in accordance with the Statement of Financial Accounting Standards No. 123 (Revised 2004) (FAS 123R), Shared Based Payments.

c. Earnings for services under non-equity incentive plans. This does not include group life, health, hospitalization or medical reimbursement plans that do not discriminate in favor of executives, and are available generally to all salaried employees.

d. Change in pension value. This is the change in present value of defined benefit and actuarial pension plans.

e. Above-market earnings on deferred compensation which is not tax-qualified.

f. Other compensation, if the aggregate value of all such other compensation (e.g. severance, termination payments, value of life insurance paid on behalf of the employee, perquisites or property) for the executive exceeds \$10,000.

## 25. Entire Agreement:

This Agreement constitutes the entire agreement between the parties. All prior discussions and understandings concerning such scope and subject matter are superseded by this Agreement.

## 26. Grant Amendments:

Modifications to this Agreement may be made only in writing, signed by the each party's authorized representative, and specifically referred to as a modification to this Agreement.

## 27. Flow Down Provisions:

The Grantee shall include provisions to carry out the purposes of this Agreement in all contracts or grant agreements with persons who perform any part of the work under this Agreement. There shall be provisions for a further flow down of such requirements to each sub-tier contractor or grantee as required.

**28. Successors and Assignees:**

This Agreement may not be assigned without the express prior written consent of the other party.

**29. Execution:**

This Agreement may be executed in several counterparts, each of which shall be deemed an original.

**30. Severability:**

If any provision of this Agreement is held invalid, all remaining provisions of this Agreement shall continue in full force and effect to the extent not inconsistent with such holding.

# AWARD ATTACHMENTS

California Department of Transportation, Division  
of Rail

FR-HSR-0026-11-01-00

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1. Statement of Work, Attachment 3
2. Quarterly Progress Report for FRA, Attachment 4

## ATTACHMENT 3

### STATEMENT OF WORK

#### Pacific Surfliner-PE-NEPA Ortega

#### BACKGROUND

The Ortega Siding Project consists of completing preliminary engineering (PE) and studies and documentation required under the National Environmental Policy Act (NEPA) (“Project”) in preparation for the construction of a rail siding 7 miles south of Santa Barbara, CA, on the Union Pacific Railroad (UPRR) Santa Barbara Line (“Ortega Siding Construction Project”). The California Department of Transportation (Caltrans) will complete any studies and documentation necessary for compliance with the California Environmental Quality Act (CEQA) prior to commencing construction activities.

An active siding existed in this area approximately 15 years ago, but that siding was removed because of erosion and severe storm damage. The elimination of that siding significantly reduced the operational capacity of the corridor on which the Pacific Surfliner operates because only one other functional siding exists on this corridor in the Santa Barbara area.

The Ortega Siding is needed to improve passenger rail service in the area for several reasons. First, the inadequate number of sidings in the area affects schedule reliability for Pacific Surfliner and Coast Starlight services. Second, the Pacific Surfliner service between Los Angeles and Santa Barbara suffers from the lowest average train speed on the State of California’s entire passenger rail network (only 39 mph). Third, without additional sidings, future intercity passenger rail service increases on this corridor would not be possible given current operational limitations.

#### GENERAL OBJECTIVE

The objective of the Project is the completion of PE (up to 30% design) and NEPA studies and documentation to support final design and construction of the Ortega Siding, an approximately 12,510-foot siding to be located about 7 miles south of Santa Barbara (between Milepost 373.55 and Milepost 375.92) on the UPRR Santa Barbara Line. The construction of the Ortega Siding will result in improved operating efficiencies and will remove a capacity constraint to future intercity passenger rail service on the Los Angeles–San Diego–San Luis Obispo (“LOSSAN”) rail corridor.

#### DESCRIPTION OF WORK

This Cooperative Agreement is between the Federal Railroad Administration (FRA) and the California Department of Transportation (“Caltrans” or “Grantee”). The Project consists of 1) performing PE (up to 30% design) and 2) conducting environmental reviews and preparing environmental documentation under NEPA to construct an approximately 12,510-foot Ortega Siding between Milepost 373.55 and Milepost 375.92 to support the construction of a siding that



will improve intercity passenger rail service and increase capacity along the Pacific Surfliner corridor.

### **Project Limits:**

The Project entails PE (up to 30% design) and environmental review of the Ortega Siding located between Milepost 373.55 and Milepost 375.92 on the UPRR Santa Barbara Line.

The UPRR right-of-way parallels State Route 101 to the east and is bordered by Padaro Lane to the west for a portion of the right-of-way.

### **Preliminary Engineering (30% Design)**

The Grantee shall complete PE for the Ortega Siding. PE will consist of the preparation of all documentation necessary to demonstrate the feasibility of the design of the Ortega Siding such that the work may be advanced to Final Design, including the following:

- Preliminary Track and Signal Design and Specifications (30% Level) for the Ortega Siding, which shall have the following characteristics:
  - 12,510 linear feet of Track
  - 136# Second Hand Rail with Concrete Ties
  - No. 20 Turnouts suitable for 40-mph operational speeds through the Siding

#### *Notes:*

1. A Topography Survey shall be prepared to provide an accurate representation of the ground terrain, including centerline of track, top of rail, toes of ballast, shoulders, and toes of subgrade.
  2. The Design Drawings shall be prepared at a scale of 1" = 100 feet on 11" × 17" paper.
  3. Track Design and Structure Drawings shall include design speeds, track centers, spiral and curve data, superelevation and underbalance, switch numbers and location, and preliminary track profiles.
  4. Signal Design shall include preliminary block design and signal locations.
  5. Track design shall be consistent FRA Track Classification "Class-4"
- Revised Construction Project Cost Estimate and Schedule consistent with the preliminary track and signal design and specifications.

### **Environmental Review**

The Grantee will complete, or cause to be completed, FRA-approved environmental clearance for the Ortega Siding Construction Project. As listed in the prerequisites below, the Grantee will submit to FRA for approval a detailed environmental work plan that describes the Project and includes the recommended class of action for NEPA, environmental analysis methodologies, anticipated impacts, and an estimated budget and schedule. The final determination of the appropriate class of action and the Project's environmental impact will be made by FRA.

Studies to be conducted by the Grantee as part of the Project's NEPA evaluation process may include the following items. A final list will be determined in conjunction with FRA in the detailed environmental work plan and estimated budget and may include:

- Biological Resources
- Hazardous Waste
- Water Quality
- Cultural Studies
- Community Impact Assessment
- Air Quality
- Noise Quality
- Hydraulics-Flood Plain Analysis
- Visual Impact Analysis/Landscape

The Grantee anticipates that the Ortega Siding Construction Project will qualify for a Categorical Exclusion (CE) because it will take place within existing right-of-way and because the area has been in active use as a rail corridor for over 100 years prior to the original siding's removal from service 15 years ago because of storm damage and erosion; therefore, Grantee does not anticipate that the Ortega Siding Construction Project will have any significant impact to the natural, social, and human environment. In addition, the Ortega Siding Construction Project likely fits one of the categories of excluded actions under FRA's Procedures for the Consideration of Environmental Impacts (64 FR 28545) (Environmental Procedures).

If FRA determines the appropriate class of action is a CE, the Grantee will complete an FRA CE worksheet in accordance with FRA's Environmental Procedures and as follows:

An environmental specialist will screen the Ortega Siding Construction Project to determine its potential impacts, including a review of existing literature, contacting relevant State and Federal agencies, and performing field reconnaissance. The Grantee will then document the findings, prepare a cover letter, and submit the CE worksheet for FRA review and approval.

If FRA does not concur that a CE is appropriate for the Ortega Siding Construction Project, the Grantee will undertake an Environmental Assessment (EA) in accordance with FRA's Environmental Procedures and as follows:

The Grantee will conduct scoping activities to determine the key issues and potential effects of the action and, if determined appropriate, develop a public involvement plan that identifies key contacts within agencies, the news media, public officials, the general public, civic and business groups, relevant interest groups, present and potential riders/users, and private service providers/shippers. This public involvement plan will also identify how public involvement activities will be linked to key milestones in the planning/engineering and environmental process.

The Grantee, in coordination with FRA, shall prepare an EA to include, but is not limited to, the following: definition of the Ortega Siding Construction Project and existing conditions,

identification of the purpose of and need for the Ortega Siding Construction Project, identification and analysis of Ortega Siding Construction Project build alternatives and a no-action alternative, and an analysis of existing conditions in comparison to the impacts of the proposed action. The Grantee will submit a Draft Environmental Assessment to FRA for review and comment. Through consultation with FRA and confirmation that no significant effects are anticipated, the Grantee will produce a draft Finding of No Significant Impact and submit it to FRA for review and completion.

If FRA determines that a draft Environmental Impact Statement (EIS) is required because there is an indication of potentially significant impacts that cannot be mitigated, the Grantee will establish scopes and costs for the preparation of an EIS as well as concomitant additional public outreach activities.

Environmental permits associated with the Ortega Siding Construction Project will be obtained by the Grantee as part of the Project. A coastal permit will likely be required for the Ortega Siding Construction Project. Santa Barbara County will be the issuing agency for such a permit.

## **PROJECT SCHEDULE**

### **Schedule of Work:**

To allow time to complete development of baseline engineering data, it is anticipated that the PE will be completed within approximately 24 months from the signing of this Cooperative Agreement. It is anticipated that the NEPA studies and environmental documentation will take no longer than 24 months to complete. The period of performance for the above work shall begin April 1, 2011, and end May 2, 2013.

<b>Deliverables</b>	<b>Anticipated Completion Date</b>
Executed grant agreement with FRA	April 2011
Detailed Environmental Work Plan, Schedule, and Estimated Budget	July 2011
Completion of necessary tasks to hire qualified consultant/contractor	September 2011
Topography Survey	March 2012
Environmental Studies completed	July 2012
Draft environmental review document or CE worksheet	January 2013
Completion of NEPA documentation	April 2013
Permits identified and applications drafted	April 2013
Design Drawings at scale of 1" = 100 feet on 11" x 17" paper	April 2013
Track and Structure Drawings	April 2013
Signal Design	April 2013
Signed Scale Track Designs (30%) and Signal Designs	April 2013
Project closeout audit and closeout report	May 2013

### **Prerequisites:**

The Grantee submits to FRA the following completed planning and management documents for the administration of the Project, which are incorporated herein.

- Project Budget (on file with FRA).
- Project Schedule (on file with FRA).

The Grantee acknowledges that work will not commence until the following documents have been completed and submitted to FRA, and approvals are obtained where required.

- Standard Rail Engineering Agreement between Caltrans and UPRR pertaining to the PE and/or NEPA work necessary to complete this Project.
- Prior to being reimbursed for any activities under Task 2 of this Grant as described below, and within 30 days of obligation, the Grantee must submit a detailed environmental work plan that describes the Project and includes the recommended class of action for NEPA, environmental analysis methodologies, anticipated impacts, and an estimated budget and schedule for FRA approval.

## **PERFORMANCE OBJECTIVES AND DELIVERABLES**

Major Project deliverables are listed below along with projected dates for completing the deliverables. The Grantee acknowledges that it shall complete these deliverables to be authorized for funding of Project components and for the Project to be considered complete.

### **Task 1: Preliminary Engineering (30% design)**

1. Topography Survey (March 2012)
2. Design Drawings at scale of 1" = 100 feet on 11" × 17" paper (April 2013)
3. Track and Structure Drawings, including design speeds, track centers, spiral and curve data, superelevation and underbalance, switch numbers and location, and preliminary track profiles (April 2013)
4. Signal Design including route and aspect charts, preliminary block design, and signal locations (April 2013)
5. Scale Track Designs (30%) and Signal Designs described in #3 and #4 above signed by all stakeholders (April 2013)

### **Task 2: Environmental Review**

1. Detailed Environmental Work Plan (including recommended class of action), Schedule, and Estimated Budget submitted for FRA review and approval (July 2011)
2. Environmental Studies<sup>1</sup> anticipated to be completed (July 2012)

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<sup>1</sup> The list of environmental studies anticipated to be completed for the NEPA documentation will be revisited when additional information on the Ortega Siding Construction Project and its impacts are presented in the first deliverable under Task 2 (Detailed Environmental Work Plan, Schedule, and Estimated Budget).

- Biological Resources
  - Hazardous Waste
  - Water Quality
  - Cultural Studies
  - Community Impact Assessment
  - Air Quality
  - Noise Quality
  - Hydraulics-Flood Plain Analysis
  - Visual Impact Analysis/Landscape
3. Draft environmental review document or CE worksheet submitted to FRA (January 2013)
  4. NEPA documentation completed including final FRA NEPA decision document (April 2013)
  5. Permits identified and applications drafted (April 2013)

### **Project Administration**

1. Execute grant agreement with FRA (April 2011)
2. Complete necessary tasks to hire a qualified consultant/contractor to perform required PE and/or NEPA work (September 2011)
3. Hold regularly scheduled Project meetings (Ongoing)
4. Perform periodic Project status reviews (Ongoing)
5. Inspect and approve work as it is completed (Ongoing)
6. Review and approve invoices as appropriate for completed work (Ongoing)
7. Perform Project closeout audit and issue closeout report (May 2013)
8. Periodically submit required Project documents, including receipts and invoices, to FRA (Ongoing)
9. Comply with all FRA Project reporting requirements (Ongoing)

### **PROJECT ESTIMATE/BUDGET**

The total estimated cost of the Project is \$1,200,000, for which the FRA grant will contribute up to 79.16% of the total cost, not to exceed \$950,000. Any additional expense required beyond

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that provided in this grant to complete the Project shall be borne by the Grantee. The estimated budget submitted by the Grantee as part of the Detailed Environmental Work Plan, as approved by FRA, shall be incorporated herein as the approved project budget for this Grant.

**Project Cost Details** (see budget on file with FRA for additional financial details)

Task 1: Preliminary Engineering	\$ 300,000
Task 2: Environmental Review	\$ 900,000
<b>Total Project Cost:</b>	<b>\$ 1,200,000</b>

**CA-PS COR-PE-NEPA ORTEGA (FRA Grant)**

FRA	(79.16% of project cost):	\$ 950,000
Grantee Contribution	(20.84% of project cost):	\$ 250,000
<b>Total Project Cost:</b>		<b>\$ 1,200,000</b>

**PROJECT COORDINATION**

The Grantee shall perform all tasks required for the Project through a coordinated process, which will involve affected railroad owners, operators, and funding partners, including:

- UPRR
- Amtrak (Operator of “Coast Starlight” and Caltrans Pacific Surfliner Train services)
- Santa Barbara County Association of Governments (SBCAG)
- FRA

**PROJECT MANAGEMENT**

The Grantee will contract with UPRR to complete the PE work. Caltrans will complete the NEPA work for the Project through a consultant service contract.

Caltrans will coordinate with UPRR and provide monthly updates on the status of the design. Following receipt of each monthly update, Caltrans will schedule a conference call with UPRR to coordinate the PE and environmental review efforts and to incorporate the design into the NEPA document.

Caltrans has submitted a general Caltrans PMP to FRA. More detailed information on Project roles, responsibilities, and accountability for both the PE and NEPA portions of the Project are detailed in Project-specific Addendums to that PMP.

Project support will be provided at the local level by both SBCAG staff and the local Caltrans District 05 office staff. SBCAG is the local metropolitan planning organization that provided the local match for this project. The local Caltrans District 05 office staff has provided support throughout the development of the Ortega project application and will assist with the environmental studies and documentation.

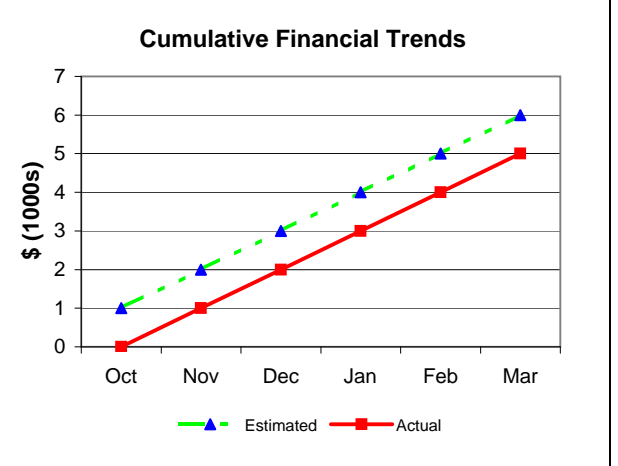
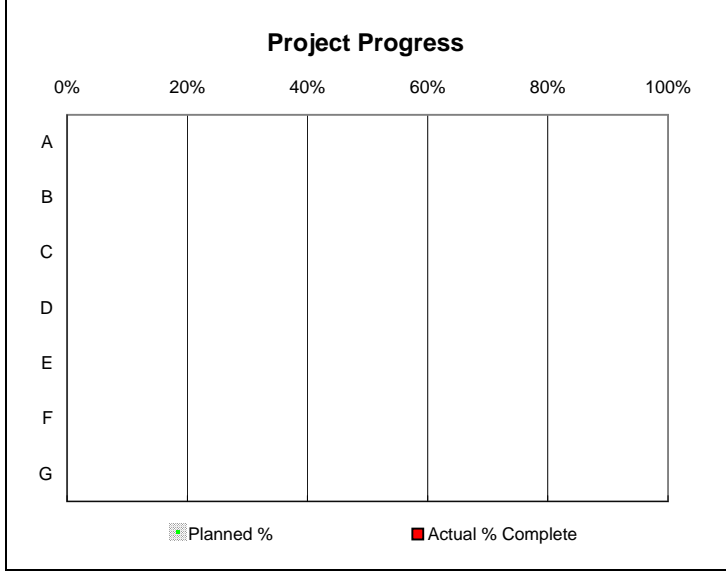


Quarterly Progress Report for FRA

Grant No. WBS No. Description Grantee Manager: FRA Manager:	Performance Progress		Financial Progress	
	Period Ending:		Funding Level:	\$0.00
	Start Date:		Expended:	\$0.00
	End Date:		Remaining:	\$0.00
		% Expended:	0%	

Project Description:

Significant Accomplishments This Period:



\$1000s	Oct	Nov	Dec	Jan	Feb	Mar
Estimated	1	2	3	4	5	6
Actual	0	1	2	3	4	5
Monthly		1	1	1	1	1

Milestones and Deliverables:	Start	Planned Completion	Revised Completion	Actual Completion	Planned %	Actual % Complete
A						
B						
C						
D						
E						
F						
G						

Technical/Cost/Schedule Problems:

Work Planned for Next Period:

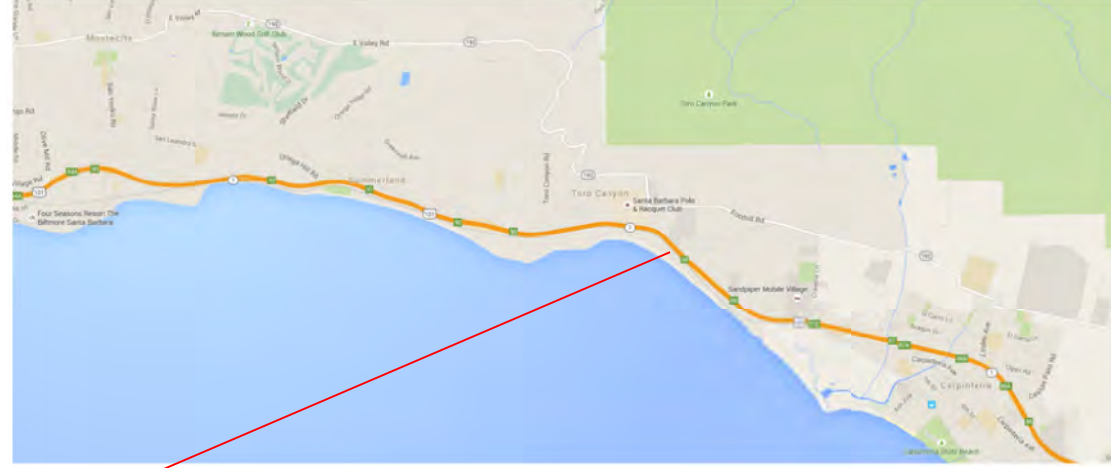




# ENGINEERING DESIGN/CONSTRUCTION



State of California



Project Location Map

**CARPINTERIA, CA**  
**SANTA BARBARA SUBDIVISION**  
**MP 373.12 TO 375.82**  
**ORTEGA SIDING - OPTION B**

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

**LAST REVISED**  
**JULY 29, 2015**

**WORK ORDER:**  
**PROJECT NUMBER:**  
**BUDGET REFERENCE:**



**GENERAL NOTES**

- Contractors shall notify Service Alert, (800) 642-2444 and UPRR Fiber Optics Hotline (800) 336-9193, 48 hours prior to any excavation. The USA Authorization Numbers shall be kept at the job site.
- No work whatsoever shall be commenced without first notifying the UPRR Engineer.
- The Contractor shall comply with all Federal, State, County, and City Laws and Ordinances and Regulations of the Department of Industrial Relations, OSHA, NPDES and Industrial Accident Commission related to the safety and character of the work, equipment and labor personnel.
- Contractor shall be responsible for coordinating with all Utility agencies.
- Contractor shall protect in place (by any means necessary) all existing utilities to remain unless otherwise specified herein, contractor shall be responsible for the complete repair at his expense, for any damage to existing utilities, structures, or other site features, as a result of his work.
- Prior to placing curbs, pavements, base, subbase, track, etc., all underground utilities shall be installed, backfill completed, and the Engineer notified by each of the utility companies having facilities within the work area, that the utility installation has satisfactorily passed acceptance tests.
- All existing underground utilities, that are not to be re-used shall be abandoned in place. All existing pipelines to be abandoned in place shall be cement slurry filled and capped at least 3'-0" below top of proposed subgrade.
- Contractor shall verify locations and elevations of existing utilities whether known or unknown prior to beginning construction.
- Any underground structures such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, and pipelines not located prior to construction shall be brought to the attention of the engineer for determination of appropriate action such as removal or treatment in a manner judged suitable to the engineer.
- Contractor shall coordinate location of all proposed utilities with UPRR to assure accuracy of utility connections and compliance with local codes.
- Any existing conditions found to be a variance with these drawings must be immediately reported to the Engineer.
- Contractor shall maintain and clean to the satisfaction of the Engineer, all access and service roads used during construction.
- Contractor shall perform all construction in such a manner as to protect adjacent existing buildings, and other site elements which are to remain in service.
- Contractor shall provide As-built Drawings for all improvements.
- No field changes will be permitted without direct written authorization from the UPRR Engineer or his representative.
- Contractor shall coordinate work which affects adjacent property owners. Any questions or agreements between adjacent property owners and contractor shall be made in writing. A copy of such agreement shall be provided to the UPRR Engineer or his representative.
- The contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP) to comply with State regulations. General specifications and typical erosion control details are included in the plan set.
- Right-of-way lines shown on the plans were taken from existing UPRR right-of-way map and are approximate.
- Match lines for sheets are based on the existing Main Line stationing unless otherwise specified.
- Track laying, ballasting, and installation of road crossing panels will be done by UPRR unless otherwise stated.
- Where existing culverts are to be extended, the contractor shall expose existing drainage structures and field verify size and type before ordering.
- The contractor is responsible for the removal of all pavement markings that will be in conflict with the proposed work.
- Contractor shall comply with all STATE and CITY standard specifications for construction of public improvements requirements. CITY standard specifications shall prevail.
- Contractor shall maintain at least one access to all affected business. If necessary, multiphase construction shall be utilized.

**DESIGN CRITERIA**

- UPRR standard plans and trackworks
- CITY Public Works Engineering Division
- STATE Department of Transportation Roadway Standards

**SURVEY NOTES**

- Railroad stationing for project profiles and alignments is based on stations established for chord definition spiraled curves at the centerline of the existing UPRR Main Line unless otherwise noted.
- The contractor is responsible for the preservation of all survey control monuments. In the event monuments are damaged or destroyed by the contractor, the Engineer will replace the monument solely at the contractor's expense.

	DATUM
HORIZONTAL	
VERTICAL	

**TRAFFIC NOTES**

- All barricades, warning signs, lights, devices, etc. for the guidance of vehicle traffic and pedestrians must conform to the installation shown in the Manual on Uniform Traffic Control Devices (MUTCD), current edition.
- Contractor shall make twice daily inspections of barricades and flashing lights to ensure proper placement and functioning of warning devices.
- Grade crossings closed to traffic during construction shall be barricaded in accordance with the MUTCD.
- At all grade crossings, all grade crossing warning signs (crossbuck) shall temporarily be relocated during construction and reset after the grade crossings construction is completed to a point adjacent to the roadway and 15 feet from the centerline of the near track as stated in the MUTCD except where automatic grade crossing warning signals/gates exist. All automatic warning devices are the responsibility of UPRR. At no time shall a crossing be left open without proper warning signs in place.
- Contractor shall submit traffic control plans to CITY Traffic Department for approval at least 2 weeks prior to each road closure. Plans shall be 11" x 17" engineered drawings, sealed by a professional engineer from the STATE.
- The contractor is responsible for the prompt replacement and/or repair of all traffic control devices and appurtenances damaged or disturbed due to construction.

**PROJECT CONTACTS**

**CONTACT**

**PHONE NUMBER**

**UPRR**

- Civil Construction Project Manager
- Civil Construction Field Manager
- Track Construction Project Manager
- Project Design Manager
- Project Design Sr. Project Designer
- Structures Design Sr. Manager
- Structures Design Manager
- Information Technology - Fiber
- Real Estate - Utilities
- Real Estate - Acquisitions

**CONTACT**

**PHONE NUMBER**

**FIBER**

**CONTACT**

**PHONE NUMBER**

**UTILITIES**

**CONTACT**

**PHONE NUMBER**



**FEDERAL AND LOCAL GOVERNMENT AGENCY**

**PHONE NUMBER**

- (800) 336-9193
- (888) 258-0808
- (888) 877-7267

**GENERAL**

- UPRR CALL BEFORE YOU DIG
- CALL BEFORE YOU DIG (NATIONAL DIRECTORY)
- UPRR Response Management Communications Center (RMCC)

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LOCATION & DESCRIPTION: ORTEGA SIDING SANTA BARBARA SUBDIVISION; MP 373.12 - 375.82 CARPINTERIA, CA		SHEET TITLE: GENERAL NOTES AND PROJECT CONTACTS	

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**ABBREVIATIONS**

**MISCELLANEOUS**

Ac.	Acres
Ave.	Avenue
Blvd.	Boulevard
Bldg.	Building
BNSF	BNSF Railway
C.Y.	Cubic Yards
Conc.	Concrete
°	Degree (s)
Dia.	Diameter
Dr.	Drive
Dwg.	Drawing
E	East
Elev.	Elevation
Exist.	Existing
'	Foot, Feet or Minute (s)
F.S.	Finished Surface
Horiz.	Horizontal
"	Inch, Inches or Second (s)
Inv.	Invert
Lt.	Left
L	Length
L.F.	Lineal Feet
Max.	Maximum
Min.	Minimum
N	North
NTS	Not to Scale
No.	Number
OH	Overhead
Prop.	Proposed
RR	Railroad
Rwy	Railway
R/W	Right of Way
Rt.	Right
S	South
S.F.	Square Feet
Sta.	Station
Std.	Standard
St.	Street
Twp.	Township
Typ.	Typical
UG	Underground
UPRR	Union Pacific Railroad
V	Velocity
Wt.	Weight
W	West
X-ing	Crossing

**SIGNAL**

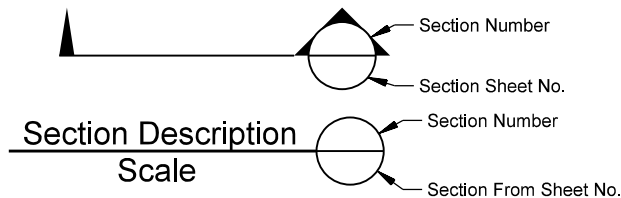
ABS	Automatic Block Signal
ATC	Automatic Train Control
CTC	Centralized Traffic Control
DED	Dragging Equipment Detector
DTC	Direct Traffic Control
ELTO	Electric Lock Turnout
HBD	Hot Box Detector
HTTO	Hand Throw Turnout
HWD	High Wide Dectector
POTO	Power Operated Turnout
TWC	Track Warrant Control
WILD	Wheel Impact Load Dectector

**STRUCTURES**

Bldg.	Building
Br.	Bridge
CB	Catch Basin
CPT	Concrete Pile Trestle - Ballast Deck
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
Culv.	Culvert
DI	Drop Inlet
DPGBD	Deck Plate Girder - Ballast Deck
DPGOD	Deck Plate Girder - Open Deck
EBW	East Backwall
F.L.	Flowline
F.F.	Finished Floor
GIP	Galvanized Iron Pipe
Hdwl	Headwall
NBW	North Backwall
PSCT	Prestressed Concrete Trestle
RCA	Reinforced Concrete Arch
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
SBW	South Backwall
SSP	Smooth Steel Pipe
SPTBD	Steel Pile Trestle - Ballast Deck
SPTOD	Steel Pile Trestle - Open Deck
SPP	Structural Plate Pipe
TPGBD	Through Plate Girder - Ballast Deck
TPGOD	Through Plate Girder - Open Deck
TPTBD	Timber Pile Trestle - Ballast Deck
TPTOD	Timber Pile Trestle - Open Deck
TTBD	Through Truss - Ballast Deck
TTOD	Through Truss - Open Deck
TWB	Treated Wood Box
VCP	Vitrified Clay Pipe
Viad.	Viaduct
WBW	West Backwall
WIP	Wrought Iron Pipe

**TRACK**

ATR	Above Top of Rail
Align.	Alignment
BBR	Below Base of Rail
Cntrs.	Centers
CWR	Continuous Welded Rail
DSPD	Double Switch Point Derail
EOT	End of Track
HH	Head Hardened
Jtd.	Jointed Rail
LH	Left Hand
ML	Main Line
MM	Mile Marker
MP	Mile Post
NSC	Not Sufficient Clearance
OTM	Other Track Material
PCC	Point of Compound Curve
PC	Point of Curve
PCS	Point of Curve to Spiral
POC	Point on Curve
PF	1/2" Point of Frog
PI	Point of Intersection
PITO	Point of Intersection of Turnout
PS	Point of Spiral
PSC	Point of Spiral to Curve
POS	Point on Spiral
PT	Point of Tangent
POT	Point on Tangent
Pt. Sw.	Point of Switch
PVC	Point of Vertical Curve
PVI	Point of Vertical Intersection
PVT	Point of Vertical Tangent
RH	Right Hand
SH	Second Hand
SSPD	Single Switch Point Derail
TC	Track Centers
T.F.	Track Feet
Trk.	Track
UXO	Universal Cross-Over
X-Over	Cross-Over



**UTILITIES**

AIR	Compressed Air
F/O	Fiber Optic Cable
G	Gas Pipeline
OP	Overhead Power Line
SS	Sanitary Sewer
UGS	Underground Signal Line
SS	Steam Line
S	Storm Sewer
T	Telephone
UGE	Underground Electric
W	Water Main
UD	Under Drain
V.	Valve
M.H.	Manhole
C.B.	Catch Basin
F.H.	Fire Hydrant
J.B.	Junction Box
E.M.	Electric Meter
G.M.	Gas Meter
W.M.	Water Meter
M.W.	Monitoring Well
PUMP	Pump

**TRACK**

Existing Mainline
Existing Siding or Spur
Proposed
Remove
Shift
Relay
Future
Foreign Railroad or Industry
In Buildings or Under Structures
Turnout
Wheel Stop
Bumping Post
Earthen Bumper
Inert Retarder
Dowty Retarder
Derail
Switch Point Derail or Double Switch Point Derail

**PROPERTY**

Section Line
Center Section Line
Parcel or Easement Line
Right of Way
Former Right of Way
Right of Way to be Acquired
Foreign Right of Way

**SYMBOLS**

**ROAD CROSSING WARNING DEVICES**

Cross Sign
Flashing Light Warning Device
Flashing Light Warning Device with Gate
Cantilever Flashing Light Warning Device
Cantilever Flashing Light Signal with Gate

**SIGNAL**

Absolute Signal
Signal Bridge
Cantilever Signal
ACS or CTC Signal
Dwarf Signal
Begin CTC
Microwave Tower
AEI
Battery Box
Dragging Equipment Detector
Generator
Hot Box Detector

**STRUCTURES**

Culvert
Culvert with Headwalls
Double Culvert
Railroad Bridge
Highway Overpass
Highway Underpass
Tunnel
Building
Flag Pole

**LIGHTING**

Light Pole
Light Tower

**SIGNS**

Stop
Yard Limit
1 Mile to Yard Limit
Whistle Post
Flanger
Station
Reduce Speed
Resume Speed
General Purpose

**FENCES**

Barbed Wire
Chain Link
Snow / Sand
Cattle Guard

**ROADS**

Paved Road
Unimproved Road
Interstate Highway
Federal Highway
State Highway
County Highway

**OTHER**

Wetlands
River or Lake
Embankment
Flow Line
Milepost
Milemarker
Control Point
Revision Number
Revision Cloud

**CONSTRUCTION**

Note (Work by Contractor)
Note (Work by Others)
Cut Lines
Fill Lines

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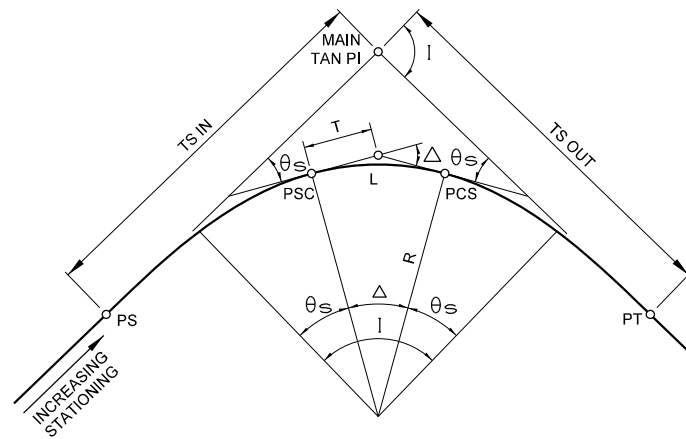


FIGURE A  
CIRCULAR CURVES  
WITH SPIRAL TRANSITION

$I$  - TOTAL INTERSECTION ANGLE  
 $\theta_s$  - SPIRAL ANGLE =  $\frac{AI^2}{2}$   
 $\Delta$  - CENTRAL ANGLE OF CIRCULAR CURVE =  $I - 2\theta_s$   
 $D_c$  - DEGREE OF CURVE  
 $A$  - RATE OF CHANGE OF DEGREE OF CURVE PER 100-FT. OF LENGTH =  $\frac{D_c}{L}$   
 $R$  - RADIUS OF CIRCULAR CURVE  
 $T$  - TANGENT LENGTH OF CIRCULAR CURVE =  $R \tan \frac{\Delta}{2}$   
 $L$  - LENGTH OF CIRCULAR CURVE =  $\frac{\Delta}{D_c} \times 100$   
 PS - TANGENT TO SPIRAL  
 PSC - SPIRAL TO CURVE  
 PCS - CURVE TO SPIRAL  
 PT - SPIRAL TO TANGENT  
 MAIN TAN PI - POINT OF INTERSECTION OF MAIN TANGENTS  
 (TS IN) - TANGENT LENGTH OF COMPLETE CURVE =  $(R+o) \tan \frac{I}{2} + t$   
 (TS OUT)  
 (WHEN SPIRALS OF EQUAL LENGTH ARE USED ON BOTH SIDES OF CIRCULAR CURVE, SEE FIGURE C. FOR  $o$  AND  $t$ ).

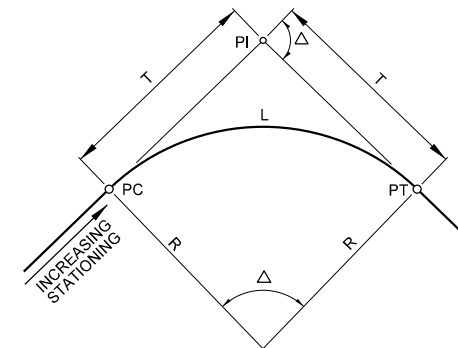


FIGURE B  
SIMPLE CIRCULAR CURVE

$R$  = RADIUS OF CIRCULAR CURVE  
 $\Delta$  = CENTRAL ANGLE OF CIRCULAR CURVE  
 $T = R \tan \frac{\Delta}{2}$   
 $L = \frac{\Delta}{D_c} \times 100$   
 $D_c = 2 \sin^{-1} (50/R) =$  DEGREE OF CURVE (CHORD DEFINITION)

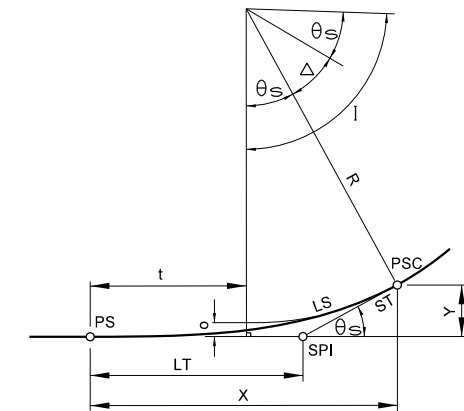


FIGURE C  
SPIRAL TRANSITION CURVE

SPIRAL TRANSITION CURVE DATA:  
THE SPIRAL USED IS DEFINED BY THE TALBOT SPIRAL.

$L_s$  = LENGTH OF SPIRAL (TS TO PSC)  
 $\theta_s = \frac{AL^2}{2}$   
 $X = 100 L_1 - 0.000762A^2 L_1^5$   
 $Y = 0.291AL_1^3 - 0.00000158A^3 L_1^7$   
 $o = 0.0727AL_1^3$   
 $t = 50L_1 - 0.000127A^2 L_1^5$   
 $ST = \frac{Y}{\sin \theta_s}$   
 $LT = X - \frac{Y}{\tan \theta_s}$   
 $D_c = 2 \sin^{-1} (50/R) =$  DEGREE OF CURVE (CHORD DEFINITION)  
 $L_1$  - TOTAL NO. OF STATIONS IN SPIRAL  
 SPI - SPIRAL POINT OF INTERSECTION  
 NOTE:  $D_c$ ,  $\theta_s$ ,  $\Delta$ , AND  $I$  ARE IN DEGREES.  
 ALL OTHERS DIMENSIONS ARE FEET.

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(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)

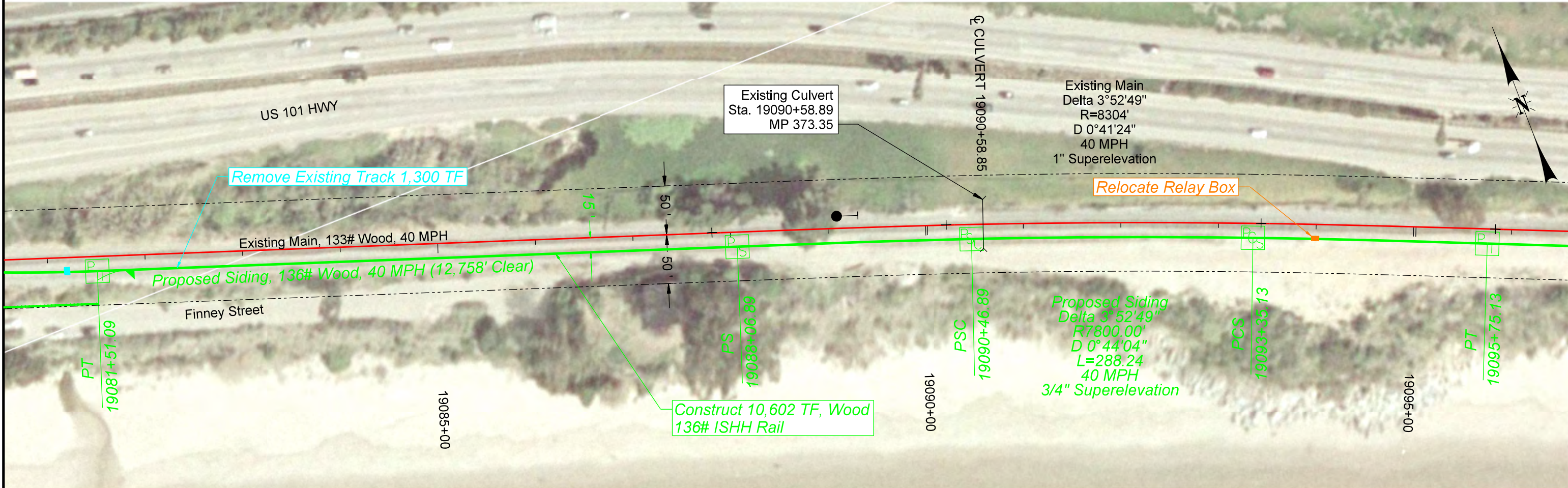


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To Seacliff  
& Las Posas  
(Timetable South)



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To South Santa Barbara  
& North San Luis Obispo  
(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)

US 101 HWY

Existing Main  
Delta 11°30'59"  
R4340'  
D 1°19'12"  
40 MPH  
1" Superelevation

Existing Main, 133# Wood, 40 MPH

Proposed Siding, 136# Wood, 40 MPH

Install 1,280 L.F. Retaining Wall  
Average Height = 15 FT

Extend Existing Culvert  
15 L.F.  
Sta. 19099+54.13  
MP 373.52

Extend Existing RCB Culvert  
15 L.F.  
Sta. 19108+32.45  
MP 373.69

Proposed Siding  
Delta 11°30'59"  
R5100.00'  
D 1°07'24"  
L=675.09  
40 MPH  
1.25" Superelevation

PT  
19095+75.13

PS  
19102+45.96

PSC  
19105+95.96

CULVERT 19099+54.54

CULVERT 19108+34.34

19100+00

19105+00

19110+00



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To Santa Barbara North  
& San Luis Obispo  
(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)

US 101 HWY

MP 374

Existing Main  
Delta 11°30'59"  
R4340'  
D 1°19'12"  
40 MPH  
1" Superelevation

Existing Main, 133# Wood, 40 MPH

Proposed Siding, 136# Wood, 40 MPH

Proposed Siding  
Delta 11°30'59"  
R5100.00'  
D 1°07'24"  
L=675.09  
40 MPH  
1.25" Superelevation

Relocate Signal Equipment

PCS  
19112+71.04

PT  
19116+91161

CULVERT 19117+73.26

Install Pier Protection Wall 50 L.F.  
14' From Track

Extend Existing RCB Culvert 15 L.F.  
Sta. 19117+73.92  
MP 373.87

Padaro Lane  
MP 373.97

19110+00

19115+00

19120+00

19125+00



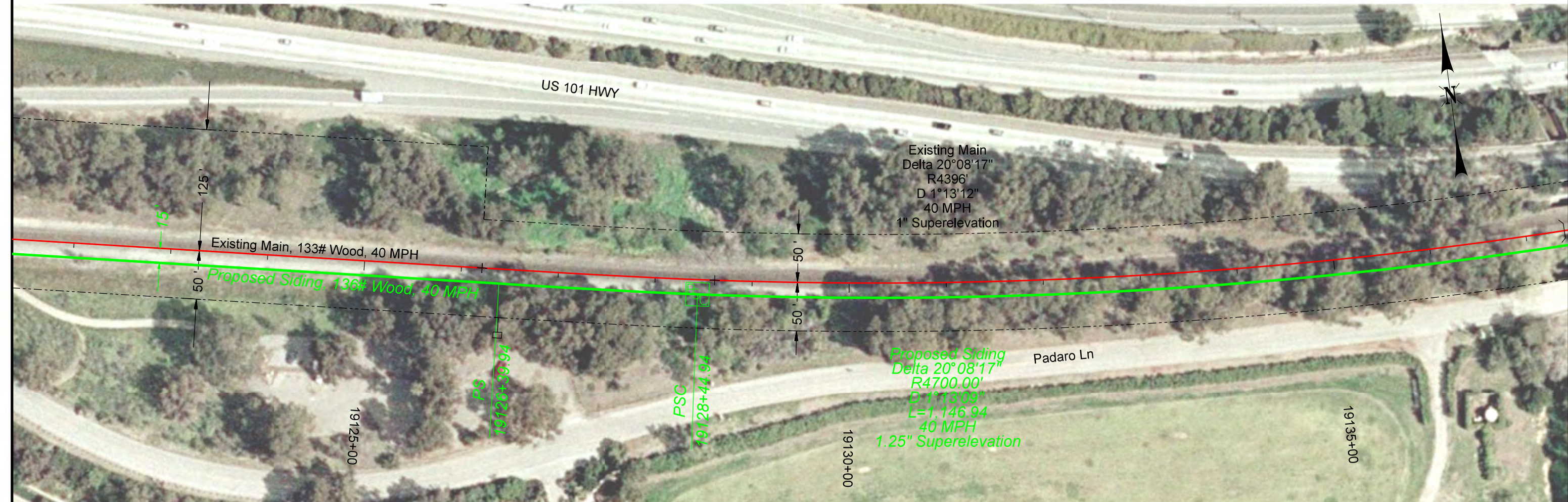
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To South Santa Barbara  
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(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)



Existing Main  
Delta 20°08'17"  
R4396'  
D 1°13'12"  
40 MPH  
1" Superelevation

Existing Main, 133# Wood, 40 MPH  
Proposed Siding, 136# Wood, 40 MPH

Proposed Siding  
Delta 20°08'17"  
R4700.00'  
D 1°13'09"  
L=1,146.94  
40 MPH  
1.25" Superelevation

Padaro Ln



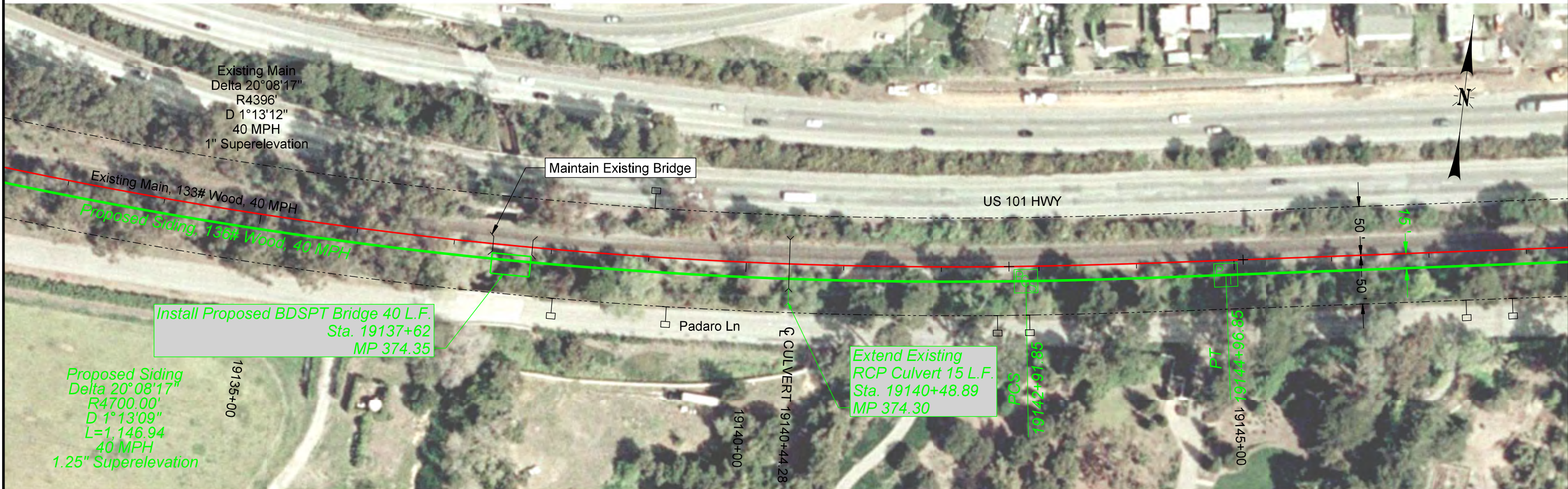
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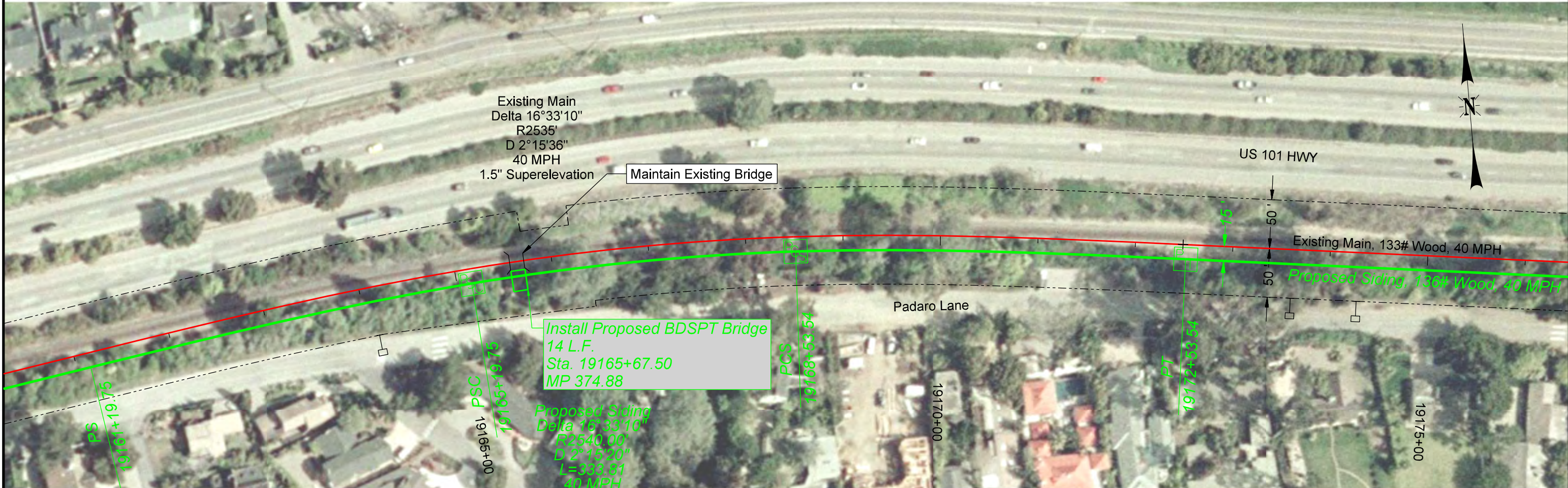


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To South Santa Barbara  
& North San Luis Obispo  
(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)



Existing Main  
Delta 16°33'10"  
R2535'  
D 2°15'36"  
40 MPH  
1.5" Superelevation

Maintain Existing Bridge

US 101 HWY

Existing Main, 133# Wood, 40 MPH

Proposed Siding, 136# Wood, 40 MPH

Padaro Lane

Install Proposed BDSPT Bridge  
14 L.F.  
Sta. 19165+67.50  
MP 374.88

Proposed Siding  
Delta 16°33'10"  
R2540.00'  
D 2°15'20"  
L=333.81  
40 MPH  
2.50" Superelevation

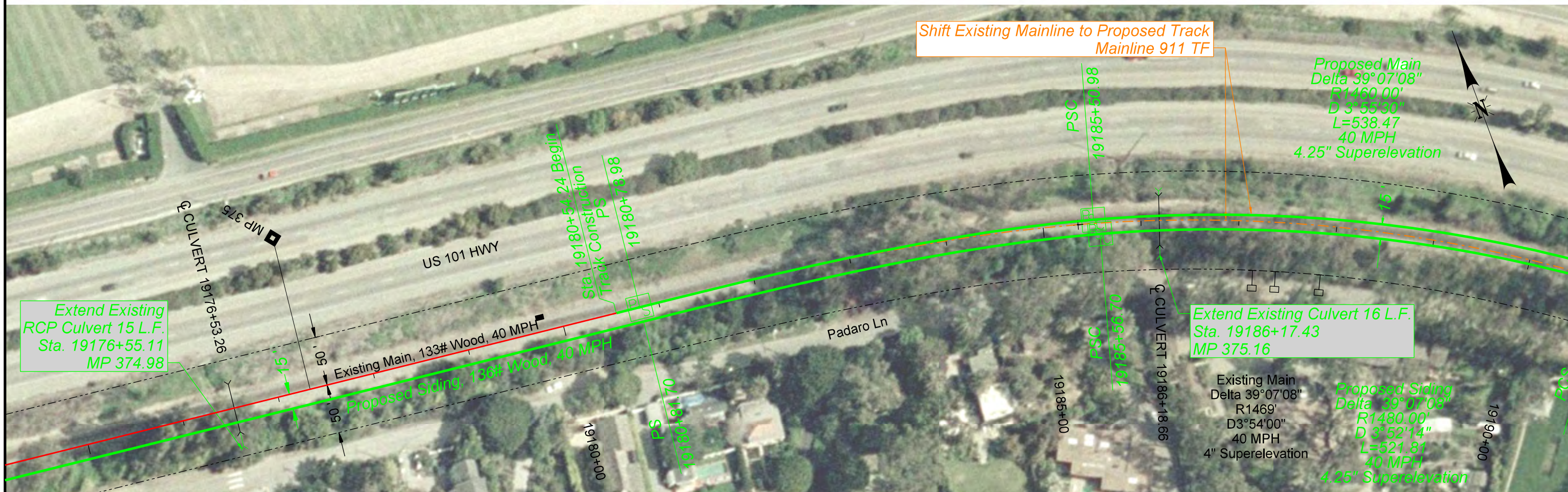


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		DATE: 07-29-15	
		SHEET NUMBER: P 008 of 013	
LOCATION & DESCRIPTION: ORTEGA SIDING SANTA BARBARA SUBDIVISION; MP 373.12 - 375.82 CARPINTERIA, CA			SHEET TITLE: ORTEGA SIDING PLAN - OPTION B

To South Santa Barbara  
& North San Luis Obispo  
(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)



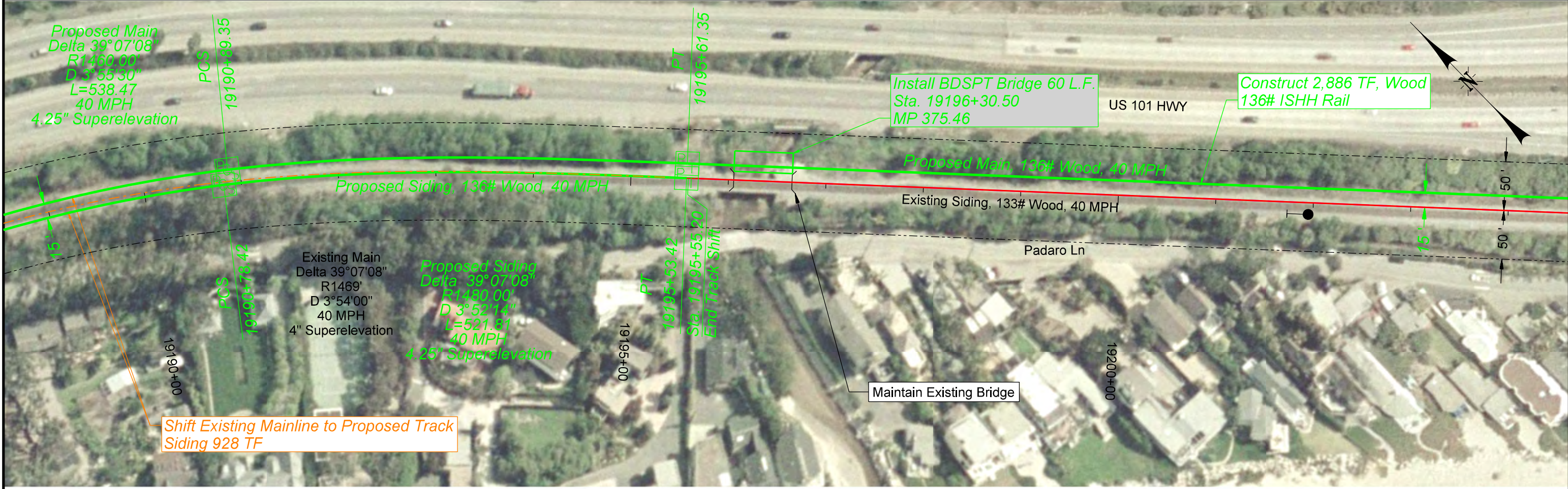
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LOCATION & DESCRIPTION: ORTEGA SIDING SANTA BARBARA SUBDIVISION; MP 373.12 - 375.82 CARPINTERIA, CA			SHEET TITLE: ORTEGA SIDING PLAN - OPTION B

To South Santa Barbara  
& North San Luis Obispo  
(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)



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SHEET NUMBER: P 010 of 013		SHEET TITLE: ORTEGA SIDING PLAN - OPTION B	

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& North San Luis Obispo  
(Timetable North)

To Seacliff  
& Las Posas  
(Timetable South)



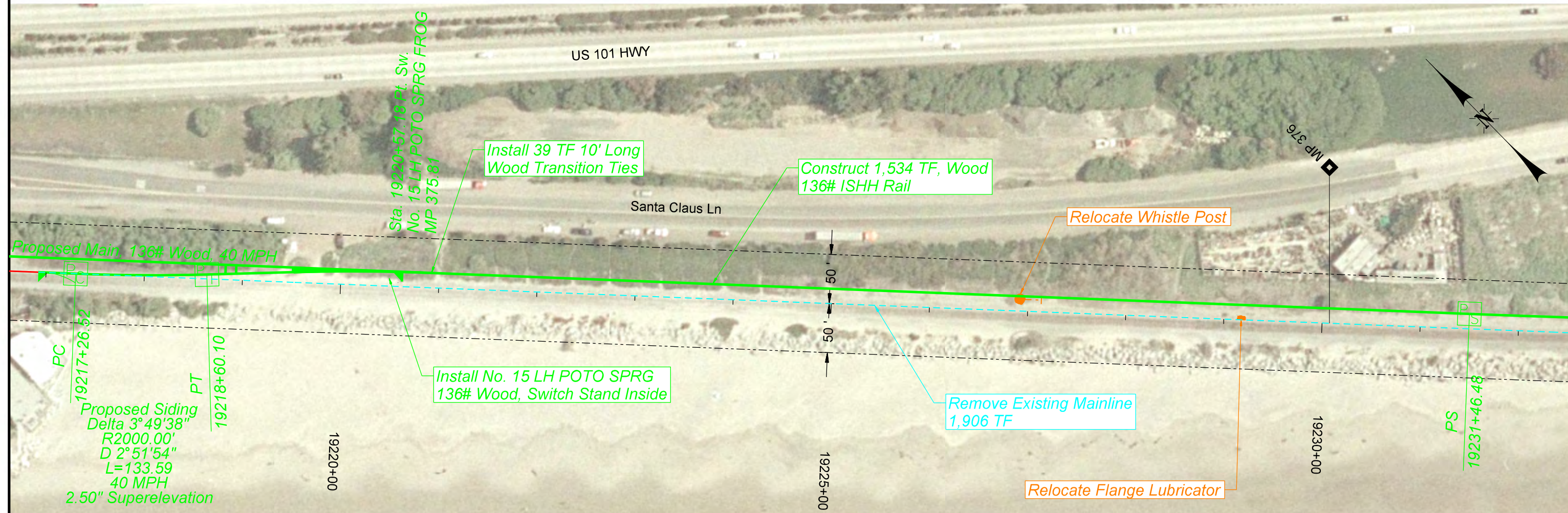
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To Seacliff  
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(Timetable South)

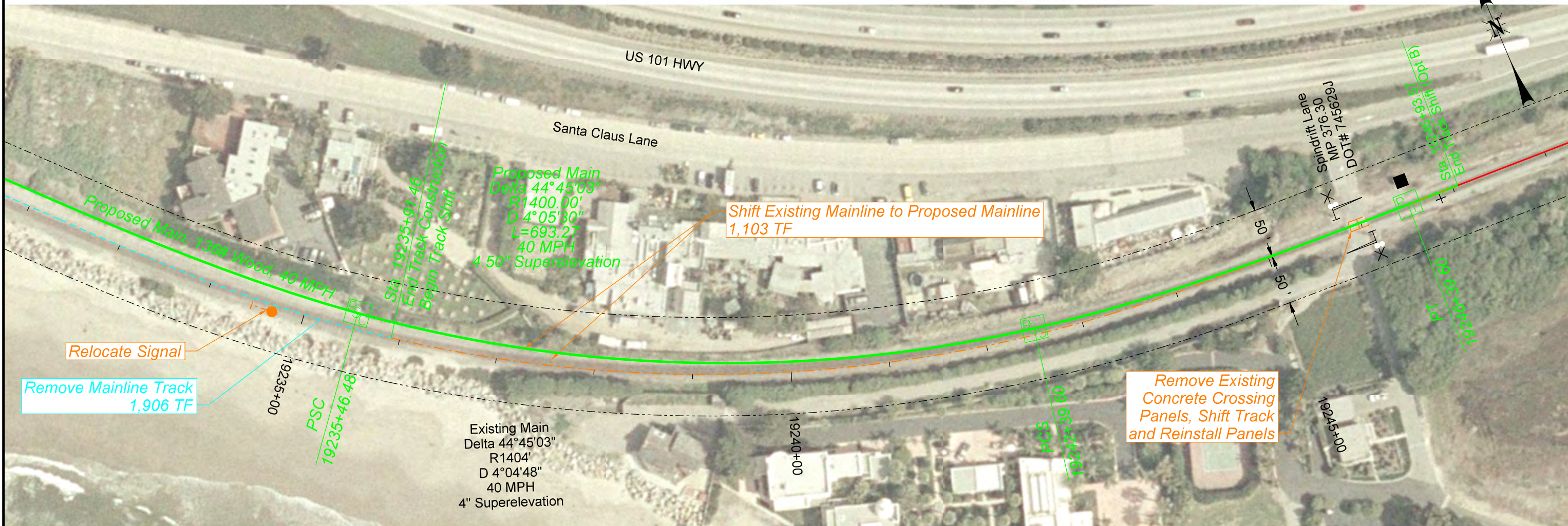


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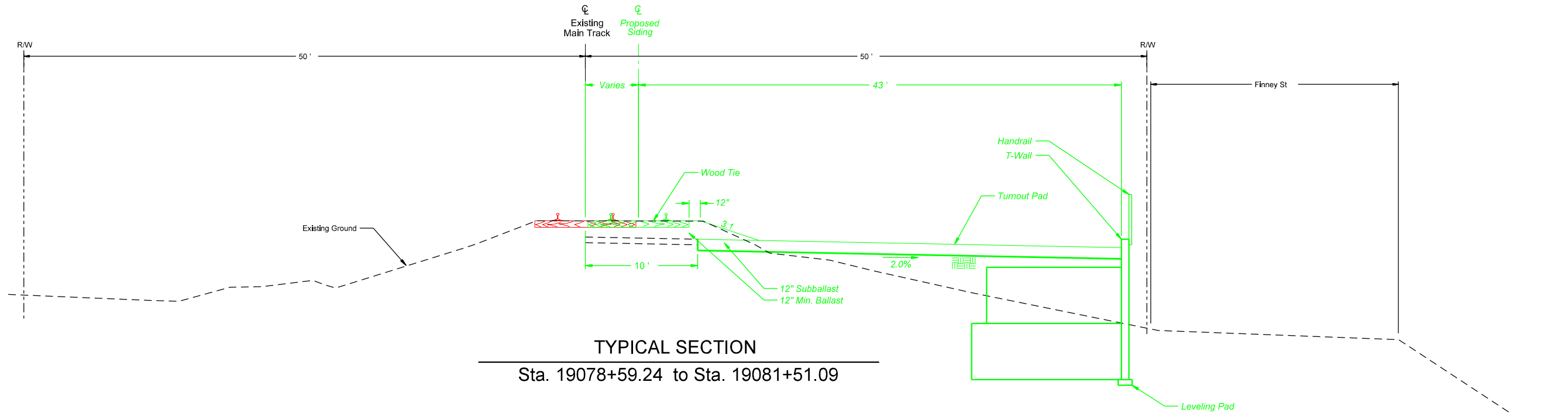
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(Timetable South)



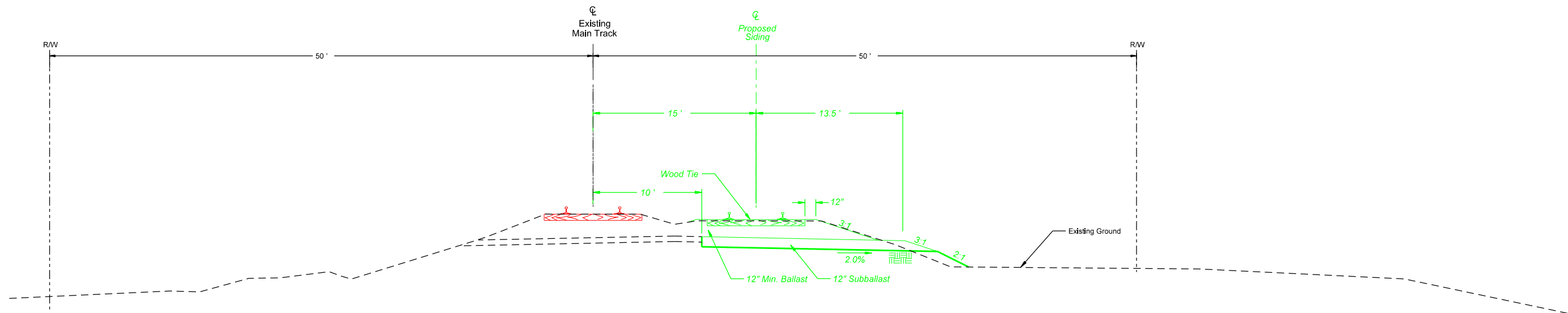
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LOCATION & DESCRIPTION: ORTEGA SIDING SANTA BARBARA SUBDIVISION; MP 373.12 - 375.82 CARPINTERIA, CA			SHEET TITLE: ORTEGA SIDING PLAN - OPTION B




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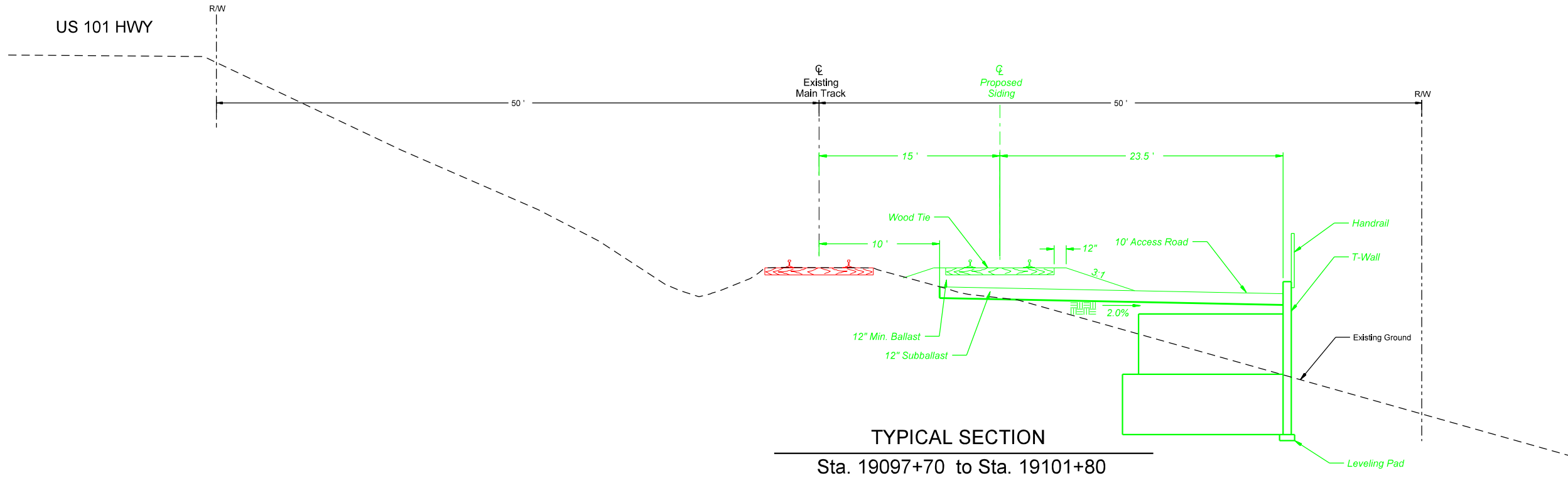


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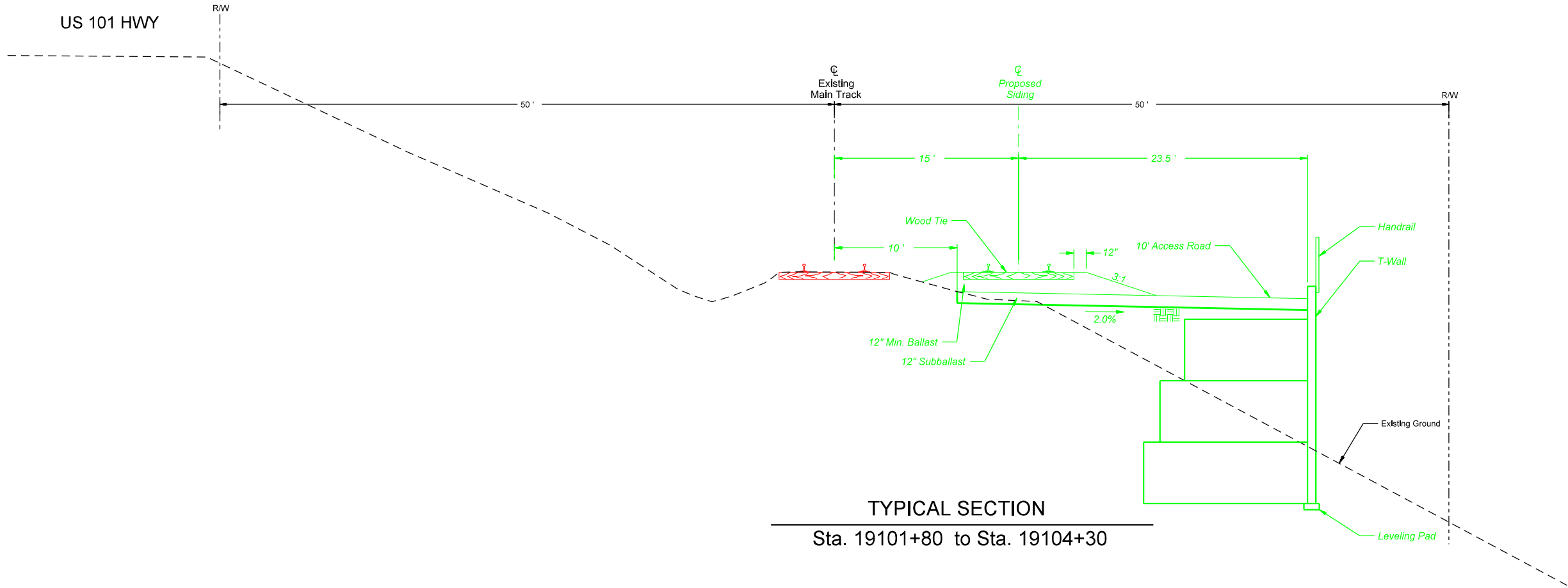
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	CHECKED BY:	AWS		
	DATE:	07-29-15	LOCATION & DESCRIPTION:	ORTEGA SIDING SANTA BARBARA SUBDIVISION: MP 373.12 - 375.82 CARPINTERIA, CA
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TYPICAL SECTION  
 Sta. 19097+70 to Sta. 19101+80



TYPICAL SECTION  
 Sta. 19101+80 to Sta. 19104+30

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	SHEET NUMBER:	T 002 of 005	SHEET TITLE:	TYPICAL SECTIONS - OPTION B

US 101 HWY

RW

50'

Existing Main Track

Proposed Siding

50'

RW

15'

23.5'

Wood Tie

10'

12"

10' Access Road

Handrail

T-Wall

12" Min. Ballast

12" Subballast

2.0%


Existing Ground

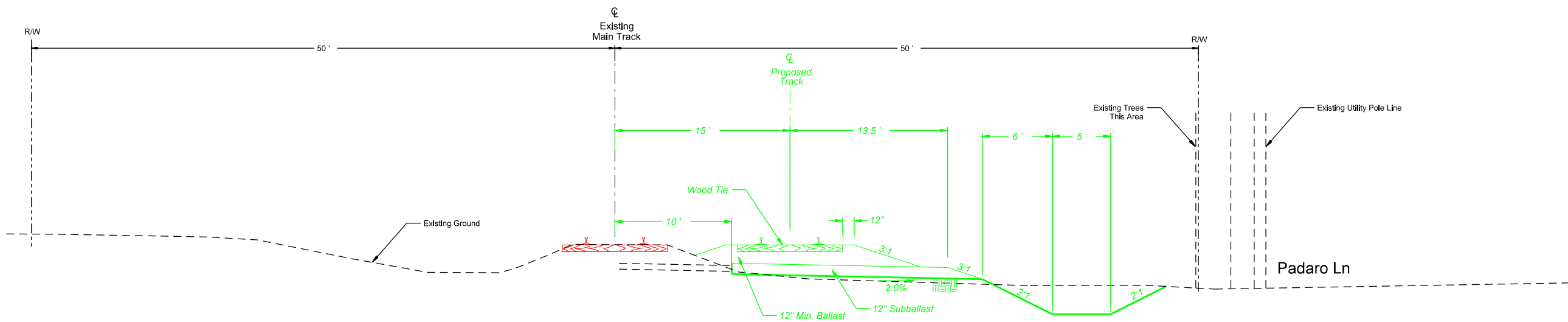
Leveling Pad

### TYPICAL SECTION

Sta. 19104+30 to Sta. 19110+49

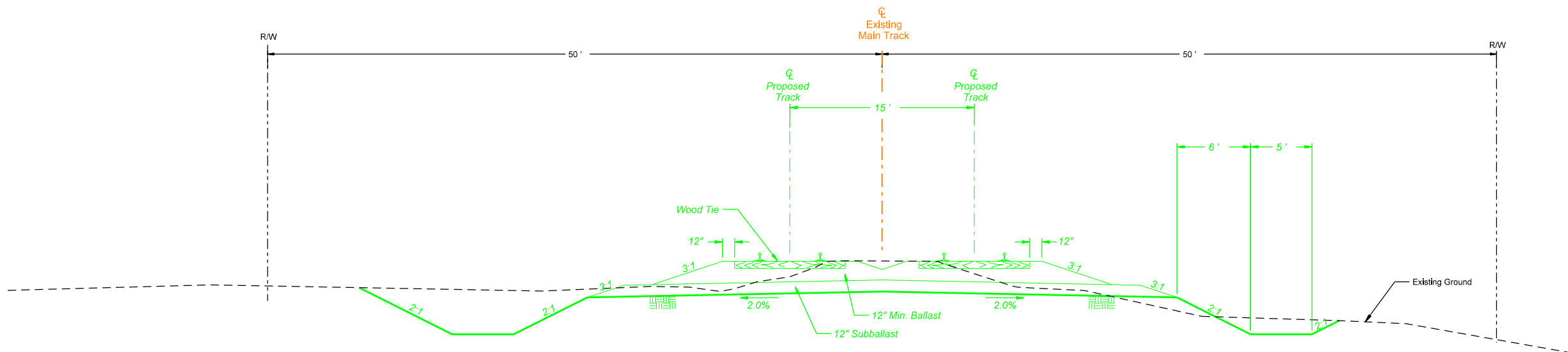
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TYPICAL SECTION

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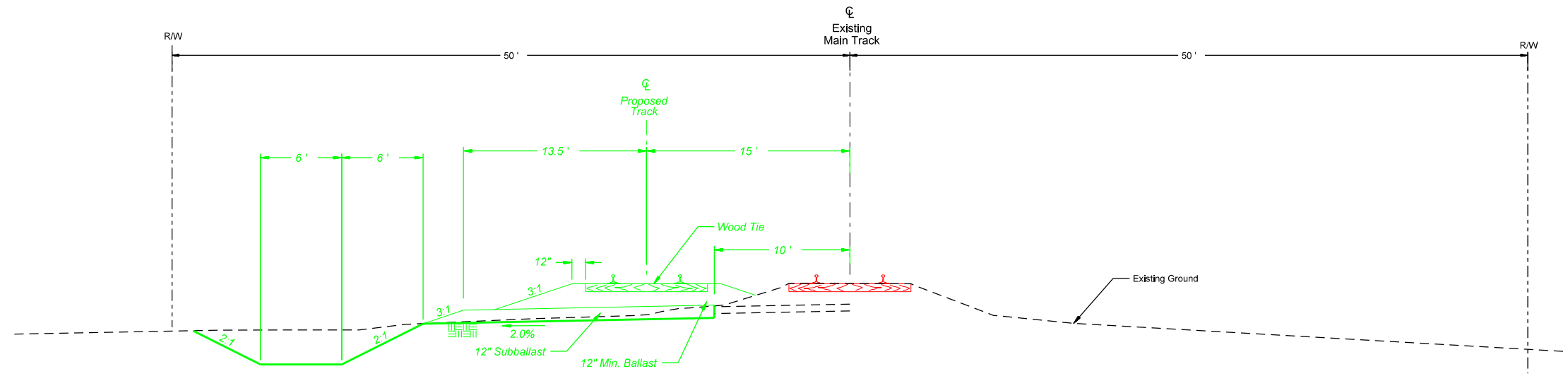


TYPICAL SECTION

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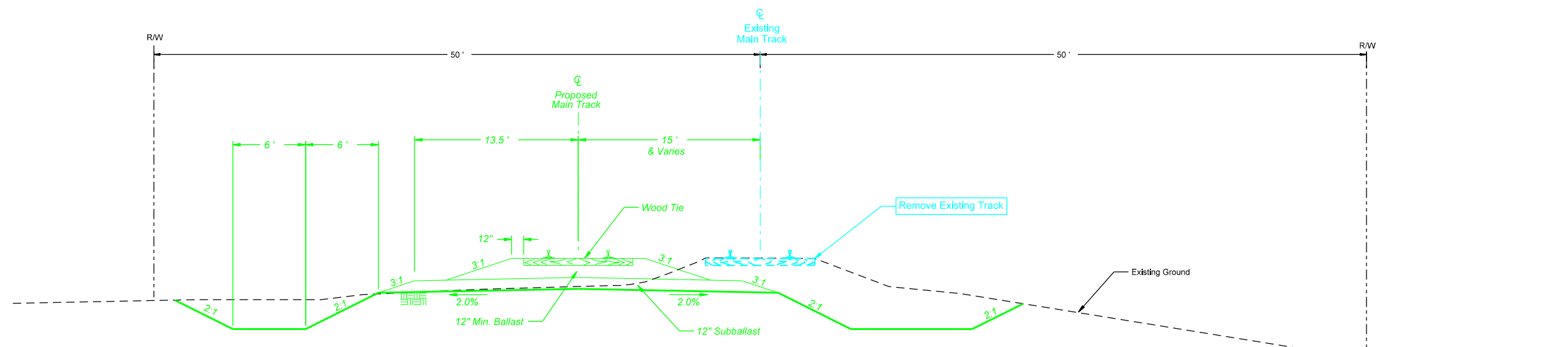
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TYPICAL SECTION


Sta. 19195+55.20 to Sta. 19217+26.52



TYPICAL SECTION

Sta. 19220+19.16 to Sta. 19246+93.57

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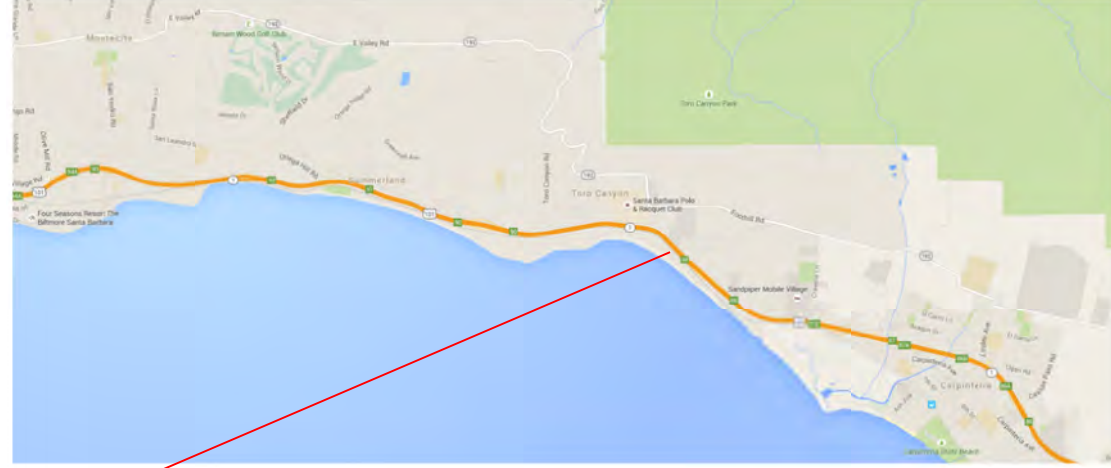
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	SHEET NUMBER	T 005 of 005	SHEET TITLE:	TYPICAL SECTIONS - OPTION B



# ENGINEERING DESIGN/CONSTRUCTION



State of California



Project Location Map

**CARPINTERIA, CA**  
**SANTA BARBARA SUBDIVISION**  
**MP 373.12 TO 375.82**  
**ORTEGA SIDING - OPTION C**

**PRELIMINARY**  
**NOT FOR CONSTRUCTION**

**LAST REVISED**  
**JULY 29, 2015**

**WORK ORDER:**  
**PROJECT NUMBER:**  
**BUDGET REFERENCE:**





**GENERAL NOTES**

- Contractors shall notify Service Alert, (800) 642-2444 and UPRR Fiber Optics Hotline (800) 336-9193, 48 hours prior to any excavation. The USA Authorization Numbers shall be kept at the job site.
- No work whatsoever shall be commenced without first notifying the UPRR Engineer.
- The Contractor shall comply with all Federal, State, County, and City Laws and Ordinances and Regulations of the Department of Industrial Relations, OSHA, NPDES and Industrial Accident Commission related to the safety and character of the work, equipment and labor personnel.
- Contractor shall be responsible for coordinating with all Utility agencies.
- Contractor shall protect in place (by any means necessary) all existing utilities to remain unless otherwise specified herein, contractor shall be responsible for the complete repair at his expense, for any damage to existing utilities, structures, or other site features, as a result of his work.
- Prior to placing curbs, pavements, base, subbase, track, etc., all underground utilities shall be installed, backfill completed, and the Engineer notified by each of the utility companies having facilities within the work area, that the utility installation has satisfactorily passed acceptance tests.
- All existing underground utilities, that are not to be re-used shall be abandoned in place. All existing pipelines to be abandoned in place shall be cement slurry filled and capped at least 3'-0" below top of proposed subgrade.
- Contractor shall verify locations and elevations of existing utilities whether known or unknown prior to beginning construction.
- Any underground structures such as cesspools, cisterns, mining shafts, tunnels, septic tanks, wells, and pipelines not located prior to construction shall be brought to the attention of the engineer for determination of appropriate action such as removal or treatment in a manner judged suitable to the engineer.
- Contractor shall coordinate location of all proposed utilities with UPRR to assure accuracy of utility connections and compliance with local codes.
- Any existing conditions found to be a variance with these drawings must be immediately reported to the Engineer.
- Contractor shall maintain and clean to the satisfaction of the Engineer, all access and service roads used during construction.
- Contractor shall perform all construction in such a manner as to protect adjacent existing buildings, and other site elements which are to remain in service.
- Contractor shall provide As-built Drawings for all improvements.
- No field changes will be permitted without direct written authorization from the UPRR Engineer or his representative.
- Contractor shall coordinate work which affects adjacent property owners. Any questions or agreements between adjacent property owners and contractor shall be made in writing. A copy of such agreement shall be provided to the UPRR Engineer or his representative.
- The contractor is responsible for preparing a Stormwater Pollution Prevention Plan (SWPPP) to comply with State regulations. General specifications and typical erosion control details are included in the plan set.
- Right-of-way lines shown on the plans were taken from existing UPRR right-of-way map and are approximate.
- Match lines for sheets are based on the existing Main Line stationing unless otherwise specified.
- Track laying, ballasting, and installation of road crossing panels will be done by UPRR unless otherwise stated.
- Where existing culverts are to be extended, the contractor shall expose existing drainage structures and field verify size and type before ordering.
- The contractor is responsible for the removal of all pavement markings that will be in conflict with the proposed work.
- Contractor shall comply with all STATE and CITY standard specifications for construction of public improvements requirements. CITY standard specifications shall prevail.
- Contractor shall maintain at least one access to all affected business. If necessary, multiphase construction shall be utilized.

**DESIGN CRITERIA**

- UPRR standard plans and trackworks
- CITY Public Works Engineering Division
- STATE Department of Transportation Roadway Standards

**SURVEY NOTES**

- Railroad stationing for project profiles and alignments is based on stations established for chord definition spiraled curves at the centerline of the existing UPRR Main Line unless otherwise noted.
- The contractor is responsible for the preservation of all survey control monuments. In the event monuments are damaged or destroyed by the contractor, the Engineer will replace the monument solely at the contractor's expense.

	DATUM
HORIZONTAL	
VERTICAL	

**TRAFFIC NOTES**

- All barricades, warning signs, lights, devices, etc. for the guidance of vehicle traffic and pedestrians must conform to the installation shown in the Manual on Uniform Traffic Control Devices (MUTCD), current edition.
- Contractor shall make twice daily inspections of barricades and flashing lights to ensure proper placement and functioning of warning devices.
- Grade crossings closed to traffic during construction shall be barricaded in accordance with the MUTCD.
- At all grade crossings, all grade crossing warning signs (crossbuck) shall temporarily be relocated during construction and reset after the grade crossings construction is completed to a point adjacent to the roadway and 15 feet from the centerline of the near track as stated in the MUTCD except where automatic grade crossing warning signals/gates exist. All automatic warning devices are the responsibility of UPRR. At no time shall a crossing be left open without proper warning signs in place.
- Contractor shall submit traffic control plans to CITY Traffic Department for approval at least 2 weeks prior to each road closure. Plans shall be 11" x 17" engineered drawings, sealed by a professional engineer from the STATE.
- The contractor is responsible for the prompt replacement and/or repair of all traffic control devices and appurtenances damaged or disturbed due to construction.

**PROJECT CONTACTS**

**CONTACT**

**PHONE NUMBER**

**UPRR**

- Civil Construction Project Manager
- Civil Construction Field Manager
- Track Construction Project Manager
- Project Design Manager
- Project Design Sr. Project Designer
- Structures Design Sr. Manager
- Structures Design Manager
- Information Technology - Fiber
- Real Estate - Utilities
- Real Estate - Acquisitions

**CONTACT**

**PHONE NUMBER**

**FIBER**

**CONTACT**

**PHONE NUMBER**

**UTILITIES**

**CONTACT**

**PHONE NUMBER**



**FEDERAL AND LOCAL GOVERNMENT AGENCY**

**PHONE NUMBER**

- (800) 336-9193
- (888) 258-0808
- (888) 877-7267

**GENERAL**

- UPRR CALL BEFORE YOU DIG
- CALL BEFORE YOU DIG (NATIONAL DIRECTORY)
- UPRR Response Management Communications Center (RMCC)

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		CHECKED BY: AWS	
		DATE: 07-29-15	
		SHEET NUMBER G203 of 205	
LOCATION & DESCRIPTION: ORTEGA SIDING SANTA BARBARA SUBDIVISION; MP 373.12 - 375.82 CARPINTERIA, CA		SHEET TITLE: GENERAL NOTES AND PROJECT CONTACTS	

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### ABBREVIATIONS

#### MISCELLANEOUS

Ac.	Acres
Ave.	Avenue
Blvd.	Boulevard
Bldg.	Building
BNSF	BNSF Railway
C.Y.	Cubic Yards
Conc.	Concrete
°	Degree (s)
Dia.	Diameter
Dr.	Drive
Dwg.	Drawing
E	East
Elev.	Elevation
Exist.	Existing
'	Foot, Feet or Minute (s)
F.S.	Finished Surface
Horiz.	Horizontal
"	Inch, Inches or Second (s)
Inv.	Invert
Lt.	Left
L	Length
L.F.	Lineal Feet
Max.	Maximum
Min.	Minimum
N	North
NTS	Not to Scale
No.	Number
OH	Overhead
Prop.	Proposed
RR	Railroad
Rwy	Railway
R/W	Right of Way
Rt.	Right
S	South
S.F.	Square Feet
Sta.	Station
Std.	Standard
St.	Street
Twp.	Township
Typ.	Typical
UG	Underground
UPRR	Union Pacific Railroad
V	Velocity
Wt.	Weight
W	West
X-ing	Crossing

#### SIGNAL

ABS	Automatic Block Signal
ATC	Automatic Train Control
CTC	Centralized Traffic Control
DED	Dragging Equipment Detector
DTC	Direct Traffic Control
ELTO	Electric Lock Turnout
HBD	Hot Box Detector
HTTO	Hand Throw Turnout
HWD	High Wide Dectector
POTO	Power Operated Turnout
TWC	Track Warrant Control
WILD	Wheel Impact Load Dectector

#### STRUCTURES

Bldg.	Building
Br.	Bridge
CB	Catch Basin
CPT	Concrete Pile Trestle - Ballast Deck
CIP	Cast Iron Pipe
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CSP	Corrugated Steel Pipe
Culv.	Culvert
DI	Drop Inlet
DPGBD	Deck Plate Girder - Ballast Deck
DPGOD	Deck Plate Girder - Open Deck
EBW	East Backwall
F.L.	Flowline
F.F.	Finished Floor
GIP	Galvanized Iron Pipe
Hdwl	Headwall
NBW	North Backwall
PSCT	Prestressed Concrete Trestle
RCA	Reinforced Concrete Arch
RCB	Reinforced Concrete Box
RCP	Reinforced Concrete Pipe
SBW	South Backwall
SSP	Smooth Steel Pipe
SPTBD	Steel Pile Trestle - Ballast Deck
SPTOD	Steel Pile Trestle - Open Deck
SPP	Structural Plate Pipe
TPGBD	Through Plate Girder - Ballast Deck
TPGOD	Through Plate Girder - Open Deck
TPTBD	Timber Pile Trestle - Ballast Deck
TPTOD	Timber Pile Trestle - Open Deck
TTBD	Through Truss - Ballast Deck
TTOD	Through Truss - Open Deck
TWB	Treated Wood Box
VCP	Vitrified Clay Pipe
Viad.	Viaduct
WBW	West Backwall
WIP	Wrought Iron Pipe

#### TRACK

ATR	Above Top of Rail
Align.	Alignment
BBR	Below Base of Rail
Cntrs.	Centers
CWR	Continuous Welded Rail
DSPD	Double Switch Point Derail
EOT	End of Track
HH	Head Hardened
Jtd.	Jointed Rail
LH	Left Hand
ML	Main Line
MM	Mile Marker
MP	Mile Post
NSC	Not Sufficient Clearance
OTM	Other Track Material
PCC	Point of Compound Curve
PC	Point of Curve
PCS	Point of Curve to Spiral
POC	Point on Curve
PF	1/2" Point of Frog
PI	Point of Intersection
PITO	Point of Intersection of Turnout
PS	Point of Spiral
PSC	Point of Spiral to Curve
POS	Point on Spiral
PT	Point of Tangent
POT	Point on Tangent
Pt. Sw.	Point of Switch
PVC	Point of Vertical Curve
PVI	Point of Vertical Intersection
PVT	Point of Vertical Tangent
RH	Right Hand
SH	Second Hand
SSPD	Single Switch Point Derail
TC	Track Centers
T.F.	Track Feet
Trk.	Track
UXO	Universal Cross-Over
X-Over	Cross-Over

#### UTILITIES

AIR	Compressed Air
F/O	Fiber Optic Cable
G	Gas Pipeline
OP	Overhead Power Line
SS	Sanitary Sewer
UGS	Underground Signal Line
SS	Steam Line
S	Storm Sewer
T	Telephone
UGE	Underground Electric
W	Water Main
UD	Under Drain
V.	Valve
M.H.	Manhole
C.B.	Catch Basin
F.H.	Fire Hydrant
J.B.	Junction Box
E.M.	Electric Meter
G.M.	Gas Meter
W.M.	Water Meter
M.W.	Monitoring Well
PUMP	Pump

#### TRACK

	Existing Mainline
	Existing Siding or Spur
	Proposed
	Remove
	Shift
	Relay
	Future
	Foreign Railroad or Industry
	In Buildings or Under Structures
	Turnout
	Wheel Stop
	Bumping Post
	Earthen Bumper
	Inert Retarder
	Dowty Retarder
	Derail
	Switch Point Derail or Double Switch Point Derail

#### PROPERTY

	Section Line
	Center Section Line
	Parcel or Easement Line
	Right of Way
	Former Right of Way
	Right of Way to be Acquired
	Foreign Right of Way

#### SYMBOLS

##### ROAD CROSSING WARNING DEVICES

	Crossbuck Sign
	Flashing Light Warning Device
	Flashing Light Warning Device with Gate
	Cantilever Flashing Light Warning Device
	Cantilever Flashing Light Signal with Gate

##### SIGNAL

	Absolute Signal
	Signal Bridge
	Cantilever Signal
	ACS or CTC Signal
	Dwarf Signal
	Begin CTC
	Microwave Tower
	AEI
	Battery Box
	Dragging Equipment Detector
	Generator
	Hot Box Detector

##### STRUCTURES

	Culvert
	Culvert with Headwalls
	Double Culvert
	Railroad Bridge
	Highway Overpass
	Highway Underpass
	Tunnel
	Building
	Flag Pole

##### LIGHTING

	Light Pole
	Light Tower

#### SIGNS

	Stop
	Yard Limit
	1 Mile to Yard Limit
	Whistle Post
	Flanger
	Station
	Reduce Speed
	Resume Speed
	General Purpose

#### FENCES

	Barbed Wire
	Chain Link
	Snow / Sand
	Cattle Guard

#### ROADS

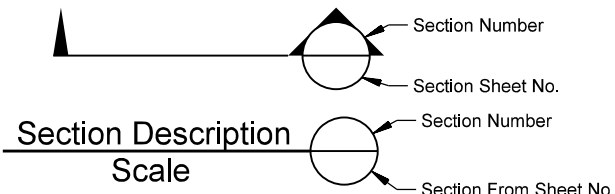
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	Unimproved Road
	Interstate Highway
	Federal Highway
	State Highway
	County Highway

#### OTHER

	Wetlands
	River or Lake
	Embankment
	Flow Line
	Milepost
	Milemarker
	Control Point
	Revision Number
	Revision Cloud

#### CONSTRUCTION

	Note (Work by Contractor)
	Note (Work by Others)
	Cut Lines
	Fill Lines



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SHEET NUMBER G204 of 205	SHEET TITLE: ABBREVIATIONS & LEGEND		

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These are Construction Lines they will not print if the CLJ5550 or HP\_1055CM.pen tables are used.

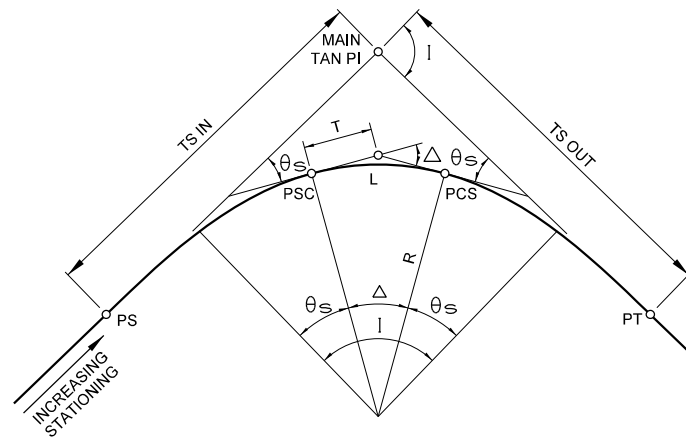


FIGURE A  
CIRCULAR CURVES  
WITH SPIRAL TRANSITION

- | - TOTAL INTERSECTION ANGLE
- $\theta_s$  - SPIRAL ANGLE =  $\frac{AL^2}{2}$
- $\Delta$  - CENTRAL ANGLE OF CIRCULAR CURVE =  $| - 2\theta_s$
- Dc - DEGREE OF CURVE
- A - RATE OF CHANGE OF DEGREE OF CURVE PER 100-ft. OF LENGTH =  $\frac{Dc}{L}$
- R - RADIUS OF CIRCULAR CURVE
- T - TANGENT LENGTH OF CIRCULAR CURVE =  $R \tan \frac{\Delta}{2}$
- L - LENGTH OF CIRCULAR CURVE =  $\frac{\Delta}{Dc} \times 100$
- PS - TANGENT TO SPIRAL
- PSC - SPIRAL TO CURVE
- PCS - CURVE TO SPIRAL
- PT - SPIRAL TO TANGENT

MAIN TAN PI - POINT OF INTERSECTION OF MAIN TANGENTS  
(TS IN) - TANGENT LENGTH OF COMPLETE CURVE =  $(R+o) \tan \frac{1}{2} + t$   
(TS OUT)

(WHEN SPIRALS OF EQUAL LENGTH  
ARE USED ON BOTH SIDES OF  
CIRCULAR CURVE, SEE FIGURE C.  
FOR o AND t).

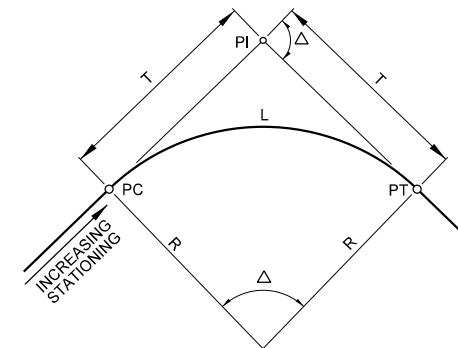


FIGURE B  
SIMPLE CIRCULAR CURVE

- R = RADIUS OF CIRCULAR CURVE
- $\Delta$  = CENTRAL ANGLE OF CIRCULAR CURVE
- $T = R \tan \frac{\Delta}{2}$
- $L = \frac{\Delta}{Dc} \times 100$
- $Dc = 2 \sin^{-1} (50/R) =$  DEGREE OF CURVE (CHORD DEFINITION)

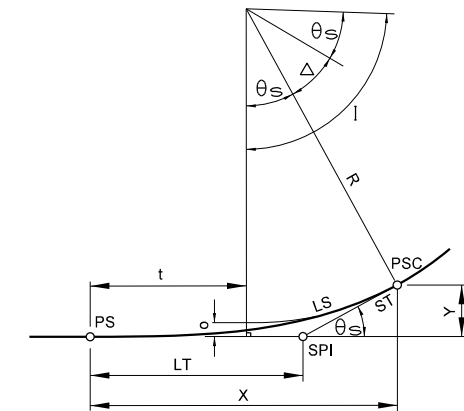


FIGURE C  
SPIRAL TRANSITION CURVE

SPIRAL TRANSITION CURVE DATA:  
THE SPIRAL USED IS DEFINED BY THE TALBOT SPIRAL.

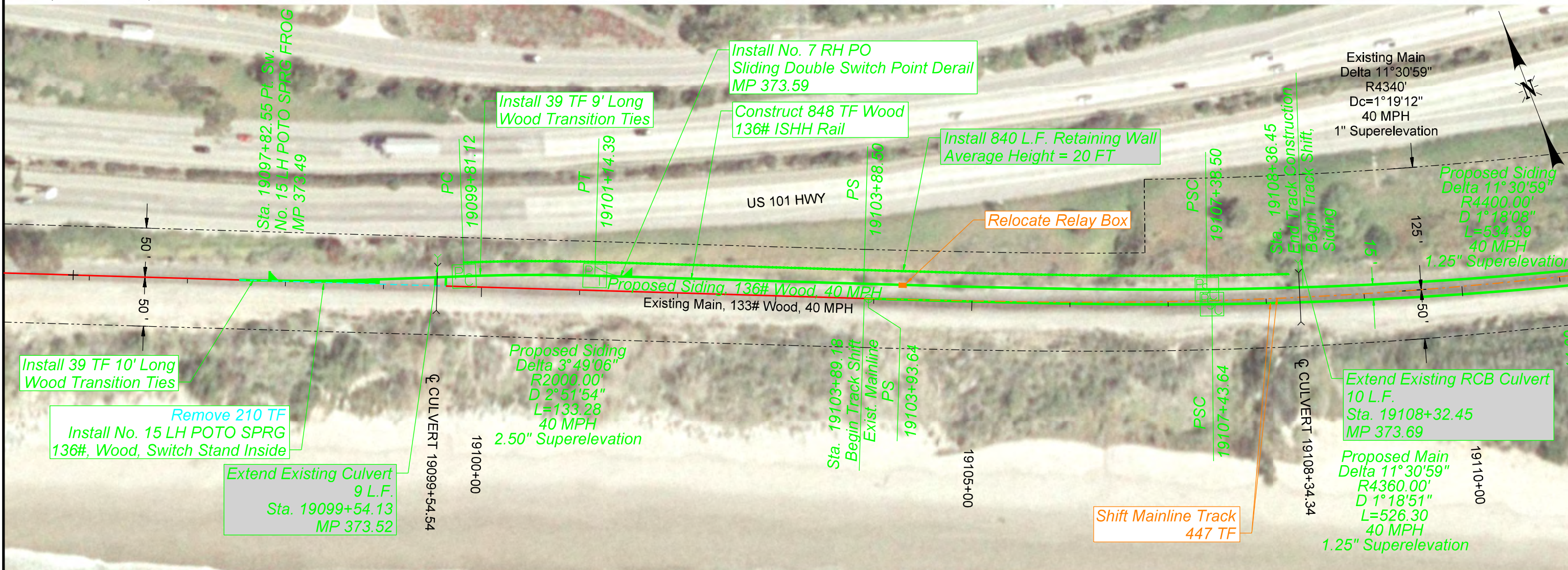
- LS = LENGTH OF SPIRAL (TS TO PSC)
  - $\theta_s = \frac{AL^2}{2}$
  - $X = 100 L_1 - 0.000762A^2 L_1^5$
  - $Y = 0.291AL_1^3 - 0.00000158A^3 L_1^7$
  - $o = 0.0727AL_1^3$
  - $t = 50L_1 - 0.000127A^2 L_1^5$
  - $ST = \frac{Y}{\sin \theta_s}$
  - $LT = X - \frac{Y}{\tan \theta_s}$
  - $Dc = 2 \sin^{-1} (50/R) =$  DEGREE OF CURVE (CHORD DEFINITION)
  - $L_1$  - TOTAL NO. OF STATIONS IN SPIRAL
  - SPI - SPIRAL POINT OF INTERSECTION
- NOTE: Dc,  $\theta_s$ ,  $\Delta$ , AND | ARE IN DEGREES.  
ALL OTHERS DIMENSIONS ARE FEET.

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US 101 HWY

MP 374

Shift Existing Mainline to Siding Track  
786 TF

Proposed Siding  
Delta 11° 30' 59"  
R4400.00'  
D 1° 18' 08"  
L= 534.39  
40 MPH  
1.25" Superelevation

Relocate Relay Box

Existing Siding  
Delta 11° 30' 59"  
R 4340'  
D 1° 19' 12"  
40 MPH  
1" Superelevation

Proposed Siding, 136# Wood, 40 MPH (11,865 Clear)

Existing Siding, 133# Wood, 40 MPH

Proposed Main, 136# Wood, 40 MPH

Construct 7,791 TF, Wood  
136# ISHH Rail

Install Pier Protection Wall 50 L.F.  
14' From Track

Extend Existing RCB Culvert 15 L.F.  
Sta. 19117+73.92  
MP 373.87

Relocate Signal Equipment

Proposed Main  
Delta 11° 30' 59"  
R4360.00'  
D 1° 18' 51"  
L=526.30  
40 MPH  
1.25" Superelevation

Sta. 19111+14.09  
End Track Shift  
Begin Track Construction  
Mainline

19110+00

PCS  
19112+69.92

19115+00

PT  
19116+19.92

PT  
19116+22.88  
End Track Shift,  
Siding

125'

50'

CULVERT 19117+73.26

15'

19120+00

19125+00



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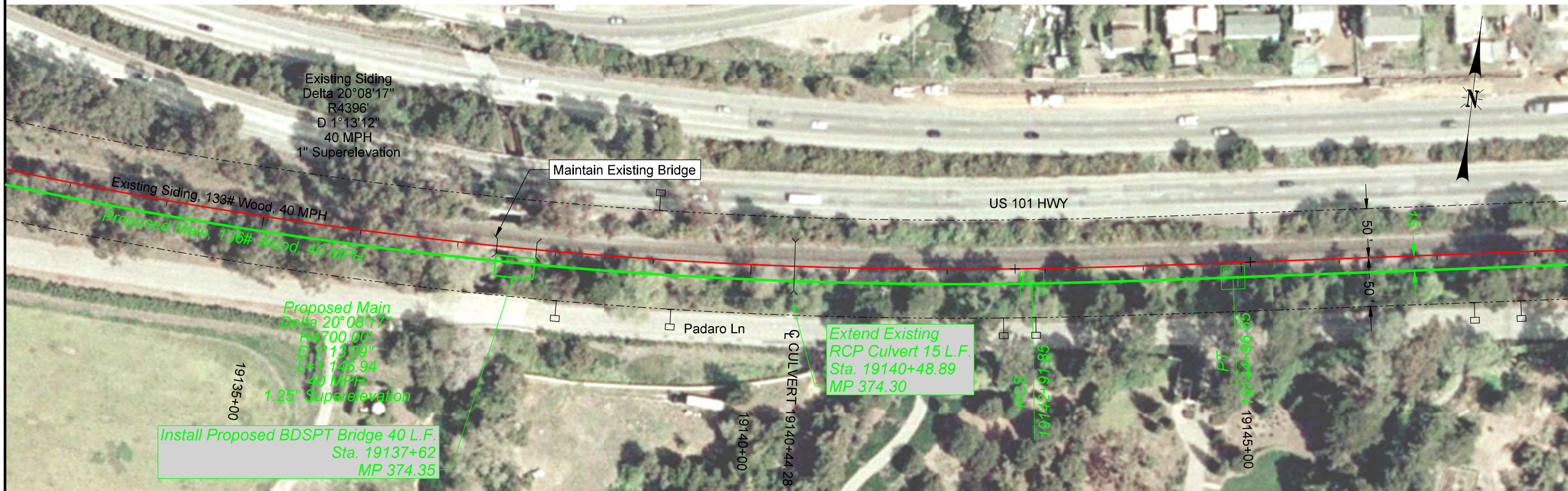


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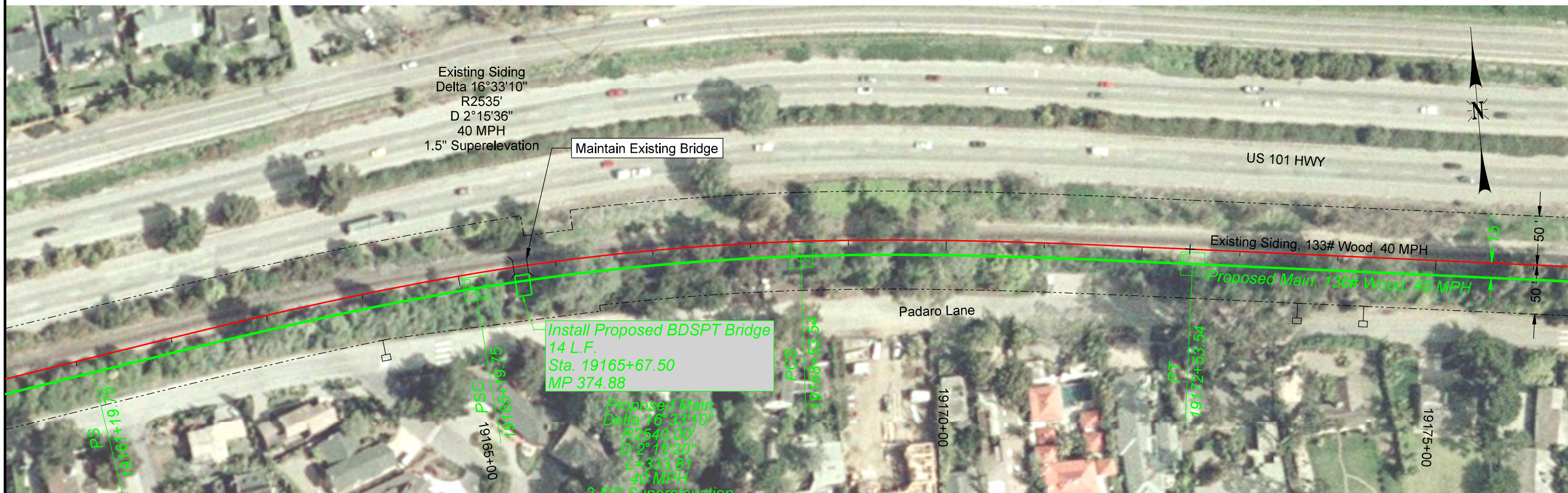
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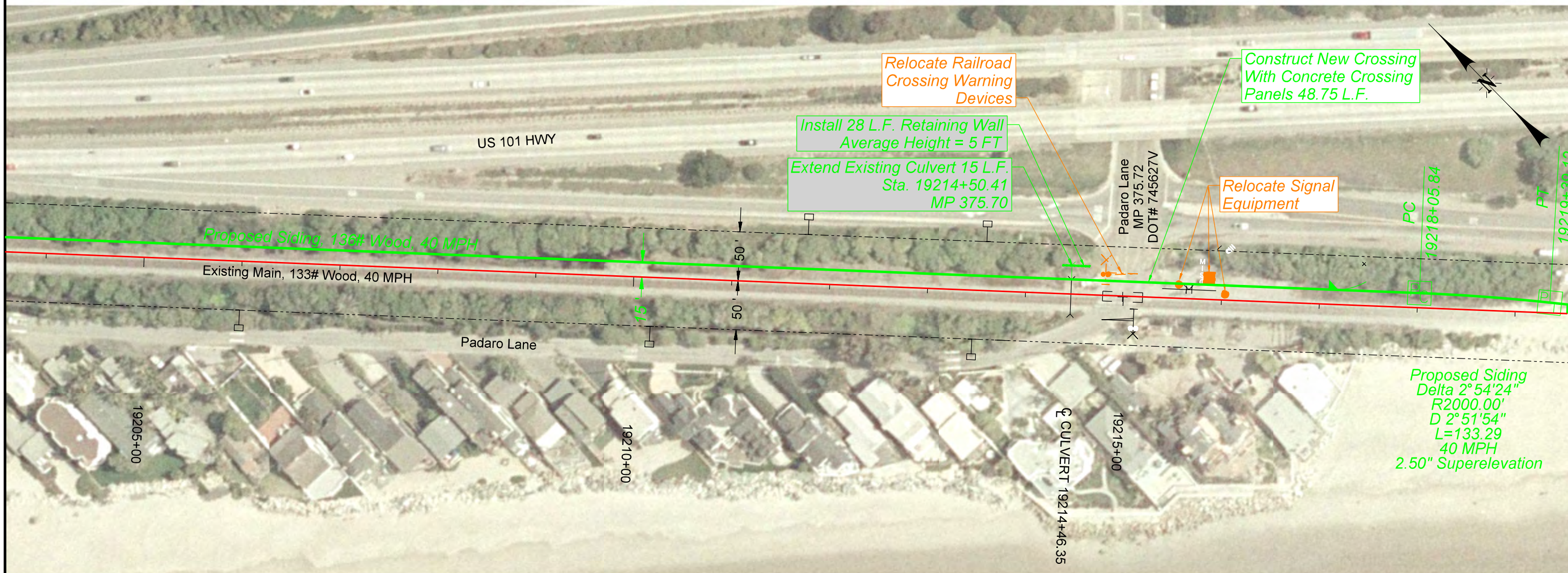
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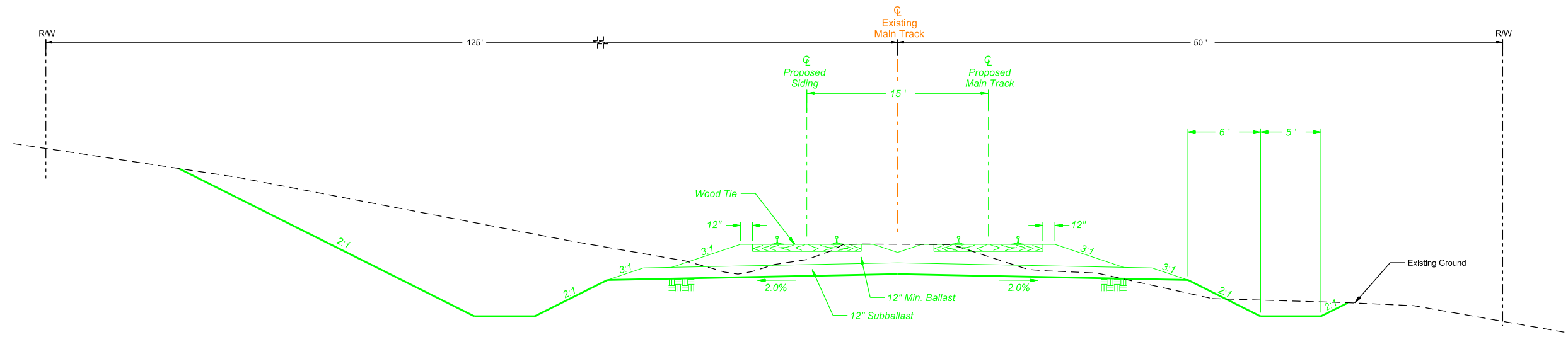
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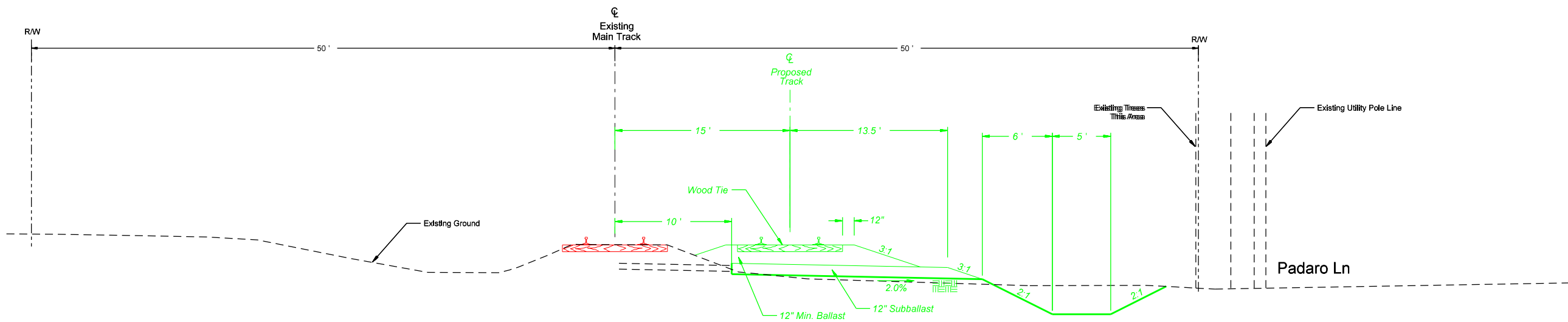
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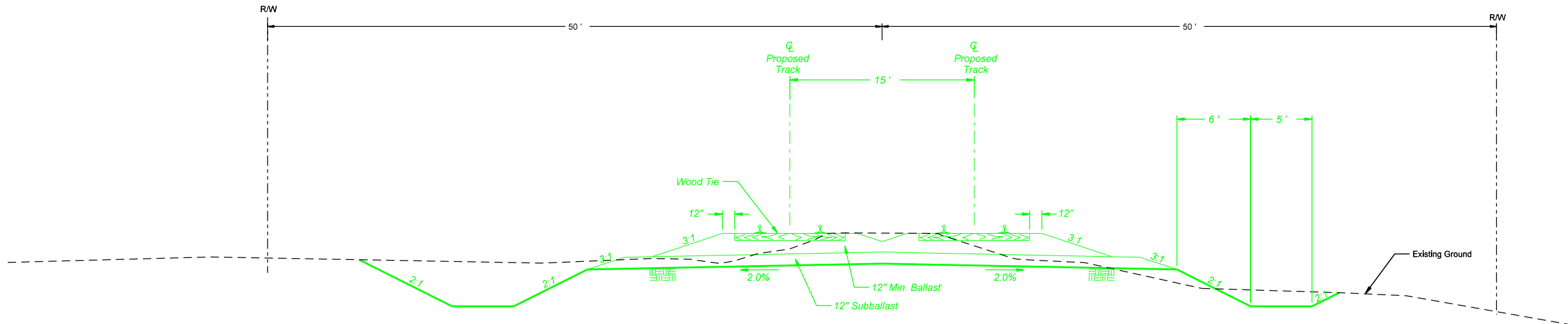
TYPICAL SECTION  
 Sta. 19108+24 to Sta. 19116+20

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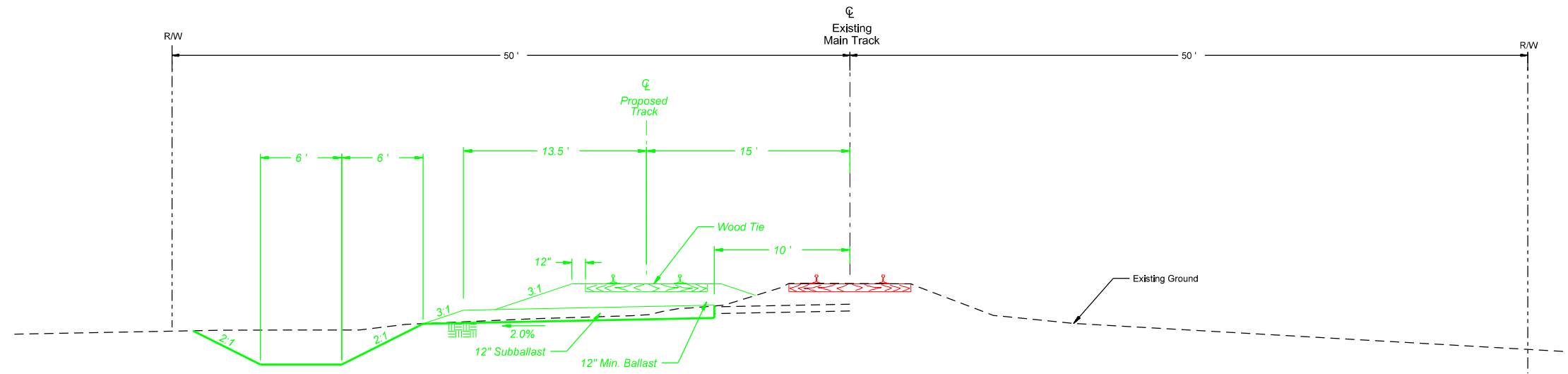
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TYPICAL SECTION  
Sta. 19180+81.70 to Sta. 19195+53.00

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TYPICAL SECTION

Sta. 19195+53.65 to Sta. 19217+51.20

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