



Los Angeles to Anaheim Usable Segment

Incremental Capital Investment (#1)

Rosecrans/Marquardt Grade Separation Project
Funding Plan

Final – June 16, 2017

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Table of Contents

	<u>Page</u>
Table of Contents	<i>i</i>
Acronyms and Abbreviations	<i>ii</i>
Glossary of Key Defined Terms	<i>iv</i>
<u>Introduction</u>	<i>1</i>
A. <u>The Usable Segment</u>	<i>8</i>
B. <u>Sources of Funds and Anticipated Time of Receipt</u>	<i>13</i>
C. <u>Projected Ridership and Operating Revenue</u>	<i>17</i>
D. <u>Projected Construction Cost</u>	<i>21</i>
E. <u>Material Changes</u>	<i>24</i>
F. <u>Terms and Conditions of Agreements</u>	<i>25</i>

Appendices

Appendix A: Funding Sources Overview, Process and Timeline

Appendix B: Reference Documents

Acronyms and Abbreviations

Authority	California High-Speed Rail Authority
BNSF	Burlington Northern Santa Fe Railway Company
CTC	California Transportation Commission
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
C&M	Construction and Maintenance
CPUC	California Public Utilities Commission
CTC	California Transportation Commission
EA	Environmental Assessment
EIR/EIS	Environmental Impact Report/Environmental Impact Statement
FAST	Fixing America’s Surface Transportation
FHWA	Federal Highway Administration
FONSI	Finding of No Significant Impact
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GO	General Obligation
ITIP	Interregional Transportation Improvement Program
JPA	Joint Powers Authority
LAUS	Los Angeles Union Station
LOSSAN	Los Angeles – San Diego – San Luis Obispo Rail Corridor
Metro	Los Angeles County Metropolitan Transportation Authority
MOU	Memorandum of Understanding
MPO	Metropolitan Planning Organization
NEPA	National Environmental Policy Act
NHFN	National Highway Freight Network
NHFP	National Highway Freight Program
PMFA	Project Management and Funding Agreement
Prop 1A	Proposition 1A, also known as the “Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century”
PS&E	Plans, Specifications, and Estimates

ROD	Record of Decision
SAA	Supplemental Alternatives Analysis
SB	Senate Bill
SCAG	Southern California Association of Governments
SCC	Standard Cost Categories
SCRRA	Southern California Regional Rail Authority
S&H Code	Streets and Highways Code
STIP	State Transportation Improvement Program
STO	State Treasurer’s Office
TCRP	Transit Cooperative Research Program
TIGER	Transportation Investment Generating Economic Recovery
US DOT	U.S. Department of Transportation
YOE	Year of Expenditure

Glossary of Key Defined Terms

California High Speed Rail Program Phase 1 (“Phase 1”)	The corridor of the high-speed rail system from Los Angeles and Anaheim to San Francisco, including the blended system in Northern California between San Francisco and San Jose and in Southern California between Burbank, Los Angeles and Anaheim.
California High Speed Rail Program Silicon Valley to Central Valley Line (“Valley to Valley Line”)	As defined in the 2016 Business Plan, the section of the California High-Speed Rail System that runs from San Jose Diridon Station in the north to just north of Bakersfield.
Funding Plan	The plan prepared by the Authority herewith to meet the requirements of Streets and Highways Code (S&H Code) section 2704.08, subdivision (d), specifically part (1) for the Usable Segment that is the subject of this Funding Plan.
Proposition 1A (Prop 1A) or the Bond Act	The “Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century,” approved by voters in November 2008. The Bond Act authorizes \$9.95 billion in general obligation bonds to pay for the capital costs of the high-speed rail system and improvements to regional services which will connect to the system. The Bond Act is codified in S&H Code section 2704 et seq.
SB 1029	Senate Bill (SB) 1029, passed by the California State Legislature and signed by Governor Brown in July 2012, appropriates Prop 1A funding, including for projects in Southern California. The appropriation includes the Prop 1A funds that are the subject of this Funding Plan.
Southern California Memorandum of Understanding (“SoCal MOU”)	Memorandum of Understanding (MOU) between the Authority and Southern California partner agencies to advance statewide rail modernization by investing in local rail systems that relate to the statewide high-speed rail system. SB 1029 explicitly cites to the SoCal MOU as the basis for its appropriations to the projects in Southern California that the MOU lists.

Introduction

Proposition 1A, the “Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century” (the Bond Act) was approved by voters in November 2008. The Bond Act authorizes \$9.95 billion in general obligation (GO) bonds to pay for the capital costs of the high-speed rail system and improvements to regional services which will connect to the system. The Bond Act is codified in Streets and Highways Code Section (S&H) 2704 et seq. S&H 2704.08, subdivision (d) requires that, prior to committing any proceeds of bonds described in paragraph (1) of subdivision (b) of Section 2704.04 for expenditure for construction and real property and equipment acquisition on each corridor, or usable segment thereof, other than for costs described in subdivision (g), the authority shall have approved and concurrently submitted to the Director of Finance and the Chairperson of the Joint Legislative Budget Committee the following: (1) a detailed funding plan for that corridor or usable segment thereof...(as further described herein); and (2) a report or reports prepared by one or more financial services firms, financial consulting firms, or other consultants, independent of any parties, other than the authority, involved in funding or constructing the high-speed train system, making certain indications.

Introduction

The California High-Speed Rail Authority (Authority) has prepared this S&H Code section 2704.08, subdivision (d) Funding Plan (Funding Plan) for the first capital investment - a necessary grade separation - in the Los Angeles to Anaheim Usable Segment. **Exhibit 1** shows this Usable Segment in the context of the planned statewide system. The grade separation is at the intersection of Rosecrans Avenue, Marquardt Avenue and the existing rail corridor, in the City of Santa Fe Springs (Rosecrans/Marquardt Project or Project). **Exhibit A-1** shows the Project location.

Following programmatic environmental clearance in 2005, the Authority and its federal partner, the Federal Railroad Administration (FRA), selected the existing rail corridor between Los Angeles and Anaheim as the preferred program alignment. That clearance is for shared operations in the corridor – i.e., existing passenger and freight trains sharing the corridor with high-speed trains.

The corridor is one of the busiest rail corridors in the country, with projections of significant growth in freight and passenger train volumes, even without the addition of high-speed trains. Given the volumes, adding high-speed trains will require the addition of tracks in certain areas, including at the Rosecrans/Marquardt intersection. Additional tracks are necessary to create train volume capacity. However, this at-grade crossing under current conditions is already the highest priority crossing in the entire state needing separation to increase safety, according to the California Public Utilities Commission (CPUC). The CPUC almost certainly will not approve the addition of tracks and the

associated future increased train volumes without grade separating it approximately concurrently.¹ Accordingly, a grade separation at this location is necessary for high-speed train operations between Los Angeles and Anaheim.

The Rosecrans/Marquardt Project is explicitly included in the list of projects contained in the Southern California Memorandum of Understanding (SoCal MOU). In 2012, the Legislature in Senate Bill 1029 (SB 1029) appropriated \$500 million in Proposition 1A (Prop 1A) funds for those projects.

Accordingly, this Funding Plan was prepared pursuant to provisions of Prop 1A, contained in S&H Code section 2704.08, subdivision (d). The Funding Plan relates to the commitment of Prop 1A bond proceeds in the amount of \$76.665 million of the total \$155.3 million cost of the Project for expenditure for construction activities and real property acquisition. To invest the funds, this Funding Plan is required.

Exhibit 1: High Speed Rail System



Source: 2016 Business Plan, Exhibit 4.1, page 48; California High-Speed Rail Authority, May 2016.

The investments directed by the Legislature in SB 1029 are an essential aspect of the Authority's Business Plan, as part of the necessary foundations for future high-speed rail service. At the same time, these funds will provide a significant benefit in the near term by strengthening and improving existing

¹ See Protest of the CPUC Safety and Enforcement Division, filed March 8, 2017, in CPUC proceeding A.17-03-005, in which BNSF seeks CPUC permission to add a third track, potentially prior to completion of the grade separation.

rail networks. The Business Plan incorporates a blended system approach that will provide high-speed rail service and modernized commuter/regional rail service in shared corridors and on shared tracks, both in Northern California (between San Francisco and San Jose) and in Southern California (between Burbank, Los Angeles, and Anaheim). This approach minimizes impacts on surrounding communities, reduces project cost, improves safety (by eliminating a dangerous at-grade crossing, as in this case) and expedites implementation. In short, investments such as the Rosecrans/Marquardt Project are necessary for high-speed rail service, and doing them early reduces project costs and provides significant benefits to local and regional services.

The Authority is working closely with partner agencies in Southern California to accelerate these early investment projects, which will be completed incrementally and provide significant near-term improvements. These projects will initiate phased implementation for high-speed rail service, consistent with the blended system approach. The Rosecrans/Marquardt Project is the first of these Southern California projects to be ready for implementation. The Authority's plans follow the Legislature's direction in beginning the process of developing the necessary elements of the high-speed rail system in Southern California, in conjunction with local projects and other state funded projects. The Rosecrans/Marquardt Project will provide immediate benefits for existing passenger rail services. Following completion of additional planned investments, high-speed trains will operate in the shared corridor.

Detail Regarding the Rosecrans/Marquardt Grade Separation

The Rosecrans/Marquardt Project is an important Southern California early investment project that is also necessary for future high-speed rail service. The existing Rosecrans/Marquardt crossing is an at-grade, diagonal rail crossing located at the intersection of Rosecrans Avenue and Marquardt Avenue with the BNSF mainline railroad tracks (and the future high-speed rail corridor), within the City of Santa Fe Springs in Los Angeles County. The California Public Utilities Commission (CPUC) has rated this grade crossing as the State's number one priority for grade separation.

The rail tracks that cross Rosecrans Avenue and Marquardt Avenue (i.e., that will be grade separated after completion of the Rosecrans/Marquardt Project) are part of an existing corridor between San Luis Obispo/Los Angeles/San Diego known as the "LOSSAN" corridor. This LOSSAN corridor is a 351-mile passenger rail route that extends south from San Luis Obispo through Santa Barbara and Ventura counties to downtown Los Angeles and on to Orange and San Diego counties. Pacific Surfliner service, operated by Amtrak on behalf of the LOSSAN Joint Powers Authority, and the Southern California Regional Rail Authority's (SCRRA or Metrolink) commuter rail services operate passenger trains on the Los Angeles to Anaheim Segment of the LOSSAN corridor. The LOSSAN corridor service includes 41 stations and more than 150 daily passenger trains, with an annual ridership of nearly 3 million on Amtrak Pacific Surfliner intercity trains and more than 3 million in the corridor on Metrolink commuter trains.

These tracks are also part of the BNSF East-West freight rail corridor that connects the Alameda Corridor railway with the rest of the nationwide freight rail network. The Alameda Corridor, which opened in 2002, is a 20-mile express freight rail line that facilitates cargo movements to and from the Ports of Los Angeles and Long Beach, the nation's two busiest ports based on container traffic.

In short, the existing Rosecrans/Marquardt crossing contains rail tracks that are common to both a heavily-used passenger corridor (LOSSAN) and a heavily-used freight corridor (connecting the Alameda Corridor with destinations inland). As a result, over 130 daily one way trips by train combined with heavy vehicle traffic (over 52,000 vehicles on a weekday) cause about 21 hours of cumulative gate downtime per week.

The Rosecrans/Marquardt Project is also the last grade separation necessary before increased benefits for freight and passenger rail services can be realized from the Triple Track project. The Triple Track project, being led by the California Department of Transportation (Caltrans) in cooperation with BNSF Railway and the cities located in southeastern Los Angeles County (the Gateway Cities), has worked to add 15 miles of a third mainline track between Los Angeles and Fullerton. The objective of the Triple Track project is to allow for increased capacity in LOSSAN intercity and regional rail service while also increasing the efficiency of the BNSF corridor for freight rail service. To date, over \$150 million has been invested in track and signal construction on the Triple Track project, including nearly \$130 million from the State of California and \$28million from a federal American Recovery and Reinvestment Act of 2009 grant. The State has also invested over \$110 million to construct two additional grade separations located at Valley View Avenue and Passons Boulevard, which are within the corridor.

The completion of the Triple Track project will allow for up to 32 additional daily passenger rail slots that will improve mobility throughout the LOSSAN corridor (i.e., will enable 32 more passenger rail trains to operate daily in the corridor). These slots are essential to relieve congestion on the existing corridor and, with further improvements, to allow for the additional volumes from high-speed trains running in the corridor. Other grade separations elsewhere along the LOSSAN corridor will be made over time.

The Rosecrans/Marquardt Project is necessary for high-speed rail to operate in the Los Angeles to Anaheim Segment, and therefore is an essential component of the high-speed rail system. The Authority completed a Supplemental Alternatives Analysis (SAA) Report for the Los Angeles to Anaheim Segment in April 2016, which recommended alternatives to advance for analysis in the Draft Environmental Impact Report/Environmental Impact Statement (EIR/EIS). All of the potential high-speed rail alternatives currently under consideration as a result of that SAA will pass through this intersection and all involve the addition of tracks (to handle the increased train volume). The addition of track, in turn, requires the completion of the Rosecrans/Marquardt Project, as noted previously.

As part of the Phase 1 high-speed rail system, the Authority will run high-speed rail service in this segment, along with BNSF freight rail, Amtrak passenger rail, and Metrolink passenger rail services. With the addition of high-speed rail, as well as increased train volumes for existing operators, the number of daily train trips that will traverse the segment is projected to nearly double from current conditions by

the year 2029. Completion of the Rosecrans/Marquardt Project will allow the high-speed rail system and other passenger rail operators to safely meet the capacity demands of significantly higher future passenger train volumes, and will increase current safety in the surrounding area.

The Rosecrans/Marquardt Project will construct an indispensable building block for the future high-speed rail system between Los Angeles and Anaheim, while also:

- Improving safety by separating pedestrians and vehicles from trains at the railroad crossing.
- Enhancing mobility and quality of life for the community.
- Enhancing the efficiency of existing and future rail system needs.
- Minimizing disruption to residents, businesses, and community during construction.

Project Stakeholders

Several partners are coordinating on a regular basis to implement the Rosecrans/Marquardt Project. The principal agencies are summarized below.

Los Angeles County Metropolitan Transportation Authority (Metro): Metro plans, designs, and constructs multimodal transportation projects in Los Angeles County, and also operates the county's largest transit system. Metro is leading delivery of the Rosecrans/Marquardt Project through the planning, environmental, design, and construction phases.

California High Speed Rail Authority (Authority): The Authority is planning, designing, and building a new high-speed rail system in California. The Authority has started construction of the system in the Central Valley and is currently working with partner agencies, corridor cities, stakeholders, and community members to environmentally clear all remaining project sections of the Phase 1 high-speed rail system, which includes four segments in Southern California. The Rosecrans/Marquardt Project is located in the Los Angeles to Anaheim Segment.

City of Santa Fe Springs: The Rosecrans/Marquardt Project lies within the limits of the City of Santa Fe Springs. The city is located in Los Angeles County approximately 15 miles south-east of downtown Los Angeles. It is located in a heavy industrial zone with over 80% of the city zoned for retail, office, light commercial, or heavy commercial. The city has been a key partner in the development of the Rosecrans/Marquardt Project and has also been a major participant throughout the construction of the entire Triple Track project.

California Department of Transportation (Caltrans): The State has directly supported intercity passenger rail services since 1976. Currently Caltrans provides financial support for the three intercity passenger routes in California. Caltrans works directly with the Class I railroads in California (BNSF Railway and Union Pacific Railroad) to fund and oversee engineering, construction, and capitalized maintenance of rail infrastructure improvements on the *Pacific Surfliner*, the *San Joaquin* and the *Capitol* Corridors. Further, it procures rolling stock (locomotives and passenger cars) in support of all three corridors for the benefit of California's intercity rail passengers.

LOSSAN Agency: The LOSSAN Agency is a joint powers authority (JPA) that is governed by an 11-member Board of Directors composed of elected officials representing rail owners, operators and planning agencies along the rail corridor. As of July 2015, LOSSAN has been responsible for the day to day operations of the Pacific Surfliner service, which travels throughout six counties from San Luis Obispo to San Diego.

California Public Utilities Commission (CPUC): The CPUC regulates electric, natural gas, water, telecommunications, railroad, rail transit, and passenger transportation companies in California. The CPUC's role in the Rosecrans/Marquardt Project is to provide oversight, guidance, funding, and authorization for construction of the grade separation.

BNSF: BNSF operates roughly a 2,000-mile freight rail network in California, and owns the railroad right-of-way where the Rosecrans/Marquardt Project is located. BNSF will approve the design and construction methods for the Project, as relates to their concerns.

Capital Cost and Funding Requirements

The total capital cost of the Rosecrans/Marquardt Project is projected to be \$155.3 million in year of expenditure dollars (YOES) and \$138.0 million in year 2016 dollars (2016\$).

Organization of the Funding Plan

This Funding Plan is organized consistent with the requirements of S&H Code section 2704.08, subdivision (d).

Section A: The Usable Segment – This section defines the Los Angeles to Anaheim Segment, on which the Rosecrans/Marquardt Project is located, as the Usable Segment for this Funding Plan.

Section B: Sources of Funds and Anticipated Time of Receipt – This section of the Funding Plan describes the sources of funds to be used for the construction and acquisition activities of the Rosecrans/Marquardt Project.

Section C: Projected Ridership and Operating Revenue – This section describes current and projected passenger ridership over the Usable Segment for the existing rail services and provides the Authority's ridership estimates for the corridor once its service begins.

Section D: Projected Construction Cost – This section describes the construction and acquisition cost estimates, including cost escalation and reserves for contingencies, for the Rosecrans/Marquardt Project.

Section E: Material Changes – Because the Legislature made the appropriation for projects in Southern California without a separate subdivision (c) Funding Plan, there are no material changes to report.

Section F: Terms and Conditions of Agreements – This section describes the terms and conditions of the agreements that the Authority has entered or plans to enter into with regard to the completion of the Rosecrans/Marquardt Project as well as other key agreements to which the Authority is not a party.

Appendix A: Funding Sources Overview, Process and Timeline – This appendix provides an overview, process and timeline of the funding sources for the Rosecrans/Marquardt Project.

Appendix B: Reference Documents – This appendix provides links to relevant reference documents for this Funding Plan.

A. The Usable Segment

Streets and Highways Code section 2704.08, subdivision (d)(1)(A) requires identification of the corridor, or usable segment thereof, and the estimated full cost of constructing the corridor or usable segment thereof. A usable segment is defined as a portion of corridor that includes at least two stations.

Overview

The Board of Directors has identified and selected the Los Angeles to Anaheim Segment (as described below) as a Usable Segment by its adoption of this Funding Plan. As part of the selection process, the Board considered the criteria for prioritization set forth in Section 2704.08, Subdivision (f) of the S&H Code. The Rosecrans/Marquardt Project, which is the focus of this Funding Plan, is the first investment leading to implementation of the Usable Segment. **Exhibit A-1** shows the project location.

Exhibit A-1: Rosecrans/Marquardt Project Location



Source: Rosecrans/Marquardt Grade Separation Project: Community Open House Meetings presentation, slide 6; Los Angeles Metro, March 2016.

The Usable Segment

Pursuant to S&H Code section 2704.01, subdivision (g), a Usable Segment is defined as “a portion of a corridor that includes at least two stations.” A “corridor” means a portion of the high-speed train system described in S&H Code section 2704.04. Phase 1 is a corridor.

The Usable Segment that is being selected with this Funding Plan consists of the portion of the Phase 1 corridor between and including the existing Los Angeles Union Station and the Anaheim Regional Transportation Intermodal Center (Los Angeles to Anaheim Segment) train stations. The Los Angeles to Anaheim Segment, as shown in **Exhibit A-2**, is approximately 30 miles and will connect Los Angeles and

Orange counties, with stations at least in downtown Los Angeles and Anaheim. The tracks needed for high-speed rail will share the existing LOSSAN rail corridor, one of the most heavily utilized passenger and freight rail corridors in the country. Existing passenger and freight rail services in the Los Angeles to Anaheim Segment will benefit from numerous capacity and safety improvements, including added track capacity and new grade separations at roadway intersections.

Exhibit A-2: Los Angeles to Anaheim Project Section



Source: California High-Speed Rail Authority and Federal Railroad Administration, 2016 (draft alignments, elements not to scale).

Based on the Authority’s 2016 Business Plan (Capital Cost Basis of Estimate Report, Table 3, page 15), the total expenditure for completion of the Los Angeles to Anaheim Segment is estimated to be \$2.329 billion in year 2015 dollars.² This cost estimate includes items that will enable the Authority to test and

² This reflects a change in capital cost estimates between the 2016 Business Plan and the 2014 Business Plan. As described in the 2016 Business Plan, this change was included since there was an overall cost savings on other parts of the system and because the design and project development had advanced sufficiently to produce a

run high-speed trains on the segment, including civil works, track, other railroad infrastructure, overhead catenary, train control, signaling, communications, and station improvements, as well as professional services and contingencies. High-speed trains and maintenance facilities, including a facility south of Los Angeles Union Station, are not included in this cost estimate; these items are included as part of the development of the rest of the Phase 1 system but are not assigned to specific sections for cost estimating purposes.

The Rosecrans/Marquardt Project

The Rosecrans/Marquardt Project is located between the proposed Norwalk/Santa Fe Springs and Fullerton high-speed rail stations. The Project is designed to allow a minimum of five tracks to pass underneath the roadway grade separation. **Exhibit A-3** shows the existing Rosecrans/Marquardt at-grade crossing. **Exhibit A-4** shows the proposed Rosecrans/Marquardt interchange following implementation of the Project.

In April 2012, the Authority adopted the 2012 Business Plan, which specifies its approach for sequentially implementing the Phase 1 high-speed rail system that will connect the Los Angeles Basin with the San Francisco Bay Area. The Business Plan spelled out the Authority's efforts to work closely with partner agencies in Southern California to advance and accelerate early investment projects in the Burbank to Anaheim corridor that will be the first elements of the high-speed rail system in the corridor of which the Rosecrans/Marquardt Project is one. The Authority's 2014 and 2016 Business Plans maintained the sequential-implementation approach identified in the 2012 Business Plan. Metro is the key partner in charge of developing and implementing the Rosecrans/Marquardt Project.

reasonably priced alternative for the Los Angeles to Anaheim section to enhance the improvements that the Authority would be including there.

The enhanced design increased investment in this corridor by about \$1.8 billion in year 2015 dollars (or about \$2.1 billion in year of expenditure dollars) from the 2014 Business Plan, which accounts for additional tracks and grade separations for enhanced capacity, speed and reliability in this high demand passenger rail corridor. A build alternative for the Los Angeles to Anaheim section is being evaluated that would include the design and construction of additional mainline track to accommodate new high-speed rail service and growth in service levels for existing passenger and freight rail services. The additional track would require limited right-of-way outside the existing rail corridor, some changes to existing grade separations, and some new grade separations.

Exhibit A-3: Rosecrans/Marquardt Existing At-Grade Crossing



Source: Rosecrans/Marquardt Grade Separation Project: Community Open House Meetings presentation, slide 11; Los Angeles Metro, March 2016.

Exhibit A-4: Rosecrans/Marquardt Proposed Grade Separation



Source: Rosecrans/Marquardt Grade Separation Project: Community Open House Meetings presentation, slide 12; Los Angeles Metro, March 2016.

Metro is developing the Project over several phases following their standard processes for a design-bid-build delivery approach. Phase I consists of Alternative Selection/Environmental/Preliminary Engineering

and was started in April 2015. Metro evaluated eight project alternatives and presented findings to the Santa Fe Springs City Council on December 22, 2015. The City Council approved Alternative 2 (Offset Overpass) as the locally preferred alternative (LPA). The Metro Board also approved Alternative 2 as the LPA on February 25, 2016. This alternative will:

- Raise Rosecrans Avenue (four lanes) over the tracks, with a realignment to the south.
- Connect Marquardt Avenue south of the crossing to Rosecrans Ave, under the bridge.
- Connect Marquardt Avenue north of the crossing to Stage Road.
- Connect Stage Road to Rosecrans Avenue and Anson Avenue via a connector road.

Metro completed the project's Alternatives Development Report in January 2016, which provided an evaluation of project alternatives and selection of a preferred alternative. The Rosecrans/Marquardt Project is exempt from California Environmental Quality Act (CEQA) requirements, as evidenced by a Notice of Exemption that Metro filed with the California Governor's Office of Planning and Research in February 2016. Metro is currently preparing an Environmental Assessment (EA) for the Project under the National Environmental Policy Act (NEPA), which must be completed prior to federal funds dependent on the EA flowing to the Project. Metro expects the EA will be completed by the end of 2017, along with an associated Finding of No Significant Impact (FONSI).

The Rosecrans/Marquardt Project will be completed based on design-bid-build project delivery, such that Metro will complete the project design work prior to issuing bid documents for project construction. Currently, Metro is conducting Phase II: Plans, Specifications, and Estimates (PS&E). Metro completed the 65% PS&E design documents in November 2016, which the Authority has reviewed. Metro plans to finish the 100% PS&E work in 2017, conduct the majority of right-of-way acquisition and utility relocation activities through 2018, and issue the construction bid documents in Winter 2019. Metro will then conduct Phase III: Construction, with a targeted date to complete the project in Fall 2021. The current levels of design are sufficient for development of the cost estimates described in Section D of this Funding Plan.

The Rosecrans/Marquardt Project schedule is as follows:

- *Phase 1: Alternative Selection/Environmental Clearance/Preliminary Engineering* – Spring 2015 to Mid-2017
- *Phase 2: Plans, Specifications, and Estimates* – Fall 2015 to Winter 2019
- *Phase 3: Construction* – Winter 2019 to Fall 2021

B. Sources of Funds and Anticipated Time of Receipt

Streets and Highways Code section 2704.08, subdivision (d)(1)(B) requires identification of the sources of all funds to be used and anticipated time of receipt thereof based on offered commitments by private parties, and authorizations, allocations, or other assurances received from governmental agencies.

This section describes the sources of funds for the Rosecrans/Marquardt Project. In addition to \$76.665 million from Proposition 1A bond proceeds, other funding sources include \$15.00 million from the U.S. Department of Transportation (US DOT) Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant program, \$8.135 million from the National Highway Freight Program (NHFP)/California Freight Investment Program (CFIP), \$7.00 million from the Interregional Transportation Improvement Program (ITIP), \$15.00 million from CPUC Section 190 funds, \$26.50 million from Los Angeles County Measure R funds, and \$7.00 million from BNSF Railway.

Exhibit B-1: Sources of Funds and Anticipated Time of Receipt for Rosecrans/Marquardt Project (year of expenditure dollars in thousands)

Source of Funds	Prior to FY 2016 17	FY 2016 17	FY 2017 18	FY 2018 19	FY 2019 20	FY 2020 21	FY 2021 22	TOTAL
Prop 1A	-	-	\$18,693	\$16,472	\$20,000	\$19,500	\$2,000	\$76,665
US DOT TIGER	-	-	-	\$5,000	\$7,000	\$3,000	-	\$15,000
NHFP/CFIP	-	-	\$135	\$6,500	\$1,500	-	-	\$8,135
ITIP	-	-	-	-	-	\$5,000	\$2,000	\$7,000
Section 190	-	-	\$7,500	\$7,500	-	-	-	\$15,000
Measure R	\$2,558	\$4,500	\$6,000	\$4,442	\$5,500	\$3,500	-	\$26,500
BNSF	-	-	-	-	\$7,000 ³	-	-	\$7,000
Total Funding	\$2,558	\$4,500	\$32,328	\$39,914	\$41,000	\$31,000	\$4,000	\$155,300

Source: California High-Speed Rail Authority and Metro.

Exhibit B-1 summarizes the funding sources and amounts for the Rosecrans/Marquardt Project, including the anticipated annual cash flows (which specifies when the funds are expected to be received

³BNSF will provide in-kind services (e.g., flagging) during construction. Metro will advance BNSF's share of funds beyond the in-kind services that they will provide to the Project to meet Project cash flow needs. After Project completion, BNSF will reimburse Metro for \$7 million, minus the value of the in-kind services BNSF provided during construction.

and used). A summary of each funding source is then provided. A high-level overview, process and timeline for each funding source is provided in Appendix A.

Prop 1A Bond Proceeds: The Safe, Reliable High-Speed Passenger Train Bond Act for the 21st Century, approved by California voters as Proposition 1A in November 2008, authorized the sale of over \$9 billion in bond funding for construction of a high-speed rail system in California. SB 1029, approved in July 2012, appropriated \$500 million in Proposition 1A funds to early investment projects in Southern California.

Of the total estimated project costs, Metro has estimated construction and right-of-way costs at \$153.33 million, of which the Authority would fund \$76.665 million (from Proposition 1A funds). Metro has estimated other project costs to be \$1.970 million (which the Authority would not fund), resulting in a total project cost of \$155.3 million.

Under S&H Code section 2704.12 and subsequent sections, the High-Speed Passenger Train Finance Committee⁴ must first authorize the issuance of the bond funds. In 2013, the Committee authorized Prop 1A Bond funds in the amount of \$8.6 billion. In 2015, the Sacramento Superior Court entered judgment validating that authorization.

US DOT TIGER: The US DOT TIGER Discretionary Grant program provides federal funding to build and repair freight and passenger transportation networks. Applicants must describe project benefits with respect to safety, economic competitiveness, state of good repair, quality of life, and environmental sustainability. Metro was the lead sponsor for a year 2016 TIGER application for the Rosecrans/Marquardt Project, and received notice of a \$15.00 million TIGER grant award in July 2016. FRA will be the federal lead agency for this grant. Metro will negotiate the TIGER grant agreement with FRA after completion of NEPA clearance expected in December 2017. The agreement will include provisions for reporting requirements, project modifications, project completion/close-out, and performance monitoring. The TIGER grant agreement is expected to be executed in 2018.

NHFP/CFIP: The NHFP is a formula program for freight projects established by the Fixing America's Surface Transportation (FAST) Act, a federal transportation program signed into law in December 2015. The NHFP provides approximately \$582 million of apportionments to California over the five-year period of the FAST Act. In addition to the NHFP funding, Assembly Bill 133 (Weber, 2016) provided an \$11 million Traffic Congestion Relief Fund loan repayment to be used for trade corridor improvements. On June 27, 2016 the Governor signed SB 826 (Leno, 2016), which directs the CTC to allocate federal NHFP formula funds to corridor-based projects selected by local agencies and the state. The Commission began to develop guidelines in November 2016 and final guidelines are anticipated to be brought forward for Commission adoption in summer 2017.

⁴ The Committee consists of the State Treasurer, the Director of Finance, the Controller, the Secretary of Transportation, and the Chairperson of the Authority. The State Treasurer serves as Chairperson of the Committee.

The purpose of the NHFP is to improve efficient movement of freight on the National Highway Freight Network, consisting of highways critical to the movement of freight as well as public roads in urbanized and non-urbanized areas which connect those highways with ports, intermodal freight facilities, and major freight generators. Railway-highway grade separation projects are among the eligible project types for NHFP funding.

In Southern California, the Southern California Association of Governments (SCAG) is the MPO responsible for generating a list of candidate projects for the region. SCAG and Caltrans plan to jointly designate the Rosecrans/Marquardt Project as a high priority project for the state and for the region (as intended by SB 826), with a planned allocation of \$8.135 million in NHFP funding. This designation will ensure that the Project will receive its planned share of funds from NHFP. Metro will work with the Authority, SCAG, and Caltrans to submit the necessary NHFP application materials for the Project in summer 2017, in order to include the Project in the State's freight investment program. Caltrans will submit the State's freight investment program to the Federal Highway Administration (FHWA) for approval by November 2017. Following FHWA approval, the CTC will be asked to approve and allocate these funds in March 2018, at which point the funding will be available.

ITIP: The Interregional Transportation Improvement Program is a component of the California State Transportation Improvement Program (STIP), and is funded primarily from state fuel excise taxes. The ITIP provides funding for projects that improve interregional movement for people and goods across California on the State Highway System, and that develop intercity passenger rail corridors of strategic importance. Caltrans prepares the ITIP every two years, and submits the ITIP to the California Transportation Commission (CTC) for approval.

Caltrans prepared the 2016 ITIP in December 2015, and revised the 2016 ITIP in February 2016. Caltrans is reprogramming \$7.00 million of ITIP funding to the Rosecrans/Marquardt Project. Caltrans will formalize this reprogramming of funds in the 2016 ITIP. CTC is expected to approve this reprogramming at its meeting scheduled on June 28 and 29, 2017.

Section 190: The State's Section 190 Grade Separation Program, administered by CPUC and Caltrans, provides state funding for grade separations between roadways and railroad tracks. CPUC develops and maintains a funding priority list of grade separation projects in the state based on factors including accident history, crossing geometrics, and traffic delays. Interested local agencies must submit grade crossing nominations to CPUC, with supporting information. The project on the priority list with the highest priority, as determined by CPUC, has first claim to the available funds based on an annual cap of \$15.00 million. Certain technical requirements must be met to claim the funds, including completed environmental documents, completed construction plans, full project funding, and execution of construction and maintenance agreements.

The City of Santa Fe Springs is sponsoring the CPUC Section 190 application for the Rosecrans/Marquardt Project, with a funding request of \$15.00 million. The City will submit its Section 190 funding application to CPUC and Caltrans in spring 2018. The funding is expected to be available

because Section 190 allocates the \$15 million to the highest project on the CPUC grade separation priority list. The Rosecrans/Marquardt Project is the highest ranked project on the grade separation priority list for FY 2016-17 and will remain the #1 priority in FY 2017-18.

Measure R: Los Angeles County voters approved Measure R in November 2008. Measure R is a half-cent transportation sales tax in Los Angeles County that is in place for a 30-year timeframe, from State Fiscal Year (FY) 2009-10 to FY 2038-39. Measure R is funding a wide range of transportation projects throughout the county, including transit capital, highway capital, operations, and local return projects. The project categories are documented in a Measure R expenditure plan as adopted by the Metro Board. Measure R is expected to generate about \$40 billion over the 30-year period. The Rosecrans/Marquardt Project was selected to be funded as a Metrolink capital improvement project and a grade separation within Los Angeles County as part of a group of projects in the Gateway Cities at Metro's Planning and Programming Committee meeting in September 2013. This commitment was further reiterated with the specific amount of \$26.50 million from Measure R at Metro's Planning and Programming Committee meeting in January 2017.

BNSF: Code of Federal Regulations Section 646.210 specifies that where a Federal-aid grade separation project will eliminate one or more existing grade crossings that currently have active warning devices, the railroad funding share shall be 5 percent of the project costs for preliminary engineering, right-of-way, and construction. The funding share can differ from 5 percent if agreed upon by the railroad and the project sponsor. Based on current discussions between Metro and BNSF, BNSF will make the 5 percent statutorily stipulated contribution to this project. It is currently anticipated that this contribution is \$7.00 million. BNSF will provide in-kind services (e.g., flagging) during construction. Metro will advance BNSF's share of funds beyond the in-kind services that they will provide to the Project to meet Project cash flow needs. After Project completion, BNSF will reimburse Metro for \$7 million, minus the value of the in-kind services BNSF provided during construction. The statutorily stipulated funding commitment and details of how it will be provided will be specified in Construction & Maintenance (C&M) agreements that are currently being negotiated between Metro, BNSF, and the City of Santa Fe Springs. These agreements are expected to be finalized in summer 2017 and are discussed further in Section F of this Funding Plan.

C. Projected Ridership and Operating Revenue

Streets and Highways Code section 2704.08, subdivision (d)(1)(C) specifies inclusion of a projected ridership and operating revenue report.

The Los Angeles to Anaheim Segment, on which the Rosecrans/Marquardt Project is located, is currently served by the following passenger rail services:

- *Metrolink Orange County Line:* SCRRA provides Metrolink regional rail service between Los Angeles Union Station (LAUS) in downtown Los Angeles and Oceanside in San Diego County, via Anaheim in Orange County. Metrolink operates 14 southbound trips and 15 northbound trips per weekday in the Los Angeles to Anaheim Segment (five of these southbound trips and five of these northbound trips per weekday operate only between Fullerton and Anaheim).
- *Metrolink 91/Perris Valley Line:* SCRRA provides Metrolink regional rail service between LAUS in downtown Los Angeles and Perris in Riverside County, via Fullerton in Orange County. Metrolink operates five southbound trips and four northbound trips per weekday in the Los Angeles to Anaheim Segment (trains run between Los Angeles and Fullerton).
- *Amtrak:* Amtrak operates Pacific Surfliner intercity rail service between LAUS in downtown Los Angeles and downtown San Diego, via Anaheim. The service also extends north of LAUS to locations including Burbank, Santa Barbara, and San Luis Obispo. The LOSSAN Rail Corridor Agency provides this service, with 12 round trips per weekday in the Los Angeles to Anaheim Segment. In addition, Amtrak long-distance service (the Southwest Chief to/from Chicago) also serves this segment, with one round trip per day between Los Angeles and Fullerton.

High-Speed Rail Ridership Forecasts

The Authority will run service on the Los Angeles to Anaheim Segment once it is connected to a larger part of the statewide high-speed rail system in Phase 1 and the Authority's forecasts for that service are available in the 2016 Business Plan as noted below and incorporated into this Funding Plan by reference.⁵

⁵ The ridership forecasts for the Authority's service that will use the Los Angeles to Anaheim Segment are provided in the 2016 Business Plan in Section 7: Forecasts and Estimates, as well as associated technical documents available on the Authority's website at http://hsr.ca.gov/About/Business_Plans/2016_Business_Plan.html.

Additionally, further technical information on the Authority's ridership and revenue forecasts is available on the Authority website here: http://hsr.ca.gov/About/ridership_and_revenue.html

Adding the Los Angeles to Anaheim Usable Segment, which the Rosecrans/Marquardt Project is a part of, produces a significant (close to 25%) increase in high-speed rail ridership. The medium case ridership forecast for the Phase 1 high-speed rail system connecting San Francisco and Anaheim in the year 2040 is 42.8 million riders. This is 8.3 million higher than the year 2040 ridership if the system did not include the Los Angeles to Anaheim Segment (i.e., a system that connects San Francisco and downtown Los Angeles, without service to Anaheim).

Metrolink and Amtrak Historical Ridership

Exhibit C-1 describes annual ridership and operating revenue since FY2011-12 for the Metrolink and Amtrak passenger rail services that serve the Los Angeles to Anaheim Segment. From FY2011-12 to FY2015-16, total ridership of those services increased by 11% and total operating revenue increased by 57%.

Exhibit C-1: Ridership and Operating Revenue, Los Angeles to Anaheim Segment

Ridership					
	FY2011-12	FY2012-13	FY2013-14	FY2014-15	FY2015-16
Metrolink Orange County Line	2,292,243	2,600,633	2,519,114	2,585,647	2,502,065
Metrolink 91/Perris Valley Line	586,410	616,892	608,328	680,745	735,288
Amtrak Pacific Surfliner	2,664,935	2,689,465	2,673,170	2,827,134	2,927,960
Total	5,543,588	5,906,990	5,800,612	6,093,526	6,165,313

Operating Revenue					
	FY2011-12	FY2012-13	FY2013-14	FY2014-15	FY2015-16
Metrolink Orange County Line	\$ 21,384,000	\$ 23,920,000	\$ 23,650,000	\$ 24,014,000	\$ 24,861,000
Metrolink 91/Perris Valley Line	\$ 4,187,000	\$ 4,389,000	\$ 5,383,000	\$ 4,560,000	\$ 5,526,000
Amtrak Pacific Surfliner	\$ 42,884,431	\$ 64,446,130	\$ 69,013,726	\$ 75,246,335	\$ 77,308,000
Total	\$ 68,455,431	\$ 92,755,130	\$ 98,046,726	\$ 103,820,335	\$ 107,695,000

Sources: Metrolink Budgets (FY2013-14 to FY2016-17); LOSSAN Rail Corridor Agency Business Plan, FY2016-17 to FY2017-18, April 2016. Metrolink FY2015-16 ridership and fare revenue, and Amtrak FY2015-16 ridership, were provided by the LOSSAN Rail Corridor Agency in October 2016.

The numbers provided in **Exhibit C-1** reflect actual data, with the exceptions of Metrolink FY2015-16 operating revenue (sum of actual fare revenue and non-fare revenue budgeted) and Amtrak Pacific Surfliner FY2015-16 operating revenue (budgeted).

Metrolink data is provided for state fiscal years, running from July of the previous calendar year to June of the same calendar year. Amtrak Pacific Surfliner data is provided for federal fiscal years, running from October of the previous calendar year to September of the same calendar year. As such, the totals of these services shown in **Exhibit C-1** do not correspond to a consistent timeframe.

Ridership and operating revenue are provided for each service as a whole, which includes riders who traverse all or part of the Los Angeles to Anaheim Segment as well as riders who do not traverse the Los Angeles to Anaheim Segment (i.e., riders who board and alight Amtrak service north of Los Angeles, riders who board and alight Metrolink service east of Fullerton, and riders who board and alight Metrolink or Amtrak services south of Anaheim). Amtrak and Metrolink do not provide data limited to the Los Angeles to Anaheim Segment only.

Operating revenue includes fare revenue and non-fare revenue (for Metrolink including dispatching fees, maintenance of way payments from other agencies; for Amtrak including food and beverage, and miscellaneous). Operating revenue for Metrolink services are rounded to the nearest thousand, consistent with the Metrolink budgets. The significant increase in Amtrak Pacific Surfliner operating revenue from FY2011-12 to FY2012-13 is the result of a FY2012-13 fare change in combination with ridership growth.

Metrolink and Amtrak Ridership Forecasts

As noted in the Introduction section, the Rosecrans/Marquardt Project is the last grade separation necessary before increased benefits for freight and passenger rail services can be realized from the Triple Track project. The Triple Track project, which, when completed, will have added 15 miles of a third mainline track between Los Angeles and Fullerton, will allow for increased capacity in LOSSAN intercity and regional rail service. The completion of the Triple Track project will enable 32 more passenger rail trains to operate daily in the LOSSAN corridor.

Metrolink has budgeted the following FY2016-17 ridership and operating revenue numbers for the Orange County and 91/Perris Valley lines (*Source: Fiscal Year 2016-17 Adopted Budget, Exhibits 3.1a and 3.1b, pages 31 and 32; Southern California Regional Rail Authority, adopted June 24, 2016*):

- *Metrolink Orange County Line*: ridership of about 2.8 million (10% increase from FY2015-16 budget), operating revenue of about \$25.5 million (8% increase from FY2015-16 budget)
- *Metrolink 91/Perris Valley Line*: ridership of about 738,000 (21% increase from FY2015-16 budget), operating revenue of about \$5.7 million (4% increase from FY2015-16 budget)

With enhancements to the existing network including modest service growth assumptions, Metrolink projects that average weekday ridership on the Orange County Line would increase by 0.6% from the

year 2015 to the year 2025, and average weekday ridership on the 91/Perris Valley Line would increase by 109.9% from 2015 to 2025⁶ (Source: *10-Year Strategic Plan: Technical Appendix, Scenario 1: Enhancement of Existing Network, Figure 7-5, page 207; Southern California Regional Rail Authority, March 2016*). Completion of the Triple Track project, which requires implementation of the Rosecrans/Marquardt Project, will be necessary in order to achieve the service level increases that these ridership forecasts are based on. The decisions regarding provision of additional service in the corridor will be made by the Metrolink Board of Directors.

For FY2016-17, the LOSSAN Agency has budgeted a 2% increase in ridership and a 2% increase in operating revenue for the Amtrak Pacific Surfliner service, relative to the FY2015-16 budget (Source: *Pacific Surfliner Fiscal Year 2016-17 Operating Budget Projections; LOSSAN Board of Directors meeting, September 19, 2016*). The Pacific Surfliner FY2016-17 budgeted numbers are ridership of about 3.0 million and operating revenue of about \$78.8 million.

With increases in service from 24 one-way train trips per weekday to 36 one-way trains per weekday, annual ridership on LOSSAN intercity trains is projected to increase to about 4.7 million riders in the year 2030, or about 61% higher than current ridership levels (Source: *LOSSAN Corridorwide Strategic Implementation Plan, Year 2030 Build Scenario, Table 12, page 38; LOSSAN Agency, April 2012*). Completion of the Triple Track project, which requires implementation of the Rosecrans/Marquardt Project, will be necessary in order to achieve the service level increases that these ridership forecasts are based on. The decisions regarding provision of additional service in the corridor will be made by the LOSSAN Board of Directors.

⁶ The differences in ridership growth projections between the Orange County Line and the 91/Perris Valley Line are due to different population and employment growth forecasts between various parts of Metrolink's service area. In addition, the 91/Perris Valley Line is projected to have a significantly higher percentage increase in service levels than the Orange County Line, particularly for peak period / peak direction service.

D. Projected Construction Cost

Streets and Highways Code section 2704.08, subdivision (d)(1)(D) requires inclusion of a construction cost projection including estimates of cost escalation during construction and appropriate reserves for contingencies.

The estimated cost of the Rosecrans/Marquardt Project is \$155.3 million in year of expenditure dollars, as shown in **Exhibit D-1**.

Exhibit D-1: Rosecrans/Marquardt Project Cost by Category

Item Description	Amount
General Items	\$ 4,104,000
Roadway/Civil	\$ 5,122,811
Traffic	\$ 3,673,100
Landscaping & Irrigation	\$ 869,500
Drainage	\$ 727,360
Utilities	\$ 437,650
Railroad	\$ 1,090,000
Structures	\$ 24,432,015
Third Party Utility Relocations	\$ 4,189,000
Building Demolition	\$ 1,600,000
Construction Cost, Sub-Total (year 2016 \$)	\$ 46,245,436
Contingency, Construction (20% of construction cost)	\$ 9,249,087
Metro Programs	\$ 2,774,726
Soft Costs	\$ 19,700,992
Project Cost, Sub-Total (year 2016 \$, excluding unallocated contingency, escalation, and right-of-way)	\$ 77,970,242
Contingency, Unallocated (10% of project cost)	\$ 7,798,000
Project Cost, Sub-Total With Unallocated Contingency (year 2016 \$, excluding escalation and right-of-way)	\$ 85,768,242
Escalation, Project Cost to Year of Expenditure (12.55% or 3.0% annually)	\$ 10,764,670
Right-of-Way (year 2016 \$, excluding contingency and escalation)	\$ 47,500,000
Contingency, Right-of-Way (10% of right-of-way cost)	\$ 4,750,000
Escalation, Right-of-Way (12.55% on ROW and ROW contingency)	\$ 6,557,835
Total Project Cost (year of expenditure \$, including right-of-way)	\$ 155,300,000

Source: Metro, December 2016.

Notes: General Items include mobilization, erosion control, and a Stormwater Pollution Prevention Program. Railroad includes railroad flagging & inspection and at-grade rail crossing demolition & rehabilitation. Metro Programs include programs for local hiring, safety, quality assurance/quality control, Buy America, and small/disadvantaged businesses. Soft Costs include

environmental studies, preliminary engineering, final design, project/construction management, liability & insurance, legal, permits, and surveying/testing. Total Project Budget Cost was rounded to the nearest \$100,000.

The cost estimate provided in Exhibit D-1 is based on the 65% PS&E design documents completed in November 2016. This construction cost estimate is inclusive of reserves for contingencies (\$21.8 million in year 2016 dollars, including construction contingency, unallocated contingency, and right-of-way contingency) and cost escalation during construction (\$17.3 million, of which \$2.7 million is escalation on reserves for contingencies). In YOE dollars (inclusive of escalation) the contingency comprises \$24.5 million. As with any construction project, construction cost projections will be updated as the project progresses.

Approach and Methodology

The methodology used to provide the cost estimates is consistent with Caltrans' standard estimating practice, which extrapolates unit prices from the Caltrans Contract Cost Database and was reviewed and judged based on recent projects of similar and comparable magnitude. In addition, data from recent grade separation projects was used in providing the unit costs.

Additional items taken into account were as follows:

- The cost of third-party utility relocation was based on comparable projects and the expertise of a utility coordination consultant.
- Building demolition costs were assumed based upon existing buildings which conflict with the proposed roadway alignment.
- A construction contingency of 20% was allocated based on completion of project design at a 65% level, and an additional 10% of unallocated contingency was included as mandated by the Metro Board of Directors.
- Metro Programs used a 5% allowance for programs currently in place such as Local Hiring Project Labor Agreement & Construction Careers Policy, Safety, Quality Assurance/Quality Control, Buy America, Mandatory Good Faith Effort, and Small Business/Small Disadvantage Enterprise.
- Soft costs were estimated based upon the Federal Transit Administration's (FTA's) Transit Cooperative Research Program (TCRP) report titled "Estimating Soft Costs for Major Public Transportation Fixed Guideway Projects."
- Right-of-way costs were estimated based on appraisals conducted to-date on full takes (i.e., full acquisition of a property) and estimates for the partial takes (i.e., partial acquisition of a property) based on estimating practices used by Metro's Real Estate Department. Right-of-way contingency and escalation are listed separately.
- Escalation costs were factored into the estimate based on a 3% annual escalation factor,

compounded for four years from year 2016 base year costs, assuming a construction start date in late 2019 and a mid-point of construction in the year 2020.

E. Material Changes

Streets and Highways Code section 2704.08, subdivision (d)(1)(E) requires inclusion of a report describing any material changes from the plan submitted pursuant to subdivision (c) for this corridor or usable segment thereof.

In 2012, the Legislature passed SB 1029 appropriating \$500 million of Prop 1A proceeds from S&H Code section 2704.04 for projects in Southern California without a subdivision (c) Funding Plan. As there was no Funding Plan developed under subdivision (c) prior to the Legislature's appropriation, there are no material changes to report.

F. Terms and Conditions of Agreements

Streets and Highways Code section 2704.08, subdivision (d)(1)(F) requires a description of the terms and conditions associated with any agreement proposed to be entered into by the authority and any other party for the construction or operation of passenger train service along the corridor or usable segment thereof.

This section summarizes the agreements that the Authority has entered into or plans to enter into with other agencies in order to fund and implement the Rosecrans/Marquardt Project along with key agreements amongst other project partners that the Authority is not a party to but will work with the other partners to ensure that those other agreements work in concert with agreements to which the Authority will be a partner.

Southern California MOU: The Authority and several partner agencies (City of Anaheim, Los Angeles County Metropolitan Transportation Authority, Riverside County Transportation Commission, San Diego Association of Governments, Southern California Association of Governments, and Southern California Regional Rail Authority) signed the 2012 Southern California MOU to advance statewide rail modernization by starting to invest in local rail systems that will eventually be part of or connect with the statewide high-speed rail system. Through this MOU, the Authority and its partners are leveraging resources, working together to secure new funding, identifying and prioritizing early investment projects, and implementing project improvements in an expedited manner. The MOU specifies a list of early investment projects in Southern California identified by the signatory agencies based on a documented project selection process. The Rosecrans/Marquardt Project is one of the prioritized projects listed in the MOU, which reflects the project's regional importance.

The Southern California MOU does not, by itself, allocate funds or assign roles and responsibilities to individual projects. The MOU indicates that subsequent project-level MOUs or other agreements will be developed to specify this information.

Rosecrans/Marquardt Project Management and Funding Agreement: The Authority and Metro are in the process of negotiating a Project Management and Funding Agreement (PMFA) (as required by SB 1029) to define their primary roles and responsibilities with regard to the Rosecrans/Marquardt Project. The Authority and Metro have reached concurrence on several aspects of this agreement, which include:

- The Authority will fund up to 50 percent of actual eligible project costs up to a maximum amount of \$76.665 million. The Authority is a funding partner only, and will not take on obligations related to project implementation or the future operations and maintenance of the Project (or any Metro operations) upon completion. At no time will Authority funds reimburse more than 50% of the total eligible project costs incurred to date.

- Metro will certify to the Authority at certain waypoints that the Project is in conformance with key aspects of the design, including vertical and horizontal clearances for the overpass, and to ensure the completed Project requires no future re-work in order to accommodate high-speed trains (additional improvements, such as electrification, will be necessary). In addition, these key design aspects may not be modified without the Authority’s written approval.
- Metro will provide quarterly reports to the Authority with budget and schedule trending, project progress, key issues, and change order summaries. Between quarterly reports, the Authority will have reasonable access to all Project documents, and the construction site subject to certain safety requirements. Metro will provide documentation to the Authority with each invoice to ensure all funded activities are within the project scope and cost.
- Metro will not begin construction until all funds are secured to complete construction. If for some reason the Project does not move forward, then any right-of-way bought up to that point will be sold, and the money generated will be used to refund the partners who helped pay for that right-of-way (including the Authority).
- The Authority will not have any operations and maintenance obligations with regard to the Project or other train services operating in the corridor.

Agreements to be established between Metro and other agencies (to which the Authority would not be a party), including the City of Santa Fe Springs and BNSF, will be consistent with the roles and responsibilities identified in the PMFA – specifically, the PMFA will obligate Metro to enforce promises made to Metro in those agreements (such as funding and site access) and will obligate Metro to ensure consistency between the PMFA and those other agreements.

Rosecrans/Marquardt Construction and Maintenance Agreements: Metro is currently negotiating Construction & Maintenance (C&M) agreements with BNSF Railway and the City of Santa Fe Springs. While the Authority will not be a signatory to the C&M agreements, the Authority will review the agreements prior to their execution. The agreements will further describe roles and responsibilities of Metro, the City of Santa Fe Springs, and BNSF Railway with respect to project construction and maintenance, including overpass design and construction, removal of the existing at-grade crossing, utility relocation, flagging services, inspection, and ongoing maintenance. The agreements will also identify requirements applicable to the construction contractor to be selected by Metro.

Specifically, the agreements are anticipated to include the following key obligations for Metro, the City of Santa Fe Springs and BNSF Railway:

- BNSF will grant a license to Metro to construct the Project, including:
 - Operating, maintaining, renewing or relocating existing railroad track or other facilities under the corridor
 - Constructing, operating, maintaining other facilities deemed appropriate by BNSF

- Using or operating the corridor when needed and based on BNSF approval for construction of the Project
- BNSF will provide labor, materials, engineering services, etc. for work required to be performed by BNSF for the construction of the Project, including removal of the existing at-grade crossing
- BNSF will contribute the statutorily stipulated share, currently estimated at \$7 million. BNSF will provide in-kind services (e.g., flagging) during construction. Metro will advance BNSF's share of funds beyond the in-kind services that they will provide to the Project to meet Project cash flow needs. After Project completion, BNSF will reimburse Metro for \$7 million, minus the value of the in-kind services BNSF provided during construction.
- Project design work will be conducted by Metro and approved by Project partners
- Metro will obtain all necessary permits and approvals, including from the CPUC to authorize construction of the Project, and will be the Responsible Agency for seeking all Project approvals
- Metro will construct and manage all principal elements of the project, including preliminary and final engineering, design and construction of the overpass, and other project related duties and responsibilities (maintenance, pedestrian access, etc.).
- Metro will acquire all necessary properties for the Project
- During the design process, Project partners will all review plans at specific design stages and will be asked to approve the design before its final completion
- When the Project is completed, Metro will perform all closeout duties
- The City will facilitate the Project by notifying utilities and assisting in payment for utility relocation
- At the completion of the Project, BNSF will own and maintain all railroad track and facilities, however, the City will own and maintain the overpass, highway approaches and other related infrastructure. BNSF will grant the City an easement to maintain the overpass.

The agreements also include terms covering review and approval processes, rules for access and flagging on the rail corridor, dispute resolution, and other terms related to the execution of the key terms described above.

Appendix A: Funding Sources Overview, Process and Timeline

Exhibit G-1 provides an overview of the funding sources for the Rosecrans/Marquardt Project, including which type(s) of expenses each funding source can be applied towards.

Exhibit G-1: Overview of Funding Sources for Rosecrans/Marquardt Project

Source of Funds	Overview
CHSRA Proposition 1A	<ul style="list-style-type: none"> - Proposition 1A was approved by California voters in November 2008. Senate Bill 1029, approved in July 2012, appropriated \$500 million in Proposition 1A capital funds for certain early investment projects in Southern California.
US DOT TIGER	<ul style="list-style-type: none"> - Discretionary federal grant program to build and repair freight and passenger transportation networks. - Funds can be used for construction costs only. Expenses prior to construction are not eligible.
NHFP/CFIP	<ul style="list-style-type: none"> - Federal formula program for freight projects established by the Fixing America's Surface Transportation (FAST) Act, signed into law in December 2015. Purpose is to improve efficient movement of freight, including on critical urban freight corridors. - Funds can be used for project development, construction, and right-of-way expenses.
ITIP Intercity Rail Funds	<ul style="list-style-type: none"> - State funding for projects that improve interregional movement for people and goods across California on the State Highway System, and that develop intercity passenger rail corridors of strategic importance. - Funds can be used for project development, construction, and right-of-way expenses.
CPUC Section 190	<ul style="list-style-type: none"> - State funding for grade separations between roadways and railroad tracks, allocated based on a priority list of projects throughout the state. - Funds can be used for any project expense.
Measure R	<ul style="list-style-type: none"> - Half-cent sales tax measure approved by Los Angeles County voters in 2008 that is funding a wide range of transportation projects throughout the county. - Funds can be used for any project expense.
BNSF	<ul style="list-style-type: none"> - For federal-aid grade separation projects, the applicable railroad funding share is 5 percent of the project costs for preliminary engineering, right-of-way, and construction. The funding share can differ from 5 percent if agreed upon by the railroad and the project sponsor. - Funds can be used for preliminary engineering, construction, and right-of-way expenses.

Exhibit G-2 specifies the process and timeline for each funding source.

Exhibit G-2: Process and Timeline of Funding Sources for Rosecrans/Marquardt Project

Source of Funds	Process and Timeline
CHSRA Proposition 1A	<ul style="list-style-type: none"> - The subdivision (d) Funding Plan will be provided to the California High-Speed Rail Authority Board of Directors for approval in June 2017. - Following Board approval, the Plan will be submitted to the Department of Finance (DOF) and the Joint Legislative Budget Committee (JLBC). The DOF Director has up to 60 days following submission, and after receiving any communication from the JLBC, to determine if the plan is likely to be successfully implemented as proposed. - Following DOF approval, bond sales will begin to take place in Fall 2017 and funding will begin to be available by early 2018. - Other required elements to expend bonds include the Project Management and Funding Agreement (PMFA) and the Accountability Plan. Both are expected to be completed in summer 2017.
US DOT TIGER	<ul style="list-style-type: none"> - Metro was the lead sponsor for a year 2016 TIGER application for the Rosecrans/Marquardt Project, and received notice of a \$15 million TIGER grant award from the US Department of Transportation (US DOT) in July 2016. FRA will be the federal lead agency for this grant. Funds must be expended by September 2024. - National Environmental Policy Act (NEPA) clearance is required prior to receipt of TIGER funding. Metro will execute funding agreements with FRA after completion of NEPA clearance, expected by November 2017. - Funds are expected to be available in 2018.
NHFP/CFIP	<ul style="list-style-type: none"> - The program is being developed right now and the Rosecrans/Marquardt Project is included in the funding list. SCAG and Caltrans will jointly designate the Rosecrans/Marquardt Project as a high priority project for the state and for the region, with a planned allocation of \$8.135 million in NHFP funding. This designation will ensure that the Project will receive its planned share of funds from NHFP. - Metro will work with the Authority, the Southern California Association of Governments (SCAG), and the California Department of Transportation (Caltrans) to submit the necessary NHFP application materials for the Project in summer 2017, in order to include the Project in the State’s freight investment program. - Caltrans will submit the State’s freight investment program to the Federal Highway Administration (FHWA) for approval by November 2017.

Source of Funds	Process and Timeline
	<ul style="list-style-type: none"> - Following FHWA approval, the California Transportation Commission (CTC) will be asked to approve and allocate these funds in March 2018, at which point the funding will be available.
ITIP Intercity Rail Funds	<ul style="list-style-type: none"> - Caltrans is reprogramming \$7 million of Intercity Rail funds from the 2016 Interregional Transportation Improvement Program (ITIP). CTC is expected to approve this reprogramming at its meeting scheduled on June 28 and 29, 2017.
CPUC Section 190	<ul style="list-style-type: none"> - The Rosecrans/Marquardt Project is #1 on the CPUC grade separation priority list for FY 2016-17 and will remain the #1 for FY 2017-18. The City of Santa Fe Springs will submit an application for funding to the California Public Utilities Commission (CPUC) in spring 2018. - The top project on the priority list receives the funding and the funds are expected to be available in summer 2018.
Measure R	<ul style="list-style-type: none"> - Measure R funds are currently being used.
BNSF	<ul style="list-style-type: none"> - BNSF will provide in-kind services (e.g., flagging) during construction. Metro will advance BNSF's share of funds beyond the in-kind services that they will provide to the Project to meet Project cash flow needs. After Project completion, BNSF will reimburse Metro for \$7 million, minus the value of the in-kind services BNSF provided during construction. - This funding commitment will be specified in Construction & Maintenance (C&M) agreements that are currently being negotiated between Metro, BNSF, and the City of Santa Fe Springs. These agreements are expected to be finalized in summer 2017.

Appendix B: Reference Documents

California High-Speed Rail Authority, 2016 Business Plan (May 2016)	Link
California High-Speed Rail Authority, 2014 Business Plan (April 2014)	Link
California High-Speed Rail Authority, 2012 Business Plan (April 2012)	Link
California High-Speed Rail Authority, Los Angeles to Anaheim Project Section Supplemental Alternatives Analysis Report	Link
California Proposition 1A, 2008 High-Speed Rail Act (November 2008)	Link
California State Legislature, Senate Bill 1029 (July 2012)	Link
California Streets and Highways Code, Section 2704.08	Link
Code of Federal Regulations, Section 646.210	Link
Los Angeles Metro, Rosecrans/Marquardt Grade Separation Overview Fact Sheet (September 2015)	Link
Los Angeles Metro, Rosecrans/Marquardt Grade Separation Community Open House Meetings Presentation (March 2016)	Link
Los Angeles Metro, Rosecrans/Marquardt Grade Separation Alternatives Development Report (January 2016)	Link
Southern California Memorandum of Understanding (2012)	Link