



Modernization Program

Peninsula Corridor Electrification Project (PCEP)



September 2016 Monthly Progress Report

September 30, 2016

Funding Partners



FTA Core Capacity

FTA Section 5307/5337 (Environmental / Pre Development only)

FTA Section 5307/5337 (EMU only)



Prop 1B (Public Transportation Modernization & Improvement Account)

Caltrain Low Carbon Transit Operations Cap and Trade



Prop 1A

High Speed Rail Cap and Trade



Carl Moyer Fund



RM2

RM1

Bridge Tolls



SFCTA



San Mateo (SMCTA) Contribution

SMCTA Measure A



VTA Measure A

Santa Clara (VTA) Contribution



San Francisco Contribution

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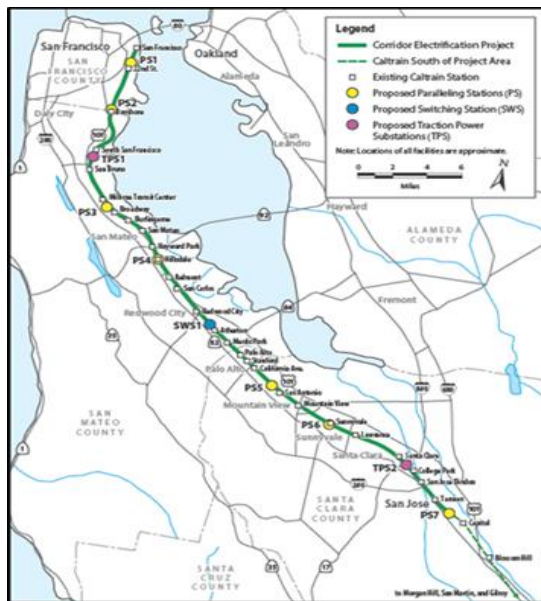
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1.0 BACKGROUND

Over the last decade, Caltrain has experienced a substantial increase in ridership and anticipates further increases in ridership demand as the San Francisco Bay Area's population grows. The Caltrain Modernization (CalMod) Program, scheduled to be implemented by 2020, will electrify and upgrade the performance, operating efficiency, capacity, safety, and reliability of Caltrain's commuter rail service.



The Peninsula Corridor Electrification Project (PCEP) is a key component of the CalMod Program and consists of converting Caltrain from diesel-hauled to Electric Multiple Unit (EMU) trains for service between San Francisco Station (at the intersection of Fourth and King Streets in San Francisco) and Tamien Station in San Jose. Caltrain will continue Gilroy service and support existing tenants.

An electrified Caltrain will better address Peninsula commuters' vision of an environmentally friendly, and fast and reliable service. Electrification will modernize Caltrain and make it possible to increase service while offering several advantages in comparison with existing diesel power use, including:

Improved Train Performance, Increased Ridership Capacity and Increased Service:

Electrified trains can accelerate and decelerate more quickly than diesel-powered trains, allowing Caltrain to run more efficiently. In addition, because of their performance advantages, electrified trains will enable more frequent and/or faster train service to more riders.

Increased Revenue and Reduced Fuel Cost: An electrified Caltrain will increase ridership and fare revenues while decreasing fuel costs.

Reduced Engine Noise Emanating from Trains: Noise from electrified train engines is measurably less than noise from diesel train engines. Train horns will continue to be required at grade crossings, adhering to current safety regulations.

Improved Regional Air Quality and Reduced Greenhouse Gas Emissions: Electrified trains will produce substantially less corridor air pollution compared with diesel trains even when the indirect emissions from electrical power generation are included. Increased ridership will reduce automobile usage, resulting in additional air quality benefits. In addition, the reduction of greenhouse gas emissions will improve our regional air quality, and will also help meet the State's emission reduction goals.

An electrified Caltrain system would set the stage for an enhanced, modern commuter rail service and for future blended California High-Speed Rail (CHSR) service. While this project will not include or study all infrastructure necessary to implement high-speed rail service on the corridor (such as CHSR maintenance facilities, station improvements, or passing tracks), the electrical infrastructure (such as overhead wire systems) will be compatible with later blended service.

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2.0 EXECUTIVE SUMMARY

The Monthly Progress Report is intended to provide an overview of the PCEP and provide funding partners, stakeholders, and the public an overall update on the progress of the project. This document provides information on the scope, cost, funding, schedule, and project implementation.

As of September the project has secured all local, regional, and state funding and is actively pursuing the remaining funding piece which is a Federal Transit Administration (FTA) Core Capacity Grant. After receiving approval for Entry into Engineering phase of the project, PCEP has officially applied for the Full Funding Grant Agreement (FFGA) from the FTA. On September 6, 2016 the Limited Notice to Proceed (LNTP) was issued to Stadler for the EMU contract and the LNTP for Electrification Design-Build (DB) contract was issued to Balfour Beatty Infrastructure, Inc. (BBI). It is expected that the full NTP will be issued in March 2017 after receiving the FFGA. The official kick-off meeting for the Electrification DB took place on September 6, 2016, where the PCEP team and contractor discussed operational and program management aspects of the project and established procedures and protocols in compliance with contracts and requirements.

Additionally, the Peninsula Corridor Joint Powers Board (JPB) received a favorable ruling for the PCEP on action in the writ of mandate challenge by the Town of Atherton et al. The hearing was held on September 2, 2016 and the court ruled in favor of the JPB on September 26, 2016.

2.1 Schedule

The Revenue Service Date (RSD) in the Master Program Schedule (MPS) remains unchanged. Without adjustment for contingency, the RSD is forecast as August 2021. With the addition of approximately five months of contingency to account for potential risk to the project the RSD is anticipated as December 2021. Table 2-1 provides a summary of the current schedule and milestones.

Table 2-1 Schedule Milestones

Milestones	Program Plan	July	August
EMU Contract Limited NTP*	08/01/2016	08/15/2016	08/15/2016
Electrification Contract Limited NTP*	08/01/2016	09/06/2016	09/06/2016
Start of Electrification Major Construction	03/20/2017	07/24/2017	07/24/2017
Start Pre-Revenue Operations	09/08/2020	09/22/2020	09/22/2020
Potential Limited Service	12/31/2020	12/31/2020	12/31/2020
RSD (w/ Risk Contingency)	12/30/2021	12/30/2021	12/30/2021

*MPS previously contained only Full NTP

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2.2 Budget

In September, the Peninsula JPB submitted an updated rating submittal package to the FTA for the project to be included in the President’s Fiscal Year 2018 Budget. A summary of the overall budget and expenditure status for the PCEP is provided in Table 2-2 below.

Table 2-2 Budget and Expenditure Status

Description of Work	Budget (A)	Actual This Period (B) ¹	Accrued To Date (C) ²	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
Electrification Subtotal	\$ 1,316,125,208	\$ 837,853	\$ 84,622,212	\$ 1,231,502,996	\$ 1,316,125,208
EMU Subtotal	\$ 664,127,325	\$ 235,319	\$ 16,019,789	\$ 648,107,536	\$ 664,127,325
PCEP TOTAL^{3,4}	\$ 1,980,252,533	\$ 1,073,172	\$ 100,642,000	\$ 1,879,610,533	\$ 1,980,252,533

Notes:

1. Column B "Actual This Period" represents the actual cash payment during the reporting period.
2. Column C "Accrued To Date" includes actuals incurred to date and accruals to date.
3. The current budget vs. expenditure table represents the reconciled information based on the improved reporting from the district accounting system and implementation of new cost management system.
4. The agency labor is currently accrued since July 2016 due to the upgrade of the accounting system. Expenditures for agency labor will be updated once the financial data is available

2.3 Board Actions

At the September 1, 2016 meeting, JPB took the following actions:

- Unanimous support - Authorize staff to proceed with efforts to secure interim financing for the Peninsula Corridor Electrification Project (PCEP) in an aggregate amount not to exceed \$150m.
- Unanimous support - Authorize the Executive Director to execute Supplemental Agreement No. 2 with Pacific Gas and Electric (PG&E), entitled "Oversight of Caltrain Design and Construction of 115 kilovolt (kV) Interconnections and Environmental Review of PG&E Infrastructure Build Outs."
- Unanimous support - Authorize the Executive Director to execute Supplemental Agreement No. 5 with Pacific Gas and Electric (PG&E), entitled "Interim Power Design and Construction Services."

The link to the full packet can viewed here:

http://www.caltrain.com/Assets/_Agendas+and+Minutes/JPB/Board+of+Directors/Agendas/2016/2016-09-01+JPB+BOD+Agenda+Packet.pdf.

2.4 Community Relations and Outreach

A number of community relations and outreach events took place during the month of September. PCEP staff gave a total of 6 presentations and participated and attended approximately 12 third party/stakeholder actions and meetings. This included several meetings held with Representatives or staff for the following offices: Senator Dianne Feinstein, Congresswoman Nancy Pelosi, Congresswoman Anna Eshoo, Congresswoman Jackie Speier, Congressman Mike Honda, and Congressman Eric Swalwell.

3.0 ELECTRIFICATION – INFRASTRUCTURE

This section reports on the progress of the Electrification, Supervisory Control and Data Acquisition (SCADA), and Tunnel Modification components. A brief description on each of the components is provided below

3.1 Electrification

The Electrification component of the PCEP includes the installation of 138 miles of single-track and overhead contact system (OCS) for the distribution of electrical power to the EMUs. The OCS will be powered from a 25-kilovolt (kV), 60-Hertz, single phase, alternating current supply system consisting of two traction power substations (TPS), one switching station (SS), and seven paralleling stations (PS). Electrification will be performed using a DB delivery method.

Activity This Month

- The Electrification kick off meeting took place on September 6, 2016 and the PCEP team immediately began work and coordination with the DB contractor on design and field investigation activities.
- Load profiles and the Power Quality Study, which are required by the California Independent System Operator (CAISO) were completed and will be submitted for review.
- In the September board meeting, JPB approved the Supplemental Agreement No2 for PG&E oversight of 115 kv interconnections and Supplemental Agreement No.5 for interim power, which are agreements for scope of services to be provided by PG&E.
- The PCEP team continued coordination and negotiation with the California Public Utilities Commission (CPUC) regarding the Electrification requirements. These discussions are focused on safety and operating requirements for the Caltrain corridor such as clearance requirements and electrical safety clearance.

Activity Next Month

- The PCEP team will continue to work with the DB contractor on design and field investigation activities.
- In the upcoming months, the DB contractors will submit requests for information (RFIs), which will need to be reviewed by the PCEP.
- Coordination efforts will continue with PG&E on scoping and preliminary design documents.
- Work will continue with the CPUC to finalize the Caltrain Electrification Requirements.

3.2 Supervisory Control and Data Acquisition (SCADA)

SCADA is a system that monitors and controls field devices for electrification, including substations, paralleling stations and sectionalization. SCADA will be integrated with the base operating system for Caltrain Operations and Control, which is the Rail Operations Center System (ROCS).

Activity This Month

- Activity was limited to providing technical support on an as needed basis to the Caltrain Contract and Procurement Department for the procurement of the SCADA system.

Activity Next Month

- PCEP staff will continue to support Caltrain Contracts and Procurement Department on providing technical support during the procurement process.

3.3 Tunnel Modification

Tunnel modifications will be required on the four tunnels located in San Francisco. This effort is needed to accommodate the required clearance for the OCS to support electrification of the corridor. Outside of the PCEP scope, Caltrain Engineering and Construction has requested the PCEP team to manage completion of design and construction management for the Tunnel 1 and Tunnel 4 Drainage Rehab Project. The Drainage Rehab Project is funded separately from PCEP and will be a Design-Bid-Build (DBB) construction package. Construction will occur concurrently with the Electrification contractor's efforts in Segment 1.

Activity This Month

- PCEP team continued coordination efforts with the design team on drawings and specifications as well as field survey investigations on Tunnel 1 and Tunnel 4 Drainage Rehab projects.

Activity Next Month

- Coordination will continue on the Tunnel Modification design efforts.
- PCEP staff will assist with the field survey activities of Tunnel 1 and Tunnel 4 Drainage Rehab Project and will work on finalizing the depth of Tunnel Notching.

3.4 Centralized Equipment Maintenance and Operations Facility (CEMOF) Modifications

The Centralized Equipment Maintenance and Operations Facility (CEMOF) Modifications project will provide safe work areas for performing maintenance on the new EMUs.

Activity This Month

- No work was undertaken during this reporting period.

Activity Next Month

- The design contractor will resume their design activities now that a vehicle manufacturer has been selected.

4.0 ELECTRIC MULTIPLE UNITS

The EMU procurement component of the PCEP consists of the purchase of 96 Stadler EMUs. The EMUs will consist of both cab and non-cab units configured as 16 six-car units. Power will be obtained from the OCS via roof-mounted pantographs which will power the axle-mounted traction motors. The EMUs will replace a portion of the existing diesel locomotives and passenger cars currently in use by Caltrain.

Activity This Month

- The LNTP was issued to Stadler on September 6, 2016, which allowed Stadler to proceed with work and development of the EMUs.
- Stadler submitted the Technical Specification Compliance Matrix (TSCM) and the Mobilization Plan and Schedule, which were revised based on comments from JPB and PCEP staff. The documents were prepared in advance of the Specification Review Meeting (SRM).
- The SRM took place at Stadler headquarters in Altenrhein in Switzerland the week of September 26, 2016.
- Stadler is preparing the initial presentation materials for the EMUs, which will be reviewed and approved by the JPB and shared with the public.
- The PCEP team reviewed the Preliminary Schedule and Baseline Schedule submittal timing, the Conceptual Design Review (CDR) and conducted the first Monthly Progress Review Meeting with Stadler.
- The JPB and PCEP team provided Stadler with access to FRA documents on Positive Train Control (PTC) Development and Implementation Plans.

Activity Next Month

- It is anticipated that Stadler will be submitting a number of documents for PCEP Team review and comment.
- The CDR will be held at the Stadler facility in Altenrhein the week of October 17, 2016 to present and discuss the interior design (layout and overall approach) and sample mockups for the EMUs.

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5.0 SAFETY

Safety and Security requirements and plans are necessary to comply with applicable laws and regulations related to safety, security, and emergency response activities. Safety staff coordinates with contractors in reviewing and planning the implementation of contract program safety requirements. Safety project coordination meetings continue to be conducted on a monthly basis to promote a clear understanding of project safety requirements as defined in contract provisions and program safety documents.

Activity This Month

- Safety staff worked closely with the Project Management Oversight Contractor (PMOC) in completing the update of the Safety and Security Management Plan (SSMP).
- Safety staff continued to meet with the DB Contractor to review roles and responsibilities associated with implementing the project Safety and Security Certification Plan (SSCP) requirements. The project Hazard Log was also reviewed and IndustrySafe access was provide to the Hazard Log application to support ongoing updates.
- Coordination discussions continue with the DB Contractor on the Site Specific Work Plan (SSWP) planning process including the need to document a site specific job safety analysis.

Activity Next Month

- Safety staff will meet with the DB Contractor safety staff to review its proposed site specific Safety and Security Plan and continue program implementation planning for the project Safety and Security Certification Plan and Hazard Management Plan.
- Safety staff will continue to work closely with Caltrain Rail Operations to implement the SSWP procedure and coordinate its project application with the DB Contractor through its monthly coordination meetings.
- Safety staff will continue to coordinate with Caltrain Rail Operations with the implementation of the revised Railroad Worker Protection (RWP) training module.

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6.0 QUALITY ASSURANCE

The Quality Assurance (QA) staff performs technical review for planning, implementing, evaluating, and maintaining an effective program to verify that all equipment, structures, components, systems, and facilities are designed, procured, constructed, installed, and maintained in accordance with established criteria and applicable codes and standards throughout the design, construction, startup and commissioning of the PCEP.

Activity This Month

- The QA staff coordinated and worked with LKG-CMC to close non-conformance report (NCR) 2 items. The re-audit for LKG-CMC Document Control will occur 60-90 days from finalization of LKG-CMC Scope of Work for Document Control.
- QA reviews were conducted in response to the PMOC Readiness Review comments.
- New PCEP Quality Manager, Steve Mahler, joined the team.

Table 6-1 below provides details on the status of audits performed through the reporting period.

Table 6-1 Quality Assurance Audit Summary

Quality Assurance Activity	This Reporting Period	Total to Date
Internal Audits Conducted	0	14
Audit Findings Issued	0	0
Audit Findings Open	0	0
Audit Findings Closed	0	0
Non-Conformances Open	0	2
Non-Conformances Issued	0	4
Non-Conformances Closed	1	4

Activity Next Month

- QA staff will continue to provide support of FTA document submittals and also provide reviews for FFGA items.
- The PCEP Quality Management Plan (QMP) will be scheduled for November.

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7.0 SCHEDULE

The schedule provided in this Monthly Progress Report is the approved schedule from August due to the timeframe necessary to update and approve the schedule. As indicated in Table 7-1, the Revenue Service Date (RSD), which is the date in which the project is deemed completed, remains unchanged in the Master Program Schedule (MPS). Without adjustment for contingency, the RSD is forecast as August 2021. With the addition of approximately five months contingency to account for potential risk to the project, the RSD is anticipated as December 2021. A summary of the overall schedule status for the PCEP is provided in Table 7-1, which provides comparisons between the baseline schedule (Program Plan), the previous update (July) and the current update (August) to capture any potential changes in the schedule. A complete schedule can be found in Appendix B.

Table 7-1 Schedule Status

Milestones	Program Plan	July	August
EMU Contract Limited NTP*	08/01/2016	08/15/2016	08/15/2016
Electrification Contract Limited NTP*	08/01/2016	09/06/2016	09/06/2016
Start of Electrification Major Construction	03/20/2017	07/24/2017	07/24/2017
Start Pre-Revenue Operations	09/08/2020	09/22/2020	09/22/2020
Potential Limited Service	12/31/2020	12/31/2020	12/31/2020
RSD (w/ Risk Contingency)	12/30/2021	12/30/2021	12/30/2021

*MPS previously contained only Full NTP

Items listed in Table 7-2 and depicted in Figure 7-1 show the critical path activities/milestones for the PCEP. Table 7-3 lists near-critical activities on the horizon. This is the current schedule which will be updated upon receipt of the FFGA and issuance of Full NTP to Contractors.

Notable Variances

The Program Plan assumed NTP for the EMU Manufacturer in August 2016. Due to the time necessary to execute funding agreements with state and local partners, the issuance of an LNTP was delayed to September 2016.

Table 7-2 Critical Path Summary

Activity	Start	Finish
EMU Procurement	Ongoing	09/06/2016
Electrification Procurement	Ongoing	09/06/2016
Electrification Design to Begin Major Construction	09/06/2016	07/21/2017
EMU Design to Delivery of First Carbody	09/06/2016	10/13/2017
Electrification OCS Construction	07/24/2017	02/26/2020
Electrification Acceptance & Integrated Testing	02/26/2020	04/25/2020
PG&E Complete Infrastructure Upgrades to Provide Permanent Power*	09/04/2020	09/04/2020
Vehicle Manufacturing & Assembly to Provide First 5 Trainsets	11/13/2017	09/09/2020
Pre-Revenue Operations	09/22/2020	12/22/2020
Potential Limited Service*	12/31/2020	12/31/2020
RSD w/out Risk Contingency*	08/16/2021	08/16/2021
RSD w/ Risk Contingency*	12/30/2021	12/30/2021

*Milestone activity

Table 7-3 Near-Term, Near-Critical with Less Than Three Months of Float

WBS	Activity	Responsibility
FTA	Path to Full Funding Grant Agreement (FFGA)	Project Delivery
Utilities	PG&E Scoping & Preliminary Design	Project Delivery

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8.0 BUDGET AND EXPENDITURES

A summary of the overall budget and expenditure status for the PCEP is shown in the following tables. Table 8-1 reflects the Electrification budget, Table 8-2 reflects the EMU budget, and Table 8-3 reflects the overall project budget.

Table 8-1 Electrification Budget & Expenditure Status

Description of Work	Budget (A)	Actual This Period (B) ¹	Accrued To Date (C) ²	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
ELECTRIFICATION					
Electrification	\$ 696,610,558	\$ -	\$ 17,543,500	\$ 679,067,058	\$ 696,610,558
Tunnel Notching	\$ 11,029,649	\$ -		\$ 11,029,649	\$ 11,029,649
Real Estate	\$ 28,503,368	\$ 68,594	\$ 4,838,911	\$ 23,664,458	\$ 28,503,369
Private Utilities	\$ 63,515,298	\$ 18,553	\$ 2,026,200.77	\$ 61,489,098	\$ 63,515,298
Management Oversight ³	\$ 141,506,257	\$ 739,897	\$ 58,779,574	\$ 82,726,683	\$ 141,506,257
Executive Management	\$ 7,452,866	\$ 65,803	\$ 2,292,745	\$ 5,160,122	\$ 7,452,866
Planning	\$ 7,281,997	\$ 34,700	\$ 4,029,232	\$ 3,252,765	\$ 7,281,997
Community Relations	\$ 2,789,663	\$ 2,574	\$ 761,746	\$ 2,027,917	\$ 2,789,663
Safety & Security	\$ 2,421,783	\$ 4,584	\$ 434,454	\$ 1,987,329	\$ 2,421,783
Project Management Services	\$ 19,807,994	\$ 180,808	\$ 6,520,999	\$ 13,286,995	\$ 19,807,994
Engineering & Construction	\$ 11,805,793	\$ -	\$ 1,769,981	\$ 10,035,812	\$ 11,805,793
Electrification Engineering & Management	\$ 50,461,707	\$ 292,703	\$ 13,990,865	\$ 36,470,842	\$ 50,461,707
IT Support	\$ 312,080	\$ 9,007	\$ 324,634	\$ (12,553)	\$ 312,080
Operations Support	\$ 1,445,867	\$ -	\$ 322,741	\$ 1,123,126	\$ 1,445,867
General Support	\$ 4,166,577	\$ 14,446	\$ 1,079,062	\$ 3,087,515	\$ 4,166,577
Budget / Grants / Finance	\$ 1,229,345	\$ -	\$ 88,735	\$ 1,140,610	\$ 1,229,345
Legal	\$ 2,445,646	\$ 74,262	\$ 1,446,882	\$ 998,764	\$ 2,445,646
Other Direct Costs	\$ 5,177,060	\$ 61,010	\$ 1,384,140	\$ 3,792,919	\$ 5,177,060
Prior Costs 2002 - 2013	\$ 24,707,878	\$ -	\$ 24,333,358	\$ 374,520	\$ 24,707,878
TASI Support	\$ 55,275,084	\$ 10,810	\$ 261,229	\$ 55,013,855	\$ 55,275,084
RRP Insurance	\$ 3,500,000	\$ -	\$ 805,769	\$ 2,694,231	\$ 3,500,000
Environmental Mitigations	\$ 17,686,958	\$ -		\$ 17,686,958	\$ 17,686,958
Required Projects	\$ 17,337,378	\$ -	\$ 367,028.00	\$ 16,970,350	\$ 17,337,378
Maintenance Training	\$ 1,021,808	\$ -	\$ -	\$ 1,021,808	\$ 1,021,808
Finance Charges	\$ 3,168,200	\$ -	\$ -	\$ 3,168,200	\$ 3,168,200
Contingency	\$ 276,970,649	\$ -	\$ -	\$ 276,970,649	\$ 276,970,649
Owner's Reserve	\$ -	\$ -	\$ -	\$ -	\$ -
ELECTRIFICATION SUBTOTAL⁴	\$ 1,316,125,208	\$ 837,853	\$ 84,622,212	\$ 1,231,502,996	\$ 1,316,125,208

Notes regarding tables above:

1. Column B "Actual This Period" represents the actual cash payment during the reporting period.
2. Column C "Accrued To Date" includes actuals incurred to date and accruals to date.
3. The agency labor is currently accrued since July 2016 due to the upgrade of the accounting system. Expenditures for agency labor will be updated once the financial data is available
4. The current budget vs. expenditure table represents the reconciled information based on the improved reporting from the district accounting system and implementation of new cost management system.

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Table 8-2 EMU Budget & Expenditure Status

Description of Work	Budget (A)	Actual This Period (B) ¹	Accrued To Date (C) ²	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
EMU	\$ 550,899,459	\$ -	\$ 1,242,300	\$ 549,657,159	\$ 550,899,459
CEMOF Modifications	\$ 1,344,000	\$ -	\$ -	\$ 1,344,000	\$ 1,344,000
Management Oversight ³	\$ 64,139,104	\$ 235,319	\$ 14,777,489	\$ 49,361,615	\$ 64,139,103
Executive Management	\$ 5,022,302	\$ 51,783	\$ 1,389,291	\$ 3,633,011	\$ 5,022,302
Community Relations	\$ 1,685,614	\$ -	\$ 192,963.43	\$ 1,492,651	\$ 1,685,614
Safety & Security	\$ 556,067	\$ 9,719	\$ 107,335.68	\$ 448,732	\$ 556,067
Project Management Services	\$ 13,275,280	\$ 46,399	\$ 4,432,538.00	\$ 8,842,742	\$ 13,275,280
Engineering & Construction	\$ 89,113	\$ -	\$ 23,816.59	\$ 65,296	\$ 89,113
EMU Engineering & Management	\$ 32,082,556	\$ 32,980	\$ 6,422,020.70	\$ 25,660,536	\$ 32,082,556
IT Support	\$ 1,027,272	\$ 4,658	\$ 189,075.41	\$ 838,197	\$ 1,027,272
Operations Support	\$ 1,878,589	\$ -	\$ 274,079.16	\$ 1,604,509	\$ 1,878,589
General Support	\$ 2,599,547	\$ -	\$ 483,875.32	\$ 2,115,672	\$ 2,599,547
Budget / Grants / Finance	\$ 712,123	\$ 309	\$ 19,451.33	\$ 692,672	\$ 712,123
Legal	\$ 1,207,500	\$ 52,331	\$ 395,455.31	\$ 812,045	\$ 1,207,500
Other Direct Costs	\$ 4,003,139	\$ 37,139	\$ 847,586.72	\$ 3,155,553	\$ 4,003,139
TASI Support	\$ 2,740,000	\$ -	\$ -	\$ 2,740,000	\$ 2,740,000
Required Projects	\$ 4,500,000	\$ -	\$ -	\$ 4,500,000	\$ 4,500,000
Finance Charges	\$ 1,941,800	\$ -	\$ -	\$ 1,941,800	\$ 1,941,800
Contingency	\$ 38,562,962	\$ -	\$ -	\$ 38,562,962	\$ 38,562,962
Owner's Reserve	\$ -	\$ -	\$ -	\$ -	\$ -
EMU SUBTOTAL⁴	\$ 664,127,325	\$ 235,319	\$ 16,019,789	\$ 648,107,536	\$ 664,127,325

Notes regarding tables above:

1. Column B "Actual This Period" represents the actual cash payment during the reporting period.
2. Column C "Accrued To Date" includes actuals incurred to date and accruals to date.
3. The current budget vs. expenditure table represents the reconciled information based on the improved reporting from the district accounting system and implementation of new cost management system.
4. The agency labor is currently accrued since July 2016 due to the upgrade of the accounting system. Expenditures for agency labor will be updated once the financial data is available

Table 8-3 PCEP Budget & Expenditure Status

Description of Work	Budget (A)	Actual This Period (B) ¹	Accrued To Date (C) ²	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
Electrification Subtotal	\$ 1,316,125,208	\$ 837,853	\$ 84,622,212	\$ 1,231,502,996	\$ 1,316,125,208
EMU Subtotal	\$ 664,127,325	\$ 235,319	\$ 16,019,789	\$ 648,107,536	\$ 664,127,325
PCEP TOTAL^{3,4}	\$ 1,980,252,533	\$ 1,073,172	\$ 100,642,000	\$ 1,879,610,533	\$ 1,980,252,533

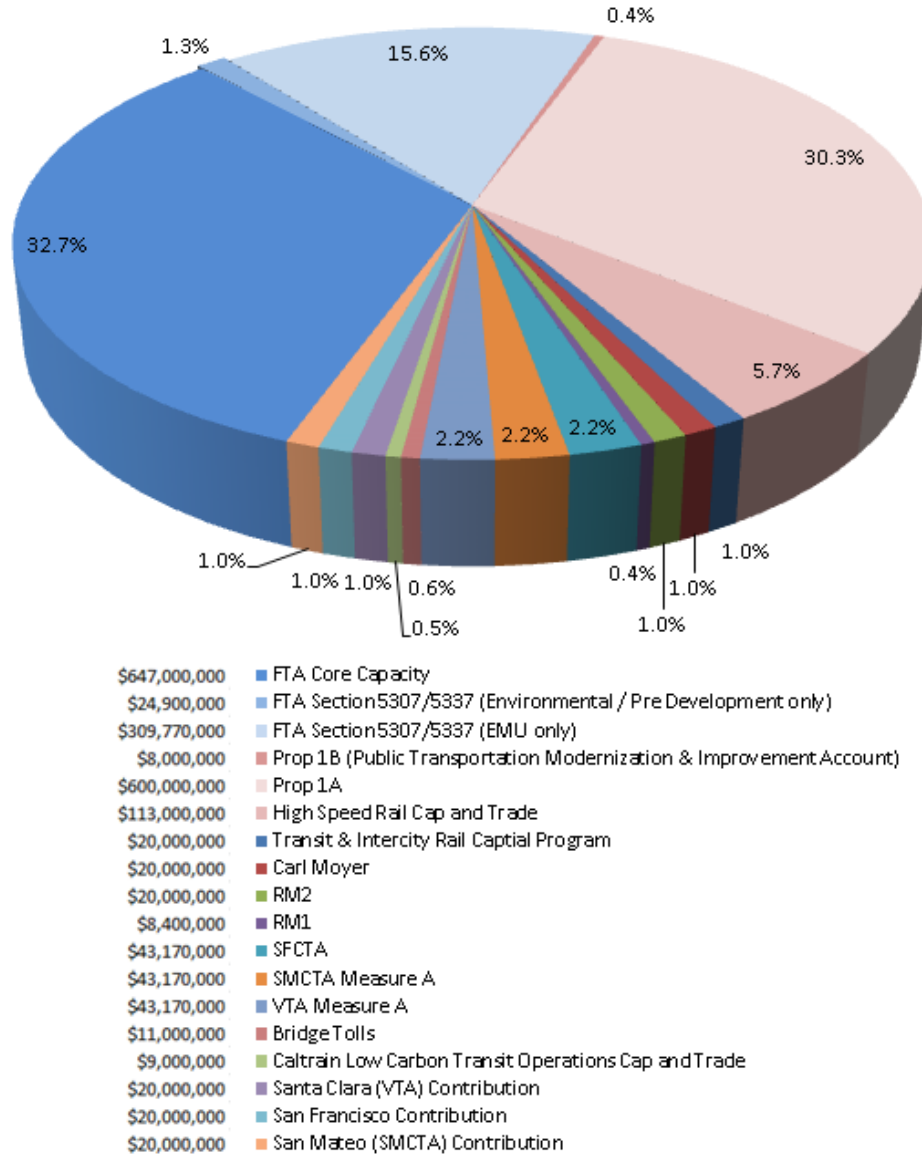
Notes regarding tables above:

1. Column B "Actual This Period" represents the actual cash payment during the reporting period.
2. Column C "Accrued To Date" includes actuals incurred to date and accruals to date.
3. The current budget vs. expenditure table represents the reconciled information based on the improved reporting from the district accounting system and implementation of new cost management system.
4. The agency labor is currently accrued since July 2016 due to the upgrade of the accounting system. Expenditures for agency labor will be updated once the financial data is available.

9.0 FUNDING

Figure 9-1 depicts a summary of the funding plan for the PCEP. It provides a breakdown of the funding partners as well as the allocated funds. As previously reported, all non-core capacity funds have been committed to the PCEP project. In September, the JPB submitted an updated rating submittal package to the FTA for the project to be included in the President's Fiscal Year 2018 budget.

Figure 9-1 Funding Plan



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10.0 RISK MANAGEMENT

The risk management process is conducted in an iterative fashion throughout the life of the project. During this process, new risks are identified, other risks are resolved or managed, and potential impacts and severity modified based on the current situation. The Risk Management team progress report includes a summary on the effectiveness of the Risk Management Plan, any unanticipated effects, and any correction needed to handle the risk appropriately.

The Risk Management team has identified the following items as Top Risks for the project:

- If overhead utilities are not relocated in time, the Electrification contractor (BBI) may incur delays.
- Final commitment of Core Capacity funding by the FTA.
- Upgrades to the electrical service needed for the Electrification project are dependent upon final agreement with PG&E for which technical and contractual issues must first be resolved.
- The final configuration of the electrification system requires the installation of a duct bank under Union Pacific Railroad (UPRR) tracks. This will require further coordination with UPRR and the negotiation of a broad range of issues.
- Transit America Systems Inc. (TASI) may not be able to deliver sufficient staff resources to support the construction and testing of the electrification system.
- Delays in locating and relocating underground utilities may result in delays to the installation of the electrification system.
- Recruitment of Key Staff.
- As built drawings needed by DB Contractor may be incomplete.

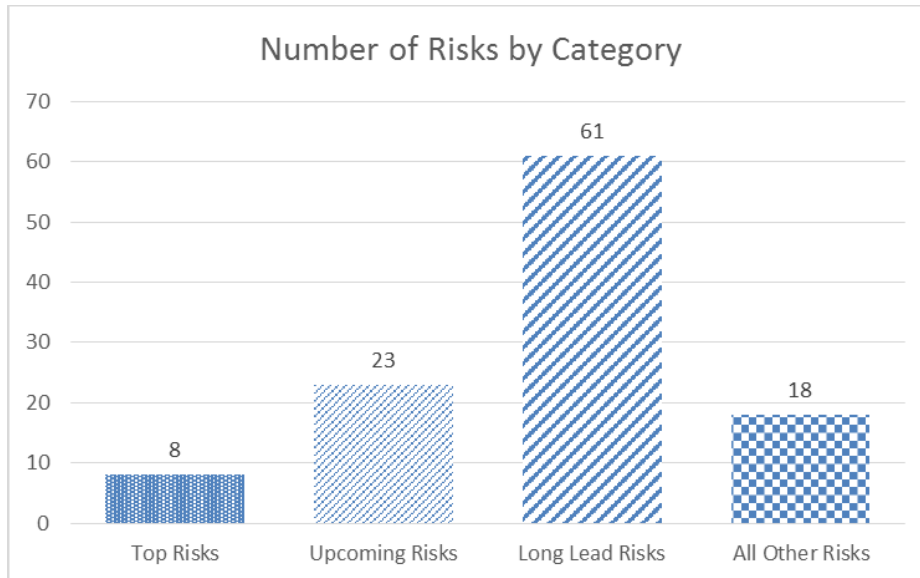
Activity This Month

- PCEP Team reviewed the results of the FTA-led risk refresh workshop. The draft workshop report was reviewed and a response was prepared.
- Updates were made to risk descriptions, effects, and mitigations based upon weekly input from risk owners. Monthly cycle of risk updating was completed based on schedules established in the Risk Identification and Mitigation Plan.
- Risk retirement dates were updated based upon revisions to the project schedule and input from risk owners. All long-lead risks were updated.
- Continued weekly monitoring of risk mitigation actions.
- Continued weekly publishing of the risk register.
- PCEP Risk Management Team attended Electrification, Project Delivery, and Systems Integration meetings to monitor developments associated with risks and to identify new risks.

Tables 10-1 and 10-2 show the risks identified for the program. Risks are categorized as: top risk, upcoming risk, long lead, and all other risks. The categories are based on a rating scale comprised of schedule and cost factors. Simply put, top risks are considered to have a significantly higher than average risk grade. Upcoming risks are risks for which mitigating action must be taken within 60

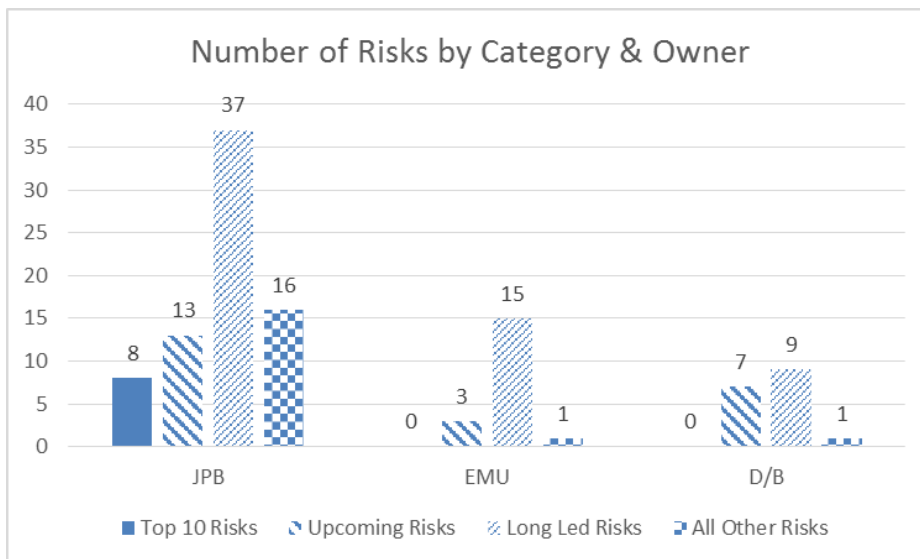
days. Long lead risks are risks for which mitigating action must be taken as much as a year or more into the future. All other risks are risks not falling into these categories.

Table 10-1 Monthly Status of Risks



Total Number of Active Risks = 115

Table 10-2 Risk Classification



Activity Next Month

- Submit final response to FTA Risk Assessment.
- Update risk descriptions, effects, mitigations, retirement dates.
- Conduct weekly monitoring of risk mitigation actions.
- Continue publishing risk register weekly.

11.0 ENVIRONMENTAL

11.1 Permits

The PCEP requires environmental permits from the following agencies/federal regulations: Section 106 of the National Historic Preservation Act of 1966 (NHPA), Section 7 of the Endangered Species Act (ESA), United States Army Corps of Engineers (USACE), San Francisco Bay Regional Water Quality Control Board (SFBRWQCB), the California Department of Fish and Wildlife (CDFW), and the San Francisco Bay Conservation Development Commission (BCDC).

Section 106 of the NHPA process as well as Section 7 of the ESA process have concluded.

Activity This Month

- All environmental permits have been obtained.

Activity Next Month

- There are no planned permit activities in the next month.

11.2 Mitigation Monitoring and Reporting Program

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures that it has adopted as part of the environmental review process. The JPB has prepared a Mitigation Monitoring and Reporting Program (MMRP) to ensure that mitigation measures identified in the PCEP EIR are fully implemented during project implementation. The JPB will implement the mitigation measures through its own actions, those of the design-build contractor and actions taken in cooperation with other agencies and entities. The MMRP is available on the Caltrain website:

<http://www.caltrain.com/Assets/Caltrain+Modernization+Program/Electrification+Documents/MMRP.pdf>

Activity This Month

- The JPB received a favorable ruling for the PCEP on action in the writ of mandate challenge by the Town of Atherton et al. The hearing was held on September 2, 2016 and the court ruled in favor of the JPB on September 26, 2016.
- There are no current mitigation activities this month.

Activity Next Month

- There are no planned mitigation activities next month.

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12.0 UTILITY RELOCATION

Implementation of the PCEP requires relocation or rerouting of both public and private utility lines and/or facilities. Utility relocation will require coordination with many entities, including regulatory agencies; public safety agencies; Federal, State, and local government agencies; private and public utilities; and other transportation agencies and companies. The section describes the progress specific to the utility relocation process.

Activity This Month

- PCEP Team continued monthly coordination meetings with telecommunication and power carriers. These meetings focused on the comment resolution on the proposed Caltrain Electrification Requirements.
- PCEP Team continued work with UPRR, PG&E and other power providers to resolve relocation requirements with California Public Utilities Commission (CPUC).
- Work continued with all utilities on review of overhead utility line relocations based on the current preliminary design. This effort is expected to continue for the next several months to support identification and confirmation of relocations, agreements for the relocations, and design of relocations.

Activity Next Month

- Monthly meetings will continue with telecom and power carriers.
- PCEP team will finalize relocation requirements for the proposed Caltrain Electrification Requirements with CPUC and other third party stakeholders.
- Relocation notices will be prepared and distributed.
- Work will continue with all utility providers on relocation schedules for relocation utilities.

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13.0 REAL ESTATE

The PCEP requires the acquisition of a limited amount of real estate including fee simple purchases, and permanent easements for various purposes. The PCEP Real Estate Program Management Team manages the acquisition of all property rights, including acquisition of fee simple title, and permanent easements. In general, Caltrain uses existing ROW for the PCEP, but will need to acquire additional real estate to expand the right-of-way (ROW) to accommodate installation of OCS supports, and wayside equipment (i.e., traction power stations, switching stations, and paralleling stations). Caltrain does not need to acquire real estate to complete the EMU procurement portion of the PCEP.

Activity This Month

During September, internal preparation of offer packages continued for both Segment 2 and 4. The ROW Team continues to work through Phase II work on two parcels. The ROW Team also continues negotiations on offers pending, including working through relocation of one commercial business. Parcels required for construction for Segments 2 and 4 have been approved by JPB and are currently in progress for acquisition. During September, the ROW Team updated the Real Estate Management Plan (RAMP) for review by the FTA and PMOC. Pending receipt of further comments by the FTA/PMOC, the RAMP will be completed thereafter. The revisions to the RAMP primarily consisted of minor updates in response to comments from FTA/ PMOC such as updates to the organizational chart; update to various dates; and updates regarding progress on the Cooperative Agreements.

The ROW team continued work to complete all remaining appraisals for Segment 4. The JPB concurred with settlement amounts for all remaining Segment 2 acquisitions during the Closed Session of the Board meeting on August 4, 2016. Concurrence by the JPB will allow the team to make offers. Table 13-1 below provides a brief summary of the Real Estate acquisition overview for the project.

- Segment 4 Status:
 - The ROW team continued work to complete all remaining appraisals for Segment 4. Negotiations are on-going on parcels JPB-SCL4-0112 (full acquisition), JPB-SCL4-0105-1A (partial) and JPB-SCL4-0106-1A (partial).
 - The ROW team continued to prepare offer presentation packages for all remaining parcels in Segment 4. The offer packages are being finalized by ROW Team.
 - The ROW Team continued coordination efforts with property owners, which included Phase II Hazmat assessment work for two commercial properties in Segment 4. Offers will not be presented or finalized until Phase II work is completed.
 - Phase I Hazmat assessments for Segment 4 are complete.

- Segment 2 Status:

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- The JPB provided concurrence on the offer amounts for 20 parcels for Segment 2 at their August 4, 2016 meeting.
- Phase 1 Hazmat assessments for Segment 2 have been completed.
- The ROW Team completed 18 offer packages for internal review. It is anticipated these offers will be presented in mid-to-late October to property owners. Another six offer packages are being prepared.
- Other:
 - The Cooperative Agreement for eminent domain in San Mateo County was executed with SamTrans. The Cooperative Agreement allows the JPB to use the eminent domain powers of SamTrans, if needed.
 - The JPB continues to negotiate the Cooperative Agreement for eminent domain authority with the City & County of San Francisco. The target for completion is for early 2017.

Activity Next Month

- Continue negotiations for all outstanding offers.
- Begin to present offer packages for remaining Segment 4 parcels and for Segment 2 parcels.
- Complete Phase II Hazmat assessment work for two commercial properties in Segment 4.

Table 13-1 Real Estate Acquisition Overview

Segment	No. of Parcels Needed*	No. of Appraisals Completed	No. Of Offers Presented	Acquisition Status		
				Escrow Closed	Value Litigation	Parcel Possession
Segment 4	13	13	3	0	0	0
Segment 2	26	24	0	0	0	0
Segment 1	8	0	0	0	0	0
Segment 3	12	0	0	0	0	0
Total	59	37	3	0	0	0

*Note: The table indicates individual parcels. Appraisal Packages include Plat Map, Legal Description and Appraisal Map.

During design development, the real estate requirements have been adjusted to accommodate design refinements. Parcel requirements are adjusted accordingly. The table in this report reflects the current property needs for the Project.

14.0 THIRD PARTY AGREEMENTS

Third-party coordination is necessary for work impacting public infrastructure, utilities, ROW acquisitions, and others. The table below outlines the status of necessary agreements for the PCEP.

Table 14-1 Third-Party Agreement Status

Type	Agreement	Third-Party	Status
Governmental Jurisdictions	Construction & Maintenance ¹	City and County of San Francisco	In Process
		City of Brisbane	Executed
		City of South San Francisco	Executed
		City of San Bruno	In Process
		City of Millbrae	Executed
		City of Burlingame	Executed
		City of San Mateo	Executed
		City of Belmont	In Process ²
		City of San Carlos	Executed
		City of Redwood City	Executed
		City of Atherton	In Process
		County of San Mateo	Executed
		City of Menlo Park	Executed
		City of Palo Alto	In Process
		City of Mountain View	Executed
		City of Sunnyvale	Executed
		City of Santa Clara	In Process
	County of Santa Clara	Executed	
	City of San Jose	In Process ²	
	Condemnation Authority	San Francisco	In Process
San Mateo		In Process	
Santa Clara		Executed	
Utilities	Infrastructure	Pacific Gas & Electric (PG&E)	Executed ³
	Operating Rules	California Public Utilities Commission (CPUC)	In Process
Transportation & Railroad	Construction & Maintenance	Bay Area Rapid Transit (BART)	Executed ⁴
	Construction & Maintenance	California Dept. of Transportation (Caltrans)	In Process
	Trackage Rights	Union Pacific Railroad (UPRR)	Executed ⁴

Notes regarding table above:

¹ Agreements memorialize the parties' consultation and cooperation, designate respective rights and obligations and ensure cooperation between the JPB and the cities and counties in connection with the design and construction of the PCEP. A comprehensive agreement is planned for each of the 17 cities and three counties along the Caltrain ROW and within the PCEP limits.

² Approved by City Council, or Board of Supervisors, and awaiting signature for execution.

³ Master agreement and two supplemental agreements.

⁴ Utilizing existing agreements

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15.0 COMMUNITY RELATIONS AND OUTREACH

The Community Relations and Outreach team coordinates all issues with all jurisdictions, partner agencies, government organizations, businesses, labor organizations, local agencies, residents, community members, other interested parties, and the media. In addition, the team oversees the design-build contractor's effectiveness in implementing its Public Involvement Program. The following PCEP related external affairs meetings took place in August:

- **Presentations**

- San Jose Transportation and Environment Committee
- Caltrain Bicycle Advisory Committee
- Caltrain Citizen Advisory Committee (CAC)
- Menlo Park Chamber of Commerce
- Diridon Policy Advisory Committee
- MTC Programming and Allocation Committee

- **Third Party/Stakeholder Actions**

- Unanimous support - VTA Administration and Finance Committee Approval Interim Financing for PCEP
- Unanimous support - SFCTA CAC Approval PCEP allocation
- Unanimous support - SFCTA Plans and Programs Committee Approval PCEP allocation
- Unanimous support - SFCTA PCEP allocation
- Unanimous support - San Jose city Council Comprehensive Agreement with Caltrain
- Participated in CHSRA hosted County Staff Coordination Group (CSCG) and Local Policy Maker Group (LPMG) meetings

- **Stakeholder Meetings**

- Meeting with Diridon Station working group
- Meeting with BART District 8 staff
- Meeting with San Francisco and Silicon Valley bicycle coalitions
- Meeting with Supervisor Cohen's office
- Meeting with FTA Washington, D.C. Office
- Meetings were held with Representatives or staff in the following offices: Senator Dianne Feinstein, Congresswoman Nancy Pelosi, Congresswoman Anna Eshoo, Congresswoman Jackie Speier, Congressman Mike Honda, and Congressman Eric Swalwell.

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16.0 DBE PARTICIPATION AND LABOR STATISTICS

Disadvantaged Business Enterprise (DBE) and labor statistics will be reported after construction has commenced.

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17.0 PROCUREMENT

Contract Activity

- The JPB authorized the award of both the EMU and DB contracts at the July 7 board meeting. The LNTPs were issued on September 6, 2016 for the EMU and DB Contract with a full NTP expected in March 2017 for both contracts.

Invitation for Bids/RFQ/RFP Advertised this month

- No Bids/RFQs/RFPs were advertised in September.

Bids/Qualifications/Proposals Received this month

- No Bids/RFQs were received in September.

Upcoming Bids/Qualifications/Proposals:

- Issued a proposal request for the SCADA system to support CalMod.

Work Directive/Purchase Order Awards and Amendments

- No new work directives were issued in September.

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18.0 TIMELINE OF MAJOR PROJECT ACCOMPLISHMENTS

Below is a timeline showing major project accomplishments from 2002 to 2016:

Date	Milestone
2002	Conceptual Design Completed
2004	Draft NEPA Environmental Assessment (EA)/Environmental Impact Report (EIR) (2004)
2008	35% design complete
2009	Final NEPA EA/EIR and Finding of No Significant Impact (FONSI)
2014	Request for Qualifications (RFQ) for Electrification
2015	JPB Approves Final CEQA Environmental Impact Report (EIR) JPB Approves Issuance of RFP for Electrification JPB Approves Issuance of RFP for EMU
2016	JPB Approves EIR Addendum #1: PS-7 FTA Re-Evaluation of 2009 FONSI Receipt of Electrification BAFOs Receipt of EMU Proposal Application for Entry to Engineering to FTA Receipt of EMU BAFO Completed the EMU Buy America Pre-Award Audit and Certification Negotiations completed with Stadler US, Inc. for EMU Vehicles Negotiations completed with Balfour Beatty Infrastructure, Inc., the apparent best value Electrification firm JPB Approves Contract Award (LNTP) Balfour Beatty JPB Approves Contract Award (LNTP) Stadler US FTA approval of Entry into Engineering

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APPENDICES

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Appendix A – Acronyms

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AIM	Advanced Information Management	EIR	Environmental Impact Report
ARINC	Aeronautical Radio, Inc.	EMU	Electric Multiple Unit
BAAQMD	Bay Area Air Quality Management District	ESA	Endangered Species Act
BBI	Balfour Beatty Infrastructure, Inc.	ESA	Environmental Site Assessments
CAISO	California Independent System Operator	FEIR	Final Environmental Impact Report
CalMod	Caltrain Modernization Program	FFGA	Full Funding Grant Agreement
Caltrans	California Department of Transportation	FONSI	Finding of No Significant Impact
CDFW	California Department of Fish and Wildlife	FRA	Federal Railway Administration
CEMOF	Centralized Equipment Maintenance and Operations Facility	FTA	Federal Transit Administration
CEQA	California Environmental Quality Act (State)	GO	General Order
CHSRA	California High-Speed Rail Authority	HSR	High Speed Rail
CIP	Capital Improvement Plan	ICD	Interface Control Document
CPUC	California Public Utilities Commission	ITS	Intelligent Transportation System
DB	Design-Build	JPB	Peninsula Corridor Joint Powers Board
DBB	Design-Bid-Build	LNTP	Limited Notice to Proceed
DBE	Disadvantaged Business Enterprise	MMRP	Mitigation, Monitoring, and Reporting Program
DEMP	Design, Engineering, and Management Planning	MOU	Memorandum of Understanding
EA	Environmental Assessment	MPS	Master Program Schedule
EAC	Estimate at Completion	NCR	Non Conformance Report
		NEPA	National Environmental Policy Act (Federal)

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NHPA	National Historic Preservation Act	RSD	Revenue Service Date
NMFS	National Marine Fisheries Service	RWP	Railroad Worker Protection
NTP	Notice to Proceed	SamTrans	San Mateo County Transit District
OCS	Overhead Contact System	SCADA	Supervisory Control and Data Acquisition
PCEP	Peninsula Corridor Electrification Project	SCC	Standard Cost Code
PCJPB	Peninsula Corridor Joint Powers Board	SPUR	San Francisco Bay Area Planning and Urban Research Association
PG&E	Pacific Gas and Electric	SFBCDC	San Francisco Bay Conservation Development Commission
PHA	Preliminary Hazard Analysis	SFCTA	San Francisco County Transportation Authority
PMOC	Project Management Oversight Contractor	SFMTA	San Francisco Municipal Transportation Authority
PS	Paralleling Station	SFRWQCB	San Francisco Regional Water Quality Control Board
QA	Quality Assurance	SOGR	State of Good Repair
QC	Quality Control	SS	Switching Station
QMP	Quality Management Plan	SSCP	Safety and Security Certification Plan
QMS	Quality Management System	SSMP	Safety and Security Management Plan
RAMP	Real Estate Acquisition Management Plan	SSWP	Site Specific Work Plan
RE	Real Estate	TASI	Transit America Services Inc.
RFI	Request for Information	TBD	To Be Determined
RFP	Request for Proposals	TPS	Traction Power Substation
RFQ	Request for Qualifications	TVA	Threat and Vulnerability Assessment
ROCS	Rail Operations Center System	UPRR	Union Pacific Railroad
ROW	Right-of-Way		
RRP	Railroad Protective Liability		

USACE **United States Army Corp of
Engineers**

USFWS **U.S. Fish and Wildlife
Service**













VTA **Santa Clara Valley
Transportation Authority**

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Appendix B – Schedule

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#	Activity Name	Duration	Start	Finish	2014		2015				2016				2017				2018				2019				2020				2021				2022	
					Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2		
43	CEMOF	109d	12/01/17	05/04/18																																
44	TESTING / STARTUP PHASE	426d	04/27/20	12/30/21																																
45	PRE-REVENUE OPERATIONS	236d	09/10/20	08/13/21																																
46	REVENUE OPERATIONS	172d	12/11/20	08/16/21																																
47	RISK CONTINGENCY	426d	04/27/20	12/30/21																																
48	OPERATIONAL READINESS PHASE	791d	09/08/17	10/19/20																																
49	OPERATIONS & MAINTENANCE STAFFING	543d	09/08/17	10/28/19																																
50	NON-REVENUE EQUIPMENT	258d	10/15/19	10/19/20																																
51	SPARES	258d	10/15/19	10/19/20																																
52	OPERATIONS & MAINTENANCE TRAINING	255d	09/08/17	09/10/18																																
53	LOCAL AGENCY TRAINING	64d	06/01/18	08/30/18																																
54	ELECTRIFICATION SCHEDULE (BB) 062116	1611d	09/01/16	10/13/20																																
55	General	1606d	09/06/16	10/13/20																																
56	General	1501d	09/06/16	10/13/20																																
57	Sitework	20d	09/06/16	09/28/16																																
58	Rail Signal & Comm System	60d	07/31/19	10/08/19																																
59	Testing & Start-up	639d	02/25/19	10/13/20																																
60	Design	1034d	09/07/16	04/29/19																																
61	All Work Areas	757d	09/07/16	08/14/18																																
62	Segments 2 & 4	392d	09/07/16	09/07/17																																
63	Segment 4	659d	09/07/16	05/14/18																																
64	Segment 2	559d	09/07/16	02/10/18																																
65	Segments 1 & 3	740d	12/09/16	10/30/18																																
66	Segment 1	728d	02/10/17	12/20/18																																
67	Segment 3	896d	01/13/17	04/29/19																																
68	Submittals	150d	09/01/16	01/18/17																																
69	Procurement	656d	01/27/17	10/01/18																																
70	All Work Areas	250d	01/27/17	01/22/18																																
71	Segment 4	369d	02/10/17	01/20/18																																
72	Segment 2	300d	02/10/17	11/17/17																																
73	Segment 1	641d	02/10/17	10/01/18																																
74	Segment 3	563d	02/10/17	07/19/18																																
75	Permits	555d	11/10/16	01/18/19																																
76	Segment 4	201d	07/05/17	04/18/18																																
77	Segment 2	178d	11/10/16	07/21/17																																
78	Segment 1	296d	11/15/17	01/18/19																																
79	Segment 3	142d	08/22/17	03/14/18																																
80	Construction / Installation	1328d	10/04/16	02/26/20																																
81	Segment 4	1076d	11/07/16	08/09/19																																
82	Segment 2	1004d	10/04/16	04/29/19																																
83	Segment 1	1076d	05/25/17	02/24/20																																
84	Segment 3	1139d	03/30/17	02/26/20																																

 Prog Plan (C14.02)	 Remaining	 Start Milestone	 Last Months Update
 Last Months Update	 Near Critical	 Finish Milestone	 Critical Milestone
 Progress	 Critical	 Prog Plan (C14.02)	 Risk Contingency

Date	Revision	Checked	Approved
09/28/2016	Updates & Revisions Completed By Andrew Christofas		
09/28/2016	Checked By Craig Olsen	x	
09/30/2016	Approved By Raja Viswanathan		x