



**Modernization Program**  
Peninsula Corridor Electrification Project (PCEP)



# June 2017 Monthly Progress Report

June 30, 2017



## Funding Partners



Federal Transit Administration (FTA) Core Capacity  
FTA Section 5307 (Environmental / Pre Development only)  
FTA Section 5307 (EMU only)



Prop 1B (Public Transportation Modernization & Improvement Account)  
Caltrain Low Carbon Transit Operations Cap and Trade



Proposition 1A  
California High Speed Rail Authority (CHSRA) Cap and Trade



Carl Moyer Fund



Bridge Tolls (Funds Regional Measure (RM) 1/RM2)



San Francisco County Transportation Authority (SFCTA)/San Francisco Municipal Transportation Agency (SFMTA)



San Mateo County Transportation Authority (SMCTA) Contribution  
SMCTA Measure A



Santa Clara Valley Transportation Authority (VTA) Measure A  
VTA Contribution



City and County of San Francisco (CCSF) Contribution

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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 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 the San Francisco Station (at the intersection of Fourth and King Streets in San Francisco) and the Tamien Station in San Jose. Caltrain will continue Gilroy service and support existing tenants.

An electrified Caltrain will better address Peninsula commuters' vision of environmentally friendly, 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:

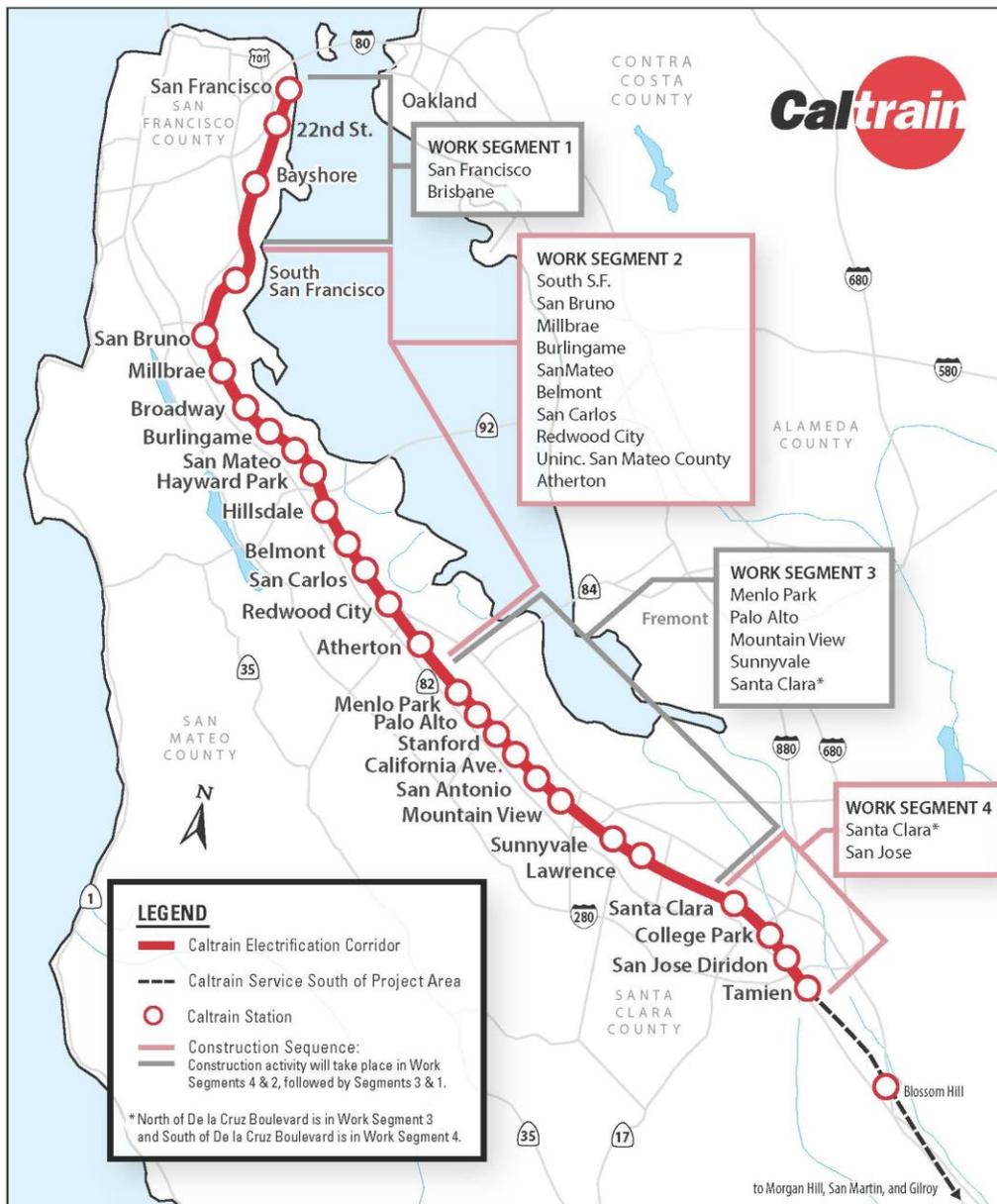
- **Improved Train Performance, Increased Ridership Capacity and Increased Service:** Electrified trains can accelerate and decelerate more quickly than diesel-powered trains, allowing Caltrain to run more efficiently. In addition, because of their performance advantages, electrified trains will enable 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.

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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. Work along the Caltrain Electrification Corridor has been divided into four work segments as shown in Figure 2-1. PCEP activities are described and summarized by work segments.

**Figure 2-1 PCEP Work Segments**



With approval of the \$647 million Full Funding Grant Agreement (FFGA) in May, in addition to the \$1.3 billion already secured from local, regional and state commitments, this June the Peninsula Corridor Joint Powers Board (JPB) approved the \$1.98 billion budget for the PCEP. Approval of this budget provides the JPB the authority to proceed with the Design-Build (DB) and railcar construction phases of the PCEP through completion of the project. The Notices to Proceed (NTP) to Balfour Beatty Infrastructure, Inc. (BBII) for the electrification project and Stadler for the EMU vehicles were issued in June.

The PCEP team continues to work with BBII on the Overhead Contact System (OCS) design. OCS layout design for Segment 2 work areas 5 and 4 were advanced to 95%, and BBII continued to advance the OCS layout designs for Segment 4. BBII began to remove obstructions found during the potholing process in segments 4 and 2. Inspection of existing signal cables began in all segments.

Stadler continued to progress numerous management submittals, including the baseline schedule, an updated Contract Deliverables Requirement List (CDRL), and an updated System Safety and Quality Assurance Plan. The PCEP team is currently reviewing these submittals and working with Stadler to finalize these deliverables in July. EMU Conceptual Design Reviews (CDR) have been completed and Preliminary Design Reviews (PDR) are on schedule to commence in September. The PCEP team continues to address system-wide interface issues involving the emerging EMU design and the existing wayside infrastructure, the Electrification Project, and the Communications-Based Overlay Signal System (CBOSS) Project.

## **2.1 Funding Partners Participation in PCEP**

The PCEP has a series of weekly, biweekly, monthly and quarterly meetings to coordinate all aspects of the program. The meetings are attended by project staff with participation by our funding partners in accordance with the Funding Partners Oversight Protocol. A summary of funding partner meetings and invitees can be found in Appendix B.

This section of the report provides a summary of the discussions and decisions made at the meetings and a list of funding partners who attended the meetings.

### **Electrification – Engineering Meeting – Weekly**

Purpose: To discuss status, resolution and tracking of BBII and Electrification design-related issues, to discuss and monitor the progress of utility relocation compared to schedule, and to discuss third-party coordination activities with Pacific Gas and Electric (PG&E), CHSRA, Union Pacific Railroad (UPRR), Bay Area Rapid Transit, California State Department of Transportation (Caltrans), CBOSS and others.

#### Activity this Month

Funding Partners: CHSRA: Ian Ferrier

PG&E coordination was a major focus with BII selecting the designer for the interconnection and review of the power quality study. Utility relocation notices have been sent with schedules established to support the DB schedule. Coordination to resolve conflicts between the CBOSS fiber optic cable and OCS foundation locations continued with the CBOSS team. Review of the OCS foundation requests for relocation to accommodate future curve relocation for CHSRA was conducted. The 95% tunnel modification plans have been received and were forwarded for review by Caltrain Engineering and Construction. Conference calls have been held to discuss the OCS design primarily in Segment 4 where UPRR owns Track MT-1 and the Constant Warning Time solution for the grade crossings.

### **PCEP Delivery Coordination Meeting – Bi-Weekly**

Purpose: To facilitate high-level coordination and information sharing between cross-functional groups regarding the status of the work for which they are responsible.

#### Activity this Month

Funding Partners: SFCTA: Luis Zurinaga; CHSRA: Ian Ferrier

Major topics included: Potential changes to be reviewed at the Change Management Board (CMB), signing of the NTP DB and EMU contracts and preparation for groundbreaking ceremony, reports on the status of other JPB capital projects that interface with the PCEP, completion of Fiscal Year (FY) 2018 work plans, outreach initiatives involving design of the EMUs, and data management tools.

### **Systems Integration Meeting – Bi-Weekly**

Purpose: To discuss and resolve issues with inter-system interfaces and to identify and address interface points which have yet to be addressed.

#### Activity this Month

Funding Partners: CHSRA: Ian Ferrier and Wai-on Siu

The process of migrating the Caltrain system integration database to a new data management tool will follow the migration of the risk assessment database to the tool. Fields have been added to the system integration database report to reference the risk assessment identifier, the safety certification item reference number. Included will be Caltrain program projects including the Tunnel contract, Supervisory Control and Data Acquisition (SCADA) contract and Centralized Equipment Maintenance and Operations Facility (CEMOF) construction contract. The system integration reports will be reviewed for commonality with risk assessment items. The Santa Clara drill track readiness for testing in Segment 4 was discussed with a list of items required for systems integration testing reviewed. CBOSS Positive Train Control (PTC) functionality will be necessary before the impedance bonds are installed at the grade crossings in Segment 4.

**Master Program Schedule (MPS) Meeting – Monthly**

Purpose: To review the status of the MPS and discuss the status of major milestones, critical and near critical paths, upcoming Board review items, and progress with the contracts, among others.

Activity this Month

Funding Partners: SFCTA: Luis Zurinaga; CHSRA: Ian Ferrier

Due to the schedule freeze an update on the status of the MPS re-baseline effort was provided. Updating BBII, Stadler, and PG&E schedules including schedules for upcoming contracts was discussed. Critical items that must be resolved prior to setting a new baseline were discussed.

**Risk Assessment Meeting – Monthly**

Purpose: To identify risks and corresponding mitigation measures. For each risk on the risk register, mitigation measures have been identified and are being implemented. Progress in mitigating these risks is confirmed at the ongoing risk monitoring and monthly risk assessment meetings.

Activity this Month

Funding Partners: CHSRA: Ian Ferrier

Seven risks were retired. One risk was added to the risk register. One potential risk was dismissed as not a risk. See Risk Management section (Section 11) in this report for more details.

**Change Management Board (CMB) – Monthly**

Purpose: To review, evaluate, and authorize proposed changes to PCEP.

Activity this Month

Funding Partners: SFCTA: Luis Zurinaga; CHSRA: Boris Lipkin, Bruce Armistead and Ben Tripousis; VTA: Krishna Davey, Jim Lawson and Carol Lawson

Major topics included: refinement of the functionality of the CMB regarding how review and voting on potential changes would occur. Potential changes to the Balfour and the Stadler contracts were discussed.

**2.2 Schedule**

The Revenue Service Date (RSD) in the 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.

Due to delays in federal funding the MPS was frozen in February. The FFGA was received in May 2017 and now the overall schedule is being re-evaluated. A revised baseline will be established in the coming months.

**Table 2-1 Schedule Status**

Milestones <sup>1,2</sup>	Program Plan	February <sup>3</sup>	June <sup>4</sup>
NTP to Electrification DB Contractor	N/A	TBD	06/19/2017
NTP to EMU Manufacturer	N/A	TBD	06/01/2017
Start of Electrification Major Construction	03/20/2017	07/24/2017	07/24/2017
First Eight Miles of Electrification Complete to Begin Testing	04/08/2019	10/08/2019	10/08/2019
Delivery of First Vehicle	06/25/2019	07/30/2019	07/30/2019
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

Notes:

- <sup>1</sup> Milestones reported on this table may differ from the current schedule. As the schedule continues to be refined over the coming months to incorporate approved baseline schedules from the Electrification DB and EMU contractors, changes to milestones will be thoroughly vetted prior to reflecting those changes in the Monthly Report.
- <sup>2</sup> Program Plan only considered an NTP. It did not account for an LNTP and Full NTP.
- <sup>3</sup> February represents the last month the MPS was updated prior to the schedule freeze.
- <sup>4</sup> There was no formal update of the MPS in June; however, this table has been revised to reflect known or expected updates to FFGA and Contractor NTPs.

### 2.3 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)	Cost This Month (B) <sup>1</sup>	Cost To Date (C) <sup>2</sup>	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
Electrification Subtotal	\$ 1,316,125,208	\$ 34,436,836	\$ 219,040,382	\$ 1,097,084,826	\$ 1,316,125,208
EMU Subtotal	\$ 664,127,325	\$ 602,202	\$ 34,717,651	\$ 629,409,674	\$ 664,127,325
<b>PCEP TOTAL</b>	<b>\$ 1,980,252,533</b>	<b>\$ 35,039,038</b>	<b>\$ 253,758,033</b>	<b>\$ 1,726,494,500</b>	<b>\$ 1,980,252,533</b>

Notes regarding tables above:

- <sup>1</sup> Column B "Cost This Month" represents the cost of work performed this month.
- <sup>2</sup> Column C "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.

## **2.4 Board Actions**

- Approved the \$1.98 billion budget for the PCEP

Future anticipated board actions include:

- July
  - Real estate closed session – Segments 1 and 3 acquisitions [Real Estate]
  - Resolution of Necessity (RON) – Segment 2 parcels by San Mateo County Transit District (SamTrans)
  - Approval to execute PG&E Supplemental Agreement #3: Final Design [Engineering]
- August
  - Award of SCADA sole source [Project Delivery]
  - Quarterly Update presentation to board (in support of Executive Director's report) [Program Management]
  - RON – Segment 4 parcels by VTA
- To Be Scheduled
  - Approval to execute PG&E Supplemental Agreement #4: Construction [Engineering]
  - Authority to procure used electric locomotives [Project Delivery]
  - Ambassador Request for Proposal (RFP) award [External Affairs]

## **2.5 Government and Community Affairs**

A number of community relations and outreach events took place during the month. PCEP team participated in a total of 16 meetings with stakeholders.

### **3.0 ELECTRIFICATION – INFRASTRUCTURE**

This section reports on the progress of the Electrification, 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 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, and seven paralleling stations (PS). Electrification will be performed using a DB delivery method.

##### **Activity This Month**

- The PCEP team issued the Full NTP to BBII, the Design Build (DB) contractor, on June 19<sup>th</sup>, which allows the BBII to start material procurement, continue final design, and begin planning of the construction activities. The project team also began discussions with BBII on the Time Impact Analysis to update the schedule and determine the impacts of FFGA delays.
- The PCEP team continued to work with the BBII on the OCS design. OCS layouts for Segment 2 work areas 5 and 4 were advanced to 95% and submitted for review and comments. BBII also continue to advance the OCS layout designs for Segment 4.
- The PCEP team continued to review and coordinate signal and communication design submittals with BBII. BBII submitted 65% location specific Signal Design Typical Location for JPB review. The drawings have also been submitted to UPRR for review and continued coordination.
- The PCEP team began design review coordination with local jurisdictions for the OCS design in Segment 2 work areas 5 and 4 and Segment 4. The jurisdictions include South San Francisco, San Bruno, Millbrae, Burlingame, Santa Clara and San Jose.
- BBII continued pothole location layouts in Segment 2.
- BBII continued preparation of test results from geotechnical borings. The results are reviewed by the PCEP team as they are made available. Spoils from geotechnical borings are being removed from the right of way (ROW).
- Potholing of utilities at proposed OCS locations continued in segments 4 and 2. BBII also began to remove obstructions found during the potholing process, such as loose concrete, asphalt, and other debris.
- Potholing of existing signal cables for signal design and construction continued in all segments.
- Inspection of existing signal cables for compatibility with a future electrified railroad began for all segments.

## **Peninsula Corridor Electrification Project**

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### **Monthly Progress Report**

- Coordination efforts with PG&E continued for infrastructure improvements and TPS interconnects. The PCEP team continues to work with PG&E for the finalization of Protection Scheme Studies. PCEP has engaged a PG&E-recommended firm to complete the final study required for the final design of PG&E's infrastructure improvements.
- BBII recommended a PG&E-approved subcontractor to perform the feasibility study and design of the TPS interconnections. The recommendation is under review by the project team and the NTP for the allowance will be issued once the review is complete. The design of the interconnection is currently an allowance within the BBII DB contract, with construction being a change order.

#### **Activity Next Month**

- Continue to work with BBII on design and field investigation activities. The designs will include the continued progression of the OCS, traction power, bonding and grounding, signal systems, and other civil infrastructures such as overhead bridge protections.
- Continue potholing and clearing of obstructions at proposed OCS locations. Potholing will continue in Segment 2 Work Area 3 and will move into Segment 2 work areas 2 and 1 as BBII advances the OCS design at specific locations.
- Continue potholing of signal cables in all segments in support of signal system design.
- Continue inspection of signal cables in support of signal system design.
- Hold signal discussion with UPRR.
- Continue review BBII work plans for upcoming construction activities.
- Continue coordination efforts with PG&E on interconnection design and final design for PG&E infrastructure. The PCEP and BBII teams will continue design and coordination of the 115 kV interconnections between PG&E and Caltrain's future substations. Coordination meetings continue to be held every two weeks.
- Continue design reviews and coordination with local jurisdictions for OCS design in Segment 2 work areas 5 and 4 and Segment 4.
- Perform test pile installations.
- Begin tree pruning and removals in preparation of OCS foundation installations.

### **3.2 Supervisory Control and Data Acquisition (SCADA)**

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

#### **Activity This Month**

- The PCEP team began negotiations for the SCADA contract.

#### **Activity Next Month**

- Complete negotiations and prepare for the award of SCADA contract at the August board meeting.

### **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 has requested the PCEP team 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 DB contractor's efforts in Segment 1.

#### **Activity This Month**

- The PCEP team continued coordination efforts with the design team on drawings and specifications on Tunnel 1 and Tunnel 4 Drainage Rehab Project.
- Review comment responses that were submitted back to the JPB.

#### **Activity Next Month**

- PCEP team continued coordination efforts with UPRR and other stakeholders. 95% design drawings will be provided to UPRR for review.
- Comment resolutions and constructability review meeting will be held.
- PCEP staff will meet with Caltrain internal stakeholders to review and resolve comments on 95% design drawings and specifications.
- PCEP staff will conduct a constructability review with Caltrain internal stakeholders.
- PCEP staff will continue design for 100% Plans and Specifications with a target completion by the end of August.

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#### **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 fixed trainsets. Power will be obtained from the OCS via roof-mounted pantographs, which will power the electric traction motors. The EMUs will replace a portion of the existing diesel locomotives and passenger cars currently in use by Caltrain.

##### **Activity This Month**

- EMU design coordination discussions were held with representatives from Caltrain Operation and Maintenance, Caltrain Outreach, the Federal Railroad Administration (FRA), Project Management Oversight Contractor (PMOC), Safety and Quality Assurance personnel, Electrification, and Program Scheduling.
- CDRs have been completed.
- The PCEP team continues to address system-wide interface issues involving the emerging EMU design and the existing wayside infrastructure, the Electrification Project, and the CBOSS Project.

##### **Activity Next Month**

- Finalize the baseline schedule, updated CDRL, and updated System Safety and Quality Assurance Plan.
- PCEP team members will meet with Stadler to review revisions to the cab mockup and discuss EMU delivery, test and maintenance requirements.
- Progress design and interface issues.
- PDRs are on schedule to commence in September.

#### **4.1 Centralized Equipment Maintenance and Operations Facility (CEMOF) Modifications**

The CEMOF Modifications project will provide safe work areas for performing maintenance on the new EMUs.

##### **Activity This Month**

- Upgrade design activities have been restarted and various buildout concepts are being evaluated.

##### **Activity Next Month**

- Evaluation of buildout options.

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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 to review and plan 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**

- Project safety staff participated in FTA PMOC meetings to provide PMOC staff with a status update of ongoing project safety related activities and discuss safety topics and initiatives. The status of project safety documentation deliverables were also reviewed with BBII and Stadler representatives.
- Project safety staff continues to provide comments on the contractor Site Specific Work Plan safety provisions and has increased its safety construction oversight presence by performing night inspections of potholing and utility location work being performed by BBII.
- The monthly Fire/Life Safety meeting was held on June 27 and included participation from several local City and County Fire Rescue and Emergency Management staff. FTA PMOC and FRA representatives also participated in the meeting. The discussion focused on overview of the project for first time participants, emergency responder track access points, and PCEP communications systems.
- Safety staff participated in several BBII safety meetings including its annual all-day safety meeting that included BBII and its subcontractor staff. Additional safety communications continue to take place at the BBII monthly safety meetings, monthly All-Hands Safety meeting, monthly Project Construction Safety meeting, and ongoing Safety and Security Certification meetings.

### **Activity Next Month**

- Monthly Safety Communication meetings are scheduled for the Project Safety and Security Certification Committee, Fire/Life Safety Committee, and other project-related contractor and JPB safety meetings designed to discuss project safety challenges and initiatives.
- Increased site safety inspections will be conducted to assess work practice and identify opportunities for improvements.
- BBII and EMU safety deliverables will continue to be reviewed and discussed with the contractors to ensure they address project safety requirements.
- Project safety will continue to assess opportunities to enhance the work safety planning and implementation process in partnership with the BBII representatives.

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**6.0 QUALITY ASSURANCE**

The Quality Assurance (QA) staff performs technical reviews 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**

- Staff meetings with BBII QA/Quality Control management representatives continue bi-weekly.
- The BBII Document Control audit was closed.
- The Inspection Services Inc. audit was closed.
- A design audit of Alstom Signaling was conducted.
- A design audit of BBII/PGH Wong’s OCS 95% design package was conducted with one finding that was immediately closed.
- Regularly scheduled design reviews and surveillance began on project design packages and will continue through spring of 2018.

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
Audits Conducted	2	28
<b>Audit Findings</b>		
Audit Findings Issued	1	24
Audit Findings Open	8	0
Audit Findings Closed	8	24
<b>Non-Conformances</b>		
Non-Conformances Issued	0	4
Non-Conformances Open	0	0
Non-Conformances Closed	0	4

**Activity Next Month**

- Three audits are planned and scheduled: BBII/PGH Wong 95% Wayside power cabinets, BBII/PGH Wong Switch Machines at 65% and bridge segments 2 and 4 at 65%.
- RFP for the PCEP QA Laboratory was finalized and will be advertised in July.

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**7.0 SCHEDULE**

Due to delays in federal funding the MPS was frozen in February. The FFGA was received in May and now the overall schedule is being re-evaluated. A revised baseline will be established in the coming months.

As indicated in Table 7-1, the RSD, which is the date in which the project is deemed completed, remains unchanged in the MPS. 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. 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 last update prior to the schedule freeze (February 2017) and the current informal schedule update (June 2017) to capture any potential changes in the schedule. A complete summary schedule, reflective of the last formal update (February 2017) can be found in Appendix C.

Items listed in Table 7-2 show the critical path activities/milestones for the PCEP. Table 7-3 lists near-critical activities on the horizon.

**Notable Variances**

As the FFGA has now been approved the MPS is under review for evaluation of variances. Once this review is complete and a revised program baseline is established, variances will be reported against the revised baseline.

**Table 7-1 Schedule Status**

Milestones <sup>1,2</sup>	Program Plan	February <sup>3</sup>	June <sup>4</sup>
NTP to Electrification DB Contractor	N/A	TBD	06/19/2017
NTP to EMU Manufacturer	N/A	TBD	06/01/2017
Start of Electrification Major Construction	03/20/2017	07/24/2017	07/24/2017
First Eight Miles of Electrification Complete to Begin Testing	04/08/2019	10/08/2019	10/08/2019
Delivery of First Vehicle	06/25/2019	07/30/2019	07/30/2019
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

Notes:

<sup>1</sup> Milestones reported on this table may differ from the current schedule. As the schedule continues to be refined over the coming months to incorporate approved baseline schedules from the Electrification DB and EMU contractors, changes to milestones will be thoroughly vetted prior to reflecting those changes in the Monthly Report.

<sup>2</sup> Program Plan only considered an NTP. It did not account for an LNTP and Full NTP.

<sup>3</sup> February represents the last month the MPS was updated prior to the schedule freeze.

<sup>4</sup> There was no formal update of the MPS in June; however, this table has been revised to reflect known or expected updates to FFGA and Contractor NTPs.

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**Table 7-2 Critical Path Summary**

Activity	Start	Finish
Electrification Design to Begin Major Construction	09/06/2016	07/21/2017
EMU Design to Delivery of First Car Shell to Assembly Facility	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 <sup>1</sup>	08/31/2020	08/31/2020
Vehicle Manufacturing & Assembly to Provide First Five Trainsets	11/13/2017	09/09/2020
Pre-Revenue Operations	09/22/2020	12/10/2020
Potential Limited Service <sup>1</sup>	12/31/2020	12/31/2020
RSD w/out Risk Contingency <sup>1</sup>	08/16/2021	08/16/2021
RSD w/ Risk Contingency <sup>1</sup>	12/30/2021	12/30/2021

Note:

<sup>1</sup>. Milestone activity

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

WBS	Activity	Responsibility
Utilities	PG&E Supplemental Agreement #3 for Final Design Approval	Project Delivery
Utilities	PG&E Final Design	Project Delivery
Utilities	Overhead Utility Relocation	Project Delivery

**8.0 BUDGET AND EXPENDITURES**

The summary of 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)	Cost This Month (B) <sup>1</sup>	Cost To Date (C) <sup>2</sup>	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
<b>ELECTRIFICATION</b>					
Electrification <sup>3</sup>	\$ 696,610,558	\$ 31,814,941	\$ 132,373,009	\$ 564,237,549	\$ 696,610,558
Tunnel Notching	\$ 11,029,649	\$ -	\$ -	\$ 11,029,649	\$ 11,029,649
Real Estate	\$ 28,503,369	\$ 266,265	\$ 6,681,867	\$ 21,821,502	\$ 28,503,369
Private Utilities	\$ 63,515,298	\$ 258,521	\$ 5,257,516	\$ 58,257,782	\$ 63,515,298
Management Oversight <sup>4</sup>	\$ 141,526,164	\$ 1,609,529	\$ 69,705,084	\$ 71,821,079	\$ 141,526,164
Executive Management	\$ 7,452,866	\$ 100,335	\$ 3,227,203	\$ 4,225,663	\$ 7,452,866
Planning	\$ 7,281,997	\$ 80,230	\$ 4,657,611	\$ 2,624,386	\$ 7,281,997
Community Relations	\$ 2,789,663	\$ 35,245	\$ 1,027,848	\$ 1,761,815	\$ 2,789,663
Safety & Security	\$ 2,421,783	\$ 38,628	\$ 651,259	\$ 1,770,524	\$ 2,421,783
Project Management Services	\$ 19,807,994	\$ 136,545	\$ 7,848,378	\$ 11,959,616	\$ 19,807,994
Engineering & Construction	\$ 11,805,793	\$ 50,432	\$ 2,241,542	\$ 9,564,251	\$ 11,805,793
Electrification Engineering & Management	\$ 50,461,707	\$ 900,820	\$ 18,619,844	\$ 31,841,864	\$ 50,461,707
IT Support	\$ 331,987	\$ -	\$ 331,987	\$ 0	\$ 331,987
Operations Support	\$ 1,445,867	\$ 12,423	\$ 410,253	\$ 1,035,614	\$ 1,445,867
General Support	\$ 4,166,577	\$ 116,589	\$ 1,667,711	\$ 2,498,866	\$ 4,166,577
Budget / Grants / Finance	\$ 1,229,345	\$ 38,095	\$ 396,489	\$ 832,855	\$ 1,229,345
Legal	\$ 2,445,646	\$ 34,000	\$ 2,351,097	\$ 94,549	\$ 2,445,646
Other Direct Costs	\$ 5,177,060	\$ 66,185	\$ 1,940,503	\$ 3,236,556	\$ 5,177,060
Prior Costs 2002 - 2013	\$ 24,707,878	\$ -	\$ 24,333,358	\$ 374,520	\$ 24,707,878
TASI Support	\$ 55,275,084	\$ 365,306	\$ 2,664,598	\$ 52,610,486	\$ 55,275,084
Insurance	\$ 4,305,769	\$ -	\$ 1,155,769	\$ 3,150,000	\$ 4,305,769
Environmental Mitigations	\$ 14,972,645	\$ -	\$ 472,000	\$ 14,500,645	\$ 14,972,645
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	\$ 5,056,838	\$ 122,275	\$ 363,511	\$ 4,693,327	\$ 5,056,838
Contingency	\$ 276,970,649	\$ -	\$ -	\$ 276,970,649	\$ 276,970,649
Owner's Reserve	\$ -	\$ -	\$ -	\$ -	\$ -
<b>ELECTRIFICATION SUBTOTAL</b>	<b>\$ 1,316,125,208</b>	<b>\$ 34,436,836</b>	<b>\$ 219,040,382</b>	<b>\$ 1,097,084,826</b>	<b>\$ 1,316,125,208</b>

Notes regarding tables above:

1. Column B "Cost This Month" represents the cost of work performed this month.
2. Column C "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.
3. Cost To Date for "Electrification" include 5% for Contractor's retention until authorization of retention release.
4. The agency labor is actualized through the current reporting period.

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**Table 8-2 EMU Budget & Expenditure Status**

Description of Work	Budget (A)	Cost This Month (B) <sup>1</sup>	Cost To Date (C) <sup>2</sup>	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
EMU	\$ 550,899,459	\$ -	\$ 13,918,140	\$ 536,981,319	\$ 550,899,459
CEMOF Modifications	\$ 1,344,000	\$ -	\$ -	\$ 1,344,000	\$ 1,344,000
Management Oversight <sup>3</sup>	\$ 64,139,103	\$ 539,054	\$ 20,588,509	\$ 43,550,595	\$ 64,139,103
Executive Management	\$ 5,022,302	\$ 87,081	\$ 1,959,485	\$ 3,062,817	\$ 5,022,302
Community Relations	\$ 1,685,614	\$ 19,641	\$ 361,174	\$ 1,324,440	\$ 1,685,614
Safety & Security	\$ 556,067	\$ 13,969	\$ 214,851	\$ 341,217	\$ 556,067
Project Management Services	\$ 13,275,280	\$ 96,209	\$ 5,236,040	\$ 8,039,240	\$ 13,275,280
Engineering & Construction	\$ 89,113	\$ -	\$ 23,817	\$ 65,296	\$ 89,113
EMU Engineering & Management	\$ 32,082,556	\$ 244,660	\$ 9,179,624	\$ 22,902,932	\$ 32,082,556
IT Support	\$ 1,027,272	\$ 11,341	\$ 285,460	\$ 741,812	\$ 1,027,272
Operations Support <sup>4</sup>	\$ 1,878,589	\$ (19,832)	\$ 279,059	\$ 1,599,530	\$ 1,878,589
General Support	\$ 2,599,547	\$ 4,684	\$ 749,053	\$ 1,850,494	\$ 2,599,547
Budget / Grants / Finance	\$ 712,123	\$ 26,284	\$ 229,284	\$ 482,839	\$ 712,123
Legal	\$ 1,207,500	\$ 19,000	\$ 867,662	\$ 339,838	\$ 1,207,500
Other Direct Costs	\$ 4,003,139	\$ 36,017	\$ 1,203,000	\$ 2,800,140	\$ 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	\$ 63,148	\$ 211,002	\$ 1,730,798	\$ 1,941,800
Contingency	\$ 38,562,962	\$ -	\$ -	\$ 38,562,962	\$ 38,562,962
Owner's Reserve	\$ -	\$ -	\$ -	\$ -	\$ -
<b>EMU SUBTOTAL<sup>3</sup></b>	<b>\$ 664,127,325</b>	<b>\$ 602,202</b>	<b>\$ 34,717,651</b>	<b>\$ 629,409,674</b>	<b>\$ 664,127,325</b>

Notes regarding tables above:

- Column B "Cost This Month" represents the cost of work performed this month.
- Column C "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.
- The agency labor is actual through March 2017 and accrued for April 2017 to current reporting period.
- A labor correction was made in the agency labor in Operations Support during the current reporting period.

**Table 8-3 PCEP Budget & Expenditure Status**

Description of Work	Budget (A)	Cost This Month (B) <sup>1</sup>	Cost To Date (C) <sup>2</sup>	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
Electrification Subtotal	\$ 1,316,125,208	\$ 34,436,836	\$ 219,040,382	\$ 1,097,084,826	\$ 1,316,125,208
EMU Subtotal	\$ 664,127,325	\$ 602,202	\$ 34,717,651	\$ 629,409,674	\$ 664,127,325
<b>PCEP TOTAL</b>	<b>\$ 1,980,252,533</b>	<b>\$ 35,039,038</b>	<b>\$ 253,758,033</b>	<b>\$ 1,726,494,500</b>	<b>\$ 1,980,252,533</b>

Notes regarding tables above:

- Column B "Cost This Month" represents the cost of work performed this month.
- Column C "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.

Appendix D includes costs broken down by Standard Cost Code (SCC) format. This format is required for reporting of costs to the FTA. The overall project total in the SCC format is lower than the project costs in table 8-3. This is due to the exclusion of costs incurred prior to the project entering the Project Development phase.

## **9.0 CHANGE MANAGEMENT**

The change management process establishes a formal administrative work process associated with the initiation, documentation, coordination, review, approval and implementation of changes that occur during the design, construction or manufacturing of the PCEP. The change management process ensures the prudent use of contingency and that the impact of the change is accounted for.

Currently the two PCEP contracts are Balfour Beatty Inc. and Stadler. Future PCEP contracts such as CEMOF Modifications, SCADA and the Tunnel Notching will also follow the change management process.

### **Activity This Month**

- No changes were approved in June.

### **Activity Next Month**

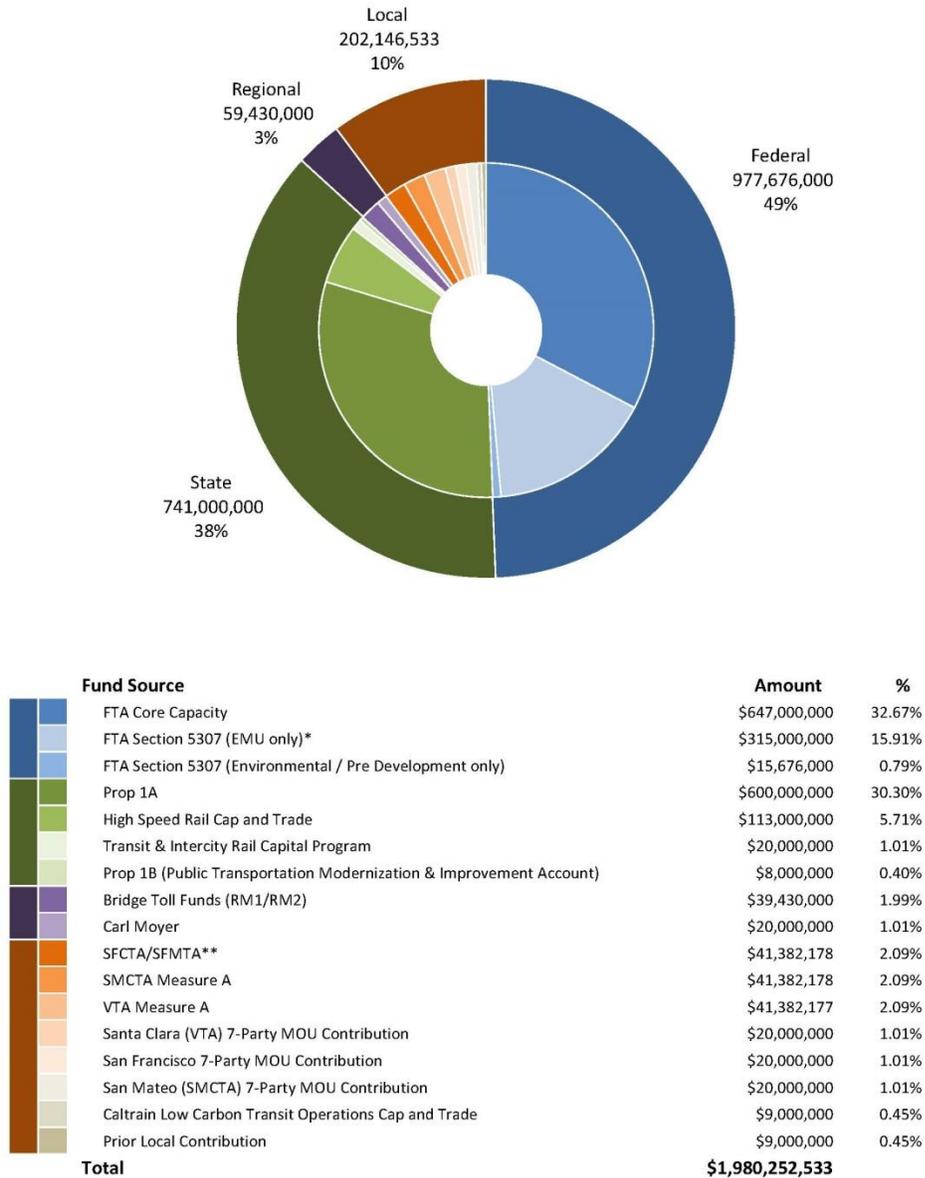
- Potential contract changes will be considered at the July CMB meeting.

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**10.0 FUNDING**

Figure 10-1 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 noted, the JPB received approval of the FFGA from the FTA in May 2017. The Agreement provides the project with a commitment of \$647 million in federal funding, with \$72.9 million available immediately.

**Figure 10-1 Funding Plan**



Notes:

\*Includes necessary fund transfer with SMCTA

\*\*Includes \$4M CMAQ Transfer considered part of SF local contribution

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## **11.0 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's 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 meets monthly to identify risks and corresponding mitigation measures. Each risk is graded based on the potential cost and schedule impacts they could have on the project. This collection of risks has the greatest potential to affect the outcome of the project and consequently is monitored most closely. For each of the noted risks, as well as for all risks on the risk register, mitigation measures have been identified and are being implemented. Progress in mitigating these risks is confirmed at monthly risk assessment meetings attended by project team management and through continuous monitoring of the Risk Management Lead.

The team has identified the following items as top risks for the project:

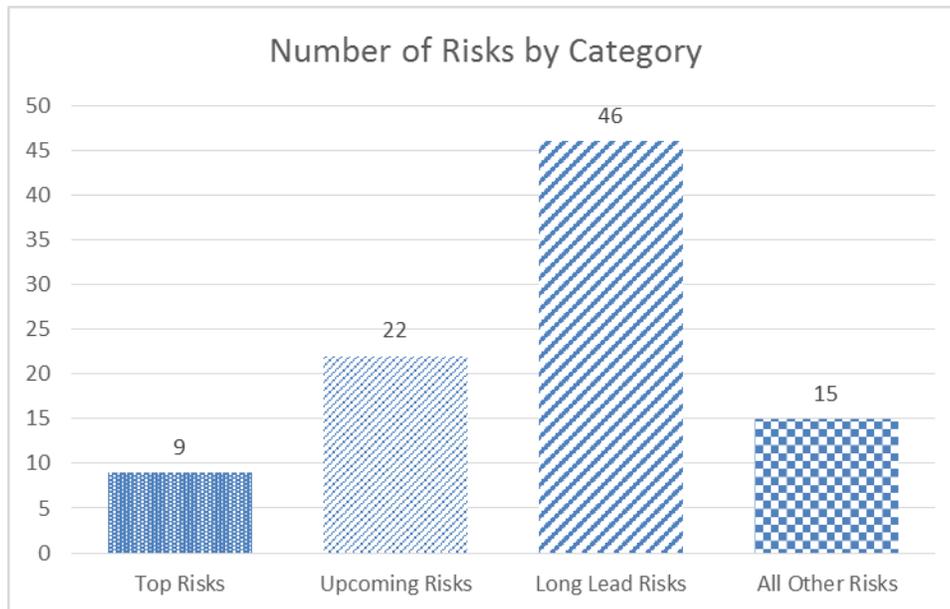
- Costs for upgrades to PG&E power stations may exceed the current budget.
- Relocation of overhead utilities must precede installation of catenary wire and connections to TPSs. Relocation work will be performed by others and may not be completed to meet BBII's construction schedule.
- As-built drawings that will be furnished to DB contractors could be incomplete.
- Staffing and organization of Transit America Services, Inc. will require appreciable effort including hiring of specialized staff that must be in place to support construction and testing for the electrification contract.
- Modifications to the Centralized Traffic Control system hardware and software and Back Office Server database and systems to support DB must be completed in time for cutover and testing.
- Working PTC signal system may not be in place in advance of integrated testing and commissioning. Federally-mandated PTC system required by December 31, 2018.
- Grade crossing modifications needed as constant warning devices won't work for UPRR trains.
- JPB is responsible for system integration/configuration activities (interaction between existing and new systems) and needs staff and systems in place at completion of PCEP construction and testing.
- Third party design review comments must be received and resolved to achieve timely approvals.

**Activity This Month**

- 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.
- Continued weekly monitoring of risk mitigation actions and publishing of the risk register.
- The Risk Management team attended Electrification, Project Delivery, and Systems Integration meetings to monitor developments associated with risks and to identify new risks.
- Initiated review of all long-lead risks.
- Reviewed all top risks in light of FFGA approval and retired several top risks.

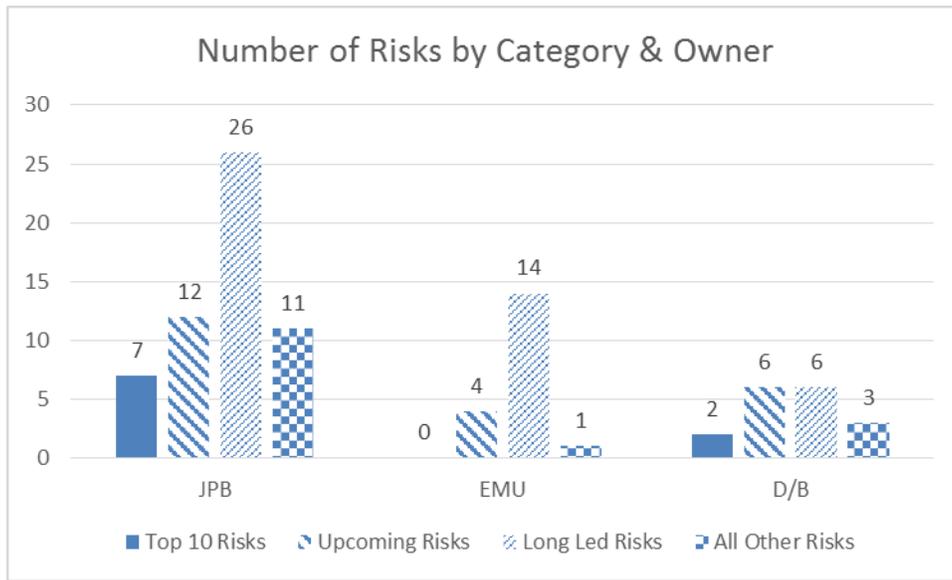
Tables 11-1 and 11-2 show the risks identified for the program. Risks are categorized as top risk, upcoming risk, long-lead, and all other risks. The categories are based on a rating scale composed of schedule and cost factors. Simply put, top risks are considered to have a significantly higher than 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 other categories.

**Table 11-1 Monthly Status of Risks**



**Total Number of Active Risks = 92**

**Table 11-2 Risk Classification**



**Total Number of Active Risks = 92**

**Activity Next Month**

- Update risk descriptions, effects, mitigations and retirement dates.
- Conduct weekly monitoring of risk mitigation actions and continue publishing risk register.
- Correlate risks on project risk register with Systems Integration database.

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## **12.0 ENVIRONMENTAL**

### **12.1 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, San Francisco Bay Regional Water Quality Control Board (SFWQCB), the California Department of Fish and Wildlife, and the San Francisco Bay Conservation Development Commission.

Section 106 of the NHPA process and Section 7 of the ESA process have concluded.

#### **Activity This Month**

- Coordinated with the SFWQCB to understand if any additional information was needed to obtain the minor permit amendment. The minor permit amendment is to cover minimal increases to impacts on wetlands and other waters resulting from OCS pole foundation installation.

#### **Activity Next Month**

- Continue to follow up with SFWQCB in order to receive permit amendment.

### **12.2 Mitigation Monitoring and Reporting Program (MMRP)**

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 PCEP team has prepared a MMRP to ensure that mitigation measures identified in the PCEP Environmental Impact Report (EIR) are fully implemented during project implementation. PCEP will implement the mitigation measures through its own actions, those of the DB 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>

*(Note: For viewers accessing the link above electronically, please cut and paste the link into a browser if it does not direct you immediately to the document.)*

#### **Activity This Month**

- Environmental compliance monitors continued to be present during design phase investigation activities (geotechnical and potholing activities) occurring in areas that require environmental compliance monitoring. The monitoring was conducted in accordance with measures in the MMRP in an effort to minimize potential impacts on sensitive environmental resources.
- Protocol-level surveys for sensitive avian species continued at previously identified potential habitat locations and surveys for nesting birds ahead of design phase activities continued (nesting bird season is February 1<sup>st</sup> through August 31<sup>st</sup>).

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- Noise and vibration monitoring also occurred during the design phase investigation activities, and non-hazardous soil was removed from the ROW in segments 1 and 3.
- Preparation and coordination with local jurisdictions of Draft Tree Impact and Replacement Plans for construction segments 2 and 4.

**Activity Next Month**

- Environmental compliance monitors will continue to monitor design phase investigation activities (geotechnical and potholing activities) occurring in areas that require environmental compliance monitoring.
- Biological surveyors will continue surveys for nesting birds ahead of design phase investigation activities occurring during the nesting bird season and biological survey teams will continue to conduct protocol level surveys for sensitive avian species.
- Noise and vibration monitoring of design phase investigation activities will continue to occur and non-hazardous soil will be removed from construction segments 1 and 3.
- Continue preparation and coordination with local jurisdictions of Draft Tree Impact and Replacement Plans for construction segments 2 and 4.

### **13.0 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. This section describes the progress specific to the utility relocation process.

#### **Activity This Month**

- PCEP team continued monthly coordination meetings with telecommunication and power utilities. These meetings focused on overall project and relocation schedules, designation of responsibilities, applicable design standards, and reconciliation of agreements and records.
- 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, agreements, and design of all relocations.
- PCEP team began to provide utility companies with existing utility data by segment and work area basis. The utility data will be critical for utility companies to design the relocations.
- Relocations notices were prepared and sent to PG&E. Notices for all other utilities are being prepared and will be sent as they are completed.
- PCEP team continued to work with Verizon to resolve the relocation of fiber optic cable within the Caltrain ROW.

#### **Activity Next Month**

- Monthly meetings will continue with telecom and power carriers.
- PCEP team will continue to coordinate with utility owners on the next steps of relocations, including support of any required design information.
- PCEP team will continue to work with utility owners to update the relocation schedule.
- PCEP team will work with Verizon to relocate their parallel aerial fiber optic cable.
- Relocation notices will be sent to Silicon Valley Power and Palo Alto Power.

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**14.0 REAL ESTATE**

The PCEP requires the acquisition of a limited amount of real estate. In general, Caltrain uses existing ROWs for the PCEP, but in certain locations, will need to acquire small portions of additional real estate to expand the ROW to accommodate installation of OCS supports (fee acquisitions or railroad easements) and associated Electrical Safety Zones (easements). There are two larger full acquisition areas required for wayside facilities. The PCEP Real Estate team (RE team) manages the acquisition of all property rights. Caltrain does not need to acquire real estate to complete the EMU procurement portion of the PCEP.

**Activity This Month**

Table 14-1 below provides a brief summary of the Real Estate acquisition overview for the project.

- The RE team continues negotiations on offers pending, including working through relocation of two commercial businesses.
- After receipt of the FFGA, project staff coordinated with SamTrans and VTA to have Resolution of Necessity (RON) hearings at the first possible meeting after receipt of the FFGA. The scheduled dates are July 5 for SamTrans (Segment 2) and August 3 for VTA (Segment 4).
- The RE team will contact all property owners to inform them of the schedule moving forward in an attempt to finalize negotiated settlement with as many owners as possible.
- Appraisal continued in segments 1 and 3 and technical staff responded to a number of RFIs to support the appraisal process.

**Activity Next Month**

- Negotiations for all outstanding offers will continue.
- Appraisals for segments 1 and 3 will be completed.
- SamTrans will hear RONs for Segment 2 on July 5, 2017 and eminent domain actions will be filed and served immediate thereafter.

**Table 14-1 Real Estate Acquisition Overview**

Segment	No. of Parcels Needed	No. of Appraisals Completed	Offers Presented	Offers Accepted	Acquisition Status		
					Escrow Closed	Value Litigation	Parcel Possession
Segment 1	8	0	0	0	0	0	0
Segment 2	27	26	25	15	13	0	13
Segment 3	11	4	0	0	0	0	0
Segment 4	9	9	8	0	0	0	0
<b>Total</b>	<b>55</b>	<b>39</b>	<b>33</b>	<b>15</b>	<b>13</b>	<b>0</b>	<b>13</b>

Note:

During design development, the real estate requirements may adjust to accommodate design refinements. Parcel requirements will adjust accordingly. The table in this report reflects the current property needs for the Project.

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**15.0 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 15-1 Third-Party Agreement Status**

Type	Agreement	Third-Party	Status
Governmental Jurisdictions	Construction & Maintenance <sup>1</sup>	City & County of San Francisco	In Process
		City of Brisbane	Executed
		City of South San Francisco	Executed
		City of San Bruno	Executed
		City of Millbrae	Executed
		City of Burlingame	Executed
		City of San Mateo	Executed
		City of Belmont	Executed
		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	Executed
		County of Santa Clara	Executed
		City of San Jose	Executed
		Condemnation Authority	San Francisco
		San Mateo	Executed
		Santa Clara	Executed
Utilities	Infrastructure	PG&E	Executed <sup>2</sup>
	Operating Rules	CPUC	Executed
Transportation & Railroad	Construction & Maintenance	Bay Area Rapid Transit	Executed <sup>3</sup>
	Construction & Maintenance	California Dept. of Transportation (Caltrans)	Not needed <sup>4</sup>
	Trackage Rights	UPRR	Executed <sup>3</sup>

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 17 cities and three counties along the Caltrain ROW and within the PCEP limits in connection with the design and construction of the PCEP.
2. The Master Agreement and Supplemental Agreements 1, 2 and 5 have been executed. Supplemental Agreements 3 and 4 are to be negotiated and executed.
3. Utilizing existing agreements.
4. Caltrans Peer Process utilized. Formal agreement not needed.

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## **16.0 GOVERNMENT AND COMMUNITY AFFAIRS**

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 DB contractor's effectiveness in implementing its Public Involvement Program. The following PCEP-related external affairs meetings took place this month:

### **Presentations/Meetings**

- City/County Staff Coordinating Group
- Caltrain Citizens Advisory Committee
- Local Policy Maker Group
- Palo Alto Rail Committee
- Silicon Valley Bike Coalition (2)
- San Francisco Bike Coalition
- Burlingame Historical Society
- Caltrain Commuter Coalition
- San Mateo County Economic Development Association (2)
- Mountain View Chamber

### **Third Party/Stakeholder Actions**

65% OCS Pole Design Review occurred with staff at the following cities:

- Burlingame
- San Bruno
- South San Francisco
- San Jose

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**17.0 DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION AND  
LABOR STATISTICS**

DBE and labor statistics will be reported after construction has commenced.

The electrification contract has a DBE goal of 5.2%.

The DBE goals of the SCADA and Tunnel Modification contracts are to be determined.

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## **18.0 PROCUREMENT**

### **Contract Activity**

- No contract activities for June

### **Invitation for Bid (IFB)/Request for Qualifications (RFQ)/ Request for Proposals (RFP) Issued this Month:**

- No IFB/RFQ/RFP's issued for June

### **IFB/RFQ/RFP Received this Month:**

- No IFB/RFQ/RFP's received in June

### **Contract Awards this Month:**

- No contract awards for June

### **Work Directive (WD)/Purchase Order (PO) Awards & Amendments this Month:**

- Multiple WDs & POs were issued to support the program needs for June

### **In Process IFB/RFQ/RFP/Contract Amendments:**

- RFP – 17-J-S-062 – On-Call Ambassador Support Services
- RFP – 17-J-S-070 – On-Call Quality Assurance Independent Testing Laboratory
- RFP – Purchase of Electric Locomotive for testing of electrification system
- RFP – Refurbishment of Electric Locomotive for PCEP
- Contract Amendment – URS – On-Call Program Management – Exercise options
- Contract Amendment – Gannett Fleming – On-Call Electrification Management – Exercise options

### **Upcoming Contract Awards:**

- Contract #17-J-S-061 – Advanced Information Management Traction Power SCADA System for PCEP

### **Upcoming IFB/RFQ/RFP:**

- No upcoming IFB/RFQ/RFPs

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## **19.0 TIMELINE OF MAJOR PROJECT ACCOMPLISHMENTS**

Below is a timeline showing major project accomplishments from 2001 to 2017:

<b>Date</b>	<b>Milestone</b>
2001	Began federal National Environmental Policy Act (NEPA) Environmental Assessment (EA) / state EIR clearance process
2002	Conceptual Design completed
2004	Draft NEPA EA/EIR
2008	35% design complete
2009	Final NEPA EA/EIR and Finding of No Significant Impact (FONSI)
2014	RFQ for electrification RFI for EMU
2015	JPB approves final CEQA EIR JPB approves issuance of RFP for electrification JPB approves issuance of RFP for EMU Receipt of proposal for electrification FTA approval of Core Capacity Project Development
2016	JPB approves EIR Addendum #1: PS-7 FTA re-evaluation of 2009 FONSI Receipt of electrification best and final offers Receipt of EMU proposal Application for entry to engineering to FTA Completed the EMU Buy America Pre-Award Audit and Certification Negotiations completed with Stadler for EMU vehicles Negotiations completed with BBII, the apparent best-value electrification firm JPB approves contract award (LNTP) BBII JPB approves contract award (LNTP) Stadler FTA approval of entry into engineering for the Core Capacity Program Application for FFGA
2017	FTA finalized the FFGA for \$647 million in Core Capacity funding, met all regulatory requirements including end of Congressional Review Period (February) FTA FFGA executed, committing \$647 million to the project (May) JPB approves \$1.98 billion budget for PCEP (June)

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**APPENDICES**

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Appendix A – Acronyms

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

**Peninsula Corridor Electrification Project**  
**Monthly Progress Report**

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

<b>TVA</b>	<b>Threat and Vulnerability Assessment</b>
<b>UPRR</b>	<b>Union Pacific Railroad</b>
<b>USACE</b>	<b>United States Army Corp of Engineers</b>
<b>USFWS</b>	<b>U.S. Fish and Wildlife Service</b>
<b>VTA</b>	<b>Santa Clara Valley Transportation Authority</b>

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Appendix B – Funding Partner Meetings

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**Funding Partner Meeting Representatives**  
Updated July 25, 2017

Agency	CHSRA	MTC	SFCTA/SFMTA/CCSF	SMCTA	VTA
<b>FTA Quarterly Meeting</b>	<ul style="list-style-type: none"> <li>• Bruce Armistead</li> <li>• Boris Lipkin</li> <li>• Ben Tripousis (info only)</li> <li>• Ian Ferrier (info only)</li> <li>• Wai Siu (info only)</li> </ul>	<ul style="list-style-type: none"> <li>• Anne Richman</li> <li>• Glen Tepke</li> </ul>	<ul style="list-style-type: none"> <li>• Luis Zurinaga</li> </ul>	<ul style="list-style-type: none"> <li>• April Chan</li> <li>• Peter Skinner</li> </ul>	<ul style="list-style-type: none"> <li>• Jim Lawson</li> </ul>
<b>CHSRA Quarterly Meeting</b>	<ul style="list-style-type: none"> <li>• Bruce Armistead</li> <li>• Boris Lipkin</li> <li>• Ben Tripousis</li> <li>• John Popoff</li> </ul>	None	None	<ul style="list-style-type: none"> <li>• April Chan</li> <li>• Peter Skinner</li> </ul>	None
<b>Funding Oversight (monthly)</b>	<ul style="list-style-type: none"> <li>• Ben Tripousis</li> <li>• Kelly Doyle</li> </ul>	<ul style="list-style-type: none"> <li>• Anne Richman</li> <li>• Glen Tepke</li> <li>• Kenneth Folan</li> </ul>	<ul style="list-style-type: none"> <li>• Anna LaForte</li> <li>• Maria Lombardo</li> <li>• Luis Zurinaga</li> <li>• Monique Webster</li> <li>• Ariel Espiritu Santo</li> </ul>	<ul style="list-style-type: none"> <li>• April Chan</li> <li>• Peter Skinner</li> </ul>	<ul style="list-style-type: none"> <li>• Jim Lawson</li> <li>• Marcella Rensi</li> <li>• Michael Smith</li> </ul>
<b>Change Management Board (monthly)</b>	<ul style="list-style-type: none"> <li>• Bruce Armistead</li> <li>• Boris Lipkin</li> </ul>	<ul style="list-style-type: none"> <li>• Trish Stoops</li> </ul>	<ul style="list-style-type: none"> <li>• Luis Zurinaga</li> <li>• Tilly Chang (info only)</li> </ul>	<ul style="list-style-type: none"> <li>• Joe Hurley</li> </ul>	<ul style="list-style-type: none"> <li>• Krishna Davey</li> <li>• Jim Lawson</li> <li>• Carol Lawson</li> <li>• Nuria Fernandez (info only)</li> </ul>
<b>Master Program Schedule Update (monthly)</b>	<ul style="list-style-type: none"> <li>• Ian Ferrier</li> <li>• Wai Siu</li> </ul>	<ul style="list-style-type: none"> <li>• Trish Stoops</li> </ul>	<ul style="list-style-type: none"> <li>• Luis Zurinaga</li> </ul>	<ul style="list-style-type: none"> <li>• Joe Hurley</li> </ul>	<ul style="list-style-type: none"> <li>• Jim Lawson</li> </ul>
<b>Risk Assessment Committee (monthly)</b>	<ul style="list-style-type: none"> <li>• Ian Ferrier</li> <li>• Wai Siu</li> </ul>	<ul style="list-style-type: none"> <li>• Trish Stoops</li> </ul>	<ul style="list-style-type: none"> <li>• Luis Zurinaga</li> </ul>	<ul style="list-style-type: none"> <li>• Joe Hurley</li> </ul>	<ul style="list-style-type: none"> <li>• Krishna Davey</li> </ul>
<b>PCEP Delivery Coordination Meeting (bi-weekly)</b>	<ul style="list-style-type: none"> <li>• Ian Ferrier</li> </ul>	<ul style="list-style-type: none"> <li>• Trish Stoops</li> </ul>	<ul style="list-style-type: none"> <li>• Luis Zurinaga</li> </ul>	<ul style="list-style-type: none"> <li>• Joe Hurley</li> </ul>	<ul style="list-style-type: none"> <li>• Krishna Davey</li> </ul>
<b>Systems Integration Meeting (bi-weekly)</b>	<ul style="list-style-type: none"> <li>• Ian Ferrier</li> <li>• Wai Siu</li> </ul>	<ul style="list-style-type: none"> <li>• Trish Stoops</li> </ul>	<ul style="list-style-type: none"> <li>• Luis Zurinaga (when available)</li> </ul>	<ul style="list-style-type: none"> <li>• Joe Hurley</li> </ul>	<ul style="list-style-type: none"> <li>• Krishna Davey</li> </ul>

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Appendix C – Schedule

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Appendix D – Standard Cost Codes

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Description of Work	Approved Budget (A)	Cost This Month (B)1	Cost To Date (C)2	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
<b>10 - GUIDEWAY &amp; TRACK ELEMENTS</b>	<b>\$14,256,739</b>	<b>\$0</b>	<b>\$0</b>	<b>\$14,256,739</b>	<b>\$14,256,739</b>
10.02 Guideway: At-grade semi-exclusive (allows cross-traffic)	\$2,500,000	\$0	\$0	\$2,500,000	\$2,500,000
10.07 Guideway: Underground tunnel	\$8,110,649	\$0	\$0	\$8,110,649	\$8,110,649
10.07 Allocated Contingency	\$3,646,090	\$0	\$0	\$3,646,090	\$3,646,090
<b>30 - SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS</b>	<b>\$2,265,200</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,265,200</b>	<b>\$2,265,200</b>
30.03 Heavy Maintenance Facility	\$1,344,000	\$0	\$0	\$1,344,000	\$1,344,000
30.03 Allocated Contingency	\$421,200	\$0	\$0	\$421,200	\$421,200
30.05 Yard and Yard Track	\$500,000	\$0	\$0	\$500,000	\$500,000
<b>40 - SITEWORK &amp; SPECIAL CONDITIONS</b>	<b>\$255,072,402</b>	<b>\$11,640,275</b>	<b>\$43,500,828</b>	<b>\$211,571,574</b>	<b>\$255,072,402</b>
40.01 Demolition, Clearing, Earthwork	\$3,077,685	\$0	\$0	\$3,077,685	\$3,077,685
40.02 Site Utilities, Utility Relocation	\$62,192,517	\$220,636	\$3,443,930	\$58,748,588	\$62,192,517
40.02 Allocated Contingency	\$25,862,000	\$0	\$0	\$25,862,000	\$25,862,000
40.03 Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	\$2,200,000	\$0	\$0	\$2,200,000	\$2,200,000
40.04 Environmental mitigation, e.g. wetlands, historic/archeologic, parks	\$32,579,208	\$0	\$0	\$32,579,208	\$32,579,208
40.05 Site structures including retaining walls, sound walls	\$568,188	\$0	\$0	\$568,188	\$568,188
40.06 Pedestrian / bike access and accommodation, landscaping	\$804,933	\$0	\$0	\$804,933	\$804,933
40.07 Automobile, bus, van accessways including roads, parking lots	\$284,094	\$0	\$0	\$284,094	\$284,094
40.08 Temporary Facilities and other indirect costs during construction	\$107,343,777	\$11,419,639	\$40,056,898	\$67,286,879	\$107,343,777
40.08 Allocated Contingency	\$20,160,000	\$0	\$0	\$20,160,000	\$20,160,000
<b>50 - SYSTEMS</b>	<b>\$504,445,419</b>	<b>\$1,965,908</b>	<b>\$5,591,308</b>	<b>\$498,854,111</b>	<b>\$504,445,419</b>
50.01 Train control and signals	\$97,589,149	\$360,000	\$360,000	\$97,229,149	\$97,589,149
50.01 Allocated Contingency	\$1,651,000	\$0	\$0	\$1,651,000	\$1,651,000
50.02 Traffic signals and crossing protection	\$23,879,905	\$0	\$0	\$23,879,905	\$23,879,905
50.02 Allocated Contingency	\$1,140,000	\$0	\$0	\$1,140,000	\$1,140,000
50.03 Traction power supply: substations	\$72,410,462	\$1,746,293	\$3,373,793	\$69,036,669	\$72,410,462
50.03 Allocated Contingency	\$28,464,560	\$0	\$0	\$28,464,560	\$28,464,560
50.04 Traction power distribution: catenary and third rail (1,2)	\$253,683,045	-\$140,385	\$1,857,515	\$251,825,530	\$253,683,045
50.04 Allocated Contingency	\$18,064,000	\$0	\$0	\$18,064,000	\$18,064,000
50.05 Communications	\$5,455,000	\$0	\$0	\$5,455,000	\$5,455,000
50.07 Central Control	\$2,090,298	\$0	\$0	\$2,090,298	\$2,090,298
50.07 Allocated Contingency	\$18,000	\$0	\$0	\$18,000	\$18,000
<b>60 - ROW, LAND, EXISTING IMPROVEMENTS</b>	<b>\$35,675,084</b>	<b>\$242,730</b>	<b>\$4,769,014</b>	<b>\$30,906,070</b>	<b>\$35,675,084</b>
60.01 Purchase or lease of real estate	\$25,927,074	\$242,730	\$4,745,759	\$21,181,315	\$25,927,074
60.01 Allocated Contingency	\$8,748,010	\$0	\$0	\$8,748,010	\$8,748,010
60.02 Relocation of existing households and businesses	\$1,000,000	\$0	\$23,255	\$976,745	\$1,000,000
<b>70 - VEHICLES (96)</b>	<b>\$625,544,147</b>	<b>\$535,046</b>	<b>\$28,897,686</b>	<b>\$596,646,460</b>	<b>\$625,544,147</b>
70.03 Commuter Rail	\$589,167,291	\$535,046	\$28,897,686	\$560,269,605	\$589,167,291
70.03 Allocated Contingency	\$9,472,924	\$0	\$0	\$9,472,924	\$9,472,924
70.06 Non-revenue vehicles	\$8,140,000	\$0	\$0	\$8,140,000	\$8,140,000
70.07 Spare parts	\$18,763,931	\$0	\$0	\$18,763,931	\$18,763,931
<b>80 - PROFESSIONAL SERVICES (applies to Cats. 10-50)</b>	<b>\$323,793,010</b>	<b>\$20,469,656</b>	<b>\$120,843,085</b>	<b>\$202,949,925</b>	<b>\$323,793,010</b>
80.01 Project Development	\$130,350	\$0	\$258,786	-\$128,436	\$130,350
80.02 Engineering (not applicable to Small Starts)	\$180,227,311	\$18,795,104	\$91,258,360	\$88,968,951	\$180,227,311
80.02 Allocated Contingency	\$1,866,000	\$0	\$0	\$1,866,000	\$1,866,000
80.03 Project Management for Design and Construction	\$72,147,345	\$1,274,333	\$24,681,038	\$47,466,306	\$72,147,345
80.03 Allocated Contingency	\$9,270,000	\$0	\$0	\$9,270,000	\$9,270,000
80.04 Construction Administration & Management	\$23,677,949	\$342,684	\$1,081,585	\$22,596,364	\$23,677,949
80.04 Allocated Contingency	\$19,537,000	\$0	\$0	\$19,537,000	\$19,537,000
80.05 Professional Liability and other Non-Construction Insurance	\$3,500,000	\$0	\$1,155,769	\$2,344,231	\$3,500,000
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.	\$7,167,275	\$57,535	\$2,407,547	\$4,759,728	\$7,167,275
80.06 Allocated Contingency	\$556,000	\$0	\$0	\$556,000	\$556,000
80.07 Surveys, Testing, Investigation, Inspection	\$3,287,824	\$0	\$0	\$3,287,824	\$3,287,824
80.08 Start up	\$1,797,957	\$0	\$0	\$1,797,957	\$1,797,957
80.08 Allocated Contingency	\$628,000	\$0	\$0	\$628,000	\$628,000
<b>Subtotal (10 - 80)</b>	<b>\$1,761,052,001</b>	<b>\$34,853,615</b>	<b>\$203,601,921</b>	<b>\$1,557,450,080</b>	<b>\$1,761,052,001</b>
<b>90 UNALLOCATED CONTINGENCY</b>	<b>\$162,620,295</b>	<b>\$0</b>	<b>\$0</b>	<b>\$162,620,295</b>	<b>\$162,620,295</b>
<b>Subtotal (10 - 90)</b>	<b>\$1,923,672,296</b>	<b>\$34,853,615</b>	<b>\$203,601,921</b>	<b>\$1,720,070,375</b>	<b>\$1,923,672,296</b>
<b>100 FINANCE CHARGES</b>	<b>\$6,998,638</b>	<b>\$185,423</b>	<b>\$574,513</b>	<b>\$6,424,125</b>	<b>\$6,998,638</b>
<b>Total Project Cost (10 - 100)</b>	<b>\$1,930,670,934</b>	<b>\$35,039,038</b>	<b>\$204,176,434</b>	<b>\$1,726,494,500</b>	<b>\$1,930,670,934</b>

Notes:

(1) 50.04 - In February and accrual was add \$14,900 in anticipation for negotiations to relocate a property owner. The negotiations did not take place due to the FFGA deferral to a future date.

(2) 50.04 - The potholing for Ductbank in Segment 2 and 4 was accrued under 50.04 when accrued in April. The SCC code for the work was re-assigned and paid under 80.02 in the current reporting period. The negative value from SCC 50.04 represents the reversed accruals from April.

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