Modernization Program
Peninsula Corridor Electrification Project (PCEP)

August 2017
Monthly Progress Report

August 31, 2017

Funding Partners

Federal Transit Administration (FTA) Core Capacity

FTA Section 5307 (Environmental / Pre Development only)

FTA Section 5307 (Electric Multiple Unit (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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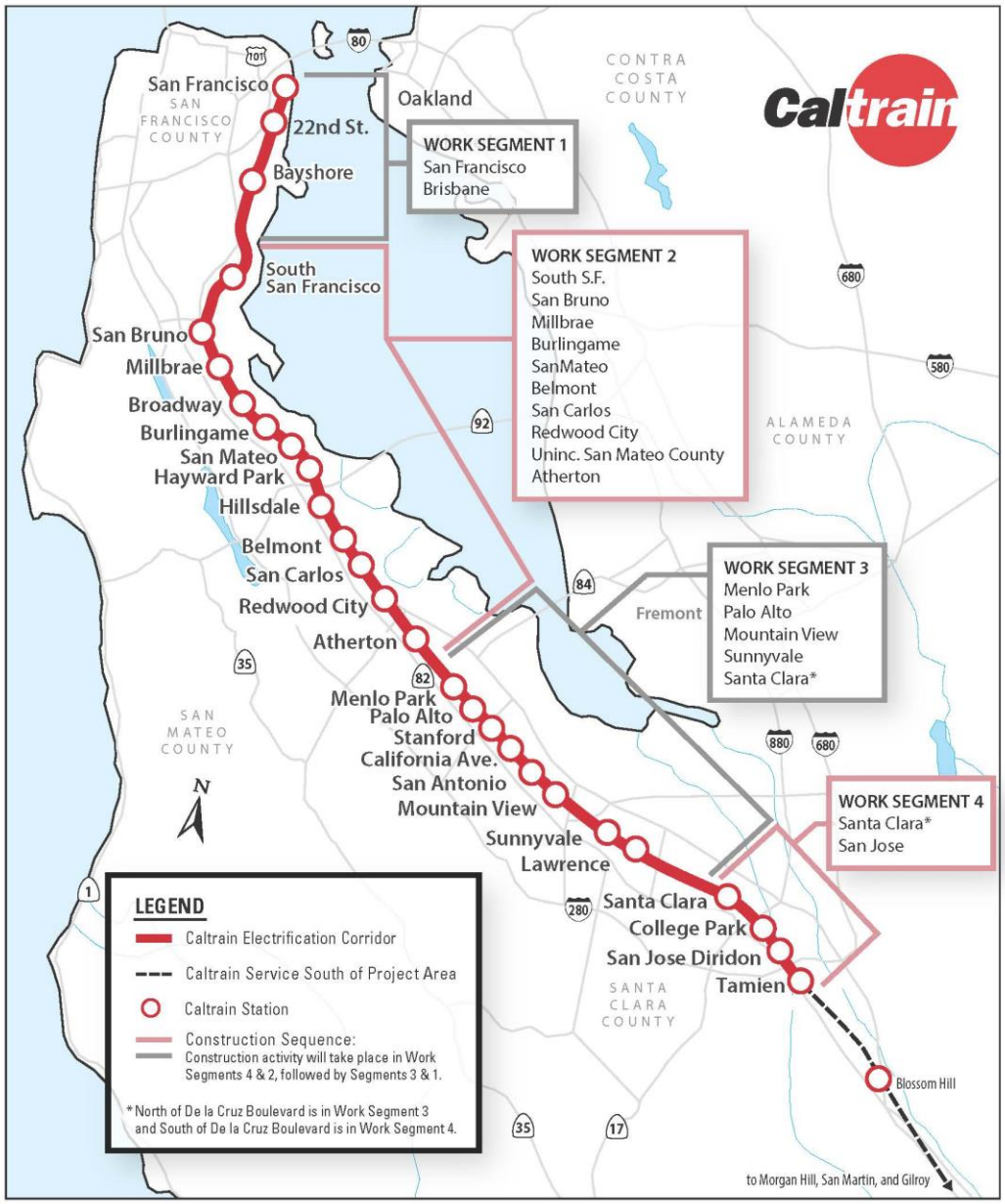
2.0 EXECUTIVE SUMMARY

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



FTA quarterly meeting was held on August 24 and included a presentation of the project status.

The "Issued for Construction" (IFC) Overhead Contact System (OCS) layout designs for Segment 2 Work Area 5 were reviewed, and IFC layouts for Segment 2 Work Area 4 are under review. OCS layout designs for Segment 4 and other work areas in Segment 2 are advancing. The project team met with Union Pacific Railroad (UPRR) to review signal design. The feasibility study for the 115 kilovolt (kV) interconnections between the future Caltrain substations and Pacific Gas and Electric's (PG&E) substations has begun. Tree pruning and removal began in Segment 2 Work Area 5.

The Supervisory Control and Data Acquisition (SCADA) contract was awarded and the Notice to Proceed (NTP) will be issued after the contract is executed.

The EMU initial Contract Deliverables Requirement List (CDRL) was finalized and has been approved by the PCEP. The Preliminary Design Review phase has begun with an approximately 65% completion point of design. Engineering analysis of structural strength aspects of the carbody and truck frames has commenced. 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)/Positive Train Control (PTC) 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 Balfour Beatty Infrastructure, Inc. (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 PG&E, CHSRA, UPRR, Bay Area Rapid Transit, California State Department of Transportation (Caltrans), CBOSS and others.

Activity this Month

Funding Partners: CHSRA: Ian Ferrier

Major topics included: Discussions regarding updates of PG&E power studies and interconnection options including the feasibility study status of interconnections, efforts to resolve CBOSS fiber conflicts and approved changes to address conflicts, updates on the utility relocation process and design progression updates from utility companies, discussion of progress on tunnel design, the SCADA contract status, update of progress on Design-Build (DB) contract, upcoming changes to the contract in preparation for the Change Management Board (CMB) including a discussion of potential pole relocations for CHSRA, and coordination with third parties on design review and permitting for the project.

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

August 1 Funding Partners: Metropolitan Transportation Commission (MTC): Trish Stoops; SFCTA: Luis Zurinaga

Major topics included: Gathering responses for the Full Funding Grant Agreement (FFGA) readiness report action items, EMU seat design poll results, which show the grey and red option as the winning design, when the EMU bike storage option poll will commence, the staffing plan, and progression to 100% design for Tunnel Modifications, and potential changes to go before the CMB, the Time Impact Analysis (TIA) due to the delay in FFGA, and real estate acquisition status.

August 15 Funding Partners: CHSRA: Wai-On Siu; SFCTA: Luis Zurinaga

Major topics included: The EMU bike storage option poll, which will be live until September 1, the change order process, identification and development of four additional internal project document control sites (PG&E, SCADA, Centralized Equipment Maintenance and Operations Facility (CEMOF), and Tunnels), and risk refresh meetings scheduled for September.

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

Options for alternative step types were discussed within the context of vehicle platform clearances. Pantograph locations for trains in the shop at Caltrain's CEMOF were determined to provide locations for OCS terminating configurations.

The Segment 4 schedule of activities has been developed, which includes the Los Gatos Bridge project drill track construction, PG&E power to energize the traction power substation (TPS), electric locomotive delivery and design/build construction and systems integration testing activities. Safety certification and community outreach are being incorporated.

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: CHSRA: Ian Ferrier, Wai Sui

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 refined to establish a new baseline. In August's MPS monthly meeting the status of the re-baseline effort was reviewed. At this time it is anticipated that the revised baseline will be completed in the September/October timeframe.

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: Wai-on Sui; MTC: Trish Stoops

No risks were retired. Two risks identified in July were added to the risk register in August. See the 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: CHSRA: Boris Lipkin and Bruce Armistead; MTC: Trish Stoops; SFCTA: Luis Zurinaga; SMCTA: Joe Hurley; VTA: Krishna Davey and Carol Lawson

Major topics included: Refinement of the functionality of the CMB regarding how review and voting on potential changes would occur, and potential changes to the BBII and the Stadler contracts.

These potential contract changes will follow the PCEP Change Order Procedure. Once approved changes are executed, they will be reported in the Change Management section (Section 9) of this report.

BBII Contract

Two changes were approved. One was a deductive change.

Stadler Contract

No changes were approved.

SCADA Contract

No changes were identified for consideration.

2.2 Schedule

The Revenue Service Date (RSD), which is the date the project is deemed completed, is delayed due to the FFGA delay and resulting effect on availability of permanent power from PG&E. Without adjustment for contingency, the RSD is forecast as December 2021. With the addition of approximately five months of contingency to account for potential risk to the project, the RSD is anticipated as April 2022. Due to FTA contingency requirements, an FFGA RSD will also be tracked. This date is forecast as August 22, 2022.

Table 2-1 indicates milestone dates for the MPS. At this time, not all milestones have been established as the revised Program Plan continues to be refined.

Table 2-1 Schedule Status[1]

Milestones	Program Plan (April 2016)	Revised Program Plan (August 2017)[4]
Start of Electrification Construction	03/20/2017	08/16/2017[2]
First Eight Miles of Electrification Complete to Begin Testing	04/08/2019	11/21/2019
Arrival of First Vehicle at JPB	06/25/2019	07/30/2019
PG&E Provides Permanent Power	09/01/2020	09/09/2021
Start Pre-Revenue Testing	09/08/2020	09/10/2021
RSD (w/o Risk Contingency)	08/16/2021	12/09/2021
RSD (w/ Risk Contingency)	12/30/2021	04/22/2022
FFGA RSD[3]	N/A	08/22/2022

Notes regarding the table above:

1. Schedule status is an approximation as the details of the revised MPS remain under review.
2. Reflects start of tree removal.
3. FFGA RSD did not exist at the time of the April 2016 Program Plan.
4. Program Plan dates may continue to shift slightly as the re-baseline process nears completion.

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)[1]	Cost To Date (C)[2]	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
Electrification Subtotal	$ 1,316,125,208	$ 13,388,758	$ 248,347,261	$ 1,067,777,947	$ 1,316,125,208
EMU Subtotal	$ 664,127,325	$ 13,861,406	$ 65,291,633	$ 598,835,691	$ 664,127,325
PCEP TOTAL	**$ 1,980,252,533**	**$ 27,250,163**	**$ 313,638,895**	**$ 1,666,613,638**	**$ 1,980,252,533**

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.

2.4 Board Actions

- Awarded SCADA contract
- Approved authorization to make four Segment 3 real estate offers

Future anticipated board actions include:

- September
  - Resolution of Necessity (RON) approval for one Segment 4 parcel
- October
  - Addendum #2 to the Final Environmental Impact Report (FEIR) and approval of the inclusion of OCS pole alignment modifications to not preclude CHSRA future service
  - Addendum #3 to the FEIR and approval of the inclusion of interconnection and PG&E substation design level detail for the PCEP
- To Be Scheduled
  - Cooperative Agreement with CCSF
  - PG&E Supplemental Agreement #4: Construction
  - Authority to procure used electric locomotives
  - Ambassador Request for Proposal (RFP) award
  - Switching station real estate transaction

2.5 Government and Community Affairs

A number of community relations and outreach events took place during the month. The PCEP team participated in a total of 17 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 kV, 60-Hertz, single phase, alternating current supply system consisting of two TPSs, one switching station, and seven paralleling stations (PS). Electrification will be performed using a DB delivery method.

Activity This Month

- The PCEP team continued discussions with BBII on the TIA to update the schedule and determine the impacts of FFGA delays. Comments from the project team will be addressed in the next revision of the TIA.
- The PCEP team continued to work with the BBII on the OCS design. IFC OCS layouts for Segment 2 Work Area 5 were reviewed for comment. IFC layouts for Segment 2 Work Area 4 were submitted and are under review. IFC OCS drawings were also shared with the UPRR for review. BBII also continues to advance the OCS layout designs for Segment 4 and other work areas in Segment 2.
- The PCEP team continued to review and coordinate signal and communication design submittals with BBII. BBII continued to submit 65% Signal Design Typical Locations in Segments 2 and 4 for Peninsula Corridor Joint Powers Board (JPB) review. The project team and BBII continue to coordinate with UPRR on design review and met with UPRR to review signal design.
- The PCEP team continued design review coordination with local jurisdictions for the OCS design in Segment 2 work areas 5 and 4 and Segment 4.
- BBII continued pothole location layouts in Segment 2 work areas 3, 2 and 1.
- Potholing of utilities at proposed OCS locations continued in segments 4 and 2. BBII also continued 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.
- 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.
- BBII has started the feasibility study for the 115 kV interconnections between the future Caltrain substations and PG&E's substations. The feasibility study is expected to be completed in October.
- BBII begin tree pruning and removal in Segment 2, Work Area 5.

Activity Next Month

- Complete the TIA.
- Work with BBII on field investigation activities and designs, which will include the continued progression of the OCS, traction power, bonding and grounding, signal systems, and other civil infrastructures such as overhead bridge protections.
- Potholing and clearing of obstructions at proposed OCS locations. Potholing will continue in Segment 2 as BBII advances the OCS design at specific locations.
- Potholing of signal cables in support of signal system design.
- Coordinate with UPRR on signal design.
- Review BBII work plans for upcoming construction activities.
- Coordinate 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 IFC design and comment reviews and coordination with local jurisdictions for OCS design in Segment 2 work areas 5 and 4 and Segment 4.
- Perform test pile installations.
- Tree pruning and removals.
- Begin preparation of access and staging areas in Segment 2 for start of foundation installation.
- Perform stray current testing.

3.2 Supervisory Control and Data Acquisition (SCADA)

SCADA is a system that monitors and controls field devices for electrification, including substations, PSs and the OCS. 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 SCADA contract was awarded at the board meeting. The NTP will be issued after execution of the contract.

Activity Next Month

- Issue NTP for SCADA contract.

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 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.
- 100% plans and specifications were submitted for review and comment.

Activity Next Month

- Continue coordination efforts with UPRR and other stakeholders.
- Complete review of 100% plans and specifications.
- Work on contractual documents to prepare for bid.

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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 continue with representatives from Caltrain Operations and Maintenance, Caltrain Public Outreach, the Federal Railroad Administration (FRA), the FTA Project Management Oversight Contractor, Safety and Quality Assurance personnel, and PCEP Program Scheduling.
- Outreach related to public input into EMU design is nearing completion, with final comments to bike retention devices due the end of this month.
- The Conceptual Design Phase is complete and the Preliminary Design Phase (approximately 65% completion point of design) has begun.
- Engineering analysis of structural strength aspects of the carbody and truck frames has commenced.
- The initial CDRL from Stadler has been received and conditionally approved.
- 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/PTC Project.

Activity Next Month

- Continue Conceptual Design Reviews.
- Continue to work with the FRA on EMU compliance issues.
- Prepare for late October 2017 commencement of car shell manufacturing.

4.1 Centralized Equipment Maintenance and Operations Facility (CEMOF) Modifications

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

Activity This Month

- Developed concept for facility upgrade that addresses Caltrain Operation and Maintenance needs, and is with scope and budget of the CalMod Program.

Activity Next Month

- Stakeholder coordination of final concepts.

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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 the FTA quarterly review meeting and discussed: ongoing project safety assurance processes; incident occurrences, investigations findings and corrective actions; ongoing safety initiatives; and safety communications processes with affected stakeholders.
- Project safety staff continued to work closely with project team members to provide comments on the contractor Site Specific Work Plan (SSWP) safety provisions and continued its increased safety construction oversight presence by performing night inspections of potholing and utility location work being performed by BBII.
- The monthly project Fire/Life Safety meeting was held on August 23, and the Capital Safety Committee met on August 24 with affected internal and external safety stakeholders to review project safety requirements and implementation status.
- Project safety staff worked closely with PCEP, BBII and Transit America Services, Inc. (TASI) staff to finalize its July incidents investigations and implement recommended corrective mitigation measures designed to prevent reoccurrences.

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.
- BBII and EMU safety deliverables development and implementation will continue to be reviewed and discussed with the contractors to ensure they address project safety requirements.
- Project safety will continue to work closely with contractor staff to implement approved safety improvement plans developed from incident lessons learned.
- SSWP safety provisions will continue to be closely reviewed to ensure necessary project tasks safety requirements are identified and applied.

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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.
- A draft revision of the PCEP Quality Management Plan has been issued for preliminary comments.
- 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	4	32
Audit Findings		
Audit Findings Issued	0	24
Audit Findings Open	0	0
Audit Findings Closed	0	24
Non-Conformances		
Non-Conformances Issued	0	4
Non-Conformances Open	0	0
Non-Conformances Closed	0	4

Activity Next Month

- A Request for Proposal (RFP) for the procurement of a Quality Assurance Lab will be advertised.
- Four audits are planned and scheduled: BBII/PGH Wong 95% Traction Power Facilities, BBII/PGH Wong Traction Power Systems at 95%, BBII /PGH Wong Station Grounding and Bonding at 65%, and Drill Tech concrete batching.

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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. In July a revised high-level Program Plan was established (a summary of which can be found in Appendix C), which reflected a delay to the RSD, the date on which the project is deemed completed. The delay to RSD was caused primarily due to delay to FFGA and the resulting effect on availability of permanent power from PG&E.

Without adjustment for contingency, the RSD is forecast as December 2021, representing a four-month delay from the April 2016 Program Plan. With the addition of approximately five months of contingency to account for potential risk to the project, the RSD is anticipated as April 2022, which also represents a similar four-month delay to the Program Plan. Due to FTA contingency requirements, an FFGA RSD will also be tracked. This date is forecast as August 22, 2022.

Table 7-1 indicates milestone dates for the MPS. At this time, not all milestones have been established as the revised Program Plan continues to be refined. 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 Plan is established, variances will be reported against the revised plan.

Table 7-1 Schedule Status[1]

Milestones	Program Plan (April 2016)	Revised Program Plan (August 2017)[4]
Start of Electrification Construction	03/20/2017	08/16/2017[2]
First Eight Miles of Electrification Complete to Begin Testing	04/08/2019	11/21/2019
Arrival of First Vehicle at JPB	06/25/2019	07/30/2019
PG&E Provides Permanent Power	09/01/2020	09/09/2021
Start Pre-Revenue Testing	09/08/2020	09/10/2021
RSD (w/o Risk Contingency)	08/16/2021	12/09/2021
RSD (w/ Risk Contingency)	12/30/2021	04/22/2022
FFGA RSD[3]	N/A	08/22/2022

Notes regarding the table above:

1. Schedule status is an approximation as the details of the revised MPS remain under review.
2. Reflects start of tree removal.
3. FFGA RSD did not exist at the time of the April 2016 Program Plan.
4. Program Plan dates may continue to shift slightly as the re-baseline process nears completion.

Table 7-2 Critical Path Summary[1]

Activity	Start	Finish
PG&E Final Design and Construction to provide Permanent Power	April 2016	09/09/2021
Pre-Revenue Testing	09/10/2021	12/09/2021
RSD w/out Risk Contingency[2]	12/09/2021	12/09/2021
RSD w/ Risk Contingency[2]	04/22/2022	04/22/2022

Note:
1. Critical path is an approximation as the details of the revised MPS remain under review.
2. Milestone activity.

Table 7-3 Near-Term, Near-Critical with Less Than Three Months of Float[1]

Work Breakdown Structure	Activity	Responsibility
Vehicles	EMU Design	Project Delivery

Note:
1. Near-Term, Near-Critical Path is an approximation as the details of the revised MPS remain under review.

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.

During the month, the JPB approved the SCADA contract. A new line item was added to Table 8-1. In addition, a Contract Change Order (CCO) was executed between JPB and BBII. This CCO increases the Electrification budget and is reflected in Table 8-1.

Table 8-1 Electrification Budget & Expenditure Status

Description of Work	Budget (A)	Cost This Month (B)[1]	Cost To Date (C)[2]	Estimate To Complete (D)[3]	Estimate At Completion (E) = (C) + (D)
ELECTRIFICATION					
Electrification[4]	$ 696,696,030	$ 7,128,403	$ 152,193,990	$ 555,086,348	$ 707,280,338
SCADA	$ 3,446,917	$ -	$ -	$ 3,446,917	$ 3,446,917
Tunnel Notching	$ 11,029,649	$ -	$ -	$ 11,029,649	$ 11,029,649
Real Estate	$ 28,503,369	$ 2,862,441	$ 10,311,010	$ 18,192,359	$ 28,503,369
Private Utilities	$ 63,515,298	$ 632,541	$ 6,264,623	$ 57,250,675	$ 63,515,298
Management Oversight[5]	$ 141,526,164	$ 1,887,740	$ 73,125,439	$ 68,400,725	$ 141,526,164
Executive Management	$ 7,452,866	$ 130,825	$ 3,437,192	$ 4,015,674	$ 7,452,866
Planning	$ 7,281,997	$ 102,153	$ 4,805,829	$ 2,476,168	$ 7,281,997
Community Relations	$ 2,789,663	$ 21,689	$ 1,080,793	$ 1,708,870	$ 2,789,663
Safety & Security	$ 2,421,783	$ 63,912	$ 776,777	$ 1,645,006	$ 2,421,783
Project Management Services	$ 19,807,994	$ 172,085	$ 8,179,384	$ 11,628,610	$ 19,807,994
Engineering & Construction	$ 11,805,793	$ 194,227	$ 2,473,231	$ 9,332,563	$ 11,805,793
Electrification Engineering & Management	$ 50,461,707	$ 906,443	$ 20,571,076	$ 29,890,631	$ 50,461,707
IT Support	$ 331,987	$ -	$ 331,987	$ -	$ 331,987
Operations Support	$ 1,445,867	$ 39,094	$ 456,472	$ 989,395	$ 1,445,867
General Support	$ 4,166,577	$ 140,590	$ 1,849,920	$ 2,316,657	$ 4,166,577
Budget / Grants / Finance	$ 1,229,345	$ 54,795	$ 461,569	$ 767,776	$ 1,229,345
Legal	$ 2,445,646	$ -	$ 2,351,097	$ 94,549	$ 2,445,646
Other Direct Costs	$ 5,177,060	$ 61,927	$ 2,016,754	$ 3,160,305	$ 5,177,060
Prior Costs 2002 - 2013	$ 24,707,878	$ -	$ 24,333,358	$ 374,520	$ 24,707,878
TASI Support	$ 55,275,084	$ 257,117	$ 3,395,821	$ 51,879,262	$ 55,275,084
Insurance	$ 4,305,769	$ 550,000	$ 1,705,769	$ 2,600,000	$ 4,305,769
Environmental Mitigations	$ 14,972,645	$ 25,000	$ 522,000	$ 14,450,645	$ 14,972,645
Required Projects	$ 17,337,378	$ -	$ 367,028	$ 16,220,350	$ 16,587,378
Maintenance Training	$ 1,021,808	$ -	$ -	$ 1,021,808	$ 1,021,808
Finance Charges	$ 5,056,838	$ 45,516	$ 461,582	$ 4,595,256	$ 5,056,838
Contingency	$ 273,438,260	$ -	$ -	$ 263,603,953	$ 263,603,953
Owner's Reserve	$ -	$ -	$ -	$ -	$ -
ELECTRIFICATION SUBTOTAL	**$ 1,316,125,208**	**$ 13,388,758**	**$ 248,347,261**	**$ 1,067,777,947**	**$ 1,316,125,208**

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. Column D “Estimate To Complete” includes the estimated amount for potential change orders.
4. Cost To Date for “Electrification” includes 5% for Contractor’s retention until authorization of retention release.
5. The agency labor is actual through July 2017 and accrued for August 2017.

Table 8-2 EMU Budget & Expenditure Status

Description of Work	Budget (A)	Cost This Month (B)[1]	Cost To Date (C)[2]	Estimate To Complete (D)[3]	Estimate At Completion (E) = (C) + (D)
EMU	$ 550,899,459	$ 13,353,000	$ 43,569,480	$ 508,284,979	$ 551,854,459
CEMOF Modifications	$ 1,344,000	$ -	$ -	$ 1,344,000	$ 1,344,000
Management Oversight[4]	$ 64,139,103	$ 476,542	$ 21,447,076	$ 42,692,027	$ 64,139,103
Executive Management	$ 5,022,302	$ 61,819	$ 2,059,625	$ 2,962,677	$ 5,022,302
Community Relations	$ 1,685,614	$ 1,820	$ 378,616	$ 1,306,998	$ 1,685,614
Safety & Security	$ 556,067	$ 12,326	$ 239,854	$ 316,214	$ 556,067
Project Management Services	$ 13,275,280	$ 16,364	$ 5,349,748	$ 7,925,532	$ 13,275,280
Engineering & Construction	$ 89,113	$ -	$ 23,817	$ 65,296	$ 89,113
EMU Engineering & Management	$ 32,082,556	$ 262,436	$ 9,630,913	$ 22,451,644	$ 32,082,556
IT Support	$ 1,027,272	$ 13,931	$ 309,353	$ 717,919	$ 1,027,272
Operations Support	$ 1,878,589	$ -	$ 279,059	$ 1,599,530	$ 1,878,589
General Support	$ 2,599,547	$ 42,861	$ 807,215	$ 1,792,332	$ 2,599,547
Budget / Grants / Finance	$ 712,123	$ 17,389	$ 250,483	$ 461,640	$ 712,123
Legal	$ 1,207,500	$ -	$ 867,662	$ 339,838	$ 1,207,500
Other Direct Costs	$ 4,003,139	$ 47,596	$ 1,250,730	$ 2,752,409	$ 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	$ 31,864	$ 275,077	$ 1,666,723	$ 1,941,800
Contingency	$ 38,562,962	$ -	$ -	$ 37,607,962	$ 37,607,962
Owner's Reserve	$ -	$ -	$ -	$ -	$ -
EMU SUBTOTAL	**$ 664,127,325**	**$ 13,861,406**	**$ 65,291,633**	**$ 598,835,691**	**$ 664,127,325**

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. Column D “Estimate To Complete” includes the estimated amount for potential change orders.
4. The agency labor is actual through July 2017 and accrued for August 2017.

Table 8-3 PCEP Budget & Expenditure Status

Description of Work	Budget (A)	Cost This Month (B)[1]	Cost To Date (C)[2]	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
Electrification Subtotal	$ 1,316,125,208	$ 13,388,758	$ 248,347,261	$ 1,067,777,947	$ 1,316,125,208
EMU Subtotal	$ 664,127,325	$ 13,861,406	$ 65,291,633	$ 598,835,691	$ 664,127,325
PCEP TOTAL	**$ 1,980,252,533**	**$ 27,250,163**	**$ 313,638,895**	**$ 1,666,613,638**	**$ 1,980,252,533**

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.

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 accounts for impacts of the changes and ensures prudent use of contingency.

Currently the three PCEP contracts are BBII, Stadler, and SCADA. Future PCEP contracts such as CEMOF Modifications and the Tunnel Notching will also follow the change management process.

A log of all executed change orders can be found in Exhibit E.

Executed Contract Change Orders (CCOs) This Month

Electrification Contract

Change Order Authority (5% of BBII Contract)		**5% x $696,610,558 = $34,830,528**
Date	Description	CCO Amount
8/31/2017	CCO 00001 - Track Access Delays for 2016, Quarter 4	$85,472
	Total	**$85,472**

EMU Contract

Change Order Authority (5% of Stadler Contract)		**5% x $550,899,459 = $27,544,973**
Date	Description	CCO Amount
	None to date	
	Total	

SCADA Contract

Change Order Authority (15% of ARINC Contract)		**15% x $3,446,917 = $517,038**
Date	Description	CCO Amount
	None to date	
	Total	

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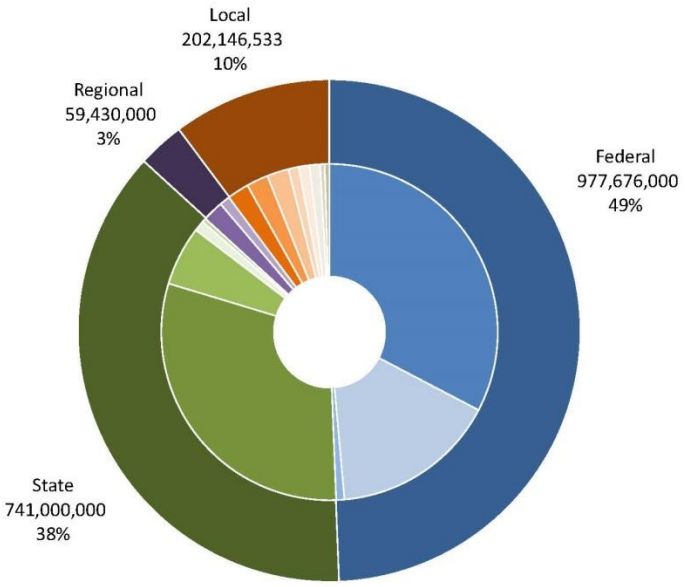
10.0 FUNDING

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. An additional $100 million in Fiscal Year 2017 funding was made available by FTA through the annual apportionment process.

Figure 10-1 Funding Plan



Fund Source	Amount	%
FTA Core Capacity	$647,000,000	32.67%
FTA Section 5307 (EMU only)*	$315,000,000	15.91%
FTA Section 5307 (Environmental / Pre Development only)	$15,676,000	0.79%
Prop 1A	$600,000,000	30.30%
High Speed Rail Cap and Trade	$113,000,000	5.71%
Transit & Intercity Rail Capital Program	$20,000,000	1.01%
Prop 1B (Public Transportation Modernization & Improvement Account)	$8,000,000	0.40%
Bridge Toll Funds (RM1/RM2)	$39,430,000	1.99%
Carl Moyer	$20,000,000	1.01%
SFCTA/SFMTA**	$41,382,178	2.09%
SMCTA Measure A	$41,382,178	2.09%
VTA Measure A	$41,382,177	2.09%
Santa Clara (VTA) 7-Party MOU Contribution	$20,000,000	1.01%
San Francisco 7-Party MOU Contribution	$20,000,000	1.01%
San Mateo (SMCTA) 7-Party MOU Contribution	$20,000,000	1.01%
Caltrain Low Carbon Transit Operations Cap and Trade	$9,000,000	0.45%
Prior Local Contribution	$9,000,000	0.45%
Total	**$1,980,252,533**	

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.

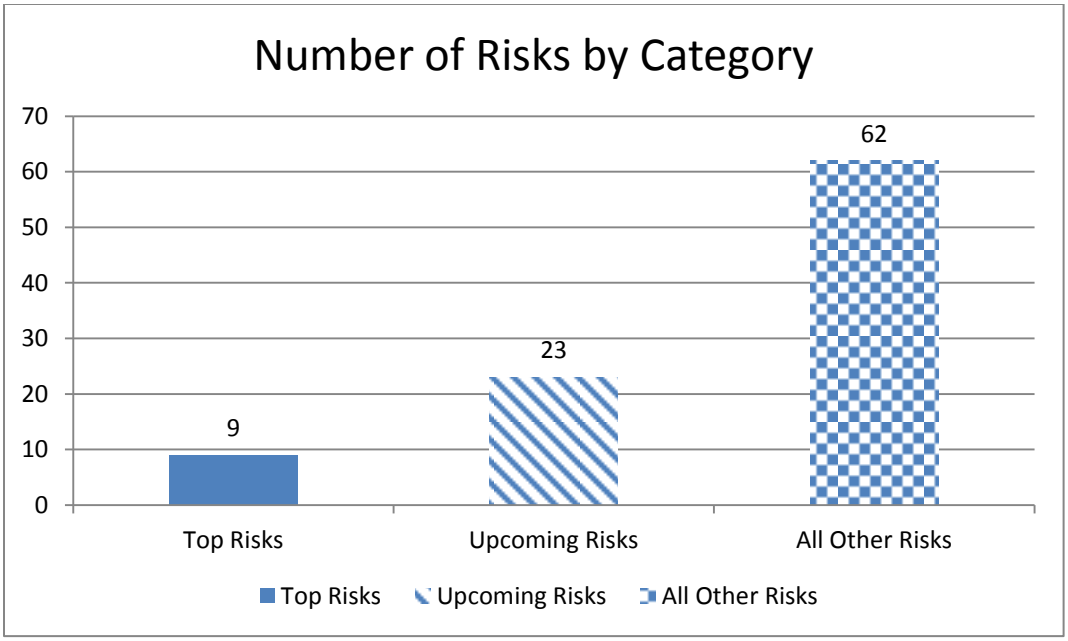
The team has identified the following items as top risks for the project:

- 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 TASI 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

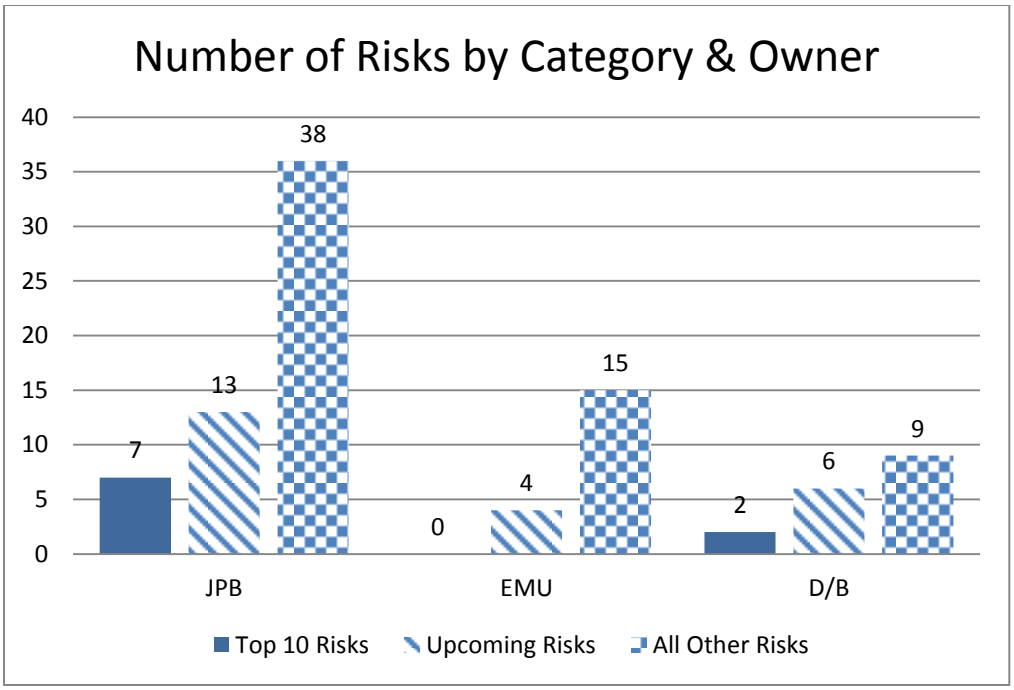
- Updates were made to risk descriptions, effects, and mitigations based upon weekly input from risk owners. Monthly cycle of risk updating was completed based on schedules established in the Risk Identification and Mitigation Plan.
- Risk retirement dates were updated based upon revisions to the project 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.
- Eliminated category of "Long-Lead" risks and included all risks from this category to all risks, resulting in quarterly reviews in the future.
- Continued review of systems integration database to identify additional risks and update existing risks.
- Tables 11-1 and 11-2 show the risks identified for the program. Risks are categorized as top risk, upcoming risk, 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. All other risks are risks not falling into other categories. A fourth category, Long-Lead risks, covering risks for which the retirement date is more than one year into the future, was eliminated. Those risks reverted to the other three categories based upon schedule and cost factors.

Table 11-1 Monthly Status of Risks



Total Number of Active Risks = 94

Table 11-2 Risk Classification



Total Number of Active Risks = 94

Activity Next Month

- Update risk descriptions, effects, mitigations and retirement dates.
- Conduct weekly monitoring of risk mitigation actions and continue publishing risk register.
- Review risks on project risk register with Systems Integration database.
- Prepare for and conduct risk refresh within PCEP and with BBII.

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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

- Obtained the minor permit amendment from the SFWQCB. The minor permit amendment was to cover minimal increases to impacts on wetlands and other waters resulting from OCS pole foundation installation.

Activity Next Month

- No permit updates are planned.

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 were present during design phase investigation activities (potholing and exploratory trenching), as well as tree removal and trimming, 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.
- Noise and vibration monitoring also occurred during project activities, and non-hazardous soil was removed from the Right of Way (ROW) in segments 1 and 3.

- Surveys for nesting birds ahead of design phase activities continued (nesting bird season is February 1 through September 15), and pre-construction surveys for sensitive wildlife ahead of tree trimming and removal occurred.
- Environmentally Sensitive Area staking occurred in Segment 2 to delineate jurisdictional waterways and other potentially sensitive areas that should be avoided during upcoming construction activities.

Activity Next Month

- Environmental compliance monitors will continue to monitor design phase investigation activities, as well as tree removal and trimming, and other project activities occurring in areas that require environmental compliance monitoring.
- Biological surveyors will conduct nesting bird surveys ahead of project activities occurring during the nesting bird season.
- Noise and vibration monitoring of project activities will continue to occur and non-hazardous soil will continue to be removed from segments 1 and 3.
- Tree trimming and removal will continue in Segment 2, and biological surveyors will continue to conduct pre-construction surveys for sensitive wildlife species ahead of tree trimming and removal. Environmental compliance monitors will continue to be present during tree removal and trimming in an effort to minimize potential impacts on sensitive environmental resources in accordance with the MMRP.
- Wildlife exclusion fencing installation is scheduled to be installed in Segment 2 in September 2017 prior to upcoming construction activities adjacent to potentially suitable habitat for sensitive wildlife species.

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

- 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.
- Continued individual coordination with utility companies on relocation plans and schedule. PG&E and Silicon Valley Power have both indicated they will meet the schedule as requested by the PCEP.
- Received first relocation designs by PG&E for Segment 2 Work Area 5 and coordinated with the local jurisdictions for permitting. The PCEP team will continue to be involved in permitting meetings with the local jurisdictions to help with the relocation schedule.
- PCEP team continued to work with Verizon to resolve the relocation of fiber optic cable within the Caltrain ROW. Verizon has shared drawings of existing facilities with the project team to further refine the conflicts.

Activity Next Month

- Monthly meetings will continue with telecom and power carriers.
- Coordinate with utility owners on the next steps of relocations, including support of any required design information.
- Work with utility owners to update the relocation schedule.
- Work with Verizon to relocate their parallel aerial fiber optic cable, including possible interim options.
- Review relocation design from PG&E and coordinate with PG&E on permitting and work planning for relocations.

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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 Safely Zones (easements). There are two larger full acquisition areas required for wayside facilitates. 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.
- RON hearings were held for 10 Segment 2 parcels at SamTrans on July 5 and for one addition parcel on August 2. All 11 RONs were adopted.
- VTA heard RONs for 3 parcels in Segment 4, including the two aforementioned business relocations. All three RONs were adopted.
- Three eminent domain actions were filed in Segment 2, with the other property owners either settling or in active negotiations to settle.
- One eminent domain action will occur in Segment 4 and will be filed in September, in time to meet the project schedule.
- Appraisal continued in segments 1 and 3 and technical staff responded to a number of Requests for Information (RFI) to support the appraisal process.
- The JPB Board has now approved seven offers within Segment 3.

Activity Next Month

- Negotiations for all outstanding offers will continue.
- Appraisals for segments 1 and 3 will be completed.

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	21	18	0	18
Segment 3	11	7	0	0	0	0	0
Segment 4	9	9	8	0	0	0	0
Total	**55**	**42**	**33**	**21**	**18**	**0**	**18**

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.

Status of Segments 2 and Segment 4 ROW Acquisition

- Segment 2
  - SamTrans Board adopted 10 RONs in July and 1 in August.
  - Eight owners have either signed or are in the process of signing.
  - Three eminent domain actions filed with possession expected in January 2018.
  - Exception: UPRR requested JPB follow their utility approval process.
- Segment 4
  - VTA adopted three RONs in August, including the Loop Bus Site.
  - Three eminent domain actions will be filed by September, providing access by February 2018.
  - Exception: PG&E property: JPB working with BBII to redesign the poles that impact PG&E operations.

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[1]	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	In Process
		San Mateo	Executed
		Santa Clara	Executed
Utilities	Infrastructure	PG&E	Executed[2]
	Operating Rules	CPUC	Executed
Transportation & Railroad	Construction & Maintenance	Bay Area Rapid Transit	Executed[3]
	Construction & Maintenance	California Dept. of Transportation (Caltrans)	Not needed[4]
	Trackage Rights	UPRR	Executed[3]

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, 3 and 5 have been executed. Supplemental Agreement 4 is the remaining agreement 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

- Pre-Construction Community Meeting: Millbrae and Burlingame
- Bicycle Advisory Committee
- FTA Quarterly Meeting
- Sunnyvale Neighborhood Associations
- Local Policy Maker Group
- City Staff Coordinating Group
- Caltrain Bicycle Advisory Committee
- Caltrain CEMOF Monitoring Committee
- Menlo Park Block Party
- San Mateo County Economic Development Association
- Silicon Valley Bike Summit
- State Assembly Select Rail Committee Hearing
- 4th & King Station Outreach: EMU Bike Samples (2)
- Redwood City Station Outreach: EMU Bike Samples
- Palo Alto Station Outreach: EMU Bike Samples

Third Party/Stakeholder Actions

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

- San Mateo
- Santa Clara

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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 goal of the Tunnel Modification contract is to be determined.

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18.0 PROCUREMENT

Contract Activity

- Contract Amendment No. 4 – URS – On-Call Program Management – Authorized contingency
- Contract Amendment No. 3 – Gannett Fleming – On-Call Electrification Management – Authorize contingency

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

- No IFBs, RFQs, or RFPs issued

IFB/RFQ/RFP Received this Month:

- No IFBs, RFQs, or RFPs received

Contract Awards this Month:

- Contract #17-J-S-061 – AIM Traction Power SCADA System for PCEP was awarded to ARINC, Inc.

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

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

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

Upcoming Contract Awards:

- No upcoming contract awards

Upcoming IFB/RFQ/RFP:

- RFP – Purchase of Electric Locomotive for testing of electrification system
- RFP – Refurbishment of Electric Locomotive for PCEP

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19.0 TIMELINE OF MAJOR PROJECT ACCOMPLISHMENTS

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

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

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

TVA	**Threat and Vulnerability Assessment**
UPRR	**Union Pacific Railroad**
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 – Funding Partner Meetings

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Funding Partner Meeting Representatives

Updated July 25, 2017

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

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Appendix C – Schedule

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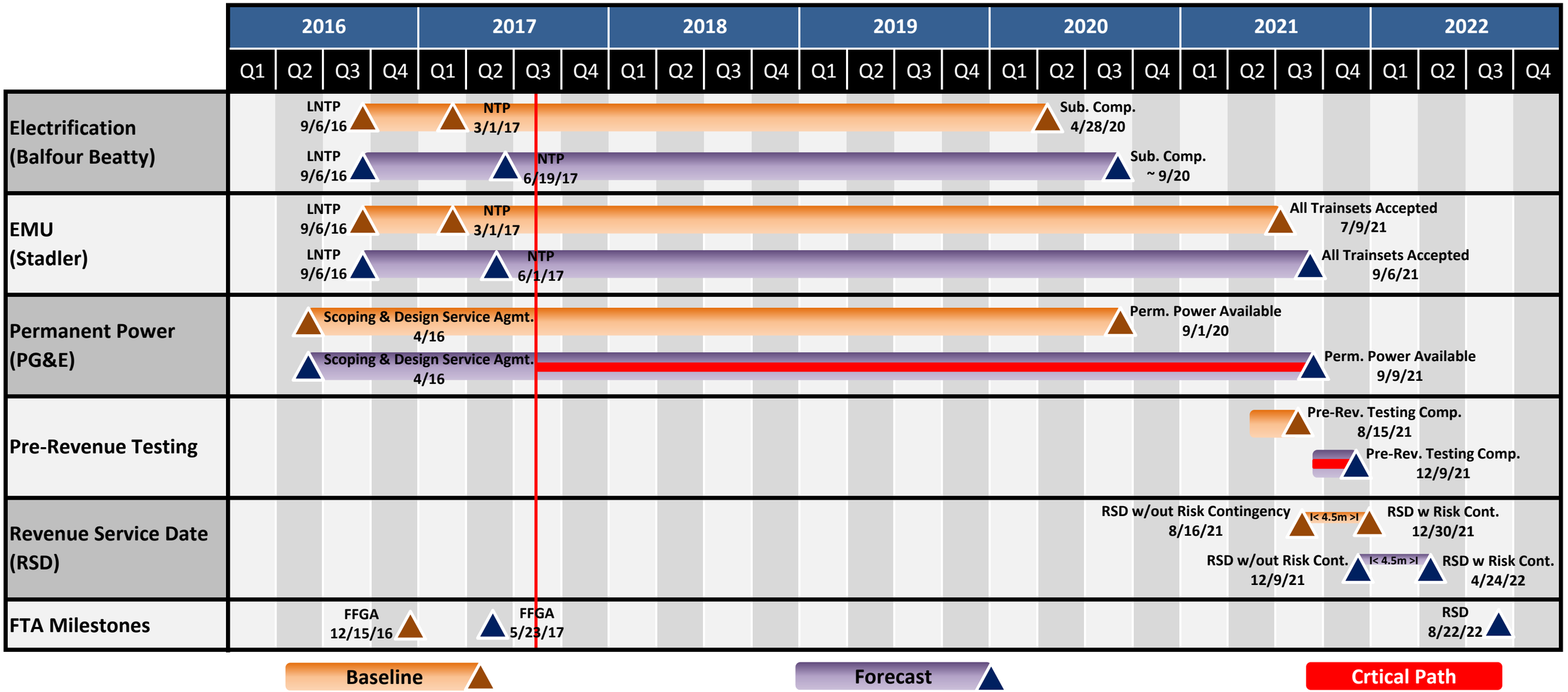
Master Program Schedule

Baseline (Apr. 2016) vs. Forecast



August 14, 2017

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Appendix D – Standard Cost Codes

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Description of Work	Approved Budget (A)	Cost This Month (B)	Cost To Date (C)	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)
10 - GUIDEWAY & TRACK ELEMENTS	**$14,256,739**	**$0**	**$0**	**$14,256,739**	**$14,256,739**
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
30 - SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	**$2,265,200**	**$0**	**$0**	**$2,265,200**	**$2,265,200**
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
40 - SITEWORK & SPECIAL CONDITIONS	**$255,072,402**	**$922,864**	**$45,098,116**	**$210,074,286**	**$255,172,402**
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	$628,247	$4,272,495	$57,920,023	$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 [1]	$32,579,208	$37,500	$37,500	$32,641,708	$32,679,208
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	$257,117	$40,788,121	$77,835,655	$118,623,777
40.08 Allocated Contingency	$20,160,000	$0	$0	$8,880,000	$8,880,000
50 - SYSTEMS	**$504,445,419**	**$9,732**	**$5,935,568**	**$498,509,851**	**$504,445,419**
50.01 Train control and signals	$97,589,149	$428,672	$1,000,000	$95,189,149	$96,189,149
50.01 Allocated Contingency	$1,651,000	$0	$0	$3,051,000	$3,051,000
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 [2]	$72,448,846	-$424,940	$2,948,853	$69,499,993	$72,448,846
50.03 Allocated Contingency	$28,426,176	$0	$0	$28,426,176	$28,426,176
50.04 Traction power distribution: catenary and third rail	$253,683,045	$6,000	$1,986,715	$252,093,639	$254,080,354
50.04 Allocated Contingency	$18,064,000	$0	$0	$17,666,691	$17,666,691
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
60 - ROW, LAND, EXISTING IMPROVEMENTS	**$35,675,084**	**$2,815,331**	**$8,289,140**	**$27,385,944**	**$35,675,084**
60.01 Purchase or lease of real estate	$25,927,074	$2,815,331	$8,264,942	$17,662,132	$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	$24,198	$975,803	$1,000,000
70 - VEHICLES (96)	**$625,544,147**	**$13,825,392**	**$59,403,444**	**$566,140,703**	**$625,544,147**
70.03 Commuter Rail	$589,167,291	$13,825,392	$59,403,444	$530,718,848	$590,122,291
70.03 Allocated Contingency	$9,472,924	$0	$0	$8,517,924	$8,517,924
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
80 - PROFESSIONAL SERVICES (applies to Cats. 10-50)	**$323,793,010**	**$9,599,465**	**$144,594,369**	**$179,198,641**	**$323,793,010**
80.01 Project Development	$130,350	$0	$280,180	-$149,830	$130,350
80.02 Engineering (not applicable to Small Starts) [4]	$180,312,783	$6,982,461	$110,783,626	$68,986,156	$179,769,782
80.02 Allocated Contingency	$1,780,528	$0	$0	$2,323,529	$2,323,529
80.03 Project Management for Design and Construction [3]	$72,147,345	$1,624,459	$27,433,736	$44,713,608	$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	$370,434	$1,824,494	$21,853,455	$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	$550,000	$1,705,769	$1,794,231	$3,500,000
80.06 Legal; Permits; Review Fees by other agencies, cities, etc.	$7,167,275	$72,110	$2,566,564	$4,600,711	$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
Subtotal (10 - 80)	**$1,761,052,001**	**$27,172,784**	**$263,320,637**	**$1,497,831,365**	**$1,761,152,001**
90 UNALLOCATED CONTINGENCY	**$162,620,295**	**$77,380**	**$77,380**	**$162,442,915**	**$162,520,295**
Subtotal (10 - 90)	**$1,923,672,296**	**$27,250,163**	**$263,398,016**	**$1,660,274,280**	**$1,923,672,296**
100 FINANCE CHARGES	**$6,998,638**	**$0**	**$659,280**	**$6,339,358**	**$6,998,638**
Total Project Cost (10 - 100)	**$1,930,670,934**	**$27,250,163**	**$264,057,296**	**$1,666,613,638**	**$1,930,670,934**

Notes:

(1) 40.04 - The proposed change is proposed to be drawn down from the unallocated Contingency (SCC 90) as this SCC 40.04 does not carry any allocated contingency at the mean time.

(2) 50.03 - Contractor submitted a revised August-2017 invoice reducing the payment request in 50.03 by $424,940. The reduction results in a negative accruals in the current reporting period.

(3) 50.03 & 80.03 - Broad approved SCADA Contract.

(4) 80.02 - CCO-001 for Track Access Delays 2016 Qtr 4 was executed.

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Appendix E – Change Order Logs

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Change Order Logs

Electrification Contract

Change Order Authority (5% of BBII Contract) **5% x $696,610,558 = $34,830,528**

Date	Description	CCO Amount	Percent of Authority[1]	Remaining Authority
8/31/2017	CCO 00001 - Track Access Delays for 2016, Quarter 4	$85,472		
	Total	**$85,472**	**0.25%**	**$34,745,056**

Notes:

1. When the threshold of 75% is reached, staff will return to the Board to request additional authority.

EMU Contract

Change Order Authority (5% of Stadler Contract) **5% x $550,899,459 = $27,544,973**

Date	Description	CCO Amount	Percent of Authority[1]	Remaining Authority
	None to date			
	Total			**$27,544,973**

Notes:

1. When the threshold of 75% is reached, staff will return to the Board to request additional authority.

SCADA Contract

Change Order Authority (15% of ARINC Contract) **15% x $3,446,917 = $517,038**

Date	Description	CCO Amount	Percent of Authority[1]	Remaining Authority
	None to date			
	Total			**$517,038**

Notes:

1. When the threshold of 75% is reached, staff will return to the Board to request additional authority.

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