Caltrain Modernization Program

Peninsula Corridor Electrification Project (PCEP)

Executive Monthly Progress Report

November 30, 2022

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1.0 EXECUTIVE SUMMARY

1.1 Introduction

The Peninsula Corridor Electrification Project (PCEP) will upgrade 51 miles of diesel service to electrified service from San Francisco to San Jose (Tamien Station). The PCEP scope of work includes design and construction of an overhead contact system, traction power facilities, modification of the existing signaling and grade crossing protection system to make it compatible with the electrified railroad, substation improvements at Pacific Gas and Electric (PG&E) substations, and modifications at existing tunnels and Caltrain's maintenance facility. It also includes the design, manufacturing, assembly, testing, and delivery of the Electric Multiple Units (EMUs).

Caltrain completed a thorough assessment of all aspects of the program including cost, schedule, risks and organization after the global settlement in 2021. Caltrain re-baselined the program budget and schedule in December of 2021. Caltrain is committed to deliver PCEP and achieve revenue service in September of 2024.

1.2 Program Cost and Budget

On December 6, 2021, the JPB adopted a new PCEP program budget of $2,442,690,697. As of November 2022, the project is on budget:

- The current project total cost at completion (EAC) is the same as Board adopted budget of $2.44 billion.
- As of November 2022, a total of $3.10M has been drawn down from the Shared Risk Pool of $50 million. In November 2022, $0.21M was drawn from the Shared Risk Pool.
- As of November 2022, a total of $3.47M has been drawn from the project contingency of $40 million. In November 2022, $2.10M was drawn from project contingency.
- As of November 2022, no new awards have been made from the Project incentive pool of $18.5 million.
- As of November 2022, no incentive was issued from the milestone incentive pool of $15 million.

1.3 Program Progress and Schedule

As of November 30, 2022, the overall project completion is 78.44%. The current program schedule is projecting a PCEP substantial completion date of April 2024 and Revenue Service by September 2024. Staff is preparing a 2023 path to completion and service impact plan that will include system integration testing, signal cutovers, and proactive OCS construction productivity mitigations for the remaining PCEP work.

1.4 Change Management Board (CMB)

In November 2022, the following change orders were brought to CMB for approval:

- Guadalupe River Bridge Replacement Project (non-PCEP Change Order)
- Gannett Fleming PCEP Engineering Consultant Services Contract Capacity Increase and Contract Extension

1.5 This Month's Accomplishments

The project team has completed the following notable activities for the month of November 2022:

- Started implementing energized rail isolation and protection procedure.
- Perform Emergency Preparedness Plan (EPREP) rehearsal and finalized new timetables.
- Continued 25kV in-depth OCS awareness training for all TASI staff and tenant railroad trainers prior to full Segment 4 energization.
- Held another CMB and PCEP partnering session and finalized procedures for the implementation of the Configuration Management Board from the Funding Partners Oversight Protocol.
- Continued to work with PG&E on the interconnect construction cost reimbursement timeline.
- Held Executive Partnering session with BBII, Rail Operations and TASI.
- Continued TPS1 Single Phase Study for Line 1 and Line 2.
- Performed lessons learned and corrective actions for TPS 2 because of the unsuccessful short circuit test held on November 5, 2022.
- Continued safety special task force working group, including TASI, Rail Operations and PCEP to address communications, process, and procedure improvements.
- Continued to recruit experienced and qualified resources. Key positions for PCEP delivery have been filled.
- Performed regression tests for previous 2SC cutover location application logic update.
- Continued installation and pretesting activities for Segment 2 major cutover at Menlo Park, Redwood City, and Palo Alto from December 5 - December 19, 2022. Performed weekly readiness review with Contractors, TASI, Rail Operations and Rail Planning.
- Performed final reviews of SamTrans Weekend Bus Bridge service agreement in support of December cutover.
- Continued providing PCEP progress updates to funding partners, leadership, elected officials, citizens, and business community. The funding task force is completing TIRCP grant application for formal submission.
- Continued Rail Activation effort on path to energization for Segment 4 and CEMOF.
- Finalized RWIC needs for the remaining field work for 2022 among BBII, Rail Operations and TASI.
- Completed OCS Segment 4 Sectionalization Testing.
- Reviewed path for completion plan that requires more track access and work windows on weekends to maximize productivity for the remaining infrastructure, signal cutover, and testing. Assessed impact to customers and Rail Operations.
- Assembled a special task force and steering committee for implementation of path to completion, weekend area enclosures with Communications, Customer Service, Rail Planning and Rail Operations.

1.6 Upcoming work

For the next six months, the PCEP team has set additional goals as described below:

- Complete 25kV in-depth OCS awareness training for all TASI staff and tenant railroad trainers prior to full Segment 4 energization.
- Finalize path to completion work planning and commence communications with JPB board members and the public.
- Continue to work with PG&E on the interconnect construction cost reimbursement timeline.
- Continue to hold Executive and Project Team Partnering sessions in January 2023.
- Finalize Program Management Plan (PMP) and Quality Management Plan (QMP).
- Continue to address TPS 2 findings and complete documentation required to perform short circuit retest.
- Energize drill track to enable EMU re-commissioning and PTC testing.
- Continue pursuing federal and local grants to close the funding gap.
- Hold Monthly CMB meeting for program status and change order approval.
- Complete last major Segment 2 cutover at Ralston and Mayfield in December.
- Complete Segment 4 mainline live runs and full energization.
- Finalize isolation and protection scope performed by the contractor and commence commercial discussion for isolation service.
- Perform project schedule reforecast that reflects the path to completion and weekend area closures for the remaining PCEP work.

The PCEP Project is currently on budget and on time for achieving Revenue Service in September of 2024.

1.7 Critical Items

As of November 2022, the top critical items and related actions are highlighted below.

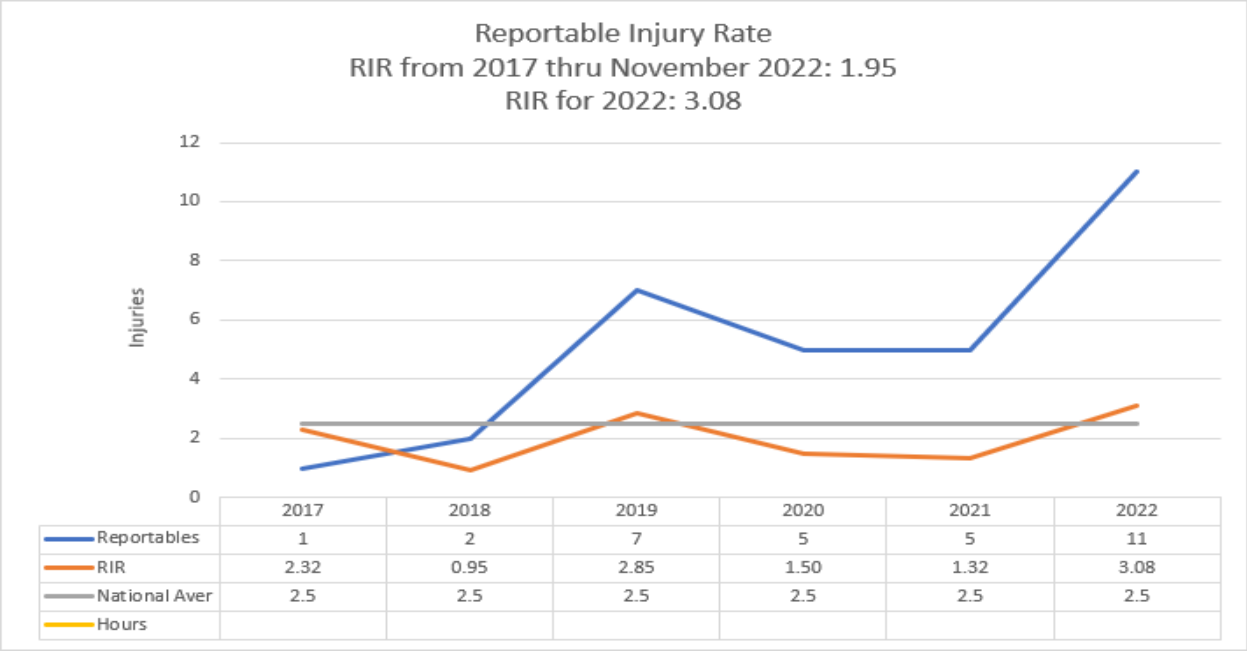
Table 1-1. Critical Issues and Actions

Critical Issues	Actions
Overhead Contact System (OCS) installation delay due to low productivity Note: The project OCS work was on hold from March 10, 2022, to March 28, 2022 during the safety stand down.	• Additional BBII OCS crew training for regulation and variance in the OCS design / installation due to re-design & accommodations to resolve foundation Differing Site Conditions (DSC) issues – Done. • Hiring additional BBII OCS staff members to prevent schedule slippage and help in future installation planning – Done. • Hold OCS construction scheduling recovery workshop for remaining OCS installation and testing – Done. • Increase OCS crews and OCS wiring equipment to increase productivity – Done. • More track access including weekend area closures for remaining Segments 1 and 2 OCS construction and testing.
Timely completion of Segment 2 Signal/2SC cutover	• Perform comprehensive cutover planning; develop and track dashboard for each cutover, including design submittal, duct bank completion, flagger needs. • Work closely with Rail Operations to maximize track access, including weekend bus bridge. • Advance notification to the public on train schedule service changes for weekend shutdown.

Critical Issues	Actions
	• Last major cutover for Segment 2 is planned for December 5, 2022 through December 19, 2022.
Funding of $410 million program gap	• Special task force was in place to identify federal and state grant opportunities to pursue – Done. • Targeted advocacy is ongoing. • Prepare earmarks grant scope and application. • Submit TIRCP grant application.
Lack of field railway worker in charge (RWIC) for increased work crews	• Design-builder brought in more watchmen for off-track work. • TASI to expedite RWIC hiring and training. • Explore third party field resource procurement path. • Assess operational impact for expanding work limits with track and time.

2.0 SAFETY

There were two reportable injuries in November (1 back and 1 ankle injury). The Reportable Injury Rate (RIR) for 2022 through November is 3.08. Overall, since the project's inception, the RIR is at 1.95.



	2017	2018	2019	2020	2021	2022
Reportables	1	2	7	5	5	11
RIR	2.32	0.95	2.85	1.50	1.32	3.08
National Aver	2.5	2.5	2.5	2.5	2.5	2.5
Hours						

Figure 2-1. Project Reportable Injury Rate (RIR) by Year

Completed Work

Safety staff continues to coordinate with contractors to identify opportunities to improve safety performance. Organizational-wide safety briefings are being performed to ensure staff understand the application of post incident mitigation measures including rules and procedural changes designed to enhance safety. Project Safety continues to reinforce jobsite safety practices throughout the Caltrain alignment, investigate incidents, and identify mitigation measures to prevent re-occurrences. Safety project coordination meetings continue to be conducted monthly to promote a clear understanding of project safety requirements. In addition, Caltrain Safety continues weekly calls with the lead safety staff from Caltrain, PCEP, BBII, and TASI to discuss safety performance and ongoing initiatives.

Upcoming Work

The Fire/Life Safety Committee continues to work with the San Jose and Santa Clara Fire Departments on Emergency Preparedness in preparation for the energization of Segment 4. The safety team has updated the OCS and EMU emergency responder safety familiarization presentations to include voiceover features for use by the Fire Departments. The presentation will also be shared with other emergency responder jurisdictions through the project Fire/Life Safety Committee. A full-scale emergency exercise that included an electrification incident response component was conducted on November 20, 2022. Segment 3 Fire Department safety awareness training has been scheduled for January and February 2023 for Sunnyvale

and Mountain View Fire Departments. Additional training is currently being coordinated with other Segment 3 Fire Departments.

OCS safety awareness training continues to be provided and made available for Fire Department trainers, third party contractors, and tenant railroad personnel with additional classes to be scheduled as needed. PCEP will continue to train key management personnel and provide training material for use in training their respective personnel.

3.0 IMS PROGRAM SCHEDULE

3.1 Introduction

The Integrated Master Schedule (IMS) Program Summary Schedule depicted in **Figure 3-1** shows the schedule status of the major PCEP projects. The forecasted dates for this program schedule were based on the source documents to the IMS as of December 1, 2022. The Revenue Service Date (RSD) and Full Funding Grant Agreement (FFGA) Revenue Completion Date (RCD) remains September 26, 2024, and December 31, 2024 respectively.

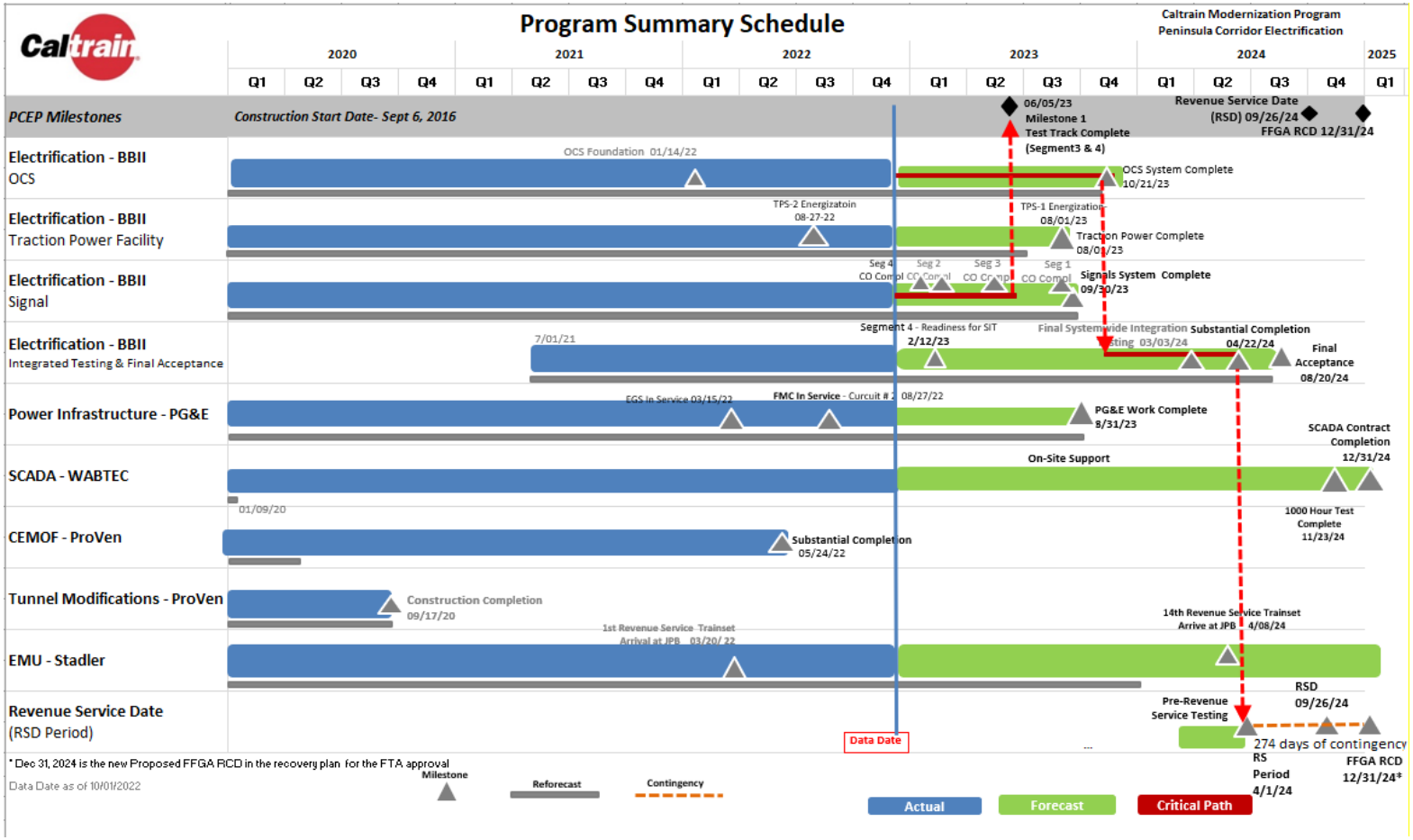


Figure 3-1. Master Program Summary Schedule

3.2 Critical Path Analysis

The current critical path for PCEP starts with installation of the OCS poles in Segment 1 and continues with the installation of the Static and Feeder Wire in Segments 1 and 2, followed by Sectionalization Testing, Systems Integrated Testing, Substantial Completion and Final Acceptance. The criticality of the path has slipped another two (2) days from the June 2022 Reforecast Schedule and now shows a negative 22 day total float.

The current near critical path is the Regulation of OCS Segments 3, 2, and 1. This near critical path is within three (3) days of the most critical path.

#	Activity ID	Activity Name	Duration	Total Float	Reforecast Start	Reforecast Finish	Current Start	Current Finish	Refor Finish Variance
1	**Segment 1 (8 Mi)**		625	-23	20-Jun-22	29-Dec-23	20-Jun-22 A	23-Jan-24	-28
2	OC-01-31420	Install OCS Poles Segment 1 WA 1B (2 of 2) (91 of 183 Total) (89 of 91 TD)	152	-22	01-Jul-22	11-Jul-22	28-Jun-22 A	01-Dec-22	-139
3	OC-01-31100	Install Feeder Wire Assemblies Segment 1 WA 1 (99 of 187 TD)	176	-22	20-Jun-22	29-Jul-22	20-Jun-22 A	19-Dec-22	-137
4	OC-01-31430	Install Static Wire Assemblies Segment 1 WA 1 (131 of 192)	176	-22	20-Jun-22	29-Jul-22	20-Jun-22 A	19-Dec-22	-137
5	OC-01-31670	Install Surge Arrester Assemblies Segment 1 WA 1 (0 of 15 TD)	21	-22	29-Jul-22	03-Aug-22	30-Nov-22 A	21-Dec-22	-135
6	OC-01-31690	Install Shunt Wire Segment 1 WA 1 (1 of 2 TD)	59	-22	16-Sep-22	19-Sep-22	28-Oct-22 A	29-Dec-22	-97
7	OC-01-31070	Install MPA Assembly Segment 1 WA 1 (0 of 25 TD)	7	-22	03-Aug-22	10-Aug-22	21-Dec-22	29-Dec-22	-135
8	OC-01-31040	Install Feeder Wire Segment 1 WA 1 (6,924 of 30,843 TD)	97	-22	19-Sep-22	29-Sep-22	28-Sep-22 A	06-Jan-23	-95
9	OC-01-31090	Install OCS Static Wire Segment 1 WA 1B (11,496 of 41,600 TD)	70	-22	29-Sep-22	03-Oct-22	28-Oct-22 A	09-Jan-23	-94
10	OC-01-31080	Install OCS Messenger / Contact Wire Segment 1 WA 1 (0 of 164,754 TD)	25	-22	26-Oct-22	21-Nov-22	09-Jan-23	02-Feb-23	-71
11	OC-01-31560	Install Feeder Wire Segment 1 WA 2 / 1A (0 of 25,288 TD)	12	-22	21-Nov-22	05-Dec-22	02-Feb-23	14-Feb-23	-71
12	OC-01-31170	Install Static Wire Segment 1 WA 2 / 1A (0 of 31,209 TD)	21	-22	05-Dec-22	27-Dec-22	14-Feb-23	06-Mar-23	-71
13	OC-01-31200	Install OCS Messenger / Contact Wire Segment 1 WA 2 / 1A (0 of 120,311 TD)	38	-22	27-Dec-22	02-Feb-23	06-Mar-23	11-Apr-23	-71
14	TS-01-1000	Segment 1 Integrated Testing	30	-21	29-Nov-23	29-Dec-23	25-Dec-23	23-Jan-24	-26
15	**Segment 2 (21.1 Mi)**		513	-23	24-Feb-23	29-Nov-23	03-Sep-22 A	24-Dec-23	-27
16	OC-02-32160	Install OCS Messenger / Contact Wire Segment 2 WA 3 (74,388 of 95,614 TD)	222	-22	24-Feb-23	07-Mar-23	03-Sep-22 A	14-Apr-23	-39
17	OC-02-32225	Install Feeder Wire Segment 2 WA 2 (0 of 47,449 TD)	11	-22	07-Mar-23	17-Mar-23	14-Apr-23	25-Apr-23	-39
18	OC-02-32205	Install Static Wire Segment 2 WA 2 (0 of 47,218 TD)	8	-22	17-Mar-23	25-Mar-23	25-Apr-23	02-May-23	-39
19	OC-02-32220	Install OCS Messenger / Contact Wire Segment 2 WA 2 (0 of 118,759 TD)	15	-22	25-Mar-23	09-Apr-23	02-May-23	16-May-23	-39
20	OC-02-32265	Install Feeder Wire Segment 2 WA 1 (0 of 42,858 TD)	12	-22	09-Apr-23	20-Apr-23	16-May-23	28-May-23	-39
21	OC-02-32250	Install Static Wire Segment 2 WA 1 (0 of 32,780 TD)	5	-22	20-Apr-23	25-Apr-23	28-May-23	01-Jun-23	-39
22	OC-02-32280	Install OCS Messenger / Contact Wire Segment 2 WA 1 (0 of 108,717 TD)	32	-22	25-Apr-23	25-May-23	01-Jun-23	03-Jul-23	-39
23	OC-02-32715	Install OCS Insulation Segment 2 WA 1 (0 of 42 TD)	7	-22	25-May-23	01-Jun-23	03-Jul-23	09-Jul-23	-39
24	OC-02-32295	Regulate OCS Segment 2 WA 1 (0 of 154 TD)	34	-22	01-Jun-23	04-Jul-23	09-Jul-23	10-Aug-23	-39
25	OC-02-32718	Install OCS Jumpers Segment 2 WA 1 (0 of 42 TD)	9	-22	04-Jul-23	13-Jul-23	10-Aug-23	19-Aug-23	-39
26	OC-02-32705	Install OCS Section Insulators Segment 2 WA 1 (0 of 9 TD)	3	-22	13-Jul-23	15-Jul-23	19-Aug-23	22-Aug-23	-39
27	OC-02-32715	Phase Breaks Segment 2 WA 1 (0 of 4 TD)	8	-22	15-Jul-23	24-Jul-23	22-Aug-23	30-Aug-23	-39
28	OC-02-32285	Panning Segment 2 WA 1 (0 of 17 TD)	16	-22	02-Aug-23	18-Aug-23	30-Aug-23	14-Sep-23	-28
29	OC-02-32735	Loop Testing Segment 2 WA 1 (0 of 17 TD)	13	-22	18-Aug-23	30-Aug-23	14-Sep-23	27-Sep-23	-28
30	OC-02-32745	Loop Testing OCS Segment 2 WA 3 (0 of 12 TD)	13	-22	18-Aug-23	30-Aug-23	14-Sep-23	27-Sep-23	-28
31	OC-02-32745	High Pot Testing OCS Segment 2 WA 3 (0 of 12 TD)	7	-22	30-Aug-23	06-Sep-23	27-Sep-23	03-Oct-23	-28
32	OC-02-32735	High Pot testing OCS Segment 2 WA 2 (0 of 15 TD)	10	-22	06-Sep-23	15-Sep-23	03-Oct-23	12-Oct-23	-28
33	OC-02-32765	OCS Punchlist Segment 2	60	-22	28-Jul-23	25-Sep-23	25-Aug-23	21-Oct-23	-28
34	OC-02-32725	High Pot Testing Segment 2 WA 1 (0 of 17 TD)	9	-22	15-Sep-23	25-Sep-23	12-Oct-23	21-Oct-23	-28
35	OC-02-32665	Finish Segment 2 WA 1 OCS Wire	0	-21		25-Sep-23		21-Oct-23	-26
36	TS-02-2010	OCS Sectionalizing Testing Segment 2	5	-21	25-Sep-23	30-Sep-23	21-Oct-23	25-Oct-23	-26
37	TS-02-2000	Segment 2 Integrated Testing	60	-21	30-Sep-23	29-Nov-23	26-Oct-23	24-Dec-23	-26
38	**All Segments**		328	-23	25-Sep-23	30-Jul-24	21-Oct-23	20-Aug-24	-24
39	OC-00-0000	OC Systems Acceptance Test High Pot / Loop Test Complete (All Segments)	0	-22		25-Sep-23		21-Oct-23	-28
40	TS-00-0060	Final Systemwide Integrated Testing - End to End	40	-21	29-Dec-23	07-Feb-24	24-Jan-24	03-Mar-24	-28
41	FTC-0001	Project Schedule Contingency	50	-21	11-Feb-24	31-Mar-24	04-Mar-24	22-Apr-24	-22
42	PC-00-0190	Overall Schedule / Substantial Completion Completion Milestone	0	-20		01-Apr-24		22-Apr-24	-21
43	GC-00-9990	Scheduled Substantial Completion	0	-21		01-Apr-24		22-Apr-24*	-21
44	GC-00-9920	Final Acceptance	0	-21		30-Jul-24		20-Aug-24*	-21
45	**Submittals**		120	-21	01-Apr-24	29-Jul-24	23-Apr-24	20-Aug-24	-22
46	SM-00-20020	Final Punchlist	60	-21	01-Apr-24	30-May-24	23-Apr-24	21-Jun-24	-22
47	GC-00-9930	Final Acceptance Inspection	60	-21	31-May-24	29-Jul-24	22-Jun-24	20-Aug-24	-22

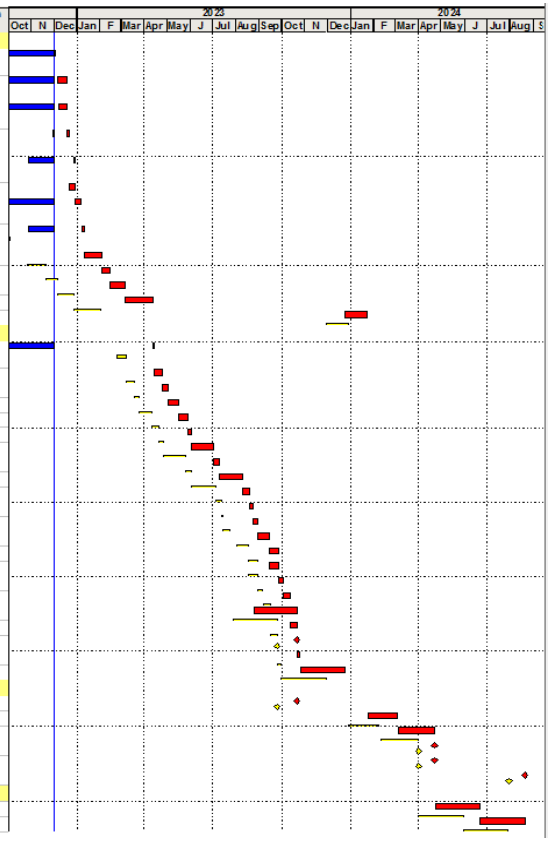


Figure 3-2. Critical Path Schedule

3.3 Schedule Contract Milestone Analysis

Milestone 1, redefined to include Segment 3 and 4 for more electrified mileage, is scheduled by June 2023. The current forecast date for full alignment Substantial Completion is now April 22, 2024 with Scheduled Final Acceptance now forecasted for August 20, 2024.

Contractor	Milestones	Reforecast (June 2022) Dates	Current (November 2022) Forecast	Milestone Finish Date Variance	Remarks
BBII	Segment 4 Completion	15-Nov-22	12-Feb-23	-89	Delayed by grounding and bonding delays and delays to Segment 4 integrated testing
BBII	Completion of Milestone 1 (Segments 3 and 4)	30-Apr-23	05-Jun-23	-36	Delayed by Seg 2 Phase 1 signal cutover installation delays which, in turn, delayed installation of Segment 3 signal cutovers and sectionalization testing
BBII	Traction Power Substation #1 Energization	03-Jun-23	01-Aug-23	-59	Delayed by replacement of the batteries and revisions of the enclosure at TPSS-1 to meet PG&E requirements
BBII	Signal Cutovers and Systems Completion	16-Sep-23	30-Sep-23	-14	Delayed by Seg 2 Phase 1 signal cutover installation delays which, in turn, delayed installation of Seg 3 and 1 signal cutovers
BBII	OCS Construction Completion	25-Sep-23	21-Oct-23	-26	Delayed by installation delays of OCS beams, poles and static & feeder wiring in Segment 2
Stadler	14th Trainset Arrival at JPB Site	12-Oct-23	08-Apr-24	-179	Stadler is experiencing track access availability, workforce availability and material issues with their Suppliers.
BBII	System Integration Testing Start (Segment 4)	29-Dec-23	24-Jan-24	-26	Delayed by energization delay of Overhead Contact System (OCS)
BBII	System Integration Testing Completion	07-Feb-24	03-Mar-24	-25	Delayed by installation of Overhead Contact System (OCS) in Segments 2 and 1.
BBII	Substantial Completion	01-Apr-24	22-Apr-24	-21	Delayed by Integrated Testing and Project Contingency
BBII	Scheduled Final Acceptance	30-Jul-24	20-Aug-24	-21	Delayed by Final Completion and Final Acceptance Testing
JPB	Revenue Service Date (RSD)	26-Sep-24	26-Sep-24	0	
JPB	FFGA Revenue Completion Date (RCD)	31-Dec-24	31-Dec-24	0	

Note: The Stadler variance is measured from the February 2022 Rebaseline Schedule.

4.0 COST AND BUDGET

4.1 Introduction

This section presents an update on program cost and budget. On December 6, 2021, the JPB adopted a new Program budget of $2.44 billion. Table 4-1 depicts a summary level of program budget, costs, and estimate at completion based on the latest update of the Electrification and EMU projects as of November 30, 2022.

4.2 Program Budget and Cost

Table 4-1. Budget Summary by Project

Description of Work	Current Budget (A)[1]	Cost This Month (B[2]	Cost To Date (C)[3]	Estimate To Complete (D)	Estimate At Completion (E) = (C) + (D)	Variance at Completion (F) = (A) – (E)
Electrification	$1,749,139,438	$24,451,355	$1,442,597,055	$306,542,383	$1,749,139,438	$0
EMU	$693,551,258	$668,740	$498,961,700	$194,589,559	$693,551,258	$0
PCEP TOTAL	**$2,442,690,697**	**$25,120,095**	**$1,941,558,755**	**$501,131,942**	**$2,442,690,697**	**$0**

1. Column A "Current Budget" includes re-baseline and executed change orders and awarded contracts.
2. Column B "Cost This Month" represents the cost of work performed this month.
3. Column C "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) to date.

Table 4-2 depicts program budget, costs, and estimate at completion summarized by major elements of work. This budget table provides additional detail for the program and is broken down by major contracts for Electrification and EMU, minor contracts, real estate, utilities, project management oversight and other indirect support costs.

Table 4-2. Budget Summary by Major Elements

Description of Work	Re-Baseline Budget	Current Budget	Cost This Month	Cost To Date	Estimate To Complete	Estimate At Completion
Electrification	$1,097,149,881	$1,097,149,881	$19,594,997	$854,350,409	$242,683,472	$1,097,033,881
EMU Procurement	$556,072,601	$556,204,966	$0	$414,698,351	$141,506,615	$556,204,966
Minor Construction Contracts (Tunnel, CEMOF, SCADA, Non-BBI OCS)	$67,055,072	$68,091,194	$140,791	$64,594,782	$3,496,412	$68,091,194
Real Estate Acquisition & Support	$34,914,177	$34,914,177	$13,387	$23,909,072	$11,005,105	$34,914,177
PG&E, Utilities	$132,088,995	$132,088,995	$454,202	$201,523,435	-$69,434,440	$132,088,995
Management Oversight & Support	$312,699,697	$315,007,767	$2,685,205	$254,735,921	$60,271,846	$315,007,767
TASI Support	$114,488,767	$114,488,767	$1,452,022	$88,522,827	$25,965,940	$114,488,767
Finance Charges	$9,898,638	$9,898,638	$62,123	$9,244,932	$653,706	$9,898,638
Insurance	$6,581,851	$6,581,851	$0	$4,897,449	$1,684,402	$6,581,851
Other Required Projects & Services	$9,084,176	$9,084,176	$19,742	$3,072,126	$6,012,050	$9,084,176
Environmental Mitigation	$14,438,866	$14,438,866	$0	$1,242,229	$13,196,637	$14,438,866
Caltrain Capital Overhead (ICAP)	$48,217,887	$48,217,887	$697,627	$20,767,221	$27,450,666	$48,217,887
Contingency	$40,000,089	$36,523,532	$0	$0	$36,639,532	$36,639,532
Total	**$2,442,690,697**	**$2,442,690,697**	**$25,120,095**	**$1,941,558,755**	**$501,131,942**	**$2,442,690,697**

4.3 Program Shared Risk Pool and Contingency

Caltrain and Balfour Beatty Infrastructure, Inc. (BBII) continue implementing new mechanisms to ensure a collaborative approach to Project delivery. The management team meets every week to review the issues log focusing on risk mitigation and issues resolution.

As part of global settlement, a shared risk pool of $50 million was established to manage risks and mitigation proactively and collaboratively with the design-build contractor. Table 4-3 shows the current shared risk drawdown for the current month and to-date as well as the remaining balance of the shared Risk Pool by Risk Category. Any shared risk items (27 Risk IDs listed below in Table 4-3) that are above $250,000 require Change Management Board (CMB) approval.

Table 4-3. Shared Risk Pool Status as of November 2022

Risk ID	Risk Description	Risk Amount	Current Month	Executed to Date	Remaining Balance
1	Permanent Power Availability	$268,572	$0	$160,916	$107,656
2	Different Site Condition for OCS Foundation	$3,500,000	$0	$986,104	$2,513,896
3	Different Site Condition for Duct bank	$2,800,000	$0	$125,666	$2,674,334
4	Condition of existing Fiber backbone infrastructure	$3,150,000	$100,252	$232,814	$2,917,186
5	Availability of TASI Resource	$5,777,820	$0	$0	$5,777,820
6	Signal Cutover access and work window	$5,607,150	$0	$0	$5,607,150
7	Condition of existing signal system	$538,572	$0	$29,125	$509,447
8	EMI Nonconformance by EMU Vendor	$750,000	$0	$0	$750,000
9	Reed Street Cutover	$90,000	$0	$0	$90,000
10	Availability of low voltage power for cutover testing	$1,120,000	$0	$0	$1,120,000
11	Third party Permits	$150,000	$0	$0	$150,000
12	SCADA integration for the entire alignment	$159,524	$0	$0	$159,524
13	Tunnel OCS Compatibility	$167,500	$0	$0	$167,500
14	Supply chain issue due to COVID 19	$300,000	$0	$28,923	$271,077
15	End to end Systems integration commissioning	$2,100,000	$0	$0	$2,100,000
16	Existing Caltrain Operating systems interface and integration	$1,400,000	$0	$0	$1,400,000
17	Third party Approval	$150,000	$0	$0	$150,000
18	Impact from Caltrain other capital or third-party projects	$2,166,683	$0	$159,342	$2,007,340
19	Track access delay for BBII Construction	$1,800,000	$114,381	$128,986	$1,671,015
20	Additional light Maintenance and Protection Needs	$280,000	$0	$144,500	$135,500
21	Crossing Protection	$220,000	$0	$102,334	$117,666
22	Power facilities	$500,000	$0	$0	$500,000
23	NCR's	$0	$0	$0	$0
24	Potholing	$1,700,000	$0	$107,547	$1,592,453
25	Pre-Revenue Service Operational Testing	$250,000	$0	$0	$250,000
26	TRO Contingency	$3,000,000	$0	$0	$3,000,000
27	Contingency	$12,000,000	$0	$900,000	$11,100,000
NA	Unidentified	$54,179	$0	$0	$54,179
	BBII Risk Pool Total	**$50,000,000**	**$214,633**	**$3,106,257**	**$46,893,743**

In addition to the established Risk Pool with BBII, the Re-Baseline Budget includes a program contingency of $40 million to cover non-BBII potential changes and unknown costs. Table 4-4 provides a detailed status of approved transfers from contingency due to executed Contract Change Orders and approved Budget Transfers.

Table 4-4. Program Contingency Drawdown Balance

Change Order	Description	Current Budget Contingency	EAC Contingency
Project Contingency	Previously Reported Balance	**$38,631,602**	**$36,647,602**
BT-029D	GFI Electrification FY23-24 Additional Staff	(2,108,070)	
BT-029D	GFI Electrification FY23-24 Additional Staff-EAC Contingency True-Up		(8,0870)
	PROJECT CONTINGENCY REMAINING BALANCE	**$36,523,532**	**$36,639,532**

Note: EAC Contingency reflects forecast contingency.

4.4 Electrification Design Builder Contract Incentives

The Global Settlement with BBII also includes incentives based on Milestone completions and remaining contract incentives. Table 4-6 provides a status of Design-Build Contractor incentives Budgeted, Awarded, and remaining Balance.

Table 4-5. BBII Incentives

Incentives	Budgeted	Awarded	Balance
Contract Incentive:			
Quality	$1,250,000	$1,000,000	$250,000
Safety	$2,500,000	$875,000	$1,625,000
Community Outreach	$2,500,000	$1,750,000	$750,000
DBE	$900,000	$0	$900,000
Total Contract Incentive	**$7,150,000**	**$3,625,000**	**$3,525,000**
Milestone Incentive:			
Early Signal and Crossing Cutover	$4,000,000	$0	$4,000,000
Early Project Substantial Completion (NTE)	$8,000,000	$0	$8,000,000
Early Revenue Service	$3,000,000	$0	$3,000,000
Total Milestone Incentive	**$15,000,000**		**$15,000,000**

4.5 Program Cash Flow and Funding

The remaining program expenditures are cash flowed in Figure 4-1 to illustrate by July 2023 additional funding will be needed to complete the program.

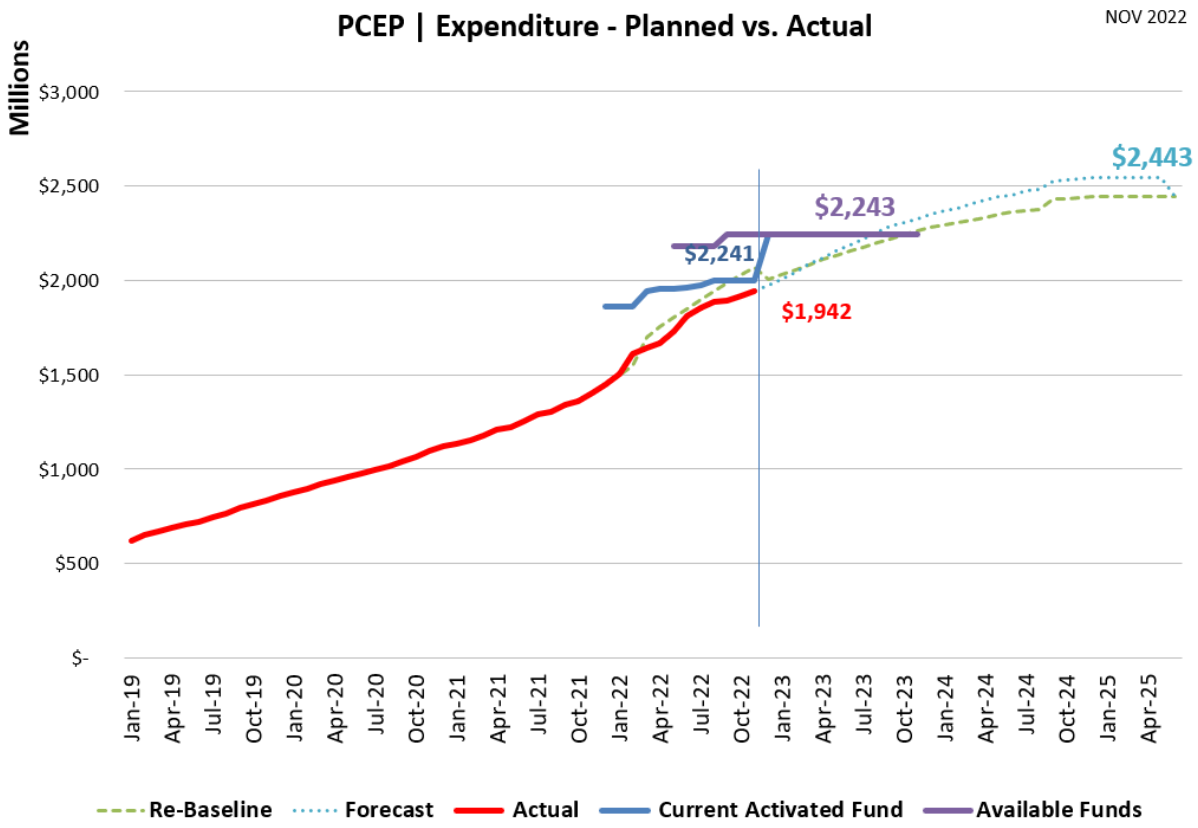


Figure 4.1 Expenditure – Funding Cash Flow

4.6 Issues

Table 4-6. Cost and Funding Issues Identified, and Actions Taken for November 2022

Issues	Actions
Additional funding setup for $410M Funding Gap.	• Actively pursuing additional State and Federal funding sources. • Dedicated task force has been established at the executive level. • Prepare earmarks grant scope and application for April submission.

5.0 CHANGE MANAGEMENT

5.1 Introduction

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

5.2 Change Orders/Shared Risk Pool

5.2.1 Executed Shared Risk

The following Shared Risk items were executed in November 2022:

- TPF Communications Network ASE Link (Field Order 586) was executed on November 8, 2022 for $100,252.
- Track Access Delay (December 2021) was executed on November 15, 2022 for $42,667.
- Track Access Delay (January 2022) was executed on November 8, 2022 for $19,003.
- Track Access Delay (February 2022) was executed on November 8, 2022 for $26,777.
- Track Access Delay (March 2022) was executed on November 8, 2022 for $25,934.

5.2.2 Approved Change Orders

- EMU Change Order of $110,367 for additional special tools to provide for Y Connector Boxes at CEMOF.

5.2.3 Upcoming Change Orders/Shared Risk Items

- Twenty-one (21) shared risk items, totaling $918,451 are being routed for management approval signatures.
- Electrification Change Order for Guadalupe Bridge OCS Removal and Replacement.
- Change to add manual phase breaks for EMU, totaling $43,520.

5.3 Issues

Table 5-1. Change Management Issues Identified and Actions Taken for November 2022

Issues	Actions
Segment 4 Maintenance Option in the existing BBII Contract was never exercised. Maintenance of OCS/TPS for Segment 4 will be needed post Segment 4 substantial completion once Caltrain is using it for EMU testing under 25kV.	• Define EMU testing and burn in work schedule. • BBII provides isolation and protection once Segment 4 is powered up. • BBII will provide maintenance lite during EMU testing and burn in. • Prepare Request for Proposal for OCS/TPS Maintenance Service for public procurement. • Develop evaluation criteria for Maintenance Service proposals. • Recommend for award and obtain JPB board approval.
Increase security service to prevent on-going theft problem.	• Working with design build contractor to identify ROW security surveillance needs and work out commercial arrangement for shared cost. • A dedicated security committee with focus on addressing theft issue including homeless encampment operations.