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Project Monitoring Report (PMR)
September 2024

Peninsula Corridor Electrification Project (PCEP)
San Francisco to San Jose, CA

Peninsula Corridor Joint Powers Board (JPB)/Caltrain
San Mateo, CA

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1.0 Executive Summary

Kal Krishnan Consulting Services, Inc. (KKCS) is the Federal Transit Administration's (FTA) Project Management Oversight Contractor (PMOC) for the Peninsula Corridor Electrification Project (PCEP). The Peninsula Corridor Joint Powers Board (JPB) is the grantee which operates commuter rail service as Caltrain. The FTA awarded a $647 million Full Funding Grant Agreement (FFGA) to the JPB on May 23, 2017. The FTA accepted the JPB's Recovery Plan, with an updated Required Completion Date (RCD) of December 31, 2024, and a revised budget of $2,393,109,098 on November 28, 2023.

1.1 Project Description

The PCEP corridor is approximately 51 miles in length. This Core Capacity Improvement Project (CC) includes two (2) components: infrastructure and rolling stock. The infrastructure component is comprised of the construction of Traction Power Substations (TPSS), the connection of those substations to the local utility system, and the installation of the Overhead Contact System (OCS) over the tracks beginning at the 4th and King Caltrain Station in San Francisco and ending at Tamien Station in San Jose. The infrastructure work also includes modifications to the wayside signal system and grade crossing signals to accommodate the new electrified rail system. In addition, four (4) existing rail tunnels have been enlarged to accommodate the expanded clearance envelope of the electrified vehicles. An alignment map is provided as information in Attachment I.

The rolling stock component includes the procurement of ninety-six (96) Electric Multiple Unit (EMU) rail vehicles to replace approximately 75% of Caltrain's existing diesel rolling stock. The initial EMU order was supplemented in December 2018 when the JPB exercised an option to purchase an additional thirty-seven (37) EMUs; the resulting electrified fleet will consist of nineteen (19) seven-car trainsets. The additional thirty-seven (37) EMUs are not part of the JPB's Core Capacity grant. Caltrain's Central Equipment Maintenance and Operation Facility (CEMOF) has been modified to service electrified vehicles.

The PCEP is part of a larger JPB initiative known as the Caltrain Modernization Program (CalMod). The CalMod program separately installed a Positive Train Control (PTC) system, which is an advanced signal system that includes federally mandated safety improvements. The PTC system is in operation and received final Federal Railroad Administration (FRA) approval on December 17, 2020.

1.2 Project Status

The JPB (Caltrain) formally launched its fully-electrified main line service between the 4th and King Caltrain station in downtown San Francisco and the Tamien Caltrain station in San Jose, on Saturday, September 21, 2024. Connecting service between San Jose and Gilroy is provided using diesel locomotives and passenger coaches from Caltrain's existing fleet.

The FTA, based on the results of a December 2020 Risk Refresh effort, designated the PCEP an "At-Risk" project in a letter dated June 30, 2021. The FTA took this action because the PCEP has experienced significant cost overruns and schedule delays. The FTA requested that the JPB submit a Project Recovery Plan for the PCEP. The plan was originally due by October 8, 2021; however, the FTA agreed to defer receipt of the plan until the JPB completed a planned Risk Refresh and other project reviews following a change in the PCEP's leadership in September 2021. The JPB submitted its Recovery Plan to the FTA on April 1, 2022. The FTA and the PMOC reviewed the draft Recovery Plan and provided comments to the JPB. The JPB submitted its final Recovery Plan to the FTA on September 30, 2022. The FTA informed the JPB by letter dated November 28, 2023, that it "finds

the Recovery Plan with the proposed RCD of December 31, 2024, and the proposed budget of $2.393 billion, sufficient to advance the PCEP to completion."

The JPB's Board approved an increased budget totaling $2.44 billion for the PCEP at a Special Board Meeting held on December 6, 2021. The increased budget is based on the successful negotiation in late 2021 of a global settlement with Balfour Beatty Infrastructure, Inc. (BBII), the electrification design-build (D-B) contractor, and a contemporaneous scrub of the PCEP budget. The increased budget supports the completion of the project and delivery of electrified service in 2024.

BBII, the JPB's design-build contractor, achieved substantial completion of its Electrification Design-Build contract on May 3, 2024. *The contractual date for achieving final acceptance of the electrification contract was September 8, 2024, however, BBII was unable to meet that date as of September 30, 2024.* The majority of BBII's efforts have been focused on completing punch list corrections, any remaining testing and commissioning activities, including the associated documentation, and preparing the technical and commercial documents required to establish contractual final acceptance satisfactory to the JPB. The status of major project elements can be summarized as follows:

- Scope – The scope remains as planned.
- Schedule – The JPB is implementing a plan proposed by BBII which was intended to reach substantial completion of the contract by the end of the calendar year 2023. This plan required significant targeted (localized) changes to Caltrain's operating schedule on weekends, with support by bus bridges, to provide BBII with longer uninterrupted periods of access to the corridor. BBII was not successful in achieving substantial completion by December 31, 2023, and had refocused its effort on achieving its contractual milestone of April 1, 2024, for substantial completion. Unfortunately, the peninsula south of San Francisco was hit by a severe storm on February 3-4, 2024, with considerable damage to the PCEP OCS infrastructure in two (2) locations, which has now been repaired. Despite the storm damage and associated delays, BBII was able to achieve substantial completion on May 3, 2024, later than its previous target date of April 30, 2024. BBII's most recent schedule update showed a planned Final Acceptance date of September 3, 2024, which was five (5) days earlier than the contractual Final Acceptance date of September 8, 2024. *BBII continues to discuss and negotiate a small number of remaining items with the JPB in order to achieve final acceptance of its contract.* The JPB's FFGA Required Completion Date of December 31, 2024, remains unchanged.
- Cost – The FFGA budget is $1.931 billion in year of expenditure (YOE) dollars. The JPB completed a "budget scrub" following its global settlement with BBII, which produced a revised PCEP budget of $2.44 billion. The JPB approved this revised budget at its Special Meeting on December 6, 2021. This new budget reflects a total increase of $509 million from the FFGA budget. The JPB received $410 million in additional funding from state and federal sources; this satisfies the funding gap created by the revised budget of $2.393 billion. The JPB's revised budget, for FTA reporting purposes (excluding pre-Project Development costs), is $2,393,109,098. *JPB reports that as of August 31, 2024, the forecast remaining contingency is $23.7 million out of the $90 million total established in the scrubbed budget approved by the Board in December 2021. The JPB expects further reductions in total contingency as final acceptance of the BBII contract is achieved and the PCEP moves toward completion.*
- Significant Project Activities and/or Key Milestones
    - The JPB "soft launched" its PCEP revenue service on August 11, 2024. Caltrain ran a single EMU trainset for invited guests from the downtown San Francisco station at 4th

and King to the Millbrae station and returned on Saturday, August 10, 2024. Electrified revenue service began on Sunday, August 11, 2024, with two (2) EMU trainsets replacing two (2) diesel hauled trainsets running in mixed-service on the current schedule between San Francisco and San Jose. *This process was repeated on the following four (4) Saturdays until there were ten (10) EMU trainsets in service. Caltrain's full fourteen (14) trainset electrified service between San Francisco and San Jose commenced on September 21, 2024, with the introduction of Caltrain's new fall service schedule; diesel service between San Jose and Gilroy will continue.* Caltrain's operation of electrified passenger service between San Francisco and San Jose with fourteen (14) seven (7) car EMUs will satisfy the physical capacity requirements of the core-capacity FFGA. *The FTA issued a three (3) year waiver of the level of service requirements to the JPB on November 27, 2023.*

- A total of sixteen (16) EMU trainsets have been delivered to Caltrain. *The next trainset delivery is planned for November 2024.* All of the fifteen (15) trainsets on site have accumulated the required 1,000 miles of burn-in mileage and are in revenue service. Installation of the on-board Wi-Fi equipment continues in Salt Lake City.
- *BBII has not achieved its contractual Final Acceptance as of September 30, 2024 and continues to complete punch list work and is meeting regularly with the PCEP leadership team to discuss and negotiate the items that remain outstanding with respect to achieving final acceptance.*
- EMU trainset 311 suffered damage to two (2) of the coaches during a repositioning move at the CEMOF in February 2024. The coaches were shipped back to Stadler's assembly plant in Salt Lake City for examination. The coaches will require significant structural repairs and the trainset is not expected to be returned to Caltrain until fall 2025.
- The JPB and Stadler continue to discuss accelerating the completion of TS-17. The last two (2) trainsets in the nineteen-trainset order are expected to be delivered in February or March 2025.

1.3 Major Issues and/or Concerns

None at this time.

1.4 Status of Key Indicators Dashboard

KEY INDICATORS DASHBOARD (POST-GRANT STATUS)					
Project Sponsor:	Peninsula Corridor Joint Powers Board (JPB)				
Project Name:	Peninsula Corridor Electrification Project (PCEP)				
Date:	*September 30, 2024*				
Project Detail					
Oversight Frequency:	Monthly				
Element	Status			Prior Status (G/Y/R)	Issue or Concern
	G	Y	R		
PMP	●			●	The PMP, when combined with the Rail Activation Plan (RAP) and Close-out Plan, adequately addresses the requirements for testing and commissioning and close-out of the PCEP.

KEY INDICATORS DASHBOARD (POST-GRANT STATUS)					
MCC	●			●	*The JPB has retained staff and used additional resources to address specific requirements leading to project completion. Staff reductions have begun consistent with the remaining workload.*
Cost	●			●	*The JPB reports that the forecasted remaining contingency is $23.7 million out of the $90 million in the scrubbed budget.*
Schedule	●			●	*Caltrain initiated fully electrified revenue service with fourteen (14) EMU trainsets on September 21, 2024. BBII did not achieve Final Acceptance of its contract on the required date of September 8, 2024 and the parties continue to discuss and negotiate the remaining details*. Based on recent progress, the project should be completed prior to its Required Completion Date of December 31, 2024.
Quality	●			●	*The JPB reports that it is closing out punch list work and remaining items. Some minor items will be bundled and taken back by the JPB for completion by TASI or another contractor in exchange for a credit. Final documentation of a small number of items remains open.*
Safety	●			●	*There was one (1) recordable incident in August 2024 for a total of three (3) thus far in 2024. BBII's Recordable Incident Rate (RIR) for 2024 is 1.21 and inception to date is 1.85, which is below the national average.*
Risk	●			●	The majority of the remaining open risks were retired by the Risk Management Committee at its September 16, 2024 meeting. The remaining risks will be handed back to the JPB for continued tracking and disposition. *The top risk remains theft of copper impedance bonds.*

Key Indicators Legend	
Green	Satisfactory: No Corrective Action necessary.
Yellow	Caution: Risk/Issues exist. Corrective Action may be necessary.
Red	Elevated for immediate Corrective Action: Significant risk to the health of the project.

Commented [BR1]: Not sure about capitalization.

1.5 Core Accountability Items through August 31, 2024

Project Status: In Construction		Original (FFGA)	Current Forecast [1]	PMOC Assessment of Current Forecast
Cost	Cost Estimate	$1,930,670,934	$2,393,109,098	Forecast based on JPB's approved budget, adjusted to remove pre-PD costs.
Contingency	Allocated Contingency	$152,913,317	*$17,815,970*	Current contingency usage is being tracked closely and has been modest since the global settlement.
	Unallocated Contingency	$162,620,294	*$5,891,268*	
	Total Contingency	$315,533,611	*$23,707,238*	
Schedule	Required Completion Date	August 22, 2022	December 31, 2024	As accepted by the FTA in the JPB's Recovery Plan.

Project Progress		Amount ($)	Percent of Total
Total Expenditures [4]	Actual cost of all eligible expenditures completed to date [5]	*$2,257,505,071*	*94.33%*
Planned Value to Date [2]	Estimated value of work planned to date [3]	$1,925,397,857	80.46%
Actual Value to Date	Actual value of work completed to date [3]	*$2,257,505,071*	*94.33%*

Contracts Status		Amount ($)	Percent
Total Contracts Awarded	Value of all contracts (design, support, construction, equipment) awarded; % of total value to be awarded [6]	*$2,296,199,776*	*96.91%*
Construction Contracts Awarded	Value of construction contracts awarded; % of total construction value to be awarded [5]	*$1,853,408,769*	*100%*
Physical Construction Completed	Value of physical construction (infrastructure) completed; % of total construction value completed	*$1,634,289,008*	*88.18%*

Rolling Stock Vehicle Status	Date Awarded	No. Ordered	No. Delivered
Electric Multiple Unit (EMU) commuter rail vehicles	08/2016 (A)	133	*112*

Next Monthly Meeting Date:	*TBD*
Next Quarterly Review Meeting Date:	None Planned

NOTES:

[1] "Current estimate" is based on the re-baseline budget adopted by the JPB Board in December 2021 and incorporated into the JPB's Recovery Plan and approved by the FTA in November 2023.

[2] "Planned Value to Date" is based upon the Program Schedule and Estimate (Rev. 4B) that was updated in October 2017 to reflect the FFGA delay.

[3] "Work" is defined as all construction as well as non-construction scopes (all project costs). Excludes unbudgeted upfront cost for PG&E's share of substation improvements prior to PG&E reimbursement.

[4] "Actual Cost" is determined as follows:

Costs: Inception – August 2024	*$2,307,086,670*
Pre-FFGA Costs	($49,581,599)
Post-FFGA Costs	*$2,257,505,071*

[5] "Percentage" is calculated based on a project new estimate of $2,393,109,098

[6] "Percentage" is calculated based on Contracts as budgeted in the Re-Baseline Budget excluding remaining forecasted contingency:

Budgeted Contracts (Pre-FFGA) – Re-Baseline Budget	$2,442,690,697
Pre-FFGA Costs	($49,581,599)
Forecasted Remaining Contingency	*($23,707,238)*
Budgeted Contracts (Post-FFGA)	*$2,369,401,860*

[7] "Total construction contracts awarded to date (construction & vehicle contracts only)" includes design costs and executed change orders. Does not include Re-Baseline until executed for Contract amendment.

[8] "Percentage" is calculated based on the total of the executed contract value of construction contracts and forecasted (including Re-Baseline items) changes to the contracts:

Executed value of Construction Contracts	*$1,853,408,769*
Forecasted Construction Contract Changes	*$0*
Forecast of Value of Construction Contracts	*$1,853,408,769*

Grant Information

Dollars in thousands reported as of September 30, 2024; this information is updated quarterly.

FAIN (Source)	Funds Committed*	Funds Disbursed	% Disbursed
Local	$1,363,521	*$1,260,626*	*92%*
Federal	$1,029,830	*$997,018*	*97%*

Total	**$2,393,351**	***$2,257,645***	***94%***

*Definitions from Guidelines and Standards for Assessing Local Financial Commitment, FTA, June 2007

2.0 PMOC Observations and Findings

This progress report covers September 2024. The information contained in this report is based on the PMOC's virtual project meeting attendance, document reviews, telephone conversations, and general interaction with the project sponsor's personnel.

2.1 Summary of Monitoring Activities

The PMOC continues to monitor the PCEP on a regular basis through the activities described above and prepares routine monitoring reports on the project. The FTA designated the PCEP an at-risk project and the PMOC is monitoring the project on a monthly basis; quarterly oversight will resume once the JPB has satisfied the FTA's concerns related to the risk factors that led to the at-risk designation.

The PMOC will alter its oversight somewhat going forward because the PCEP has achieved revenue service and the project team is now focused on closing out the remaining open contracts and completing the remaining activities necessary to satisfy the FFGA. Monitoring will include the following activities.

- *Completion of any remaining project scope including delivery of the last three (3) EMU trainsets.*
- *The JPB's progress in completing its post-electrification activities including any significant operational problems or concerns, progress in closing any remaining items on its Safety Open Items List, closure of any unfinished systems integration work, punch list work that was not completed prior to the start of electrified service, and any incomplete regulatory or third-party requirements.*
- *The JPB's progress in achieving final acceptance of its design-build contract with BBII and its close-out of other outstanding contracts or agreements.*
- *The JPB's progress towards completion of the remaining requirements of its FFGA including its Environmental Mitigation Monitoring and Reporting obligations, and collection and archiving of the required before and after data.*
- *Development of final project costs and schedules.*
- *Development of any Lessons Learned reports or documents.*
- The PMOC will continue to monitor the JPB's quality team's progress in obtaining the appropriate Buy America documentation from BBII to complete the current review.

2.2 Oversight Triggers

The FTA, as noted in Section 1.2 above, designated the PCEP an At-Risk project because of cost overruns and schedule delays. As a result of the FTA's at-risk designation, the PCEP is now on a monthly oversight schedule until the uncertainties are resolved to the satisfaction of the FTA. The JPB, as noted above, formally adopted a revised budget for the PCEP at its meeting on December 6, 2021; the revised budget is based on project completion and the initiation of electrified rail service in 2024. The JPB submitted its final Recovery Plan to the FTA on September 30, 2022. The FTA accepted the JPB's Recovery Plan, with an updated Required Completion Date (RCD) of December 31, 2024, and a revised budget of $2,393,109,098 on November 28, 2023. The PMOC will continue to monitor and report on the JPB's progress relative to its adopted plans and schedule. *BBII's achievement of Substantial Completion on May 3, 2024, and Caltrain's inauguration of electrified*

revenue service on August 11, 2024, followed by fully electrified operations on September 21, 2024 has significantly reduced the remaining project risk.

2.3 Project Management Plan (PMP) and Sub-Plans

The JPB delayed updating its PMP for the testing and commissioning phase of the project, as well as its Rail Fleet Management Plan (RFMP) and Quality Management Plan (QMP) because of the change in project leadership. The JPB provided its updated PMP in June 2022 and the PMOC has completed its review of this plan. The JPB provided an updated QMP in July 2022, however, the changes to the plan were limited to updates related to the JPB's and PCEP's organizational changes and no further review was performed.

The JPB provided a copy of its updated Rail Activation Plan to the PMOC on October 19, 2023. The PMOC's initial cursory review confirms that this version includes the organization's readiness to operate an electrified railroad. The JPB's EMU consultant reports that the JPB has accepted the Rail Storage Plan. The JPB has also accepted the Interim Operating Plan, which is focused on exercising the EMUs once they begin electrified running. The JPB has accepted a plan for the retirement of Caltrain's legacy fleet of diesel hauled equipment after regular EMU service is initiated. The EMU consultant recently updated the JPB's Rail Fleet Management Plan. The PMOC has received copies of these plans as requested. The PMOC recently received copies of additional documents prepared by the JPB and its contractors to support the completion of its Programmatic OP-54 Readiness for Service Review.

2.4 Management Capacity and Capability

The PCEP organization has begun to reduce its staff in keeping with the completion of most field work and the shift to routine electrified operations. A copy of the current organization chart is located in Appendix J.

- **PMOC Comment:** *Caltrain's September 21, 2024 inauguration of its fall 2024 schedule with fully-electrified service between San Francisco and San Jose accomplishes the most important element of the PCEP, a significant increase in rail transit capacity on the San Francisco peninsula.*
- The soft opening of revenue service on August 11, 2024 marked the culmination of decades of planning and hard work by the JPB, its local partners and supporters, the PCEP team, Transit America Services, Inc. (TASI), Pacific Gas & Electric (PG&E), BBII, Stadler, and all the other contractors, subcontractors, and suppliers, and the thousands of men and women that contributed their labor to make the PCEP a reality.
- *BBII was unable to achieve final acceptance of its contract, as scheduled, on September 8, 2024 and continues to discuss and negotiate the outstanding issues with the PCEP's and the JPB's leadership. The PMOC observes that there are a small number of significant items that remain on the table for resolution.*
- *BBII's much reduced field crews continue work on the remaining punch list items. It appears that the JPB may accept some of these incomplete items in exchange for an invoice credit and complete the work with a local contractor.*
- The PMOC observes that although the new electrified trains are running and carrying passengers, there are many tasks unfinished and lots of loose ends to be tied off. The PMOC recommends that the JPB maintain an adequate and appropriately qualified staff to respond to the inevitable problems and be able to complete the remaining work in a reasonable amount of time. The goal should be to leave complete and well-organized

records that will be in a form that can be easily accessed by those who will operate and maintain the PCEP in the future.

2.5 NEPA Process and Environmental Mitigation

The JPB submitted a report to the State Historic Preservation Office (SHPO) on January 19, 2024, to document its pre-disturbance investigations and findings related to two (2) small areas, in accordance with its Programmatic Agreement. The JPB reports that the SHPO approved its plan, and the remaining work is in progress.

The JPB is initiating permanent traffic mitigation measures in accordance with its environmental mitigation plan. The JPB is coordinating with the City of Atherton regarding the timing of completing the mitigation at one location where current traffic projections are significantly lower than anticipated. The PCEP team met with the FTA and the PMOC on March 14, 2024, to discuss the timing and scope of the traffic mitigation measures and agreed to prepare a memorandum for the FTA describing its proposals with additional details. The JPB has completed its meetings with the other affected jurisdictions regarding its proposed traffic mitigation measures, and as agreed, provided materials to the FTA in late May 2024, further describing its proposed approach to satisfying its Traffic Mitigation obligations. The FTA and the PCEP team met on June 25, 2024, to further discuss the issue and the FTA's response. The PCEP team, in the course of its review of the proposed Memorandum of Understanding (MOU), concluded that the MOU, as drafted, might not be the best approach to resolving this issue. *The PCEP team presented an alternative to the FTA's legal team that involved establishing escrow accounts, with appropriate distribution instructions, for the benefit of those jurisdictions where future mitigation was planned. The FTA did not accept the JPB's proposal. The JPB discussed the issue with the FTA and the FTA has granted a three (3) year extension to the FFGA to allow the JPB to reassess traffic volumes at the end of the extension period and implement the required mitigation measures*.

The JPB has continued to monitor the compliance of its construction contractors with the requirements of its FFGA and the supporting environmental documents. Annual surveys are being conducted as required. The PCEP reports that tree pruning and removal is nearing completion; the number of replacement trees is higher than expected because of minor shifts in the location of the OCS. *The JPB conducted an inspection of the corridor shortly after Labor Day 2024 as part of its final acceptance of BBII's work.*

2.6 Project Delivery Method and Procurement

The JPB completed all major procurements as of September 2019.

Consultant Contracts

The JPB awarded contracts in early 2014 for Program Management Consultant Services; EMU Vehicle Consultant Services; and Electrification Services. The JPB awarded a five-year contract to Jacobs Project Management Company (Jacobs) of Oakland, CA in 2019 to support electrification construction, the tunnel notching contract, modifications to the CEMOF, reconstruction of the Santa Clara Drill Track, installation of mini-high block platforms, and other work, as needed. The JPB is apparently using its bench contracts to augment the PCEP staff as needed to address the demands of testing and startup.

Electrification Design-Build Contract

JPB is using the Design-Build (D-B) project delivery method for the electrification and related facilities. BBII was selected as the D-B Contractor and was provided a Notice to Proceed (NTP) in June 2017. Primary design work is essentially complete except for some remaining low-voltage

wayside power units. Design-support activities continue with respect to issues encountered during the testing and commissioning of the completed work. BBII achieved substantial completion on May 3, 2024. *BBII continues to work on the remaining punch list and other incomplete items and the documentation needed to meet the contractual requirements for final acceptance. BBII is meeting regularly with the PCEP leadership team to discuss and negotiate the items that remain outstanding with respect to achieving final acceptance.*

Supervisory Control and Data Acquisition (SCADA) Equipment

The JPB executed a sole-source contract with Aeronautical Radio, Incorporated (ARINC), for the supply of SCADA equipment in September 2017. The SCADA contract is being managed by the Electrification consultant and installation of the SCADA equipment is being performed by BBII under the Electrification contract. The equipment, following its installation, is being used to control the traction power system including the traction power substations (TPS), wayside power cubicles (WPC), and the OCS. The JPB completed the negotiation of a $1.04 million modification of the SCADA contract to align its completion with the new project schedule. The SCADA system has been integrated with the base operating system for Caltrain Operations and Control, which is the Rail Operations Center System (ROCS). A separate control console has been established for the Power Director. The hardware has been installed in the Central Control Facility (CCF) and the backup CCF (BCCF). Testing and training activities are now complete.

Tunnel Notching, OCS Installation, and Drainage Improvements

A contract was awarded to ProVen Management, Inc. of Oakland, California, for Tunnel Notching and Drainage Improvements on the tunnels in Segment 1 of the PCEP corridor. The contract consists of two (2) main elements: notching of the four (4) tunnels to increase clearance for the new EMU vehicles; and drainage improvements in tunnels 1 and 4 for the benefit of Caltrain operations. The drainage improvements were performed as a Concurrent Non-Project Activity (CNPA), and the work was paid for by Caltrain. The JPB issued a Notice to Proceed to the contractor on October 6, 2018. Installation of the Overhead Contact System (OCS) in the tunnel bores was later added by Change Order. Inspection of the OCS in the tunnel bores has been completed and the contractor has demobilized. The JPB has negotiated a settlement with ProVen that covers both the Tunnel Notching and CEMOF Modifications contracts. Close-out of both ProVen contracts is in progress.

Final testing of the OCS in the tunnel was accomplished as part of BBII's live-run testing in Segment 1. Some groundwater impacts to the new OCS in the tunnels have been noticed recently. The PCEP has completed its investigations and is implementing several mitigation strategies to remove the existing calcareous deposits and avoid any reoccurrence.

Used Electrified Locomotives

The JPB acquired and overhauled two (2) used AM-7 electrified locomotives to perform initial testing of the electrification system. The locomotives were placed in long-term storage after their delivery in June 2019 until needed for testing of the electrified system. The used locomotives were not used in the start-up and testing of the newly installed OCS or TPS systems. Caltrain Operations reports that the electric locomotives will be used as rescue vehicles on the electrified railroad.

CEMOF Modifications

The JPB awarded a contract to ProVen Management, Inc. for $6,550,777 to modify the Central Equipment Maintenance and Operations Facility (CEMOF) to accommodate the new EMUs. ProVen was issued a full Notice to Proceed (NTP) on September 16, 2019. The CEMOF contract was the last of the PCEP's major construction contracts. The JPB, as noted above, has negotiated a settlement with ProVen that covers both the Tunnel Notching and CEMOF Modifications contracts.

ProVen completed work on the CEMOF modification on July 13, 2022. The JPB reports that it is nearing completion of the close-out of this contract.

PG&E Interconnection Construction

The JPB executed a modification of its Master Agreement with PG&E to construct the interconnections between PG&E's two (2) substations and the JPB's two (2) corresponding TPSS. Construction of the interconnection between PG&E's FMC substation in San Jose and the PCEP's TPSS 2 was completed on January 18, 2021.

Transmission Load Operating Agreements (TLOA) between PG&E and the JPB were executed prior to the energization of each of the two (2) TPSS. Energization of the PG&E interconnection and TPSS-2 occurred on August 27, 2022.

Caltrain Operations

The JPB concluded an agreement with Transit America Services, Inc. (TASI), its contract rail operator, to perform operating and maintenance functions for the new Traction Power System (TPS) and Overhead Contact System (OCS). TASI increased staffing and trained its personnel for duties on the electrified railroad and initially took over the isolation responsibilities for the energized OCS in Segments 3 and 4 on October 1, 2023. *TASI now operates and maintains the TPS and OCS to support Caltrain's electrified passenger service in addition to its other responsibilities.*

2.7 Design

BBII is responsible for the Final Design (FD) of the electrification and related facilities under the terms of its D-B contract with the JPB. PGH Wong Engineering, Inc., is the Engineer of Record (EOR) for the electrification work. Alstom is the EOR for the signals work including Two Speed Check Grade Crossing Approach Warning System (2SC). All primary OCS, TPS, and Signals design work is complete. The following issues remain active:

- Some design work remains active to support the installation of the few remaining low-voltage wayside power units. *The design team remains active as required to prepare the documentation required for Final Acceptance.*

2.8 Value Engineering and Constructability Reviews

The project sponsor did not undertake a formal VE effort. However, the PCEP team undertook a significant cost reduction effort in late 2014 which identified an estimated $84.3M in potential cost savings achieved by eliminating or deferring certain tasks previously included in the baseline program. In addition, the procurement process for the Electrification D-B contract included the submission of alternate technical proposals (ATPs) to reduce costs or improve the schedule. In addition to those ATPs that were incorporated into the Electrification contract, that contract contains a Value Engineering Change Proposal (VECP) clause whereby any savings that result from an accepted VECP are shared by the contractor and the JPB.

2.9 Real Estate Acquisition and Relocation

The project was constructed primarily in the existing Caltrain corridor on right-of-way (ROW) controlled by JPB/Caltrain. The PCEP acquired real estate for three (3) primary purposes: (1) for the placement of Overhead Contact System (OCS) poles; (2) for the two (2) primary Traction Power Substations (TPSS); and (3) to provide electrical clearance and safety zones for the OCS wires.

Real Estate Activities

The large majority of real estate activities have been completed. The remaining challenges facing real estate are addressing any design changes that impacted already acquired properties and or that required new or re-defined acquisitions.

- Bayshore Property (Segment 1 South of tunnels) – The parties have reached a final agreement on price and construction was completed using permits issued by the owner, pending completion of the transaction. The JPB submitted a draft request for concurrence to the FTA. The FTA provided comments and requested an explanatory letter from the JPB's legal counsel. The JPB provided a package of the requested materials to the FTA following the Quarterly Progress Review Meeting (QPRM) #25. The FTA concurred in the settlement proposed by the JPB on April 17, 2024.
- The Real Estate Department continues to assist Rail Operations in acquiring areas/buildings for storage of spare parts and equipment needed to support the electrified railroad. The JPB is acquiring a license agreement and will purchase a small area in fee from SamTrans, for poles, and appurtenances in the vicinity of the Switching Station.

2.10 Third-Party Agreements and Utilities

A significant number of third-party agreements were required to support the PCEP. These agreements are grouped into the following general categories, with status comments as appropriate to each:

Jurisdictional Agreements for Construction and Maintenance

The JPB has executed all agreements except the one with the Town of Atherton (Segment 2), which is no longer being pursued. The Town of Atherton issued traffic control permits to the contractor, and the Town staff was cooperative in those actions.

Jurisdictional Agreements for Exercise of Eminent Domain Powers

The JPB executed agreements with the Santa Clara Valley Transportation Authority (VTA) and the San Mateo County Transportation District (SamTrans) under which the VTA and SamTrans would exercise eminent domain authority on behalf of the JPB, when such action was required, to acquire the real property rights located in the respective counties for the PCEP. The City and County of San Francisco (CCSF) declined to approve an agreement for the use of its eminent domain powers on behalf of the PCEP.

Utility Relocation Agreements

The JPB's right to relocate utilities that exist within its PCEP corridor exists by virtue of the property rights it acquired when it purchased the corridor from the Southern Pacific Transportation Company (SP) in November 1991. The JPB has the right to cause the relocation of both overhead and underground utilities to accommodate its railroad activities upon thirty (30) days' notice to the utilities, at the utilities expense.

Other Agreements

The JPB negotiated specialized agreements with the following entities:

Pacific Gas & Electric (PG&E)

PG&E now supplies power from two (2) existing substations to the new PCEP Traction Power System. Both substations were modified to provide the required power. The JPB executed a Master Agreement with PG&E as well as Supplements 1 through 5 to that agreement. Supplement 4, which

includes the cost of constructing the substation modifications, was fully executed on October 18, 2018. The parties disagreed on the allocation of costs for the work, and following discussions between the parties, PG&E filed an application with the CPUC for a cost allocation plan. The CPUC's Administrative Law Judge announced a decision on May 7, 2020, that adopted a modified order affirming the cost allocation principles agreed to by the JPB and PG&E. The cost allocation process requires audited costs for PG&E's sub-station improvements. Those costs were expected to be available for inclusion in PG&E's 2023 General Rate Case which was filed in 2021. However, due to construction delays, only approximately 95% of audited costs are available. PG&E petitioned the CPUC to consider including the 95% of costs that have been audited in PG&E's current rate case. That petition was positively received by the CPUC. The JPB requested that PG&E make earlier payments of the funds that are due to the JPB under the cost allocation agreement to improve the PCEP's cash flow position. The JPB reports that PG&E made its First Reimbursement Payment of $87,586,392.10 on February 22, 2024; and Caltrain made the first of the Equivalent One Time Payments (EOTP) of $5,157,067.62 to PG&E on February 29, 2024. PG&E accommodated the JPB's request to reschedule the remaining short-circuit tests following the severe storm in early February 2024. The final short-circuit test was successfully conducted on April 5, 2024. Modifications to the TLOA will be required to address the regeneration of power by the EMUs, but this did not impact the start of revenue service.

California Public Utilities Commission (CPUC)

The CPUC is the FTA's Certified State Safety Oversight Agency (SSOA) for the State of California and also has responsibility for grade crossing safety in the state. The JPB worked with both CPUC and the FRA to develop the 2SC solution to provide the required grade crossing warning time after the system is electrified. CPUC and the FRA observed the initial cutovers at the signal locations in Segment 4 and were satisfied with the results. All signal cutovers are now complete.

The JPB was required to file a General Order (GO) 88B form for each modified grade crossing for approval by the CPUC; these plans were developed in conjunction with the local jurisdictions. The JPB reported that the CPUC has issued all GO 88B permits. The PCEP will send a GO-88 Form G to the CPUC once all required modifications are completed in a jurisdiction. The FRA does not approve the crossings but has both regulatory and enforcement authority if the crossings do not perform as required by its regulations.

Union Pacific Railroad (UPRR)

The JPB has a continuing relationship with the UPRR, which is a tenant and operates service on tracks owned by Caltrain in the PCEP corridor; Caltrain operates service on tracks owned by the UPRR south of the PCEP corridor.

California High Speed Rail Authority (CHSRA)

The California High-Speed Rail Authority (CHSRA) is a funding-partner for the PCEP and proposes to operate in blended service with Caltrain in the PCEP corridor in the future. The JPB has relocated some OCS poles to permit future curve-straightening by the CHSRA without impacting the electrification system. Straightening of some curves will allow the CHSRA to achieve higher operating speeds. All costs associated with the pole relocation work were paid for by the CHSRA. Representatives of the CHSRA participate regularly in a variety of PCEP meetings. The JPB submitted a final Project Remediation Plan to the CHSRA; the plan is a requirement of the funding agreement between the parties. The plan was reviewed by the CHSRA and appropriate portions of the plan were incorporated into the Recovery Plan accepted by the FTA on November 28, 2023.

Federal Railroad Administration (FRA)

The FRA has authority over the JPB's rail operations. As noted above and elsewhere in this report, the JPB is coordinating with the FRA on several issues, including technical issues related to the EMUs and implementation of the 2SC issue. The JPB's PTC program has received FRA approval. Issues related to the EMUs are discussed in Section 2.12 of this report. The JPB continues to hold monthly conference calls with the FRA to discuss EMU issues, and another call to discuss any open questions related to the 2SC implementation. The FRA approved, by letter dated February 8, 2024, the JPB's request to extend the existing waiver for the Stadler KISS units for the life of the equipment, as discussed in Docket Number FRA-2018-0067.

Independent of the PCEP, the JPB filed a test request with the FRA on November 29, 2021, for the installation of a Crossing Optimization Project. The project proposed to modify grade crossing controls to improve gate down-time performance. Wabtec, the JPB's contractor for the crossing optimization project, completed installing the wireless crossing modifications on the grade crossings, all of which have been successfully cutover for 2SC operation.

The FRA will be conducting an on-site audit of Caltrain's Passenger Train Emergency Preparedness Plan (PTEPP) in the near future. The JPB has submitted an update to its PTEPP to address the newly electrified system. The audit typically occurs within 180 days following the conditional approval of a new plan or significant amendment. *The JPB reports that it has been in contact with the FRA and the field visit will occur now that the EMUs have entered revenue service.*

The rail industry submitted a Request for Amendment (RFA) to the FRA for modification of the on-board software used in Positive Train Control systems; Caltrain is a participant in that request. The FRA announced its approval of the RFA on July 22, 2024.

The JPB submitted an RFA to the FRA related to its wireless crossing activation system; the FRA approved this request on approximately August 5, 2024. The JPB decided to postpone submission of the RFA for the 2SC grade crossing system until later in fall 2024; the 2SC system is currently operating under an FRA approved test plan.

2.11 Construction

The JPB reports that all Category A and B punch list items have been satisfactorily addressed. The completion of the Category A and B items is a pre-requisite for substantial completion of the Electrification contract. Punch list walks have been completed and work is underway to complete the Category C punch list items. *The JPB reported that all of the OCS Category C punch list items were completed as of September 11, 2024, and the completion percentage for the remaining Category C items ranges from 89% - 94% depending on the segment.*

- *The JPB reported on September 23, 2024, that 5 of 118 low-voltage connections remain to be completed.*
- *A final inspection walk was completed during the week following the Labor Day holiday.*
- *BBII continues to maintain crews to complete punch list and other incomplete work.*

Signal System

Cutover of the signal system is complete as of August 20, 2023. Early completion of the signal cutovers was incentivized (See Table 6) in the global settlement. Submission and approval of final documentation will continue until it is completed. Installation of the JPB's wireless crossing optimization system is complete. *BBII continued installing the remaining low voltage connection conduits for signal locations.*

Supervisory Control and Data Acquisition (SCADA)

- The SCADA software has been installed and tested and has been placed in production mode.
- *A Field SCADA Endurance Test and Office SCADA Availability and Reliability test is in progress and should be completed in early November 2024. Final acceptance of the SCADA contract will be established following the successful completion of those tests*.

Concurrent Non-Project Activities:

The JPB has an on-going capital construction program that includes several projects that will share some common elements with the PCEP. These projects have been designated as Concurrent Non-Project Activities (CNPAs), and the project elements that will be constructed for the benefit of the PCEP will be appropriately segregated for cost purposes. The Guadalupe Bridge Replacement Project continues at the south end of Segment 4. The OCS that was temporarily removed to facilitate bridge construction has been reinstalled and live run testing of the southerly portion of the project between Diridon and Tamien was completed in March 2024.

The installation of additional flip-up seats in EMU bike cars, which is locally funded, will remain open until all cars are delivered.

2.12 Vehicle Technology and Procurement

The JPB placed an order for ninety-six (96) new bi-level EMU vehicles to be produced by Stadler US, Inc. and delivered in six-car trainsets. The JPB ordered an additional thirty-seven (37) EMUs in December 2018 using an option in the Stadler contract. The JPB has now ordered an electrified fleet of one hundred thirty-three (133) EMUs configured as nineteen (19) seven-car trainsets. The JPB has remaining options to purchase up to fifty-nine (59) more EMUs at prices based on the date when the option is exercised.

The JPB exercised part of its remaining options in August 2023 to purchase four (4) additional EMU trainsets; these vehicles will not be funded by the PCEP. The JPB also purchased a single hybrid Battery Electric Multiple Unit (BEMU) to provide wireless electrified service from San Jose to Gilroy at the south end of Caltrain's system.

The EMU contract contained an option for Stadler to maintain the vehicles; the JPB did not exercise this option and the vehicles will be maintained by TASI, the JPB's current rail operator. The JPB states that Stadler will provide on-site training and assistance for TASI's personnel for two (2) years following vehicle acceptance.

The EMUs were ordered with two (2) sets of doors, one set at approximately 22" above the top of the rail, and one at approximately 50.5" above the top of the rail. Initially, only the lower set of doors will be activated, and a small step will automatically deploy outside the vehicle to reduce the boarding height to the current platforms. The PCEP's Change Management Board, at its September 2019 meeting, approved the JPB's request for a change order to install temporary panels in place of the high-level doors until the trains operate in blended service with the CHSRA. The high-level doors will be placed in storage until they are installed for blended service with the CHSRA. When the EMUs operate in blended service with the CHSRA vehicles, the high-level doors will be operated to provide level boarding at the higher CHSRA platforms at those stations served by both systems. See additional discussion under Regulatory Issues below.

PCEP and Stadler reported the following progress on the vehicles:

- *Two (2) additional trainsets, for a total of 16, were received on September 6, 2024, and were burned in and available for revenue service on September 21, 2024. The next trainset, the seventeenth to be delivered, is scheduled to arrive on October 26, 2024.*

- *Trainsets 18 and 19 are in production in Salt Lake City and are expected to be delivered in late February or early March 2025. These are last two trainsets purchased in the initial order and the first option order.*
- *The JPB continues to consider its options with respect to the repair of the two (2) damaged coaches in trainset 311. Stadler's inspection revealed extensive damage and the cost of repairs will be substantial. Stadler has suggested that it may be more cost effective to repair one coach and replace the other. The JPB is consulting with its insurance carrier before making a decision.* Stadler now projects that repairs will not be completed until September 2025.

2.13 Project Cost

The FFGA budget for the PCEP is $1.931 billion in year of expenditure (YOE) dollars. The JPB adopted a revised budget of $2.44 billion ($2.39 billion for FTA reporting purposes) on December 6, 2021. This new budget reflects a total increase of $462 million from the FFGA budget. The new budget has been incorporated into the JPB's Recovery Plan, which was accepted by the FTA on November 28, 2023.

Table 1 below presents the PCEP costs as of August 31, 2024. The JPB re-forecasts the estimated cost at completion (EAC) monthly.

Table 1 – Project Cost Table at 8-31-2024[1]

FTA SCC Monthly - MPR Appendix D				with CCOs	Per 111 - 2024-08			
Description of Work		FFGA Grant Budget (A)	Re-Baseline Budget (B)	Approved Budget with Approved CCOs (B2)	Cost This Month (C)	Cost To Date (D)	Estimate To Complete (E)	Estimate At Completion (F) = (D) + (E)
10 - GUIDEWAY & TRACK ELEMENTS		**$14,256,739**	**$34,031,358**	**$32,998,866**	**$0**	**$30,957,439**	**$2,041,427**	**$32,998,866**
10.02	Guideway: At-grade semi-exclusive (allows cross-traffic)	$2,500,000	$2,387,096	$2,387,096	$0	$369,077	$2,018,019	$2,387,096
10.07	Guideway: Underground tunnel	$8,110,649	$31,644,262	$30,611,770	$0	$30,588,362	$23,408	$30,611,770
10.07a	Allocated Contingency	$3,646,090	$0	$0	$0	$0	$0	$0
30 - SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS		**$2,265,200**	**$10,046,714**	**$10,466,497**	**$0**	**$9,871,391**	**$595,105**	**$10,466,497**
30.03	Heavy Maintenance Facility	$1,344,000	$9,846,714	$10,266,497	$0	$9,871,391	$395,105	$10,266,497
30.03a	Allocated Contingency	$421,200	$200,000	$200,000	$0	$0	$200,000	$200,000
30.05	Yard and Yard Track	$500,000	$0	$0	$0	$0	$0	$0
40 - SITEWORK & SPECIAL CONDITIONS		**$255,072,402**	**$438,895,518**	**$453,452,319**	**$4,814,055**	**$448,170,774**	**$3,898,558**	**$452,069,332**
40.01	Demolition, Clearing, Earthwork	$3,077,685	$10,748,067	$10,748,067	$0	$10,781,363	($33,296)	$10,748,067
40.02	Site Utilities, Utility Relocation	$62,192,517	$103,275,822	$101,479,160	$3,279,736	$104,615,550	($822,852)	$103,792,697
40.02a	Allocated Contingency	$25,862,000	$2,370,765	$2,370,765	$0	$0	$2,370,765	$2,370,765
40.03	Haz. mat'l, contam'd soil removal/mitigation, ground water treatments	$2,200,000	$12,042,192	$12,042,192	$50,000	$12,042,193	($1)	$12,042,192
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	$32,579,208	$20,989,303	$20,560,800	$1,945,524	$10,689,955	$6,850,953	$17,540,908
40.05	Site structures including retaining walls, sound walls	$568,188	$0	$0	$0	$0	$0	$0
40.06	Pedestrian / bike access and accommodation, landscaping	$804,933	$2,735,000	$2,735,000	$0	$2,812,912	($77,912)	$2,735,000
40.07	Automobile, bus, van accessways including roads, parking lots	$284,094	($0)	($0)	$0	$0	($0)	($0)
40.08	Temporary Facilities and other indirect costs during construction	$107,343,777	$264,435,606	$296,546,075	($461,205)	$307,228,802	($11,359,355)	$295,869,447
40.08a	Allocated Contingency	$20,160,000	$22,298,763	$6,970,255	$0	$0	$6,970,255	$6,970,255
50 - SYSTEMS		**$504,445,419**	**$679,821,865**	**$682,264,231**	**$1,635,169**	**$650,510,967**	**$31,753,265**	**$682,264,231**
50.01	Train control and signals	$97,589,149	$112,460,517	$113,249,592	$503,876	$146,617,853	($33,368,261)	$113,249,592
50.01a	Allocated Contingency	$1,651,000	$4,950,000	$4,147,742	$0	$0	$4,147,742	$4,147,742
50.02	Traffic signals and crossing protection	$23,879,905	$79,475,273	$80,511,400	$0	$32,556,979	$47,954,421	$80,511,400
50.02a	Allocated Contingency	$1,140,000	$500,000	($519,626)	$0	$0	($519,626)	($519,626)
50.03	Traction power supply: substations	$69,120,009	$127,642,222	$134,898,105	$0	$130,361,373	$4,536,736	$134,898,105
50.03a	Allocated Contingency	$31,755,013	$2,861,411	($5,394,475)	$0	$0	($5,394,475)	($5,394,475)
50.04	Traction power distribution: catenary and third rail	$253,683,045	$336,585,173	$337,123,694	$391,021	$330,987,196	$6,136,498	$337,123,694
50.04a	Allocated Contingency	$18,064,000	$6,350,000	$4,841,019	$0	$0	$4,841,019	$4,841,019
50.05	Communications	$5,455,000	$5,547,000	$10,403,936	$740,271	$9,987,565	$416,371	$10,403,936
50.05a	Allocated Contingency		$3,150,000	$2,702,573	$0	$0	$2,702,573	$2,702,573
50.07	Central Control	$2,090,298	$300,269	$300,269	$0	$0	$300,269	$300,269
50.07a	Allocated Contingency	$16,000	$0	$0	$0	$0	$0	$0
60 - ROW, LAND, EXISTING IMPROVEMENTS		**$35,675,084**	**$33,344,581**	**$30,812,121**	**$33,756**	**$23,650,733**	**$7,161,389**	**$30,812,121**
60.01	Purchase or lease of real estate	$25,927,074	$33,160,590	$30,628,130	$33,756	$23,516,741	$7,111,389	$30,628,130
60.01a	Allocated Contingency	$8,748,010	($1)	($1)	$0	$0	($1)	($1)
60.02	Relocation of existing households and businesses	$1,000,000	$183,992	$183,992	$0	$133,992	$50,000	$183,992
70 - VEHICLES (96)		**$625,544,147**	**$694,286,192**	**$692,707,934**	**$1,401,155**	**$603,460,622**	**$88,002,312**	**$691,462,934**
70.03	Commuter Rail	$589,167,291	$642,183,381	$654,539,766	$1,401,155	$588,200,670	$65,094,096	$653,294,766
70.03a	Allocated Contingency	$9,472,924	$15,555,307	$2,000,000	$0	$0	$2,000,000	$2,000,000
70.06	Non-revenue vehicles	$8,140,000	$17,239,237	$17,239,237	$0	$538,280	$16,700,958	$17,239,237
70.06a	Allocated Contingency		$379,335	$0	$0	$0	$0	$0
70.07	Spare parts	$18,763,931	$18,928,931	$18,928,931	$0	$14,721,672	$4,207,259	$18,928,931
80 - PROFESSIONAL SERVICES (applies to Cats. 10-50)		**$323,793,010**	**$464,899,724**	**$473,180,318**	**$2,550,269**	**$478,157,889**	**($3,927,570)**	**$474,230,318**
80.01	Project Development	$130,350	$289,233	$289,233	$0	$289,233	$0	$289,233
80.02	Engineering (not applicable to Small Starts)	$180,227,311	$241,386,730	$241,347,615	$214,757	$245,074,227	($3,726,608)	$241,347,615
80.02a	Allocated Contingency	$1,866,000	$500,000	($2,430,361)	$0	$0	($2,430,361)	($2,430,361)
80.03	Project Management for Design and Construction	$72,029,265	$151,617,659	$157,778,816	$1,189,866	$157,405,212	$1,183,604	$158,588,816
80.03a	Allocated Contingency	$9,388,080	($0)	($0)	$0	$0	($0)	($0)
80.04	Construction Administration & Management	$23,677,949	$50,737,213	$55,051,237	$383,034	$53,509,296	$1,541,941	$55,051,237
80.04a	Allocated Contingency	$19,537,000	($0)	($0)	$0	$0	($0)	($0)
80.05	Professional Liability and other Non-Construction Insurance	$3,500,000	$6,581,851	$6,581,851	$0	$6,291,001	$290,850	$6,581,851
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	$7,167,275	$10,183,908	$10,850,898	$202,702	$8,026,001	$3,184,896	$11,210,898
80.06a	Allocated Contingency	$556,000	$650,000	$650,000	$0	$0	$650,000	$650,000
80.07	Surveys, Testing, Investigation, Inspection	$3,287,824	$210,957	$318,853	$0	$61,782	$137,071	$198,853
80.08	Start up	$1,797,957	$392,173	$464,093	$559,911	$7,501,137	($7,037,044)	$464,093
80.08a	Allocated Contingency	$628,000	$2,350,000	$2,278,080	$0	$0	$2,278,080	$2,278,080
Subtotal (10 - 80)		**$1,761,052,001**	**$2,355,325,952**	**$2,375,882,286**	**$10,434,404**	**$2,244,779,814**	**$129,524,486**	**$2,374,304,300**
90	**UNALLOCATED CONTINGENCY**	**$162,620,295**	**$27,884,507**	**$7,328,174**	**$0**	**$0**	**$5,891,268**	**$5,891,268**
Subtotal (10 - 90)		**$1,923,672,296**	**$2,383,210,460**	**$2,383,210,460**	**$10,434,404**	**$2,244,779,814**	**$135,415,754**	**$2,380,195,568**
100	**FINANCE CHARGES**	**$6,998,638**	**$9,898,638**	**$9,898,638**	**$192,357**	**$12,725,258**	**$188,271**	**$12,913,530**
Total Project Cost (10 - 100)		**$1,930,670,934**	**$2,393,109,098**	**$2,393,109,098**	**$10,626,762**	**$2,257,505,073**	**$135,604,025**	**$2,393,109,098**
	Allocated Contingency	$152,913,317	$62,115,582	$17,815,971	$0	$0	$17,815,971	$17,815,971
	Unallocated Contingency	$162,620,295	$27,884,507	$7,328,174	$0	$0	$5,891,268	$5,891,268
	Total Contingency	**$315,533,612**	**$90,000,089**	**$25,144,144**	**$0**	**$0**	**$23,707,239**	**$23,707,239**

[1] Caltrain Capital Overhead includes actuals to date using the new method ICAP as reported in Budget Scrub.

PMOC Note: The JPB publicly reports expenditures against a total project budget of $1,980,252,533; this translates to the revised budget of $2,442,690,697. This higher amount includes expenditures prior to the project's entry into the Project Development (PD) phase, which is excluded from the FTA's project budget. Costs incurred prior to the project's entry into the PD phase were removed from the estimate at the FTA's request during its review of the FFGA materials. The revised budget for FTA reporting purposes is $2,393,109,098.

Cost Contingency Status

Table 2 below summarizes the project contingency as of August 31, 2024, for the revised project budget.

Table 2 – Contingency Status ($ millions) [3]

Contingency Category	Original Baseline Contingency (YOE)	Revised Contingency Budget (YOE)	Current Contingency (YOE)	% of Construction Complete and % Revised Contingency Remaining[2]
Allocated	$152.9	$62.1	*$17,815.970*	***88.18%***
Unallocated	$162.6	$27.9	*$5,891.268*	
TOTAL[1]	**$315.5**	**$90.0**	*$23,707.238*	***26.3%***

[1] Totals may not add due to rounding. [3] *Data as of August 31, 2024.*
[2] Estimate at Completion

The PCEP cost contingency balances have been updated based on the $2.44 billion budget. A new cost contingency drawdown curve has been established with new hold-points.

The JPB presented the following information at its Change Management Board meeting on September 18, 2024. The information consolidates both the contingency balance in the $50 million shared risk pool established in the Global Settlement with BBII and the $40 million in the PCEP program contingency.

Table 3 Contingency Drawdown as of August 2024

PCEP | August 2024	Total	BBII Risk Pool	Allocated	Unallocated	*Program $40M*
PCEP Contingency	**$90,000,088**	**$50,000,000**	**$24,115,581**	**$15,884,507**	**$40,000,088**
Drawn Contingency	($64,855,945)	($26,632,083)	($24,115,581)	($14,108,281)	($38,223,862)
Remaining Contingency	**$25,144,143**	**$23,367,917**	**$0**	**$1,776,226**	**$1,776,226**
Forecasted Changes	($1,436,905)	$0	$0	($1,436,905)	($1,436,905)
Forecasted Remaining Contingency	**$23,707,238**	**$23,367,917**	**$0**	**$339,321**	**$339,321**

Contingency Management – Electrification

The global settlement with BBII included the establishment of a shared risk pool of $50 million which is considered part of the PCEP contingency. Upon final acceptance of the work, any balance remaining in the pool will be shared equally between BBII and the JPB. The objective of this pool is to reduce the number of change orders and incentivize collaboration between the JPB and BBII. The pool consists of 27 identified risk items, each with a forecast risk amount, with an aggregate total of $49.95 million, including $12 million in contingency, plus one minor unidentified item valued at $0.54 million. As changes are identified in the course of the work, they are added to an Issue Resolution Log (IRL), screened against the identified risk items, and negotiated by the parties.

The cost of the change, as negotiated, is deducted from the appropriate shared risk item, or if outside the shared risk list, from project contingency. *Table 4 below provides some metrics related to the effectiveness of the IRL through September 19, 2024. The total value of changes approved through the shared risk pool as of September 19, 2024, was $23,217,301.* The IRL metrics are routinely shared with the PCEP's Change Management Board.

Table 4 – Issue Resolution Log Metrics (September 19, 2024)

DESCRIPTION	QTY	%
Total Quantity of IRL Items Opened	**428**	**-**
IRL Items Closed without Commercial Implication	137	32.0%
IRL Items Pending Technical Resolution	26	6.1%
Technical Resolution Agreed, Pending Commercial Agreement	7	1.6%
Tech. Resolution & Comm. Implications Agreed (Pending Signature)	6	1.4%
Technical Resolution & Commercial Implications Agreed (<$10k)	14	3.3%
Total IRL Items Approved	**238**	**55.6%**

Project Funding

The JPB approved a new budget of $2.44 billion for the PCEP at its Special Meeting on December 6, 2021. That budget must be supported by additional funding of $462.4 million beyond the original funding plan which applied to the original project cost of $1.930.7 billion. Figure 1 below is the awarded funding as of January 31, 2023. The approved budget is now fully funded.

Figure 1 – PCEP Funding to Support Budget Increase

TYPE	SOURCE	AMOUNT
Federal	ARPA Supplemental CIG	$52.4 million
Federal	Supplemental FFGA CIG	$33 million
Federal	FTA Community Project	$10 million
State	California TIRCP	$367 million
	TOTAL	**$462.4 million**

The following details relate to the successful funding strategy shown above.

Additional Federal Funding

The JPB received $52.4 million in Supplemental Capital Investment Grant funds from the 2022 American Rescue Plan Act (ARPA). The JPB recently received an additional $43 million from the Consolidated Appropriations Act of 2023; $33 million in supplemental FTA CIG FFGA funding, and $10 million in Community Project funding.

California State Funding

The FY 2023 State budget has been signed into law. It includes $4.2 billion for high-speed rail and $7.65 billion for transit. $900 million is set aside for existing projects to leverage federal and local fund reserves. The PCEP was awarded $367 million from the State of California's Transit and Intercity Rail Capital Program (TIRCP).

Original PCEP Funding Plan

The PCEP is relying on several sources of funding to complete the project. The Grants Table in the Executive Summary summarizes the JPB's funding plan, as updated through June 30, 2023. The updated funding plan includes the original FFGA funding of $1,930.7 billion which included $647 million in Section 5309 funds and $287 million from the Section 5307 Urbanized Area Formula program. *The JPB has drawn down a total of $5,891.268million as of September 30, 2024, or 94% of the combined federal and local funds of $2,393.351 million.* This total includes recently received funding from the State of California and $43 million in new federal funds.

The JPB has in place an interim financing agreement for up to $150 million to provide additional cash flow flexibility to address differences in the timing of contractor invoices and the availability of drawdowns from funding sources.

The State of California awarded the JPB a $164.5 million grant in 2018 under its Transportation and Intercity Rail Capital Program (TIRCP). The grant will fund the purchase of additional EMUs using options included in the base contract with Stadler. The grant also includes targeted funding for 8-car platforms, improves wayside bicycle facilities (bike sharing and bike parking), and installs a broadband communications system that expands onboard Wi-Fi and enhances reliability by creating the capability to conduct remote diagnostics and optimize ongoing operations and maintenance.

Change Orders

PCEP Changes: *The Change Management Board (CMB) did not approve any additional expenditures at its September 18, 2024 meeting. However, the following two (2) additional items totaling $103,614 were drawn from the shared risk pool since the August 2024 meeting.*

IRL 390 – Track Access Delays (May 2024)

IRL 393 - Urgent Replacement for Power Scenario Test

Electrification Contract Changes: No change order activity during this period.

EMU Contract Changes: *No activity this period*.

SCADA Contract: No activity this period.

Tunnel Contract Changes: No activity this period.

CEMOF Contract Changes: No activity this period.

PG&E Contract Changes: No activity this period.

2.14 Project Schedule

The FFGA was executed on May 23, 2017, with a Required Completion Date of August 22, 2022. The JPB, for reasons discussed previously, adopted the PMOC's recommended September 26, 2024, as the revised Required Completion Date (RCD) for the project. The JPB did not formally adopt a particular schedule document when it approved the revised PCEP budget of $2.44 billion at its December 6, 2021, meeting; however, the revised budget is based on completing the project by September 26, 2024. The JPB proposed an FFGA RCD of December 31, 2024, in its Recovery Plan submitted September 30, 2022. The FTA accepted the JPB's Recovery Plan on November 28, 2023, which establishes December 31, 2024, as the RCD for PCEP.

Infrastructure Schedule

BBII developed, and the JPB accepted, a Re-forecast Schedule which had a data date of January 1, 2023. This schedule is intended to include all activities through final acceptance (FA) and will be the basis for monitoring through the completion of the contract. BBII's schedule labeled December 2022 Reforecast 1222E" was returned marked "SONO with comments" on March 29, 2023. BBII has been submitting monthly schedule updates, as required; the latest update was for July 2024 with a Data Date of August 1, 2024. *BBII submitted its August update schedule on September 23, 2024 with a Data date of September 1, 2024.*

The PCEP team, following the start of regular revenue service with the EMUs, has revised its scheduling priorities to focus on the remaining rail activation activities post-electrification, the work remaining for BBII to achieve final acceptance, and Stadler's remaining EMU production. A monthly schedule review meeting continues to be held on the fourth Monday of the month.

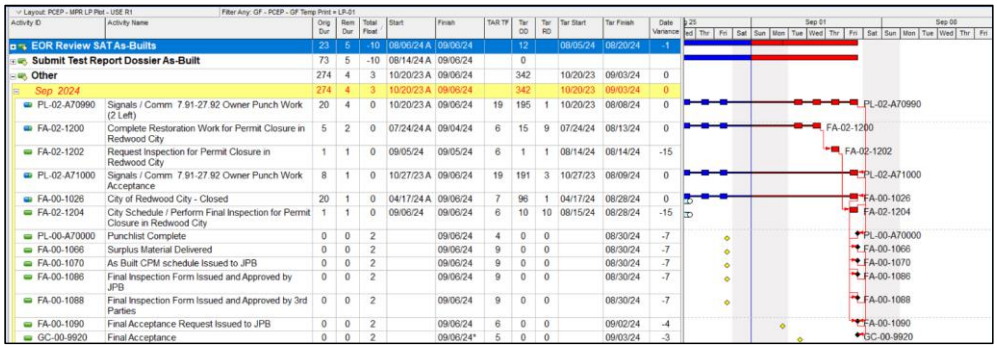
EMU Schedule

The PCEP team accepted a re-baselined schedule from Stadler for the completion of the EMU order. Stadler's re-baselined schedule was converted into P6 format and has been incorporated into the Integrated Project Schedule (IPS). *The JPB continued its soft start of revenue operations in September 2024, leading up to its grand opening on Saturday, September 21, 2024. Fully electrified revenue service on a new fall schedule is conducted using fourteen (14) trainsets plus one trainset in reserve. The 15th and 16th trainsets arrived on September 6, 2024 and were readied for service and burned-in prior to the grand opening on September 21, 2024. Trainset 17 is scheduled to arrive on October 26, 2024, and following its acceptance it will provide a second spare. The final two (2) trainsets in the initial and first option orders will be delivered in late-February or early March 2025. TS-311 was damaged and has been returned to the factory for repairs and will not be available until approximately September 2025.*

The JPB issued a change order for the installation of Broadband Wi-Fi equipment on the new EMUs. Part of the fleet is having the equipment installed by Stadler in Salt Lake City prior to shipment to JPB. The remaining units, including those already received by the JPB, are being modified at the CEMOF prior to being placed into revenue service. *All the EMUs being placed in revenue service have fully operational Wi-Fi.*

The overall schedule status of the PCEP is shown in Table 5 following. Attachment G – Project Milestones / Key Events shows the currently projected dates for the completion of various significant project activities.

Figure 2 – ***Critical Path to Final Acceptance, Data Date September 1, 2024***



Activity ID	Activity Name	Orig Dur	Rem Dur	Total Float	Start	Finish	TAR TF	Tar OD	Tar RD	Tar Start	Tar Finish	Date Variance
EOR Review SATAs-Builts		23	5	-10	08/06/24 A	09/06/24		12		08/05/24	08/20/24	-1
Submit Test Report Dossier As-Built		73	5	-10	08/14/24 A	09/06/24		0				
Other		274	4	3	10/20/23 A	09/06/24		342		10/20/23	09/03/24	0
Sep 2024		274	4	3	10/20/23 A	09/06/24		342		10/20/23	09/03/24	0
PL-02-A70990	Signals / Comm 7.91-27.92 Owner Punch Work (2 Left)	20	4	0	10/20/23 A	09/06/24	19	195	1	10/20/23	08/08/24	0
FA-02-1200	Complete Restoration Work for Permit Closure in Redwood City	5	2	0	07/24/24 A	09/04/24	6	15	9	07/24/24	08/13/24	0
FA-02-1202	Request Inspection for Permit Closure in Redwood City	1	1	0	09/05/24	09/05/24	6	1	1	08/14/24	08/14/24	-15
PL-02-A71000	Signals / Comm 7.91-27.92 Owner Punch Work Acceptance	8	1	0	10/27/23 A	09/06/24	19	191	3	10/27/23	08/09/24	0
FA-00-1026	City of Redwood City - Closed	20	1	0	04/17/24 A	09/06/24	7	98	1	04/17/24	08/28/24	0
FA-02-1204	City Schedule / Perform Final Inspection for Permit Closure in Redwood City	1	1	0	09/06/24	09/06/24	6	10	10	08/15/24	08/28/24	-15
PL-00-A70000	Punchlist Complete	0	0	2		09/06/24	4	0	0		08/30/24	-7
FA-00-1066	Surplus Material Delivered	0	0	2		09/06/24	9	0	0		08/30/24	-7
FA-00-1070	As Built CPM schedule Issued to JPB	0	0	2		09/06/24	9	0	0		08/30/24	-7
FA-00-1086	Final Inspection Form Issued and Approved by JPB	0	0	2		09/06/24	9	0	0		08/30/24	-7
FA-00-1088	Final Inspection Form Issued and Approved by 3rd Parties	0	0	2		09/06/24	9	0	0		08/30/24	-7
FA-00-1090	Final Acceptance Request Issued to JPB	0	0	2		09/06/24	6	0	0		09/02/24	-4
GC-00-9920	Final Acceptance	0	0	2		09/06/24*	5	0	0		09/03/24	-3

Table 5 below presents the JPB's analysis of overall PCEP based on the respective August 2024 Schedule Updates.

Table 5 – PCEP Program Status – August 2024

Contractor	Milestones	Reforecast Dates	Current Dates (August 2024)	Milestone Finish Date Variance	Remarks
BBII	Scheduled Substantial Completion	5/8/2024	05/03/24 A	-5	Completed
Stadler	14th Trainset Arrival at JPB Site	10/12/2023	9/12/2024	336	Stadler is striving to deliver 15 Trainsets by September 2024. Also, Trainset #333 (T17) is scheduled to arrive on 12/13/2024. Trainset #311 (T6) was shipped to Salt Lake City for repairs. Its scheduled arrival date is shown as 2/14/2025 with Burn-In complete by 2/28/2024.
Stadler	16th Trainset Arrival at JPB Site	10/12/2023	9/13/2024	337	(Same as above)
BBII	Scheduled Final Acceptance	9/8/2024	09/03/24*	-2	Based on draft August 2024 Update, the Final Acceptance date is now 2-days ahead of schedule and is driven by As-built documentation.
JPB	Revenue Service Date (RSD)	9/26/2024	9/21/2024	5	Note: RSD may have to be with 15 Trainsets and one (1) spare.
JPB	FFGA Revenue Completion Date (RCD)	12/31/2024	12/31/2024	0	

Recent Significant Schedule Changes

PG&E Low Voltage Energization

The duration of PG&E design and construction continues to be a concern due to the continued slower than desired lack of progress. Several locations have required re-design by PG&E or additional procurement of materials, which may affect the overall low voltage completion date. *Three (3) wayside power units remain to be installed as of September 23, 2024.*

Completion of Final System Testing

The additional brake testing requested by the FRA was successfully completed on August 3, 2024. BBII completed power contingency tests on June 8 and 9, 2024 with eight (8) EMUs.
As noted earlier, BBII achieved Substantial Completion on May 3, 2024.

Critical Path

The PCEP is a core capacity project. The core capacity completion objective was satisfied on September 21, 2024 when the JPB began operating a total of fourteen (14) seven-car trainsets in electrified service. The JPB, on August 21, 2023, requested a temporary waiver of the ridership Level of Service requirement in the FFGA; the FTA approved a three (3) year waiver of the level of service requirement on November 27, 2023. The Required Completion Date for the PCEP under its FFGA is December 31, 2024.

The late installation of the permanent low-voltage power drops did not prevent the JPB from placing the line in revenue service because temporary power was provided by generators in those locations where permanent power is not yet available. The PCEP team continues to meet regularly with PG&E in an effort to improve PG&E's design and installation schedule; this work can only be performed by PG&E or its own contractors. The PCEP scheduling team has removed installation of the low-

voltage power drops from the IMS schedule and is tracking them separately because, due to the use of temporary generators, they are not required to safely operate the railroad. Completion of the power drops is a contractual requirement for final acceptance in the BBII contract. *Final Acceptance of the BBII electrification contract was scheduled for September 8, 2021, however, this has not yet occurred.*

Schedule Contingency Status

BBII achieved Substantial Completion on May 3, 2024, and the contractual Final Acceptance date is September 8, 2024. *As noted elsewhere, final acceptance has not occurred and is pending completion of all contractual requirements.* No change is expected in the JPB Required Completion Date of December 31, 2024.

The JPB's global settlement with BBII includes incentives for early completion of signal cutovers, early substantial completion, and early achievement of revenue service. The schedule incentives are shown in Table 6 below.

Table 6 – BBII Schedule Performance Incentives

Objective	Date of Completion	Amount	*Awarded*
Achieve Electrified Revenue Service prior to the Final Acceptance Date of July 31, 2024	On or before 4/30/2024 Between 5/1 and 5/31/2024 Between 6/1 and 6/30/2024	$3,000,000 $2,000,000 $1,000,000	
Achieve Overall Substantial Completion prior to April 30, 2024	On or before 3/31/2024 After 2/29 and before 3/31/2024 After 1/31 and before 2/29/2024 On or before 1/31/2024	$4,100,000 $30,000/day $40,000/day $50,000/day **Max $8,000,000**	
Completion of all 2SC Cutovers in Segment 2	On or before 11/10/2022		$2,000,000
Completion of 2SC cutovers in all 4 Segments	On or before 9/30/2023		$2,000,000
Maximum Schedule Incentives Available		**$15,000,000**	

Revenue Service Date

The JPB successfully conducted a "soft launch" of revenue service on August 11, 2024. Caltrain ran a single EMU trainset for invited guests from the downtown San Francisco station at 4th and King to the Millbrae station and return on Saturday, August 10, 2024. Revenue service began on Sunday, August 11, 2024, with two (2) EMU trainsets replacing two (2) diesel hauled trainsets running the current schedule. This process was repeated on the following four (4) Saturdays for a total of ten (10) EMU trainsets in revenue service. Caltrain inaugurated fully electrified service using fourteen (14) trainsets between San Francisco and San Jose on its new fall schedule beginning on September 21, 2024.

The JPB decided that an additional two (2) EMUs should be available as spares when full revenue service was initiated. *Only a single spare trainsets was available on September 21, 2024, because of the damage to TS-311, and Stadler's inability to deliver a 17th trainset in time for that unit to be burned-in prior to the September 21, 2024 RSD.*

PMOC Observations:

- *The PCEP's leadership continues to be engaged in discussions and negotiations with BBII in an effort to achieve final contractual acceptance.* At the same time, project staff are conducting final inspections of the completed work and review and transfer of custody of

the required documentation. The PMOC's opinion is that these efforts may take longer than expected to reach the desired results.

- The start of electrified revenue service is exciting, and while the PCEP is not yet complete, the focus has moved from construction to completing the activities needed to close out the project. *The PCEP leadership team has been assessing the number of staff that will be required to oversee the remaining activities, and staffing levels are being reduced as appropriate in keeping with changes to remaining organization*.

2.15 Project Risk

The PCEP has been implementing its Risk Identification and Mitigation Plan (RIMP) since its development in 2014. The PCEP's Risk Management Lead conducts weekly updates of a sub-set of the Risk Register and the project's Risk Management Committee generally meets monthly to review those risks proposed for retirement, risks with a major change in severity, and proposed additions to the Risk Register. The Top Risks, with risk numbers, are shown in Attachment D.

PMOC Note: Risks graded 9 or higher are now considered Top Risks. Prior to the re-grading of the Risk Register, risks graded 18 or higher were considered Top Risks.

The JPB/PCEP leadership team conducted several risk workshops with BBII during the course of negotiating the global settlement. An internal PCEP risk refresh was conducted on September 28, 2021; the quantitative results of that effort have not been released. The Interim Chief Officer (ICO) also initiated an external peer review of project risk that was conducted on October 26-27, 2021. The PMOC participated in both events. The JPB's most recent internal Risk Refresh Workshop was held on April 1, 2020.

FTA Risk Refresh

The PMOC conducted an FTA-led virtual Risk Refresh workshop on December 8, 10, 15, and 17, 2020. The objective of the Risk Refresh was to confirm the likelihood of the project completing within budget and in accordance with the FFGA schedule. As noted elsewhere in this report, the JPB accepted the PMOC's recommendations for a revised project budget and a new Recommended Completion Date for the project. The FTA, as a consequence of the results from the Risk Refresh and the project's history of schedule delays and cost overruns, has designated the PCEP as an "At Risk" project. The FTA requested that the JPB prepare and submit a Recovery Plan for the PCEP by October 8, 2021. The JPB retained a new executive to lead the PCEP and conducted a comprehensive review of the project, including a risk refresh. The JPB requested additional time to prepare the Recovery Plan and the FTA agreed to defer receipt of the Recovery Plan. The JPB delivered its final Recovery Plan to the FTA on September 30, 2022. The FTA, as noted elsewhere in this report, accepted the JPB's Recovery Plan with a proposed RCD of December 31, 2024, in a letter dated November 28, 2023.

Recent Risk Activities

The PCEP's Risk lead re-ran the Monte Carlo Cost Risk model in May 2024 and reported that the direct cost of risk, to a probability of 65% (P65) was approximately $6 million, a significant decrease from the $21.7 million calculated in December 2023. No schedule risk results were reported.

The majority of the remaining open risks were retired by the Risk Management Committee at its September 16, 2024 meeting. The remaining risks will be handed back to the JPB for continued tracking and disposition by the appropriate departments. The top risk remains theft of copper impedance bonds.

- **PMOC Observation:** The start of electrified revenue service is a very significant milestone and is accompanied by a further reduction in the PCEP's risk profile. The PMOC's opinion is that the risk management process used by the PCEP team has been a significant addition to the overall management of the project. The PMOC recommends that the remaining risks be documented and systematically handed-off to those members of the Caltrain organization who are best in a position to address them.

2.16 Quality Assurance / Quality Control (QA/QC)

The PCEP Quality team continued to work with its counterparts at BBII, and the PCEP technical leads, to resolve the remaining open items including Non-Conformance Reports (NCR) and Design Variance Requests (DVR) as part of the requirements for Final Acceptance. The Quality team also assisted in providing documentation to the PMOC for preparation of its OP-54 Readiness for Service Review.

EMU Quality

The PCEP continues to work with Stadler to improve their Salt Lake City based QC/QA processes. The focus is on workmanship issues and hold-point inspections. Quality and consistency have improved as the workforce has stabilized.

- **PMOC Observations and Recommendations:** *The PCEP's rail activation and systems integration teams have been merged and are now conducting a weekly post-electrification meeting which includes many members of Caltrain Operations and TASI as well as the JPB. The team exhibits good teamwork and coordination, and an appropriate focus on addressing public concerns related to the new EMUs and electrified service,*
- There appear to be a small number of quality-related issues that have not been completely resolved, either technically, commercially or both. Resolution of these issues may extend beyond the date of final acceptance if required data or documentation is not available, or if equipment or materials is not immediately available due to extended delivery schedules.

2.17 Safety and Security

The JPB contracts for safety and security consulting services to support the PCEP. The PCEP safety team also provides support as needed to the JPB and its Director of Safety, QA/QC. The project safety professionals from the JPB, PCEP, TASI, and BBII are collaborating in joint visits to the project work sites to demonstrate to the workers that the leadership of these organizations takes their safety seriously.

There was one (1) recordable injury (knee inflammation) in April 2024, one recordable injury (finger injury) in July 2024, and one recordable injury in August 2024. BBII's RIR for 2024 is now 1.21; BBII's RIR from inception to date is 1.85 and remains below the national average of 2.5.

Theft of copper cables remains the top risk. The JPB is increasing security and working with local jurisdictions to prevent damage to its newly acquired EMUs and prevent theft of newly installed copper cables along the right-of-way. A number of portable light towers are being deployed at different locations accompanied by CCTV cameras. Additional security is also being installed at the 4th and King station. In addition, Caltrain has engaged one of its bench contractors to design a more permanent solution to the cable theft problem.

The PCEP safety team continues to monitor the safety performance of the various contractors and subcontractors working on the project, including their compliance with Site Specific Work Plans. The safety team is continuing to transition its responsibilities to Caltrain's safety group.

The safety team has completed training for first responders in the Caltrain corridor. Safety related information was shared with the public outreach team which continues to provide appropriate messaging to the general public now that electrified service has begun.

2.18 Americans with Disabilities Act (ADA)

Early in the development of the project, the PMOC raised a question regarding the need for the PCEP to demonstrate Equivalent Facilitation under the Americans with Disabilities Act (ADA) with respect to either the new EMU vehicles or the infrastructure. A conference call was held on November 6, 2015, between members of the PCEP team. FTA Region IX staff, the PMOC, and the FTA's Office of Civil Rights to discuss the issue. The representative of the Office of Civil Rights stated that based on information presented by PCEP's representatives, the project will not need to demonstrate Equivalent Facilitation because the current access to the vehicles will remain unchanged. This complies with the requirements of the ADA.

The new EMU vehicles will be equipped with powered onboard lifts to aid passengers using mobility devices. The JPB requested the FTA's concurrence to reduce the number of onboard lifts from 32 per train set to 16 per train set and to phase the installation of the lifts. The JPB's proposal calls for the initial installation of two (2) lifts per train set, one (1) each in the northernmost car and one (1) in the following car, which will be equipped with an accessible restroom. The remaining four (4) lifts per train set are to be installed prior to the start of blended service with the CHSRA trains. The FTA, following its review of the JPB's proposal and further clarification provided by a conference call, concurred with the JPB's proposed reduction in the total number of passenger lifts per train set. The phased installation of the lifts was also discussed and associated grant timing considerations. Caltrain's Rail Operations Department recently requested the interim removal of the two (2) onboard lifts until the EMUs operate in blended service with the CHSRA trains. The justification for this request is that the space occupied by the onboard lifts will interfere with the movement of passengers using the stairs where the lifts are installed. Further, the accommodation of passengers using mobility devices and wishing to use the restroom can be accomplished by de-boarding the passenger and repositioning the train at any station, a procedure currently in use. The change was approved by the Change Management Board at its September 2019 meeting.

The new EMU vehicles must comply with the FTA's current ADA requirements and the guidance in FTA Circular 4710.1.

The FRA conducted an on-site design review of EMU TS1 at Stadler's assembly facility in Salt Lake City, Utah in July 2020. During the review, the FRA expressed concerns related to possible interference between stored bicycles, passengers seated in the bike cars, and access to the emergency egress points in the bike cars. Stadler completed the design of the barrier, a Change Order was executed for the installation of the barriers, and the barriers are being installed on all trainsets. The FRA observed the new configuration of the bike cars during its Sample Car Inspection on February 16, 2022, and expressed no concerns or objections to the arrangement.

The JPB conducted a test on October 13, 2022, of the portable ADA ramp carried onboard each EMU trainset to facilitate the boarding of a passenger using a mobility device. The ramp exceeds current ADA load requirements and satisfies the test requirements.

The PCEP team discovered some locations where the gap between the station platform and the new EMU boarding threshold is longer than the portable ADA ramp. The PCEP team completed its survey of all of the station platforms and has temporarily corrected the problem until new longer ramps are received from Stadler.

The JPB is completing the installation of additional mini-high block platforms at its stations to assist those passengers needing a level boarding condition. This work is more difficult than originally anticipated due to the presence of the OCS which interferes with the handling of construction materials.

2.19 Buy America

The PMOC continues to review the JPB's compliance with Buy America (BA) requirements related to manufactured products and rolling-stock systems. The JPB has provided documentation related to the compliance of its three (3) major contractors, and that material has been reviewed by the PMOC's Buy America experts.

The PMOC and its Buy America consultant met with the JPB/PCEP quality team and BBII representatives to discuss BBII's recently submitted indented bill of materials. The PMOC's Buy America consultant provided guidance related to the appropriate classification of non-rolling stock systems materials compared to manufactured products, or items made of iron and steel. BBII continues to revise its classifications as appropriate and resubmit its documentation to the JPB for review.

The PMOC identified an issue with the fire alarm panels. BBII is claiming the panel is manufactured in the US, therefore, eliminating the requirement for 100% of the components/sub-components to be made in the US. BBII has provided additional documentation to support this interpretation. The PMOC requested an informal review of this approach by the FTA, however, no response has been received as of September 30, 2024.

The JPB's vehicle consultant conducted a Post-Delivery Buy America audit on June 28 and 29, 2022 and produced its audit report on July 11, 2022. The auditors found that the Stadler EMUs contain an average of 74.3% domestic content per seven-car trainset, which is more than the required 60% for this contract. The PMOC recommends that the JPB continue to monitor Stadler's Buy America performance through the completion of the order.

2.20 Start-Up, Commissioning, Testing

The JPB and PCEP team have several activities focused on the start-up and testing of both the infrastructure elements of the project as well as the EMU vehicles. Each of the three (3) primary contractors is responsible for developing and conducting tests and commissioning plans for its work elements. The PCEP team is responsible for the integration of the major elements and the overall start-up of electrified rail operations. The PCEP's Director of Systems Integration and Testing holds weekly meetings with representatives of each discipline or technical leads from the various organizations.

Electrification Contract (OCS, Traction Power, Signals and Communications)

- *The final inspection of the 51-mile corridor has been completed.*
- *Construction and testing of the OCS, Traction Power, Signals and Communications elements is complete with the exception of a small number of low-Voltage power cabinets.*
- The remaining Category C (non-safety related) punch list items are being completed by the respective contractors and inspected by the PCEP team.
- Training of operations and maintenance personnel in their specific disciplines has been completed.
- Operation and maintenance manuals, special tools and spare parts are being received, inventoried, and turned over to Caltrain Operations.

- A Safety and Security Certification Verification Report (SSCVR) was prepared and signed by the responsible parties and Caltrain's Executive Director Officer and was transmitted to the FTA on August 8, 2024. A revised final SSCVR will be issued when all remaining punch list/open items are mitigated or closed.
- *As noted above, Caltrain initiated fully-electrified service on a new Fall schedule with fourteen (14) EMUs on September 21, 2024, as required by its FFGA.*

EMU Contract

- *Sixteen (16) EMUs have been delivered to the JPB and fourteen (14) are routinely in revenue service with the 15th train in reserve.*
- *The JPB continues to encourage Stadler to accelerate the delivery of trainset 17 to replace the damaged trainset 311. Trainset 17 would provide a second spare to support routine operations*.
- Installation of the Broadband WiFi equipment is continuing in Salt Lake City and at the CEMOF.
- EMU trainset 311 was shipped to Stadler's assembly plant in Salt Lake City where Swiss structural engineers conducted inspections of the two (2) damaged coaches. *The JPB has not decided if it will repair both damaged coaches or repair one and replace the other.* Stadler projects that repairs will be completed in September 2025.
- *Stadler also continues to conduct training of maintenance and operations personnel on the EMUs as different maintenance intervals are achieved.*

SCADA Contract

- Wabtec (formerly ARINC) continues to support the Systems Integration and Rail Activation activities. Office SCADA is now operating in production mode. The SCADA contract was extended through December 2024 which allows the endurance and availability tests to be performed during Revenue Service before final acceptance of the field and office SCADA. *Those tests are currently underway following the start of normal electrified operations.*

Readiness for Electrified Rail Operations

The JPB, following the start of fully-electrified rail operations on September 21, 2024, ended meetings of its Rail Activation Committee (RAC) following the Committee's meeting on September 26, 2024. The activities of the RAC and the PCEP's Systems Integration team will be combined moving forward and a new post-electrification meeting will be held weekly at the same time as the prior RAC meetings. The group will be reconfigured as appropriate to include additional representatives of Rail Operations and TASI.

The Rail Activation Schedule developed by the RAC was integrated with the other project schedules such as Testing and Commissioning, Systems Integration, Electrification, EMU, and SCADA to provide a truly integrated project schedule. The RAC added details to the various activities required to ready Caltrain for electrified service as well as resolving any issues that may require workarounds during the early days of revenue service. A generalized Rail Activation Schedule is shown in Attachment H-2.

The JPB conducted a rail activation risk assessment workshop on December 4, 2023. The PMOC has previously encouraged this activity to take advantage of the prior experience of new personnel who have joined the project following the change in leadership in 2021. The PCEP's risk lead distributed questionnaires to the invitees and collected a considerable number of new potential risks, which were then discussed and elaborated on during the workshop. The designated risk owners are

currently reviewing and scoring the assigned risks and developing mitigation strategies. The workshop focused on risks as viewed from the standpoint of Caltrain Rail Operations as opposed to the PCEP. Inter-related risks have been identified and shared with PCEP, however, the two (2) risk registers will remain independent. *The RAC will complete the process of transitioning the remaining rail activation risks to Caltrain operations for continued monitoring or mitigation as appropriate.*

- **PMOC Observations:** *The PMOC continues to monitor the remaining activities of the combined Rail Activation and the Systems Integration teams to confirm the close-out of any remaining open items identified in its OP-54 report.*

2.21 Before-and-After Study Reporting

The PMOC verified that the JPB had prepared a Before and After (B&A) Study Plan during its evaluation of the PCEP's readiness to receive an FFGA. The B&A Plan was reviewed by FTA headquarters staff as part of the FFGA preparation process. The PMOC verified that the JPB has archived Before and After Documentation as of the Entry into Engineering (August 12, 2016). The materials were assembled according to the specifications in Appendix A of the Plan for the Before-and-After Study. The PMOC is in the process of verifying that the JPB has archived the required materials for Milestone 2, FFGA award. *The JPB is beginning to assemble the documentation related to the completion of the construction of the project and start of electrified service including capital costs.* The PMOC will also follow-up with the JPB to encourage early planning to address the "After" requirements of the plan.

2.22 Lessons Learned

The PMOC routinely encourages the PCEP team to identify and document lessons learned during the course of the PCEP. The PMOC discovered, during a routine review using ACONEX, the project's document control system, that a Draft Lessons Learned Log and two (2) examples of elaborated lessons learned had already been produced. Further inquiry produced the following information.

The PCEP Risk Manager conducted a series of interviews (not for attribution) with members of the PCEP team in 2018, with the objective of developing a list of Lessons Learned. The interviews produced a log of 35 issues which was distilled into two (2) for elaboration as an example of how the material could be further developed. The two topics that were further developed were Contractor Construction Work Windows and Land Acquisition Lesson Learned.

The Lessons Learned materials described above were reproduced as an attachment to the PMOC's Final Monitoring Report under Task Order 005; the report was submitted in June 2020.

The PCEP team, with encouragement from the PMOC, has undertaken a second round of lessons learned interviews. The interviews are complete, and the material has been compiled in the form of a summary table which was shared with the PMOC at QPRM #17 in July 2021. The JPB's Risk Manager reports there is currently no plan to elaborate on the various Lessons.

The PCEP's Director of Signal and Transmission Power reports that the signal team is keeping lessons learned for each signal cutover. Although many are site specific, it is likely that valuable trends will become apparent upon a comprehensive review.

The PCEP's Program Director recently stated that the JPB is committed to producing a substantive Lessons Learned report for the benefit of the JPB and the industry. This effort is underway.

Attachment A List of Acronyms

Acronyms	List of Terms
2SC	Two Speed Check Grade Crossing Approach Warning System
ADA	Americans with Disabilities Act
ARINC	Aeronautical Radio, Incorporated
ATP	Alternate Technical Proposal
BBII	Balfour-Beatty Infrastructure, Inc.
BCCF	Back-up Central Control Facility
BEMU	Battery Electric Multiple Unit
Cal/OSHA	California Office of Occupational Safety and Health
Caltrans	California Department of Transportation
CAR	Corrective Action Request
CC	FTA's Core Capacity Improvement Program
CCF	Central Control Facility
CCSF	City and County of San Francisco
CDR	Construction Discrepancy Report
CDRL	Contract Data Requirements List
CEMOF	Central Equipment Maintenance and Operations Facility
CHSRA	California High-Speed Rail Authority
CIG	FTA's Capital Investment Grant Process
CIL	Certifiable Items List
CMB	Change Management Board
CM/GC	Construction Manager/General Contractor
CNPA	Concurrent Non-Project Activity
CO	Change Order
CO	Chief Officer (CalMod)
COC	Certificate of Operational Conformance
CP	Control Point
CPUC	California Public Utilities Commission
D-B	Design-Build
DBB	Design-Bid-Build
DBE	Disadvantaged Business Enterprise
DQCP	Design Quality Control Process
DVR	*Design Variance Request*
EA	Environmental Assessment
EAC	Estimate at Completion
EE	Entry into Engineering
EEPS	Enhanced Employee Protection System
EOR	Engineer of Record
EOTP	Equivalent One Time Payment (PG&E)
EMI	Electromagnetic Interference
EMU	Electric Multiple Unit Rail Vehicle
EPREP	Emergency Preparedness Plan
ESZ	Electrical Safety Zone
FA	Final Acceptance
FAI	First Article Inspection
FD	Final Design
FFGA	Full Funding Grant Agreement
FLSC	Fire Life Safety Committee
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
IBOM	Indented Bill of Material

Acronyms	List of Terms
ICO	Interim Chief Officer
IMS	Integrated Master Schedule
IPS	Integrated Project Schedule
IRL	Issue Resolution Log
JPB or PCJPB	Peninsula Corridor Joint Powers Board
Jacobs	Jacobs Project Management Company
KKCS	Kal Krishnan Consulting Services, Inc.
LF	Linear Feet
MCC	Management Capacity and Capability
MCS	*Modern Communications Systems*
MOW	Maintenance of Way
MRR	Material Receiving Report
MPS	Master Project Schedule
NCR	Non-conformance Report
NEPA	National Environmental Policy Act
NTP	Notice to Proceed
NTSB	National Transportation Safety Board
OCS	Overhead Contact System/Overhead Catenary System
OHA	Operational Hazard Analysis
PCEP	Peninsula Corridor Electrification Program
PD	Project Development Phase
PG&E	Pacific Gas and Electric
PHA	Preliminary Hazard Assessment
PGHW	PGH Wong
PMOC	Project Management Oversight Contractor
PMP	Project Management Plan
PRO	Pre-Revenue Operations Plan
ProVen	ProVen Management, Inc.
PS	Paralleling Station for Traction Power Supply
PTC	Positive Train Control
PTCSP	Positive Train Control Safety Plan (FRA)
PTEPP	Passenger Train Emergency Preparedness Plan
QA	Quality Assurance
QAP	Quality Assurance Plan
QC	Quality Control
QMP	Quality Management Plan
QPRM	Quarterly Progress Review Meeting
RAC	Rail Activation Committee
RAMP	Real Estate Acquisition and Management Plan
RAP	Rail Activation Plan
RCD	FFGA Required Completion Date
RE	Resident Engineer
RFA	Request for Amendment
RFI	Request for Information
RFMP	Rail Fleet Management Plan
RFP	Request for Proposal
RIMP	Risk Identification and Mitigation Plan
RIR	Recordable Incident Rate (Safety)
ROW	Right of Way
RSD	Revenue Service Date or Revenue Service Demonstration
RWP	Roadway Worker Protection
SamTrans	San Mateo County Transit District
SCADA	Supervisory Control and Data Acquisition
SCC	Standard Cost Category

Acronyms	List of Terms
SCDT	Santa Clara Drill Track
SCVTA/VTA	Santa Clara Valley Transportation Authority
SF	City of San Francisco
SHPO	State Historic Preservation Office
SIT	System Integrating Testing
SLC	Salt Lake City
SONO	Statement of No Objection
SP	Southern Pacific Transportation Company
SSCP	Safety and Security Certification Plan
SSCVR	Safety and Security Certification Verification Report
SSMP	Safety and Security Management Plan
SSOA	State Safety Oversight Agency
SSWP	Site Specific Work Plan
SWS	Switching Station
TASI	Transit America Services, Inc.
TIRCP	Transportation and Intercity Rail Capital Program
TLOA	Transmission Load Operating Agreement
TPS	Traction Power System
TPSS	Traction Power Substation
TrAMS	Transportation Award Management System
TUN/TUP	Temporary Use Notice/Temporary Use Permit
TVA	Threat and Vulnerability Analysis
UPRR	Union Pacific Railroad
UK	United Kingdom
VAT	Vehicle Acceptance Test
VE	Value Engineering
VECP	Value Engineering Change Proposal
VTA	Santa Clara Valley Transportation Authority
WPC	Wayside Power Cubicle
YOE	Year of Expenditure

Attachment B Safety and Security Checklist

Safety and Security Checklist			
Project Overview			
Project Mode	Commuter Rail		
Project Phase	*FFGA – Revenue Service Operations*		
Project Delivery Methods	Design-Build, Design-Bid-Build		
Project Plans	**Version**	**Review by FTA**	**Status**
Safety and Security Management Plan (SSMP)	Rev 8	Y	Rev. 8 was approved by PCEP on 6/5/2023 and provided to the PMOC for review.
Safety and Security Certification Plan (SSCP)	*Rev 0* *Rev 2* *Rev F*	*N*	SSCP, Rev. 0, dated October 21, 2015. Stadler Vehicle Safety and Security Certification Plan, Rev. F, dated April 5, 2019; BBI SSCP, Rev. 2, dated July 17, 2017
System Safety Program Plan (SSPP)	Rev 1	N	Rev. 1 was approved by PCEP on 3/4/2021 and submitted to FRA on June 6, 2024 for approval.
System Security Plan or Security and Emergency Preparedness Plan (SEPP)	Rev 0	N	SSP was audited by CPUC in March 2021 with no findings
Construction Safety and Security Plan (CSSP)	V3 Part C of SPs		In Contract Documents

Safety and Security Checklist		
Area of Focus	**Y/N**	**Notes/Status**
Safety and Security Authority		
Is the project sponsor subject to 49 CFR Part 659 state safety oversight requirements?	Y	
Has the state designated an oversight agency as per 49 CFR Part 659.9?	Y	California Public Utilities Commission is SSOA; the FTA certified California's SSOA program on October 23, 2018.
Has the oversight agency reviewed and approved the project sponsor's Security Plan or SSPP as per 49 CFR Part 659.17?	Y	CPUC audited the System Security Plan in March 2021; there were no findings.
Did the oversight agency participate in the last Quarterly Review Meeting?	N	QPRM No. 27 was held on July 16, 2024. *The FTA determined that no more QPRM's are necessary.*

Safety and Security Checklist		
Area of Focus	**Y/N**	**Notes/Status**
Has the project sponsor submitted its safety certification plan to the oversight agency?	Y	SSCP, Rev. 0, dated October 21, 2015. Stadler Vehicle Safety and Security Certification Plan, Rev. F, dated April 5, 2019; BBI SSCP, Rev. 2, dated July 17, 2017
Has the project sponsor implemented security directives issued by the Department of Homeland Security and/or Transportation Security Administration?	Y	No directives have been received at this time. Caltrain's Safety and Security Department is the direct contact for DHS. The JPB's Information Technology network administrators receive periodic updates on cyber-security risks from the Cybersecurity & Infrastructure Security Agency (CISA) and implement appropriate actions to respond to those risks.
SSMP Monitoring		
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this	Y	Rev. 8 was approved by PCEP on 6/5/2023 and provided to the PMOC for review.
Does the project sponsor review the SSMP and related project plans to determine if updates are necessary?	Y	
Does the project sponsor implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.	Y	In the SSMP and Section 11.0 of the PMP.
Does the project sponsor maintain a regularly scheduled report on the status of safety and security activities?	Y	Safety & Security activities are reported in the monthly PCEP report.
Has the project sponsor established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	Y	Section 3.0 of SSMP
Does the project sponsor update the safety and security responsibility matrix/organizational chart as necessary?	Y	
Has the project sponsor allocated sufficient resources to oversee or carry out safety and security activities?	Y	
Has the project sponsor developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y	Updated PHA and OHA documents have been prepared and reviewed by PCEP. The PHA and OHA are finalized and included in the SSCVR.

Safety and Security Checklist		
Area of Focus	**Y/N**	**Notes/Status**
Does the project sponsor implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	Yes, in Safety and Certification Committee meetings which started in December 2016 on a project level and through our "Capital Safety Committee" which meets quarterly. In addition, meetings are conducted with the contractor monthly to review project incidents, lessons learned, hazards, vulnerabilities, and mitigations. IndustrySafe is also being used to track safety activities.
Does the project sponsor monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	Yes, through the Safety & Security Certification Committee and the Fire/Life Safety Committee which are ongoing committees throughout the life of the project.
Does the project sponsor ensure the conduct of preliminary hazard and vulnerability analyses? Please specify the analyses conducted.	Y	Updated PHA and OHA documents have been prepared and are under review by the D-B contractor prior to submission to the JPB.
Has the project sponsor ensured the development of safety design criteria?	Y	
Has the project sponsor ensured the development of security design criteria?	Y	
Has the project sponsor ensured conformance with safety and security requirements in design?	Y	Design Criteria checklists have been developed and reviewed by the Safety & Security Certification Review Committee.
Has the project sponsor verified construction specifications conformance?	Y	All facets of the Electrification construction are completed, OCS, TPS, Signals, and Communication.
Has the project sponsor identified safety and security critical tests to be performed prior to passenger operations?	Y	All safety and security critical test are completed and documented in the SSCVR.
Has the project sponsor verified conformance with safety and security requirements during the testing, inspection, and start-up phases?	Y	Conformance was verified during the rail activation phase, and included testing, and inspections during the pre-revenue and the simulated revenue phases.
Has the project sponsor evaluated change orders, design waivers, or test variances for potential hazards and/or vulnerabilities?	Y	Through the Change Management Board.
Has the project sponsor ensured the performance of safety and security analyses for proposed workarounds?	Y	This is included in the Rail Activation Committee scope during testing/startup activities. BBII's Safety & Security Certification flow chart identifies the process. All the safety and security analyses are completed and included in the SSCVR.

Safety and Security Checklist		
Area of Focus	**Y/N**	**Notes/Status**
Has the project sponsor demonstrated through meetings or other methods the integration of safety and security in the following? • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan	 Y Y Y Y	A Rail Activation Plan has been prepared and has been revised to include more operational details. The Rail Activation Committee has been meeting regularly since May 2019 and a Rail Activation Schedule has been prepared and an Integrated Test Plan and Procedures developed. A Rail Activation Risk Workshop was held on December 5, 2023.
Has the project sponsor issued the final safety and security certification?	Y	The project is in the testing and commissioning phase. The required completion date has been revised to 12-31-2024. SSCVR: 08/06/2024 Update - The SSCVR has seven (7) open items documented with workarounds on the SOIL table.
Has the project sponsor issued the final safety and security verification report?	Y	SSCVR: 08/06/2024 Update - The SSCVR has seven (7) open items documented with workarounds on the SOIL table.
Construction Safety		
Does the project sponsor have a documented/implemented Contractor Safety Program with which it expects to comply?	Y	The Design/Build contractor's "Construction Safety Program" and "Health and Safety Plan" have been accepted.
Does the project sponsor's contractor(s) have a documented company-wide safety and security program plan?	Y	System Safety Plan submitted and Approved 2/1/2017. An update was provided on 6/28/21.
Does the project sponsor's contractor(s) have a site-specific safety and security program plan?	Y	Rev. 2 submitted and Approved 12/9/2016
How do the project sponsor's OSHA statistics compare to the national average for the same type of work?		*There was one (1) recordable incident in August 2024 for a total of three (3) thus far in 2024. BBII's Recordable Incident Rate (RIR) for 2024 is 1.21.* BBII's RIR from inception to date is 1.85 and remains below the national average of 2.5.
If the comparison is not favorable, what actions are being taken by the project sponsor to improve its safety record?		The D-B contractor reviews all incidents with its employees at its monthly safety meetings.
Federal Railroad Administration		
If a shared track, has the project sponsor submitted its waiver request application to FRA? (Please identify specific regulations for which waivers are being requested.)	Y	FTA approved, by letter dated 2-8-2024, the JPB's request to extend the existing waiver for the Stadler KISS units for the life of the equipment as discussed in Docket Number FRA-2018-0067.

Safety and Security Checklist		
Area of Focus	**Y/N**	**Notes/Status**
If a shared corridor, has the project sponsor specified specific measures to address safety concerns?	Y	Caltrain has submitted an updated Emergency Preparedness Plan (EPREP) to the FRA and preparations are underway for an on-site visit by FRA personnel to review the revised EPREP. The FRA visit did not occur in 2023 as expected; FRA expects to conduct the visit during initial revenue operations.
Is the Collision Hazard Analysis underway?	Y	Car body testing and Collision Analysis have been completed and the report sent to FRA.
Other FRA required Hazard Analysis – Fencing, etc.?	TBD	This is an operating ROW, and no service change is expected. Additional right of way fencing has been installed.
Does the project have Quiet Zones?	TBD	This is an operating ROW, and no service change is expected.
Does FRA attend the Quarterly Review Meetings?	N	QPRM No. 27 was held on July 16, 2024. *The FTA determined that no more QPRM's are necessary.*

Attachment C Action Items

The following table presents the open Action Items as of the date this report was prepared. New items are indicated by colored text, items whose status has changed from the prior listing are italicized and completed items have been shaded.

No.	Action Item	Discussion	Agreed Due Date	Responsibility Agency/Name	Status
13.02	JPB to submit a Request for Amendment (RFA) to Caltrain's Positive Train Control Safety Plan (PTCSP) under 49 CFR Sec. 236, Subpart I; the RFA will document the design and performance of its 2SC grade crossing warning system.	FRA has determined that JPB should submit a combined RFA for both the 2SC solution and the Crossing Optimization Process. Because both 2SC and Crossing Optimization Projects have FRA approved Test Plans, completion of the RFA(s) is not and will not impact work for either project.	August 2024	Cocke	All cutovers have been completed. The JPB decided to separate the RFA for the 2SC and Crossing Optimization Process from another pending RFA that requires FRA's approval to begin electrified revenue service. *The RFA described in this Action Item was submitted in draft form to the FRA shortly after fully-electrified service started. The final will be submitted after the FRA responds to the draft.*

Attachment D Top Project Risks (September 2024)

The Risk Management Committee met on September 16, 2024 and retired many of the remaining risks based on the system having achieved a soft-start of revenue service in August 2024. The descriptions for the remaining risks will be updated and the risks passed to the JPB for monitoring and response by the JPB. The top risks are all risks that have been on the register for some time but have risen to the top as others have been retired. The highest grade for the top four risks is 3. Changes from the prior report are indicated in italics.

Risk No.	Risk Category		Risk Description	Status
	Cost	Sched.		
106		X	*Contractor may not retain sufficient resources to complete remaining work (e.g., close-out and punch list work).*	*BBII adding additional OCS resources and equipment JW 9/14/22*
209	X	X	*TASI may not have sufficient field support resources (RWIC, watchmen, flaggers, signal maintainers) for testing.*	*1. Maintain ongoing dialogue with TASI regarding requirements of contractors. - In progress* *2. Issue advance notice to TASI to enable them to adjust to changes in the construction schedule.*
278	X	X	*Failure of D/B contractor and subcontractors and suppliers to meet final Buy America audit.*	
354		X	*Improper installation and commissioning of breakers in control buildings may result in SF6 gas leaks at some TPF locations.*	1. Bring vendor onsite to evaluate the situation. 2. Perform repairs based on vendors recommendation. 3. Equipment will not be energized unless the correct amount of SF6 gas is in the equipment.
Top four (4) risks as listed on the Risk Register presented during the Change Management Board meeting on September 18, 2024.				

Attachment E Awarded Contracts

The current list of contracts numbers is 219. One hundred six (106) contracts have values over $50,000, ninety (90) have values of $100,000 or more, and forty (40) have values over $1,000,000. The total value of awarded contracts is provided in the Core Accountability Table of this report. *The following tabulation is all contracts with current values of $1 million or higher as of August 31,2024.*

Contractor Name	Contract Value
BALFOUR BEATTY INFRASTRUCTURE, INC	$1,097,149,881
STADLER US INC	$564,986,271
TRANSITAMERICA SERVICES, INC. - Other scopes	$148,125,636
PACIFIC GAS & ELECTRIC COMPANY - SA scopes	$124,106,400
GANNETT FLEMING TRANSIT & RAIL SYSTEMS	$67,743,400
PROVEN MANAGEMENT, INC. - Tunnel scope	$47,059,352
URS CORPORATION	$36,361,332
JACOBS PROJECT MANAGEMENT CO.	$35,500,000
LTK CONSULTING SERVICES, INC.	$29,177,673
B & G TRANSPORTATION GROUP, LLC	$12,663,883
HNTB CORPORATION	$11,559,644
Hatch Associates Consultants, Inc	$10,574,379
RAIL SURVEYORS AND ENGINEERS, INC.	$10,525,980
PROVEN MANAGEMENT, INC. - CEMOF scope	$9,476,816
JPMORGAN CHASE BANK, N.A.	$7,466,394
ARINC INCORPORATED	$5,523,853
ICF JONES & STOKES, INC.	$5,342,383
FIRST AMERICAN TITLE COMPANY	$4,609,075
NC 2121 SEC VENTURES LLC	$4,394,220
RREF III-P TOWER PLAZA LLC	$4,234,674
SAN MATEO COUNTY TRANSIT DISTRICT	$4,004,339
STATE OF CALIFORNIA	$3,629,200
PRICE FORBES & PARTNERS, LTD	$2,804,082
DCONSULT, LLC.	$2,471,350
SHIMMICK/DISNEY JOINT VENTURE	$2,400,000
HATCH ASSOCIATES CONSULTANTS	$2,216,434
NORMAN E. MATTEONI ATTORNEY BAR TRUST	$2,016,000
USI INSURANCE SERVICES NATIONAL, INC.	$1,993,651
WSP USA INC	$1,893,572
PROVEN MANAGEMENT, INC. - SSF scope	$1,866,575
BENDER ROSETHAL, INC.	$1,713,197
COMPUCOM SYSTEMS, INC.	$1,627,505
WELLS FARGO INSURANCE SERVICES USA, INC	$1,493,269
SFO AIRPORTER, INC.	$1,400,000
ASSOCIATED RIGHT OF WAY	$1,327,390
El Camino Aquiuisition Co. LLC	$1,261,664
DLT SOLUTIONS, LLC	$1,241,701
CDM SMITH, INC.	$1,228,957
MNS ENGINEERS, INC.	$1,093,717
WABTEC TRANSPORTATION SYSTEMS LLC	$1,023,099

Attachment F Rolling Stock Vehicle Status Report

- **Manufacturer/Model Year/Vehicle Model or Type/Propulsion:** Stadler Bi-level Electric Multiple Unit (EMU) Commuter Rail vehicles (a variant of Stadler's "KISS" product line. The JPB plans to operate the vehicles initially in 7-car trainsets and later expand to 8-car trainsets.
- **Piggyback or Option:** The contract contains an option for up to 96 additional EMUs, with the price varying depending on the date the option is exercised. Option vehicles ordered prior to December 31, 2018, are purchased at the original price.
- **Number of Vehicles:** Initial Order of 96 EMUs to be delivered as 6-car trainsets; the current order is 133 EMUs delivered as 7-car trainsets. The JPB exercised some of its remaining options and purchased four (4) additional trainsets prior to the option expiration date of August 15, 2023; these options will not be funded by the PCEP. JPB also purchased one additional hybrid battery-electric multiple unit trainset to provide demonstration service between San Jose and Gilroy.
- Contract Advertisement Date: August 21, 2015
- Contract Award Date: August 15, 2016
- Price per Vehicle (Initial Order): $26,408,000 per 6-car trainset
- Planned Date of First Vehicle Delivery /Actual: March 20, 2022 (Actual)
- Conditional Acceptance of First Trainset (TS-3): July 25, 2022
- Initial Vehicle Order (Number of Vehicles and Configuration): 96 EMUs delivered as 6-car trainsets.
- Number of Option Vehicles Included in Contract: 96
- Buy America Domestic Content Percentage Required: 60%
- Domestic Content Percentage per Pre-award Audit: 79.38%
- **Latest Domestic Content Percentage Reported and Date:** The Post-Delivery Buy America Audit Report states that the overall average domestic content of a seven (7) car trainset is 74.3%. The domestic content was reported to vary from 70% to 77% for the four (4) different car type variants.
- Date of Pre-Award Audit: May 25-26, 2016
- Pre-award Audit Report Date: June 21, 2016
- Intermediate Buy America Audit Date: An intermediate review was conducted March 19-21, 2018. Stadler provided a virtual Buy America status update to the JPB's Buy America team on June 22, 2020. The JPB conducted an Intermediate Buy America Audit on October 25-27, 2021; however, the auditors were unable to verify the domestic content because the required information was not provided by Stadler.
- Date of Post-Delivery Audit: June 27-28, 2022
- Post-Deliver Audit Report Date: July 11, 2022

EMU Delivery Status

Trainset Number	***Projected Delivery***
3 & 4	Delivered
2 & 5	Delivered
6 & 9	Delivered
1 & 11	Delivered
10 & 12	Delivered
13 & 14	Delivered
7 &15	Delivered
8 & 16	*Delivered*
17	*November 2024*
18, 19	February 2025

Attachment G Project Milestones / Key Events

Milestone	Baseline	Grantee Forecast	Summary of Milestone / Event
New Starts/Core Capacity Grant Agreement:	Not in MPS	05/2017 (A)	
Design/Build Notice to Proceed:	12/2015	06/2017 (A)	
Arrival of the first EMU in Pueblo, CO	N/A	2/27/2021 (A)	
Arrival of First EMU at JPB	07/2019	4/20/2022(A)	
Final Engineering (FE) Completion:	04/2018	*9/6/2024 (P)*	
Systems Integration Testing Completed:	01/2019	*6/1/2024 (P)*	
Segment 4 Complete to Begin EMU Testing:	11/2019	7/15/2023 (A)	
Revised Milestone 1 (Segments 3 and 4) Complete	N/A	9/15/2023 (A)	
Completion of Interconnection from PG&E to TPSS 2	N/A	1/29/2021 (A)	
Design/Build Substantial Completion:	02/2019	5/3/2024 (A)	
Conditional Acceptance of First EMU Trainset:		7/25/2022 (A)	
PG&E Provides Permanent Power:	09/2021	8/27/2022(A)	
Pre-Revenue Operation Completed:	05/2020	*08/10/2024 (A)*	
Revenue Service Date (without Risk Contingency):	12/2021	*08/11/2024 (A)*[1]	
Revenue Service Date (with Risk Contingency)	N/A	*09/21/2024 (A)*[2]	
FFGA Required Completion Date (RCD):	05/2020	12/31/2024 (P)*	
(A) Actual; (P) Projected			

*The JPB's revised RCD was accepted by the FTA on 11/28/2023.

[1]*Initial soft-opening of revenue service occurred on August 11, 2024.*

[2]*Fully-electrified revenue service with fourteen (14) trainsets occurred on September 21, 2024.*

Attachment H Roadmap to Electrified Rail Service

Caltrain began fully-electrified revenue service between San Francisco and San Jose on September 21, 2024. The following is the status of the roadmap as of August 2024 when preparations for the grand opening were underway.

The electrification contractor achieved substantial completion on May 3, 2024. The railroad in Segments 1 through 4, the CEMOF, and the Santa Clara Drill Track are electrified and are being used for testing and burn-in of the newly delivered EMUs. *The JPB achieved the "soft-start" of electrified Revenue Service between the 4th and King station in San Francisco and the Tamien station in San Jose on Sunday, August 11, 2024.* The term "soft-start" refers to the incremental introduction of EMU trainsets into the regular Caltrain operating schedule, replacing a like number of diesel trainsets, beginning with the first two (2) EMU trainsets on August 11, 2024. Two (2) more EMU trainsets were added on August 17, 24 and 31, 2024 for a total of eight (8) operational EMU trainsets as of August 31, 2024. *Two (2) more trainsets will be added on September 7, 2024, to reach a total of ten (10) EMUs in revenue service. The ten (10) EMU schedule will be maintained until the new electrified schedule of fourteen (14) EMUs is initiated on September 21, 2024. Two (2) more EMUs were delivered on September 6, 2024 for a total of sixteen (16) delivered and fifteen 15 on-site. These last two (2) EMUs completed initial testing and burn-in prior to the September 21, 2024 grand opening.*

Electrified operations on the Caltrain system will occur in stages. The first stage will be the electrification of Segment 4 of the PCEP, including a designated test track. For clarity, Segment 4 is the southerly most segment of the PCEP. Initial electrification will require completion of TPSS 2; completion of the interconnection between PG&E's FMC substation in San Jose and TPSS 2; completion of the OCS system in Segment 4; completion of the signals, communications, and SCADA systems in Segment 4; and testing and commissioning of the above components as well as safety certification of the relevant components. Traction power substation #2 (TPSS-2) was electrified on August 27, 2022, and testing of the traction power components is underway. The contractor has encountered repeated problems in successfully completing short-circuit testing of the TPS and OCS in Segment 4. The schedule for live-wire testing in Segment 4 was placed on-hold while the test failure which occurred on May 20-21, 2023, was reviewed. Because the test demonstrated that the protection function operated as planned, JPB and BBII decided to proceed with initial testing of the EMUs on the Santa Clara Drill Track (SCDT), followed by OCS testing on Segment 4 main tracks and at the CEMOF. Milestone 1, Segments 3 and 4 available for EMU testing occurred on September 13, 2023, and the burn-in of the EMU vehicles has begun. The first four (4) EMU trainsets have completed dynamic testing on the SCDT and Segment 4 main tracks. The JPB negotiated a change with BBII, its Electrification contractor, to redefine Milestone 1 to include all work in Segments 3 and 4. This change has created a 21 mile stretch of electrified track which is allowing more efficient burn-in of the EMUs.

The OCS in the southerly most portion of Segment 4 was temporarily disconnected to allow replacement of the Guadalupe River bridge. The rail alignment was returned to the JPB as of October 21, 2023, and BBII began re-installing the OCS on November 27, 2023. The OCS has been reinstalled and regulation was completed on January 20, 2024.

The severe storm that struck the region on February 3-4, 2024, caused damage to the OCS in two (2) areas which required immediate attention and repair. Repair of the damaged areas has been completed. The schedule for short-circuit testing was revised and a short-circuit test was conducted on the southerly portions of Segment 4 during the weekend of February 24-25, 2024. The test was partially successful, and live run testing of the remainder of Segment 4 was completed in March

2024. Four (4) of the remaining five (5) short-circuit re-tests were successfully completed in March 2024. The remaining short-circuit test was successfully completed on April 5, 2024.

The second stage of electrification includes the completion of the remaining Segments 1 and 2, and the individual elements of each, plus the integrated testing, commissioning, and safety certification of the entire project. Final Completion for purposes of the JPB's Core Capacity FFGA requires fourteen (14) seven-car trainsets in weekday revenue service. The revised FFGA Required Completion Date (RCD) accepted by the FTA is December 31, 2024. The JPB is currently proposing a soft opening of revenue service with a single vehicle in late July 2024, followed by the introduction of additional vehicles at weekly intervals. Full revenue service with fourteen (14) new EMUs is planned to start on September 23, 2024. The JPB has recently concluded that a fleet of sixteen (16) EMU trainsets should be available to reliably provide the fourteen (14) trainsets needed to satisfy the FFGA passenger capacity requirements. The JPB is having discussions with Stadler regarding the timing for delivery of the two (2) additional trainsets. The JPB, in a letter dated August 21, 2023, requested a waiver from the FTA related to the required level of service necessary to satisfy the core capacity requirements in its FFGA. The waiver was requested due to the dramatic drop in ridership as a result of the COVID-19 pandemic. The FTA approved the waiver request on November 27, 2023.

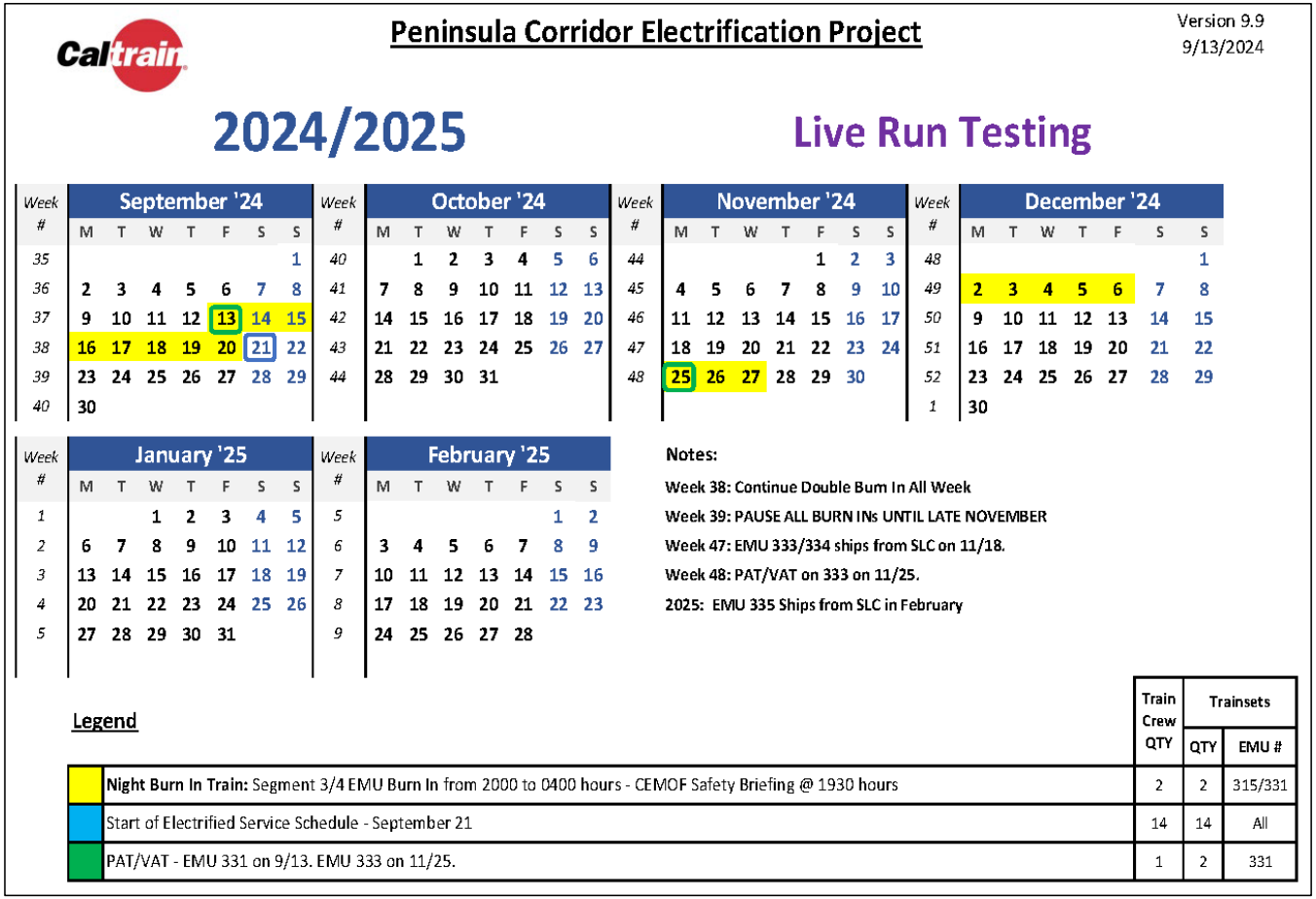
Meetings of the Rail Activation Committee were discontinued following the meeting on September 26, 2024. More information on the follow-on plans is found in Section 2.20 of the report body. The PCEP has an active Rail Activation Committee (RAC) to coordinate the various activities needed to successfully initiate electrified rail operations. The RAC is chaired by Mark Clendennen and includes representatives from JPB employees assigned to the PCEP, PCEP's technical consultants, the JPB's Rail Operations group, and more recently from BBII, the Electrification contractor. The RAC has refined its meetings which provide more detailed coordination between rail operations, systems integration, and testing and commissioning activities. The RAC meets weekly on Thursday mornings; the most recent meeting was held on August 29, 2024. The current focus remains on conducting Vehicle Acceptance Tests (VAT) for the EMUs, completing the 1,000-mile burn-in for each trainset, and assembling the required documentation for the completed PCEP. Training has been completed for all essential personnel.

The PCEP risk lead has completed incorporating the Rail Activation risks into a consolidated risk register for the PCEP. The PCEP risk lead conducted a Rail Activation Risk Workshop on December 5, 2023. This workshop differs from the earlier Rail Activation risk work because the focus of the risks is an impact on Caltrain's readiness to commence rail operations. A significant numberconsiderable number of risks were identified through the distribution of a pre-workshop questionnaire, and additional risks were elicited from the participants during the workshop. The risks have been assigned to various owners, and those individuals are currently providing additional details such as scoring the risks and describing mitigation measures and related timing. The final Rail Activation Risk Register has not been integrated with the PCEP risk register but has been provided to the PCEP team so that inter-related risks can be identified for the benefit of both teams.

The PCEP's leadership has determined that the effort necessary to integrate the RAC's Rail Activation Schedule with the schedules produced by BBII, Stadler, and ARINC is no longer justified, and that effort has been discontinued. Details of the most recent rail activation schedule (See Attachment H-2) continue to be refined by the RAC with the assistance of the PCEP scheduling team.

The RAC is now using a Live Run Testing Schedule to communicate when these important activities will occur. A copy of the latest Live Run Testing Schedule is shown in Figure H-1.

Figure H-1 Live Run Testing Schedule (September 13, 2024)



		Train Crew QTY	Trainsets	
			QTY	EMU #
	Night Burn In Train: Segment 3/4 EMU Burn In from 2000 to 0400 hours - CEMOF Safety Briefing @ 1930 hours	2	2	315/331
	Start of Electrified Service Schedule - September 21	14	14	All
	PAT/VAT - EMU 331 on 9/13. EMU 333 on 11/25.	1	2	331

Figure H-2 Rail Activation Schedule

RAS0624A

(Data Date: 7/1/2024)

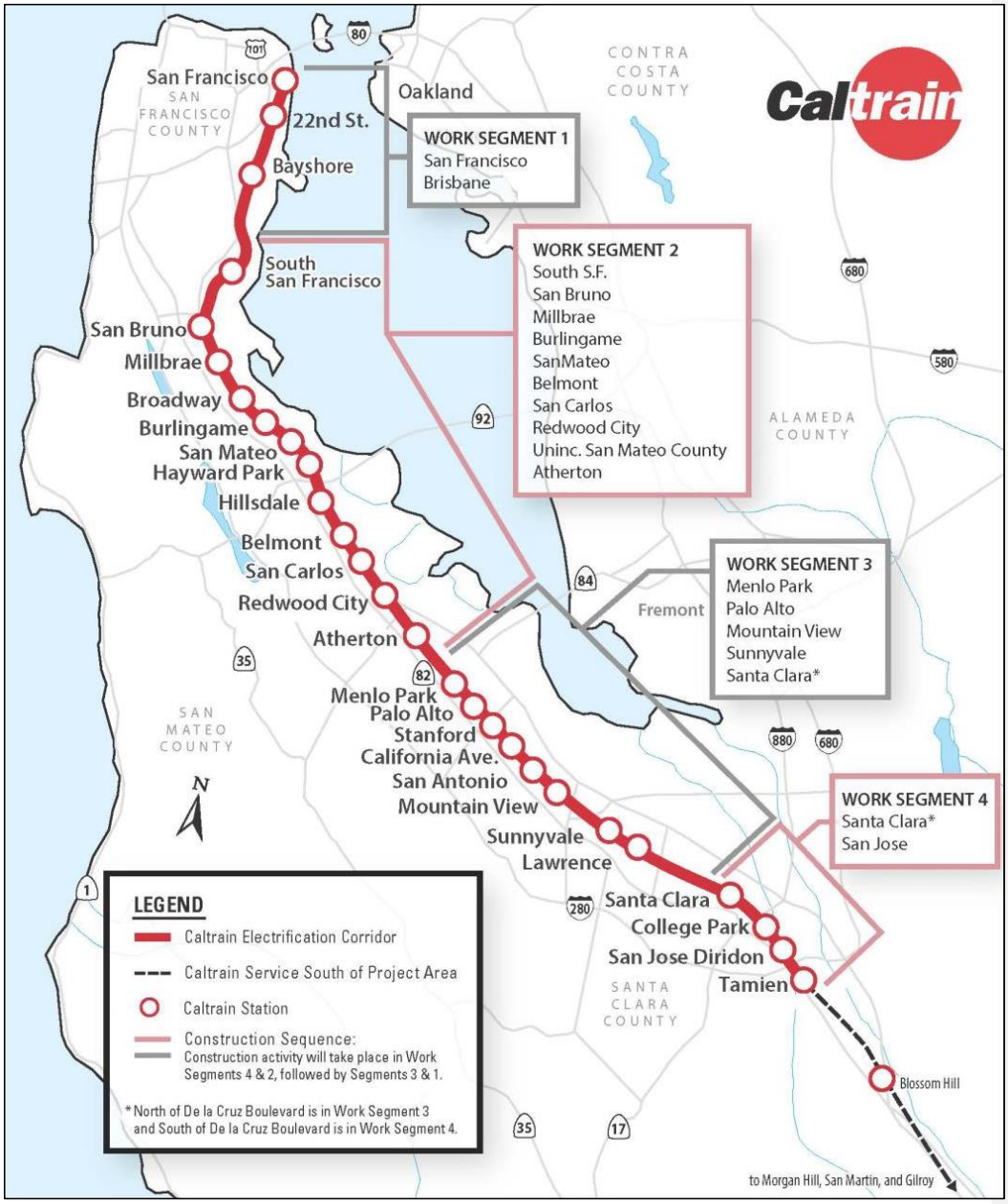
Anticipated Rail Activation Schedule Tasks and Completion Periods

Activity Name	24-Mar	24-Apr	24-May	24-Jun	24-Jul	24-Aug	24-Sep	24-Oct	24-Nov	24-Dec	Descriptions
RAS System Integration Finish (1)				06/01/24 A							Testing leading up to Pre and Post Substantial Completion
RAS Operational Readiness Finish (2)					07/01/24 A						All activities that Operations must complete to operate trains
RAS Operational Drills Finish (3)					07/25/24 A						Training & Practicing for efficient Operations
RAS Soft Launch Finish (4)					08/10/24 A						Replacing Diesel Locomotives with EMU's (2 per week)
RAS Project Completion Celebration (5)							09/21/24				Project Outreach (VIP & Public Celebrations)
RAS Post Revenue Service Finish (6)										01/01/25	All activities leading up to Pre and Post FFGA

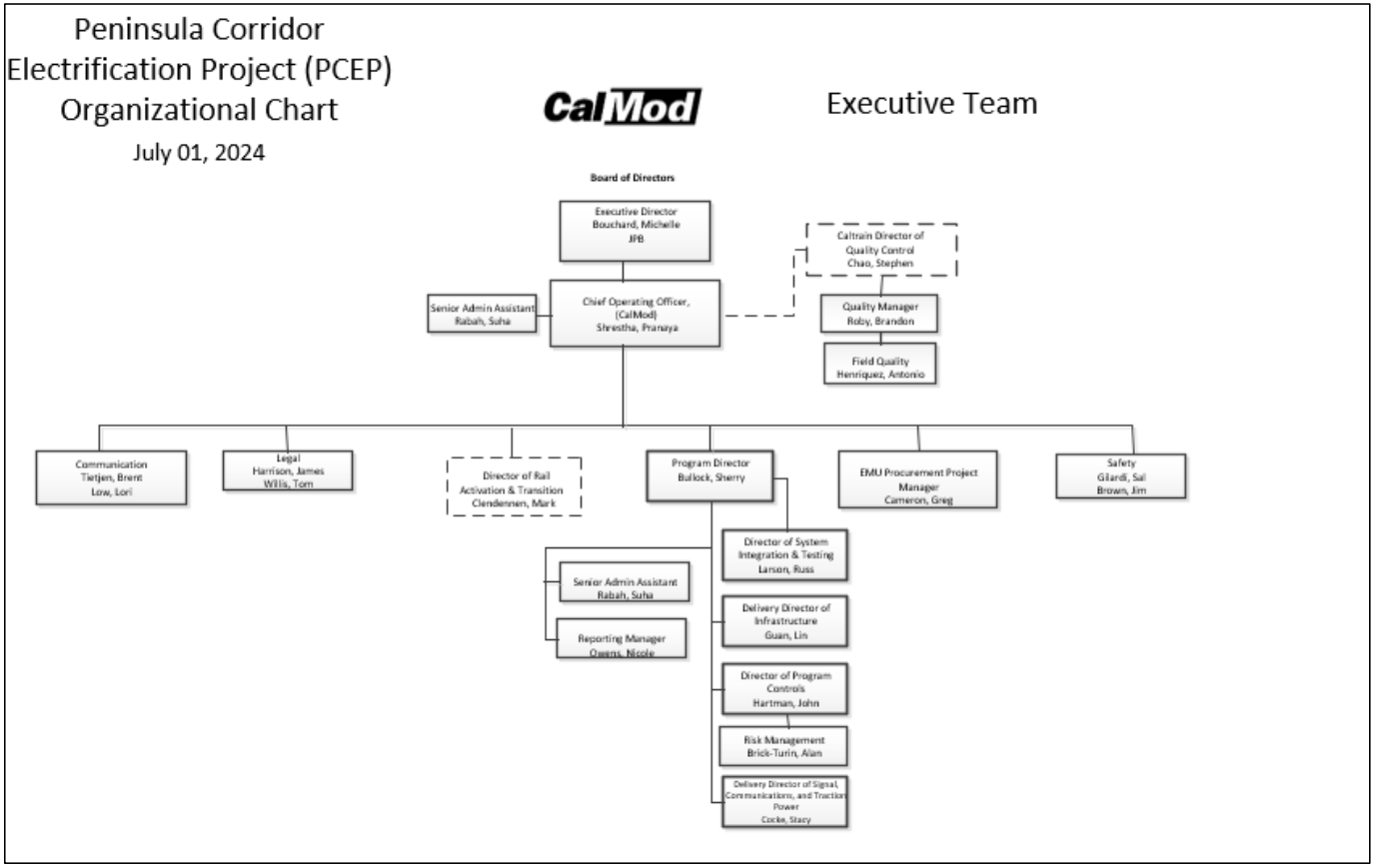
Expected Dates shown in red (above).

09/18/2024

Attachment I Project Map



Attachment J PCEP Executive Team Organization



Attachment K PMOC Team

The report was prepared by the Task Order Manager, **Mike Eidlin**, J.D. (KKCS) who has more than 40 years of complex project management experience including over thirty (30) years in transit. Mr. Eidlin possesses a B.S. degree, a graduate Degree of Engineer, and a Juris Doctor degree. He is a licensed attorney in the State of Oregon. He has been working as a PMOC for 20 years.

Brett L. Rekola, **P.E. (KKCS)** contributed to the preparation of the report and provided the Quality Assurance of the report. Mr. Rekola is the Program Manager for KKCS' FTA PMOC prime contract. He is a California professional civil engineer with more than forty (40) years of experience managing railroad maintenance, planning, and design, construction, and rail operations. He has served as a program manager delivering port/rail/public works projects and programs.

Nancy Voltura (KKCS) assisted with the report. Ms. Voltura has over forty (40) years of Quality Assurance (QA) experience working as a QA Engineer, QA Auditor, and QA Manager on large design and construction projects. Ms. Voltura is a trained Apparent Cause Analyst evaluating heavy construction quality issues, is a trained professional QA Auditor and has been a certified Lead QA Auditor per ASME/NQA-1 and N45.2.23 standards.

Kevin Byers, P.S.P. (KKCS) assisted with the report. He is KKCS' Project Scheduling Manager, holds a B.S. degree in Construction Management, and has thirty-two (32) years of experience in scheduling and claims analysis for railroad and rail transit projects.

Dan Holzman, P.E., (KKCS) assisted with the report and is KKCS' Cost Estimation Manager. Mr. Holzman has a B.S. degree in Environmental Engineering and M.S. degree in Civil Engineering and holds a license as a Professional Engineer in Massachusetts. He has over forty-five (45) years of experience in construction and engineering and is a Certified Cost Professional.

The administrative Quality Control review of this report was done by **Chelsea Ellis, (KKCS)**. Ms. Ellis has a Bachelor of Science degree in Business Administration and more than ten (10) years of experience providing quality review checks on various technical documents.