



Memorandum

AGENDA ITEM 9

DATE: December 1, 2022
TO: Transportation Authority Board
FROM: Carl Holmes - Deputy Director for Capital Projects
SUBJECT: 12/13/22 Board: Major Capital Project Update: Caltrain Modernization Program

<p>RECOMMENDATION <input checked="" type="checkbox"/> Information <input type="checkbox"/> Action</p> <p>None. This is an information item.</p> <p>SUMMARY</p> <p>The Caltrain Modernization (CalMod) program is a \$2.72 billion suite of projects, which includes Positive Train Control (PTC) and the Peninsula Corridor Electrification Project (PCEP). PTC was completed in December 2020. PCEP is comprised of electrification of the Caltrain line between San Jose and San Francisco, upgrade of the signal system, and the procurement of electric multiple-unit vehicles (EMUs). As of September 30, 2022, PCEP has expended 77.5% of its current budget. Work is continuing on the installation of the Overhead Contact System (OCS) poles, cantilever arms, and contact wire, and the traction power facilities are nearing completion. The first four EMU trainsets have been delivered and are undergoing static testing. The current PCEP Baseline Budget is \$2.44 billion. As detailed in Attachment 1, Caltrain is pursuing multiple funding sources to address the \$462 million increase resulting from the December 2021 change to the Baseline Budget. Caltrain has secured \$52 million in additional federal funds, leaving a \$410 million gap. In October 2022, the Metropolitan Transportation Commission (MTC) adopted the Bay Area Major Project Advancement Policy, which identifies completion of PCEP as a regional priority and prioritizes it for certain state and federal grant funds. If needed, up to \$140 million in bond proceeds, backed by Caltrain Measure RR funds, may be called upon to close the funding gap. A final fallback measure is the Four-Party Agreement, under which the Transportation Authority, San Mateo County Transportation Authority, VTA, and MTC committed to helping to seek and secure up to an additional \$50 million each, for a collective \$200 million backstop for PCEP in the event of cost</p>	<ul style="list-style-type: none"> <input type="checkbox"/> Fund Allocation <input type="checkbox"/> Fund Programming <input type="checkbox"/> Policy/Legislation <input type="checkbox"/> Plan/Study <input checked="" type="checkbox"/> Capital Project Oversight/Delivery <input type="checkbox"/> Budget/Finance <input type="checkbox"/> Contract/Agreement <input type="checkbox"/> Other: _____
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over-runs or shortfalls in revenues. The planned revenue service date is September 2024.	
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BACKGROUND

CalMod is a \$2.72 billion suite of sustainable projects that will electrify and upgrade the performance, operating efficiency, capacity, safety, and reliability of Caltrain commuter rail service, while improving air quality and reducing greenhouse gas emissions. CalMod includes the PTC Project, which was completed on December 17, 2020, and the PCEP, which has two components: electrification of the Caltrain line between San Jose and San Francisco; and the purchase of EMUs to operate on the electrified railroad. Revenue service is scheduled for September 2024.

The CalMod Program will improve system performance with faster, more reliable service while minimizing equipment and operating costs. The Program is critical to the long-term financial sustainability of Caltrain. The improvements will extend for 52 miles from San Francisco to San Jose and will also prepare the alignment for the future High-Speed Rail blended system. The project received the Full Funding Grant Agreement by the Federal Transit Administration (FTA) in 2017.

Like any large capital project, the CalMod funding plan relies on contributions from multiple funding partners including the three Peninsula Corridor Joint Powers Board (PCJPB) member counties (San Francisco, San Mateo, and Santa Clara), the Transportation Authority, MTC, and the California High-Speed Rail Authority (CHSRA), in addition to the FTA. Funding contributions were codified in a series of memorandums of agreement, of which the latest included an oversight protocol. The three PCJPB counties have provided a local contribution of \$80 million each to the CalMod program. The Transportation Authority provided about \$41 million, primarily from the Prop K sales tax and One Bay Area Grant programs. The San Francisco Municipal Transportation Agency provided the remaining \$39 million of San Francisco’s local contribution from the Prop AA General Obligation Bond.

The Funding Partners oversight protocol for CalMod requires the Executive Director of Caltrain to attend a Board of Supervisors meeting twice a year to provide an update on the CalMod Program. With the concurrence of the President of the Board of Supervisors, the updates since 2019 have taken place at Transportation Authority Board meetings.

DISCUSSION

The paragraphs below provide a brief status update on the CalMod program.

Positive Train Control (PTC) [COMPLETED]. This \$329.3 million project is complete. PTC is an advanced signal system that equipped the corridor with federally-mandated safety technology. Caltrain received conditional approval of the PTC Safety Plan from the Federal Railroad Administration (FRA) in December 2020. PTC is currently in Revenue Service and is fully interoperable with all tenants. Caltrain’s Interoperable Electronic Train Management



System is now certified by the FRA as a mixed PTC system. Caltrain has established a follow-on maintenance agreement with Wabtec Corporation, the project's contractor.

Peninsula Corridor Electrification Project (PCEP). As of September 30, 2022, expenditures on the PCEP reached \$1.89 billion, 77.5% of the \$2.44 billion current budget. Work is progressing on both the Electrification and the Vehicles components of the project.

Electrification design-build contract. In August 2016, Caltrain awarded the Design-Build Electrification contract to Balfour Beatty Infrastructure in the amount of \$697 million. The contract was issued with a \$108 million Limited Notice to Proceed, which was followed by full Notice to Proceed on June 19, 2017.

Overhead Contact System poles, cantilever arm, and wire installation continues. OCS foundations are complete and pole installation, of which 144 remain, is expected to be completed by year end. Contact wire installation has been completed in Segments 3 and 4 at the south end of the alignment, and completion in Segments 1 and 2 in the north is anticipated for October 31, 2023.

Work continues on the Traction Power Facilities. Power substations in San Jose and South San Francisco are 100% complete. Traction Power substations 1 and 2 interconnections are also complete. All the other facilities are 90% complete. The power facilities were energized on August 27, 2022, a major milestone. Live-running tests with the EMUs will begin on the weekend of January 13, 2023.

Signals and Communication Systems construction also continues. Integrated testing continues on Segment 4. Segment 2 is anticipated for completion in December 2022 and Segments 1 and 2 are expected to be completed by October 2023.

Tunnels. [COMPLETED] Work on modifications to the 100-year-old San Francisco tunnels reached Substantial Completion on September 17, 2020, and Final Acceptance was reached in December 2020.

Vehicles. On September 6, 2016, Caltrain gave a limited Notice to Proceed to Stadler Rail for the \$551 million EMU contract to design and fabricate 96 electric vehicles. After receipt of the Full Funding Grant Agreement, Caltrain issued the full Notice to Proceed on June 1, 2017. Subsequently, Caltrain executed an option for an additional 37 cars, bringing the total to 133 cars. In accordance with the Buy America provisions of the FTA funding, the vehicles are being manufactured by Stadler US at its new facility in Salt Lake City, Utah.

The first four trainsets have been delivered to Caltrain and are undergoing static testing prior to dynamic testing on Segment 4 (Santa Clara to San Jose). Delivery of the next two trainsets is anticipated for April 2023. Operator training started on the week of August 22, 2022 and will continue until all operators are trained. PTC brake testing of Trainset 1 was successfully completed at the Pueblo, Colorado rail testing facility.

Carshells for trains 1 through 16 are completed. The 14th trainset is anticipated to arrive at CEMOF by January 2024 and the 19th and final trainset's anticipated arrival is for summer 2024. Trains 15 through 19 represent additional trainsets purchased with funding outside of



the PCEP budget.

Supply chain issues and labor turnover/shortages continue to be the primary issues for final assembly in Salt Lake City.

Central Equipment and Maintenance Facility. Located in San Jose since 2007, this facility accommodates inspections, maintenance, repair, train washing, and storage for the rail fleet. As part of the PCEP, the facility just went through an overhaul to accommodate the new electric vehicles. All work at the facility was completed in July 2022. Contract is now in closeout.

Cost and Schedule. The current Baseline Budget for the PCEP, adopted by the PCJPB in December 2021, is \$2.44 billion. The December 2021 change to the Baseline Budget represented an increase of \$462 million over the original Baseline Budget. This increased budget reflects the completion of negotiations with the electrification design-build contractor, which resulted in a global settlement of \$346.68 million to resolve outstanding issues. The budget also reflected a "budget scrub", which resulted in a \$115.76 million cost increase.

The current budget includes a total of \$90 million in contingency: \$50 million in a shared risk pool and \$40 million in allocated and unallocated contingency. As of September 30, 2022, \$85.78 million in contingency remains. The Revenue Service date remains unchanged for September 2024, which includes a six-month contingency.

Funding Gap. The December 2021 Baseline Budget adjustment resulted in a \$462 million funding gap. Caltrain already has received \$52.4 million from the federal American Rescue Plan Act for the PCEP cost increase, leaving a remaining gap of \$410 million.

On October 26, 2022, the MTC adopted the Regional Major Project Advancement Policy (MAP), to guide regional major project investment priorities for various state and federal funding sources. The MAP identifies PCEP as a regional priority for up to \$300 million in state Transit and Intercity Rail Capital Program (TIRCP) funds. Caltrain staff is actively pursuing multiple options for addressing the funding gap as detailed in Attachment 1.

We are concurrently working with Caltrain and the funding partners on expanding and implementing the risk mitigation measures contained in the Risk Management Plan for the remainder of the project, seeking to reduce the amount of additional funding ultimately required to complete the project. We are also continuing to work with all the funding partners to seek additional federal and state funding and supporting Caltrain advocacy to secure those funds. Cash flow projections indicate that the additional funding will be needed by June 2023.

Progress Reports. Detailed CalMod monthly reports are provided to the Caltrain Board and are publicly available. Peninsula Corridor Electrification Project reports are located at:

http://www.caltrain.com/projectsplans/CaltrainModernization/CalMod_Document_Library.html - electric

Challenges and Opportunities. In addition to needing to secure funds to cover the increased project cost and contingency, there are some challenges that may impact Caltrain's



ability to complete CalMod, even within a new schedule and budget. An updated Monte Carlo quantitative risk analysis was conducted in October 2022. Results indicate that the forecasted direct cost of risks is now \$24.4 million, a 52% reduction from the July 2022 figure of \$54.3 million. With respect to schedule, the analysis found that four risks remain with the potential to impact the project for three or more months, a reduction from 20 such risks in July 2022. Broadly, this analysis indicates that the program is headed in the right direction. The primary risk items that we are monitoring include the risks that:

- The contractor may not be able to complete design, installation, and testing for the “Two-Speed Check” signal/communication modifications within budget and schedule.
- Caltrain’s operations contractor may not have sufficient field support resources (railroad worker in-charge, watchmen, flaggers, signal maintainers) for testing.
- Caltrain may not be able to provide sufficient personnel for implementation of the Rail Activation Plan on the planned schedule.
- The contractor Quality Manager may be missing issues that are not caught until PCEP Quality Manager finds them.
- Caltrain and Union Pacific are unable to resolve clearance issues between Main Track 1 and Union Pacific duct bank infrastructure
- Funding shortfall of \$410 million is not met consistent with expenditures required to complete the PCEP project. Current cashflow is sufficient through June 2023

FINANCIAL IMPACT

None. This is an information item.

CAC POSITION

None. This is an information item.

SUPPLEMENTAL MATERIALS

- Attachment 1 - Funding Strategy to Close \$410 Million Funding Shortfall



Attachment 1

Funding Strategy to Close \$410 Million Funding Shortfall

Federal

- Supplemental FTA Capital Investment Grants Full Funding Grant Agreement (FFGA) funding: An estimated \$51 million of the House THUD Appropriations Bill could go towards project.
- FRA Federal State Partnership for Intercity Rail grant program: In partnership with CHSRA and other corridor stakeholders, Caltrain is developing a multi-project approach for this upcoming federal funding opportunity.
- "Community Project" funding: Possible \$10 million in Senate THUD Appropriations Bill from Senators Feinstein and Padilla.

State

- **FY 23 State Budget signed into law:** The \$10.8 billion transportation package has \$1.5 billion available in Northern California for an augmentation cycle of the Transit and Intercity Rail Capital Program or TIRCP. At least \$900 million within that program is reserved for projects that have already received TIRCP funds, like the Caltrain Electrification project, that can demonstrate additional funding is needed. California State Transportation Agency released a call for projects for these funds earlier in November.

Regional/Local

- **Tax-exempt bonds:** On February 3, 2022, having received authorization from the three member agencies, the Peninsular Corridor Joint Powers Board approved the issuance of bonds secured by Caltrain's Measure RR, a 1/8 -cent sales tax approved in 2020. The bonds are structured to be payable from the sale of Low Carbon Fuel Standards credits upon electrified revenue service. On March 2, 2022, Caltrain issued \$150 million in bonds which yielded \$140 million in funds that could be used for the project should other options not materialize. The bond proceeds are currently planned for state of good repair.
- **Four-Party Agreement:** As part of the Full Funding Grant Agreement process, the Transportation Authority, San Mateo County Transportation Authority, VTA, and MTC each committed to helping to seek and secure up to an additional \$50 million, for a collective \$200 million backstop for PCEP in the event of cost overruns or shortfalls in revenues.