



Memorandum

AGENDA ITEM 9

DATE: July 8, 2021
TO: Transportation Authority Board
FROM: Eric Cordoba - Deputy Director for Capital Projects
SUBJECT: 07/13/21 Board Meeting: 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>CalMod is a \$2.26 billion suite of projects including Positive Train Control (PTC) and the Peninsula Corridor Electrification Project (PCEP). PTC was completed in December 2020. As of May 31, 2021, the PCEP, comprised of electrification of the Caltrain line between San Jose and San Francisco and the procurement of electric multiple-unit vehicles, has expended 61.6% of its base budget. Both elements are well underway. The first trainset is in Pueblo, Colorado, undergoing a full-blown running test program. In December 2020, the Federal Transit Administration (FTA), with the participation of project and Transportation Authority staff, conducted four risk workshops covering scope, schedule, budget, and risk. The draft FTA risk refresh results indicate a cost increase of \$333 million (\$161 million in identified cost increases and \$172 million in additional project contingency) and a completion date (including a six-month contingency) of the fourth quarter of calendar year 2024, compared to the previously forecasted completion date of December 2022. The Caltrain Board is anticipated to adopt an updated PCEP cost, schedule, and funding plan this fall. This memo provides additional detail on CalMod progress as well as updates on challenges and risks facing the overall program.</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: _____
---	--

BACKGROUND

Caltrain Modernization Program (CalMod). CalMod is a \$2.26 billion suite of projects that will electrify and upgrade the performance, operating efficiency, capacity, safety, and reliability of Caltrain commuter rail service, while improving air quality. CalMod includes the PTC Project,



which was completed on December 17, 2020, and the Peninsula Corridor Electrification Project, which has two components: electrification of the Caltrain line between San Jose and San Francisco; and purchase of electric multiple-unit (EMU) vehicles to operate on the electrified railroad. While the current official revenue service date for PCEP is December 2022, we understand that the Caltrain Board will be asked to re-baseline the project schedule to an anticipated opening in March 2024. (See Cost and Schedule update in Discussion section for more detail.)

The CalMod Program will improve system performance with faster, more reliable service while minimizing equipment and operating costs, and 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. With the signing of the Full Funding Grant Agreement by the FTA in 2017, Caltrain issued Notices to Proceed to its contractors for corridor electrification and purchase of electric trains.

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, the Metropolitan Transportation Commission, and the California High-Speed Rail Authority. Funding contributions were codified in a series of memorandums of agreement, one of which included an oversight protocol. The three PCJPB counties have a local contribution of \$80 million each to the \$2.26 billion CalMod program. The Transportation Authority has allocated about \$41 million primarily from the Prop K sales tax and One Bay Area Grant programs. The San Francisco Municipal Transportation Agency has allocated the remaining \$39 million of San Francisco's local contribution from the Prop AA General Obligation Bond, completing San Francisco's \$80 million contribution to CalMod.

The Funding Partners oversight protocol for CalMod, requires the 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). This \$329.3 million project is now complete. PTC is an advanced signal system that will equip the corridor with federally-mandated safety technology. Caltrain received conditional approval of the Positive Train Control Safety Plan (PTCSP) from the Federal Railroad Administration (FRA) on December 17, 2020 and is currently in Extended Revenue Service Demonstration and fully interoperable with all tenants. Caltrain Interoperable Electronic Train Management System is now certified as a mixed PTC system. At its September 2020 meeting, the PCJPB approved a follow-on maintenance agreement with Wabtec Corporation, the project's contractor.



Peninsula Corridor Electrification Project (PCEP). As of May 31, 2021, expenditures on the PCEP reached \$1.219 billion, 61.6 % of the \$1.98 billion base 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 (BBI) 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. Work continues on the Overhead Contact System (OCS) potholing, foundations, poles, and cantilever arm installation. 2,594 out of 3,116 (83%) foundations have been installed as of mid-June and 1,637 of 2,591 (63%) of the poles have been installed. BBI anticipates that Segment 4, the first segment to be completed, will be finished by November 2021.

Work also continues on the Traction Power Substations, Paralleling Stations, and Switchgear installation. The TPS-2 control building arrived in San Jose on June 25. Signals construction also continues. Cutovers 4 and 5 in Segment 4, originally anticipated for June, have been postponed to late July and mid-August 2021 respectively. Partly because of encountering differing site conditions, together with the contractor's own procurement deficiencies, work has experienced production inefficiencies. The Consistent Warning System for the at-grade crossings has proven to be a challenge for the contractor, who is proceeding very slowly with its implementation. Caltrain has determined that the best path forward is to remove the scope from BBI and assign the scope to MRS and Alstom, the subcontractors responsible for the work, and is in the process of pursuing this option.

Tunnels. 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.

Carshell and truck frame production in Switzerland and final assembly in Salt Lake City continues. 82 of 133 carshells (62%) have been shipped and 70 cars are in various stages of assembly. Production continues on Trainsets #3 through #13. Full dynamic testing of Trainset #1 (eight-car set) continues at the Transportation Technology Center in Pueblo, Colorado. The first trainset delivery to Caltrain is now anticipated in November 2021. Routine static and dynamic testing of trainsets #3 and #4 continues. Stadler has experienced difficulties with some of the stateside suppliers and is taking steps to counteract issues with suppliers of ceiling panels, luggage racks, and pantograph frames.

Cost and Schedule. In December 2020, the FTA, with the participation of project and Transportation Authority staff, conducted four risk workshops on the PCEP. The workshops covered scope, schedule, budget, and risk. The resulting data was run through a Montecarlo



Analysis to determine the appropriate level of cost and schedule contingencies needed for the project's successful completion. The results of the analysis were presented to the Caltrain Board on June 3, 2021. The analysis revealed a total additional project budget need of \$333 million. Of this amount, \$161 million has been identified by the project as known and allocated cost, and \$172 million is recommended as reserve for unanticipated risks. The primary reasons for the cost increase are in order: difficulties in implementing the two-speed check solution for the signaling system at crossings, differing site conditions found during foundation installation, and COVID. The recommended project completion date is fourth quarter of calendar year 2024, which includes a six-month contingency. The recommendations are under review by PCEP staff. Caltrain staff anticipates taking new budget, schedule, and funding recommendations to its board in the Fall.

Funding Gap. Caltrain already has received \$52.4 million from the federal American Rescue Plan Act for the PCEP cost increase. Options being pursued to cover the remaining gap (up to \$280.6 million) include:

- **Issuance of tax-exempt bonds:** Caltrain has proposed to issue bonds secured by Measure RR (three-county sales tax measure approved in 2020) to provide the lowest interest cost and greatest structuring flexibility. The bonds are being structured to be payable from the sale of Low Carbon Fuel Standards (LCFS) credits upon electrified revenue service. Caltrain is seeking authorization for up to \$140 million in bonds from the PCJPB member agencies. This approval is anticipated to be before the Board of Supervisors in July.
- **Federal and State funding opportunities:** Caltrain is actively pursuing other grant sources.
- **Four Party Agreement:** A part of the Full Funding Grant Agreement process, the Transportation Authority, San Mateo County Transportation Authority, VTA, and Metropolitan Transportation Commission 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 over-runs or shortfalls in revenues.

We are interested in 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, in order to seek to reduce the amount of additional funding ultimately required to complete the project. We are also interested in working with all parties to seek additional federal and state funding. We have requested a date for a draft funding strategy from Caltrain that the funding partners can help review and refine and then support Caltrain advocacy to secure those funds.

Progress Reports. Detailed CalMod monthly reports are provided to the Caltrain Board and are publicly available:



Peninsula Corridor Electrification Project reports:

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

Challenges and Opportunities. In addition to needing to secure funds to cover the anticipated increased project cost and contingency, there are some challenges that may impact Caltrain's ability to deliver CalMod even within a new schedule and budget. Although already considered in the proposed new cost and schedule, the primary risk items that we are monitoring include:

- 1) Design and construction of grade crossing modifications (Consistent Warning System) that meets stakeholder and regulatory requirements may cost more than was budgeted and delay the revenue service date.
- 2) The extent of encountering multiple differing site conditions and underground utilities, coupled with delays in resolving them, may result in delays to the completion of the electrification contract and increases in program costs.
- 3) Lack of resolution on the schedule discrepancies with the Electrification contractor, which are currently under mediation, creates uncertainty regarding substantial completion.

FINANCIAL IMPACT

None. This is an information item.

CAC POSITION

None, as this is an information item. This update will be presented to the CAC at its July 28 meeting.