

Crossing Optimization Project Change Order



Executive Summary

- Action requests an increase to the original Contract No. 18-J-T-49 with Wabtec Railway Electronics, Inc. (“Wabtec”), in an amount not to exceed \$4,903,222. Establish additional contract contingency of 10% in the amount of \$490,322 .
- Funds for the program are included in the original PTC program budget
- The Change order was approved unanimously by the Change Management Board on April 20, 2022.
 - The PTC contract is under the purview of the CalMod program.

Crossing Optimization Overview

Crossing Optimization Project Overview

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- Provides for trains to communicate directly with grade crossings via wireless technology
- Overlays the FRA-required wayside grade crossing solution (2SC) that controls grade crossing activations in case of wireless failure or trains not equipped with the optimization solution.
- Interfaced with In-Service PTC system as an integrated feature
- Timing of implementation delayed to allow for technology development and reduction of risk to the Electrification project
- Perform under the original Wabtec PTC contract

Project Elements and Benefits

- Project Benefits
 - Reduce amount of gate down time
 - Provide more consistent warning times
 - Reduce the number of crossing warning system activations
- Project locations
 - Highway Grade Crossings (41)
 - Ped Crossings (2)



Crossing Optimization Change Order

Chronological Events

<u>Timeline</u>	<u>Description of Major Events</u>
March 1, 2018	Executed a contract 18-J-T-049 with Wabtec Railway Electronics, Inc. (Wabtec), in an amount not to exceed \$45,012,123 including wireless crossing bid amount of \$2,976,840.
January 25, 2019	The wireless crossing scope was on hold after consulting with the FRA concerning Denver Eagle wireless crossing solution.
Feb 10, 2021	Resume wireless crossing work and commenced development of crossing optimization Concept of Operations.
Nov 29, 2021	Caltrain submitted Crossing Optimization Field Test Request under Title 49 Code of Federal Regulations (CFR) Section 236.1035 for the FRA approval.
March 9, 2022	Caltrain received FRA conditional approval
Feb 2 – March 30, 2022	Conduct technical evaluation and commercial negotiation with Wabtec for crossing change order
April 20, 2022	Deployment to first 6 locations.



Change Order Scope Elements

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- PTC 220 Application Support and RF study
- Design, lab testing, field testing and cutover phased deployment to follow PCEP 2SC
- Wayside Application Logic and Plans – 43 crossings
- Dynamic Scheduling
- Time extension and PM extended overhead (January 2022 – March 2024)

Crossing Optimization Wabtec Cost – Fixed Price

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Contract Pricing for Wireless Crossing	Cost (US\$)
Wabtec Original Wireless Crossing Pricing – March 2018	\$ 2,976,840
Wabtec Wireless Crossing Change Order Pricing – March 2022	\$4,903,222
Total Wireless Crossing Wabtec Cost	\$7,880,062

-Project Team Independent Cost Estimate for this change order is **\$5,489,107**.



Caltrain PTC Project Budget & Cost at Completion

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Caltrain PTC Project	Budget (US\$)	Cost At Completion without Crossing (US\$)	Variance (US\$)
Wabtec Contract	\$47,033,392	\$43,102,938	\$3,930,454
Other Contracts	\$7,885,955	\$5,914,191	\$1,971,764
Project Management including TASI & ODC	\$28,436,014	\$28,404,088	\$31,926
Contingency	\$6,058,218	\$0	\$6,058,218
Total	\$89,413,578	\$77,421,216	\$11,992,362
PTC Project Remaining Funds			\$11,992,362



Crossing Optimization Project Budget and Funding

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Budget/Cost Elements	US\$
Wabtec Contract	\$7,880,062
Caltrain Project Management, TASI Field Support and ODCs	\$3,183,234
Contingency	\$922,704
Total Project Cost at Completion	\$11,986,000
Project Available Fund	\$11,992,362

Project Work Accomplished Under Existing Contract Authority

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- Completed Concept of Operations (ConOps).
- Completed Crossing Optimization Preliminary Design.
- Received FTA Conditional Test Requested Approval
- CPUC G088 review and approval is on-going.
- Developed Project Implementations Plan and Schedule
- Completed Group 1 Pilot Proof of Concept cutover (6 locations)

Crossing Optimization Project Schedule

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- Working collaboratively with PCEP to make Implementation efficient and De-risk the PCEP Cutovers
- Crossing Optimization complete- Spring of 2024
- Updates will be provided monthly as part of PCEP program update

June JPB Board Action

- Approve an increase to the original Contract No. 18-J-T-49 with Wabtec Railway Electronics, Inc. (“Wabtec”), in an amount not to exceed \$4,903,222 for completion of Crossing Optimization work.
- Establish additional contract contingency of 10% in the amount of \$490,322 and authorize the Acting Executive Director or designee to approve change orders up to the contingency amount.
- Authorize the Acting Executive Director or designee to execute the contract amendment in a form approved by legal counsel, with full implementation of the agreed upon Funding Partners’ Oversight Protocol including monthly reports to the Board.

FOR MORE INFORMATION
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Change Order Pricing Elements

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Change Order Scope Element	Change Order Pricing	Original I-ETMS Contact Bid Price (March 2018)	Original Scope Element (March 2018)
PTC 220 Application Support and detail RF study by MCC	\$268,863	Self performed	\$50,000
Design, Lab Testing, Field Testing and Cutover to follow PCEP 2SC Deployment	\$1,137,700	Do not consider PCEP Schedule, phasing and grouping.	1,488,420
Wayside Application Logic and Plans Update– 45 crossings	\$1,031,986	No Application Logic and Plan Update, only for inhibit function Design	\$893,052
Dynamic Scheduling	\$102,077		0
PM extended overhead (01/01/2022 to 03/31/2024.)	\$2,362,596	PM (March 2018 – June 2021) Crossing Resumed August 2021	\$545,368
Total	\$4,903,222		\$ 2,976,840