

# 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

- 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>
<b>March 1, 2018</b>	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.
<b>January 25, 2019</b>	The wireless crossing scope was on hold after consulting with the FRA concerning Denver Eagle wireless crossing solution.
<b>Feb 10, 2021</b>	Resume wireless crossing work and commenced development of crossing optimization Concept of Operations.
<b>Nov 29, 2021</b>	Caltrain submitted Crossing Optimization Field Test Request under Title 49 Code of Federal Regulations (CFR) Section 236.1035 for the FRA approval.
<b>March 9, 2022</b>	Caltrain received FRA conditional approval
<b>Feb 2 – March 30, 2022</b>	Conduct technical evaluation and commercial negotiation with Wabtec for crossing change order
<b>April 20, 2022</b>	Deployment to first 6 locations.

# Change Order Scope Elements

- 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

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
<b>Total Wireless Crossing Wabtec Cost</b>	<b>\$7,880,062</b>

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

# Caltrain PTC Project Budget & Cost at Completion

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



# Crossing Optimization Project Budget and Funding

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

# Project Work Accomplished Under Existing Contract Authority

- 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

- 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

[WWW.CALTRAIN.COM](http://WWW.CALTRAIN.COM)



# Change Order Pricing Elements

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