

Receive Update Regarding Wireless Crossings

**JPB TOPS Committee
04/23/2025**

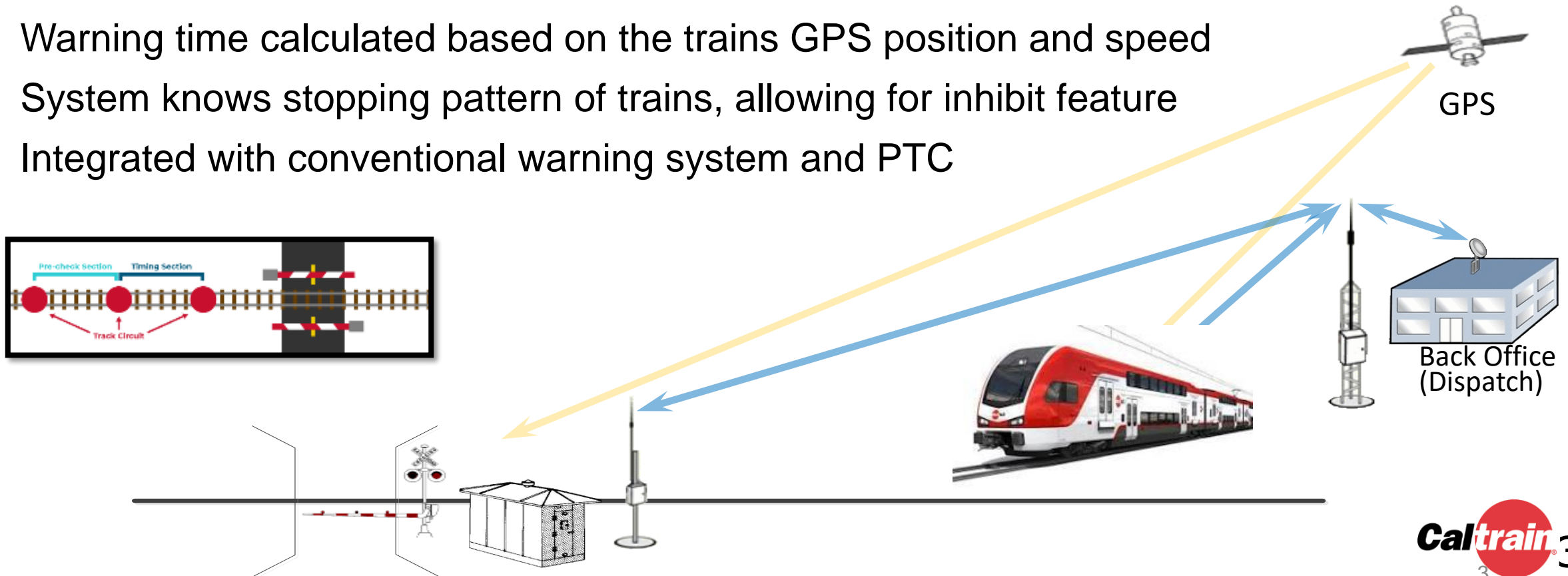


Railroad Crossing Overview

- 41 at-grade vehicular crossings on the Caltrain-owned corridor between San Francisco and San Jose
- Crossing gates and activations are key safety feature for railroad and surrounding communities
- Two main crossings systems active as of 2024
 - Wireless Crossing (active for all Caltrain trains)
 - 2 Speed Check (active for tenant trains and as wayside backup)

Wireless Crossing Operations

- Communication between onboard computer, dispatch and wayside signal at crossing
- Positive Train Control enabled locomotive sends message to a wayside crossing controller
- Warning time calculated based on the trains GPS position and speed
- System knows stopping pattern of trains, allowing for inhibit feature
- Integrated with conventional warning system and PTC

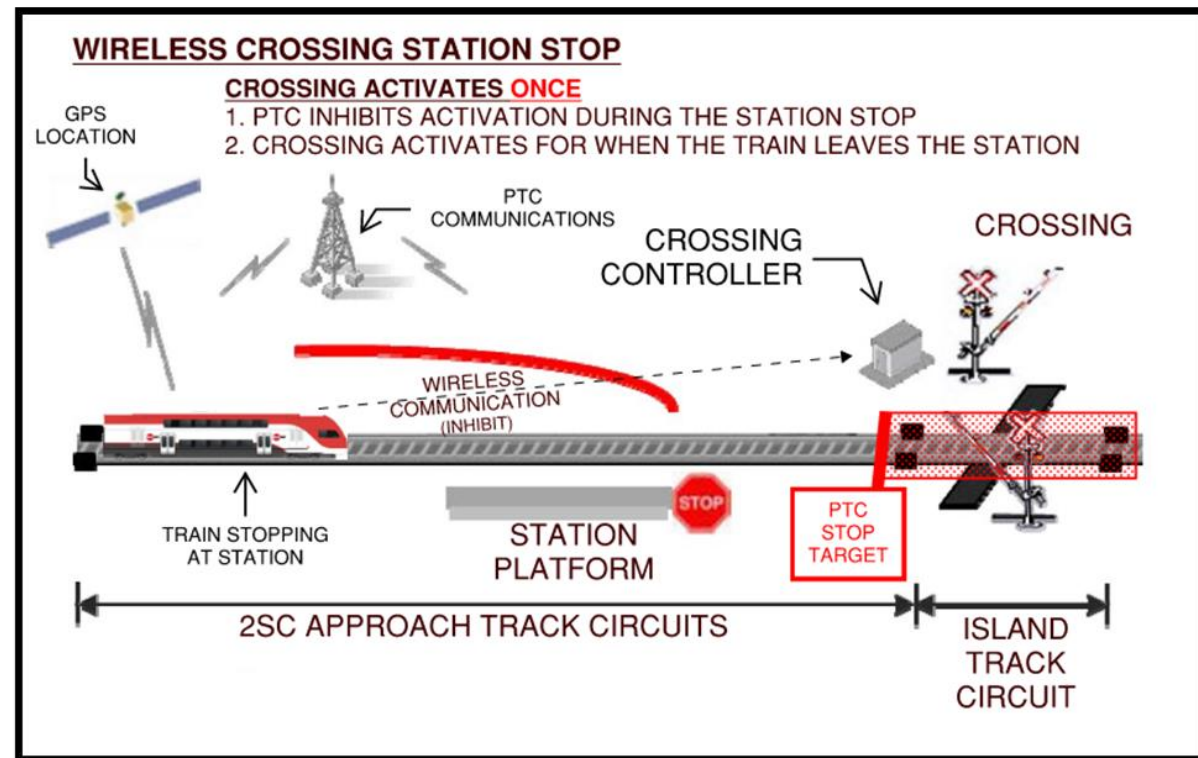


Wireless Crossing Key Features & Benefits

- Provides more consistent warning times than 2 Speed Check
- Reduces length of long warning times
- Provide performance similar or better when compared to other technologies, including legacy pre-electrification system

Inhibit Feature

- Reduces or eliminates the additional activation of gates at a downstream grade crossing by an approaching train for a scheduled station stop
- Crossings activate when the train is departing the station



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Wireless Crossing Project Status

- Wireless Crossing system active at 41 vehicular crossings and 2 pedestrian (non-station) crossings
- Installation and testing were completed in August in 2024 prior to electrified service launch
- Inhibit feature launched in January 2025
- Operations noted on-time performance issues with inhibit feature active at 10 crossings directly adjacent to stations
- Turned off inhibit feature at those crossings until long-term solution can be determined.
- 24 crossings still have inhibit feature active
- Long-term solution for activating inhibit feature at remaining 10 crossings without impact EMU on-time performance. expected in early 2026



Wireless Crossing Performance Results

Performance Results (January 5-31, 2026)

Item	Quantum
Average Daily Reduction of Gate Down Time Per Crossing (Range: 20-87 minutes)	45 minutes
Total Daily Reduction of Gate Down Time for All Crossings	18 hours, 11 minutes
Total Activations Prevented in January	24,285 activations

Wireless Crossings Benefits Example:

Burlingame Station Stop (North Lane & Oak Grove Avenue)

- 35 Scheduled daily Station Stop activations eliminated
- Oak Grove Avenue = 32 minute daily reduction in gate down time
- North Lane = 45 minute daily reduction in gate down time

Wireless Crossing Path Forward— Maintenance and Enhancements

- Station Inhibit Performance Updates - Q1 2026 Delivery
- Manual Start Activation - Q1 2026 Delivery
- Amtrak to start using system end of Q2 2025

FOR MORE INFORMATION
WWW.CALTRAIN.COM

