

Caltrain Electrification Update

San Francisco Transportation Authority
May 24, 2022



Caltrain Corridor

- 77 miles of track from end to end
- 31 stations
- Bi-directional commute
- 41 at-grade crossings
- Pre-pandemic:
 - 7th largest commuter rail in the country
 - 70% farebox recovery
 - Over 18 million Unlinked Passenger Trips (UPT) in 2019
 - Frequently overcrowded trains, standing room only



A Connected Future

Electrified Caltrain corridor will enable additional investments

- 2040: 40% increase in population within 2-miles of the corridor
- Existing and future tenants
 - Capital Corridor (Amtrak)
 - Altamont Corridor Express
 - California High Speed Rail
- Expansion projects
 - San Francisco Downtown Extension
 - San Jose Diridon Station Rebuild
 - Grade Separations

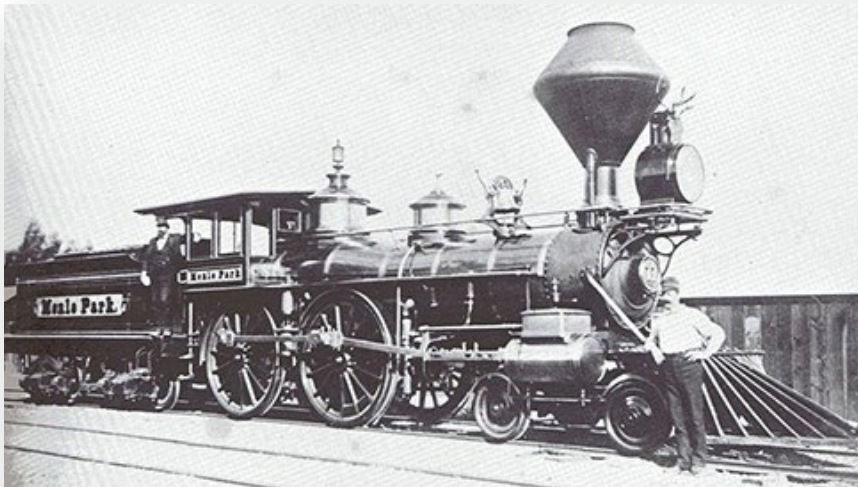


California High-Speed Rail, Draft Business Plan, Pg. 23

Electrification Project Overview

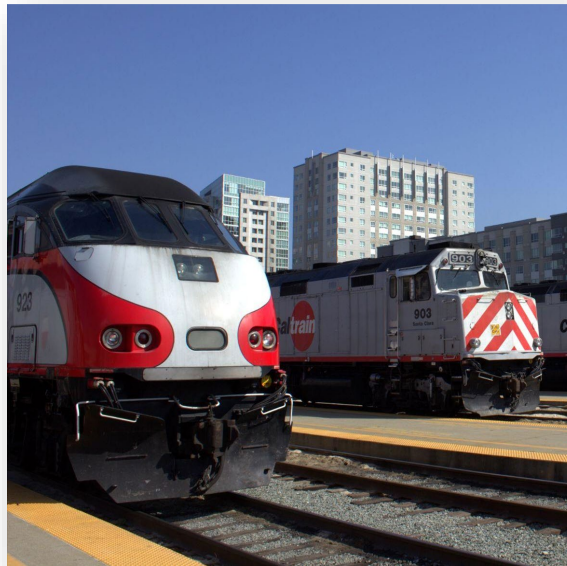
Transformational Moment

Electrification will help Caltrain become a cleaner, more efficient component of the transportation network.



Locomotive - Locomotive #11 of the San Francisco and San Jose Railroad. Circa 1870.

Steam 1860s



Diesel 1950s to present



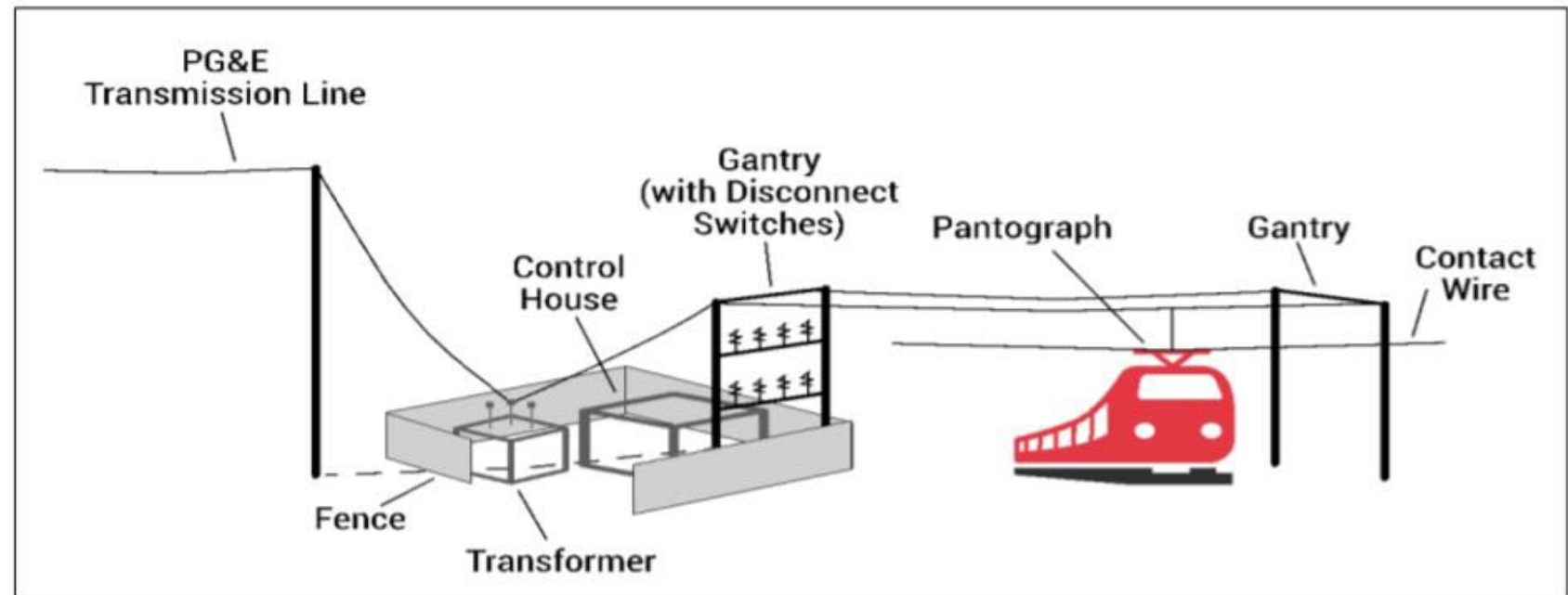
Electric 2024

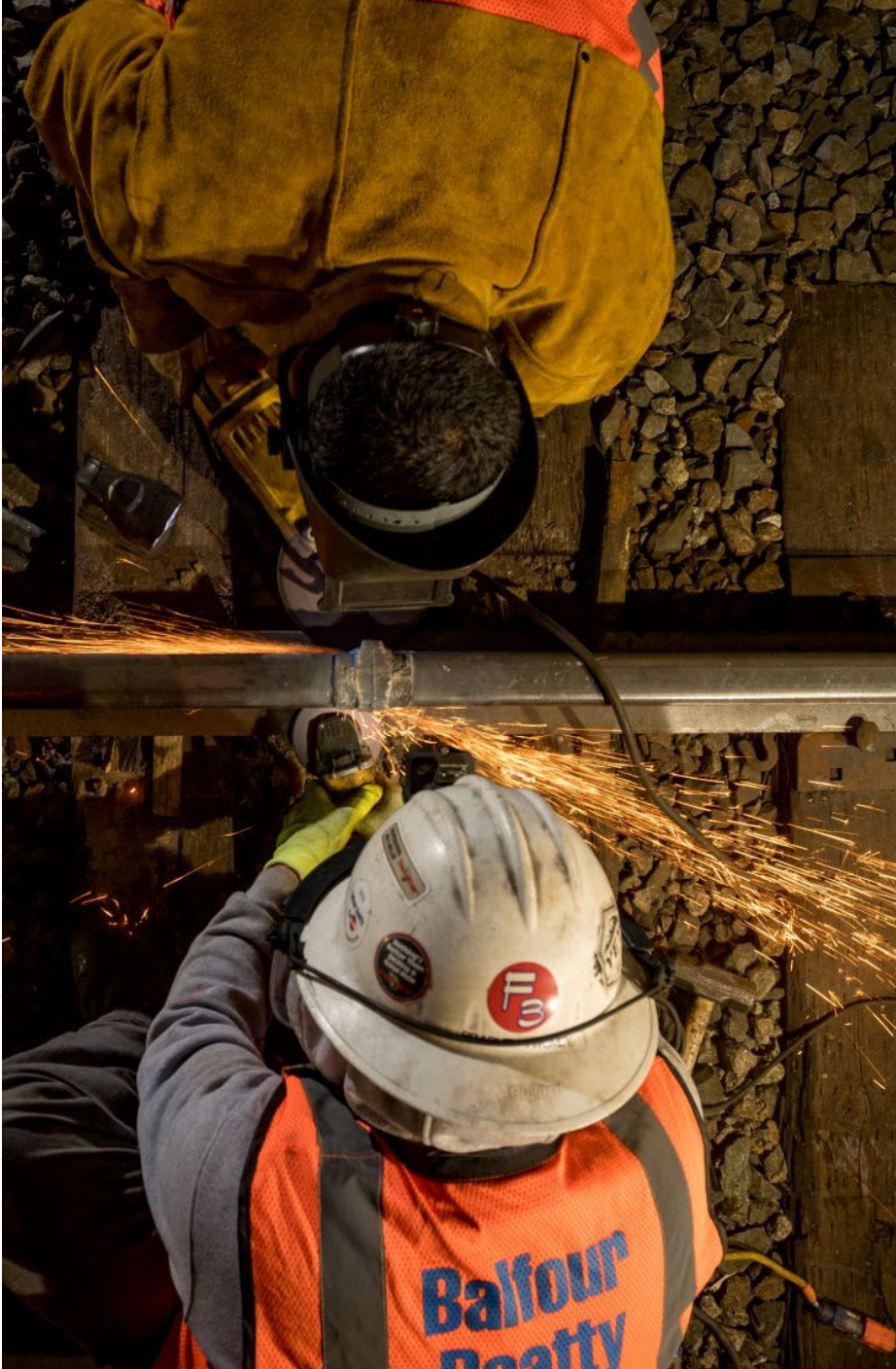


Transition from Diesel to Electric

First Diesel to Electric Commuter Railroad in North America

- 25KV Overhead Contact System (used by high-speed rail system)
- 19 EMU 7-car trainsets (replaces 75% of diesel fleet)
- Two-Speed Check signal system (approved by FRA, UP and CHSRA)
- 6 trains per hour per direction





TIMELINE



2017

Start Construction

2022

First Trains Arrive
for Testing on
Corridor

2024

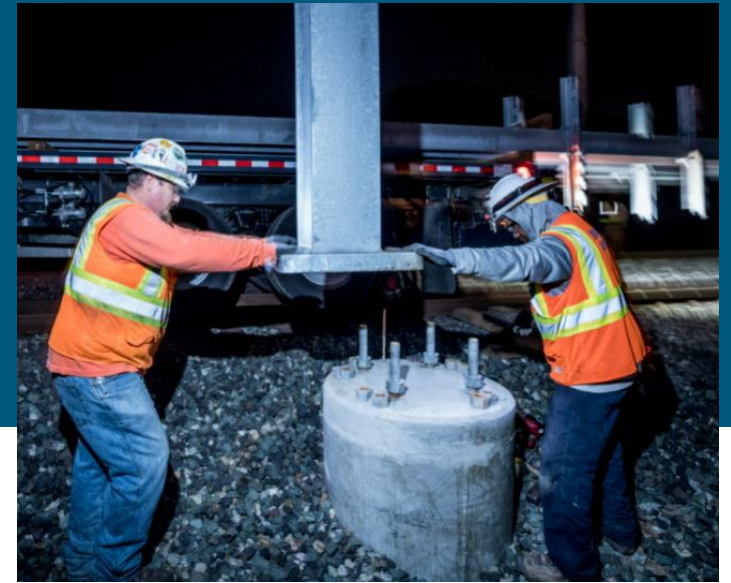
Electrified
Passenger
Service



Shovels in the Ground

- **Foundations:** All 3,092 foundations complete (January 2022)
- **Electric Trains:** First 2 train sets arrived (March 2022)
- **Poles:** Installation to be completed 2022
- **Traction Power Facilities:** All 10 facilities to be completed 2022
- **Wire:** Installation to be completed 2023
- **Signal Work / System Integration and Testing:** 2022-2024

Revenue Service: September 2024



Foundations



Overhead Catenary System



**Electric trains
have arrived!**

**Events for key
stakeholders and
the public this
summer and fall**

Electrification Project Benefits

Safety

- Crash energy management technology (meets FRA Alternate Compliance requirements for mixed traffic).
- Crash absorption system protecting train driver and passengers (meets FRA crashworthiness standard).
- Latest generation of vehicle control systems including detailed diagnostic features.
- Improved braking performance.





Sustainability / Energy Independence

- Reduce dependence on foreign energy sources; Rely on cleaner, renewable domestic energy sources.
- California committed to renewable and zero-carbon energy resources supplying 100% electric retail sales to customers by 2045.
- EMU trains include regenerative braking for additional energy savings.
- Eliminates 2.09 million tons of carbon emissions.
- Future Caltrain will carry equivalent of 5½ lanes of freeway traffic.



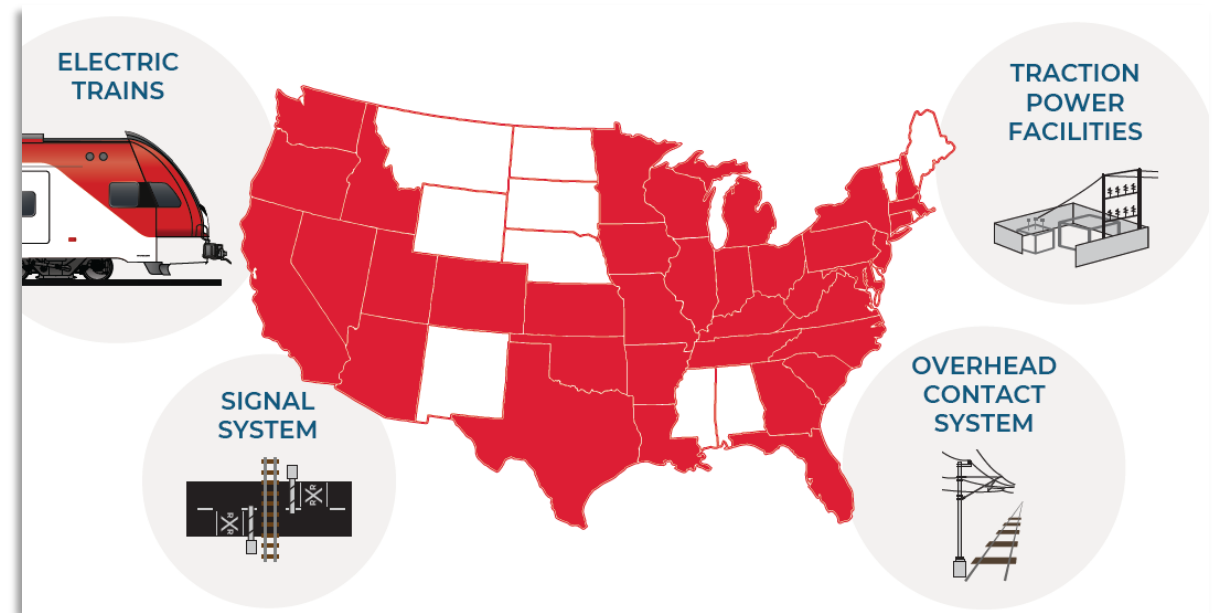
Equity

- Decreases emissions and noise pollution in communities of concern
- Benefits disadvantaged communities:
 - San Francisco (Bayview)
 - Santa Clara
 - Redwood City
 - San Bruno
 - South San Francisco
- Improves mid-day and off-peak service for essential workers

Economic Growth and Job Creation

33,000 Jobs Created in 36 States / Buy America Compliant

- Stadler (Switzerland based company) opened **first facility in the US** with guarantee of Caltrain Electrification Project contract
- Stadler Salt Lake City Facility:
 - 400+ employees
 - Local apprenticeship program
- Additional foreign suppliers opening US locations in order to be Buy America compliant



Cost and Funding

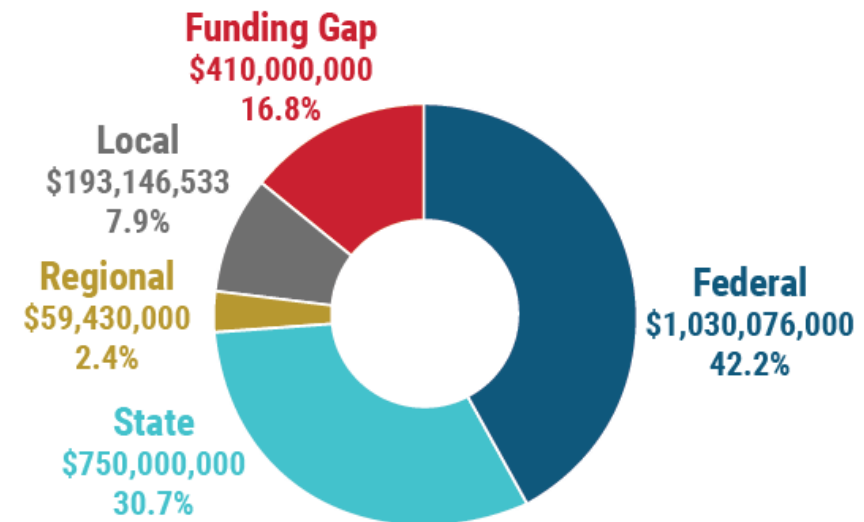
Cost and Funding

Project cost \$2.44B

Cost increase \$462M

Funding gap \$410M

CALTRAIN ELECTRIFICATION PROJECT FUNDING PLAN



Enhanced Scope & Cost Increase

New Signal System (\$179M)

- Different system needed for electrified railroad
- Enhanced scope from original design
- Approved by UP, FRA, CHSRA

Other Cost Increases (\$283M)

- Supply chain constraints
- Labor shortage
- COVID-related delays
- Unexpected underground conditions

Change Management Board

Additional funding partner oversight, beyond Federal oversight

- Change Management Board: Established in 2016 per Seven-Party Funding Partners Memorandum of Understanding
- Staff membership:
 - City and County of San Francisco / San Francisco County Transportation Authority; Metropolitan Transportation Commission; Santa Clara Valley Transportation Authority; San Mateo County Transportation Authority; California High Speed Rail Authority; Peninsula Corridor Electrification Project
- Meets monthly to review:
 - Project status
 - Contingency drawdown status
 - Change order logs
 - Information items
- Action on changes over \$200,000
 - Change orders
 - Increase in contract authority
 - Increase in work directive authority

Strategy to Fill Remaining \$410M Funding Gap

State Target (at least \$260M)

- State Surplus / Budget Process

Federal Target Programs

- FRA Federal-State Partnership Intercity Passenger Rail
- FTA Capital Investment Grant Supplemental
- Community Project

Project Support

- US Senators: Feinstein, Padilla
- US Reps: Pelosi, Eshoo, Speier, Lofgren, Khanna
- State Senators: Wiener, Becker, Laird
- State Assembly: Mullin, Berman, Chui, Lee, Kalra, Ting, Low, Rivas, Wieckowski, Stone
- California Governor
- 21 Local Jurisdictions along the Corridor including Mayors Breed (San Francisco) and Liccardo (San Jose)
- Silicon Valley large and small employers; Labor
- Transportation and environmental advocates
- Caltrain riders



FOR MORE INFORMATION

WWW.CALTRAIN.COM

