

# 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:
  - 7<sup>th</sup> 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

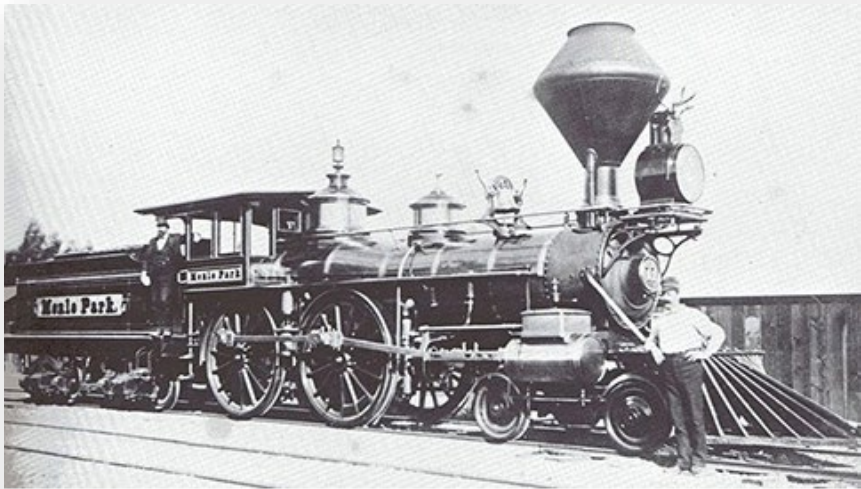


California High-Speed Rail, Draft Business Plan, Pg. 23

# Electrification Project Overview

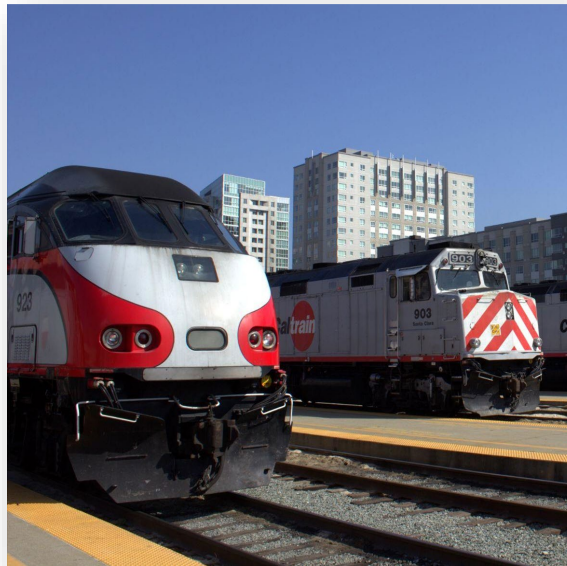
# Transformational Moment

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



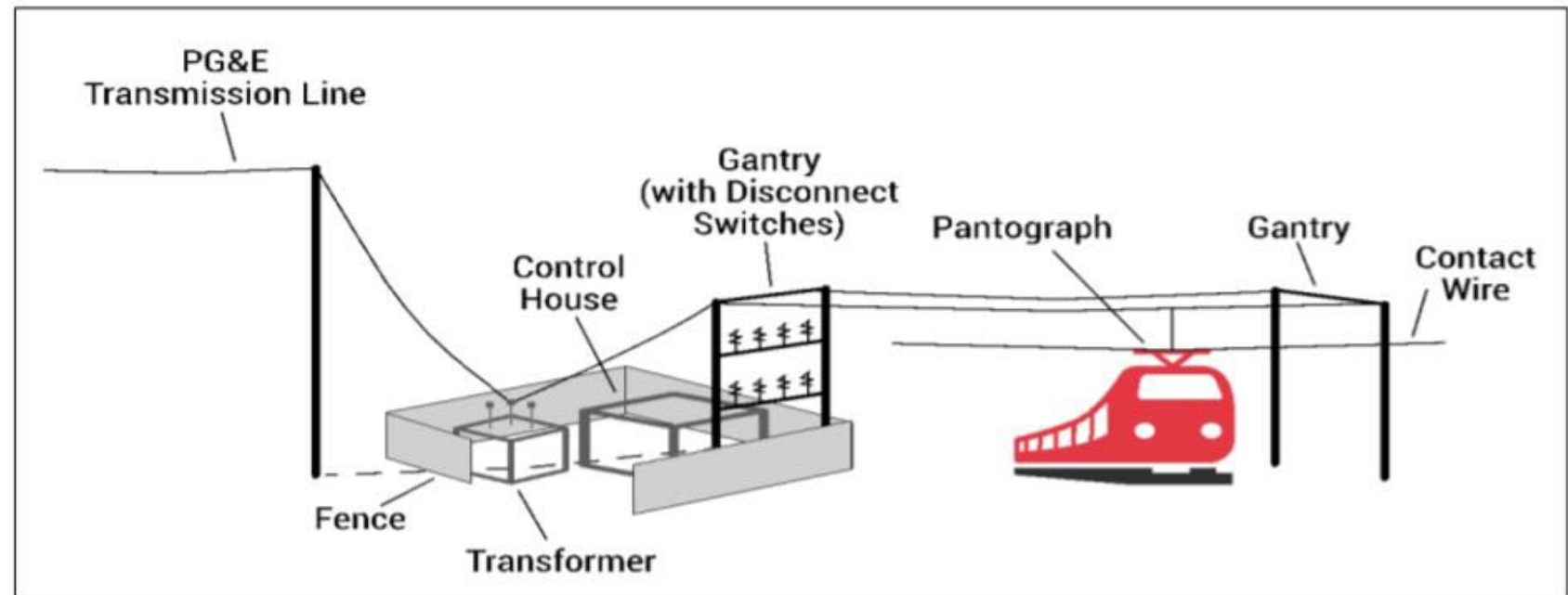
Electric 2024

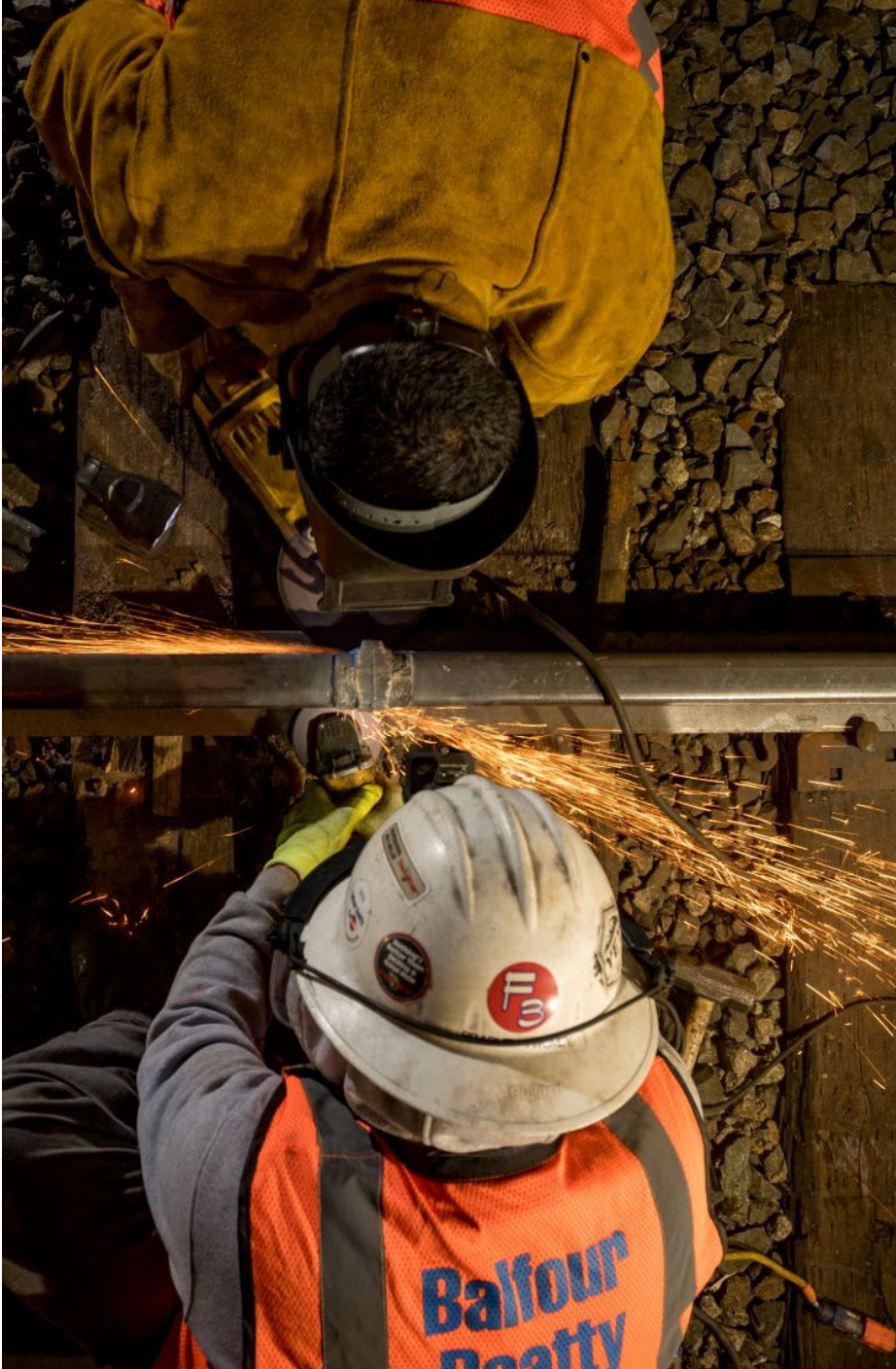


# Transition from Diesel to Electric

## 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.



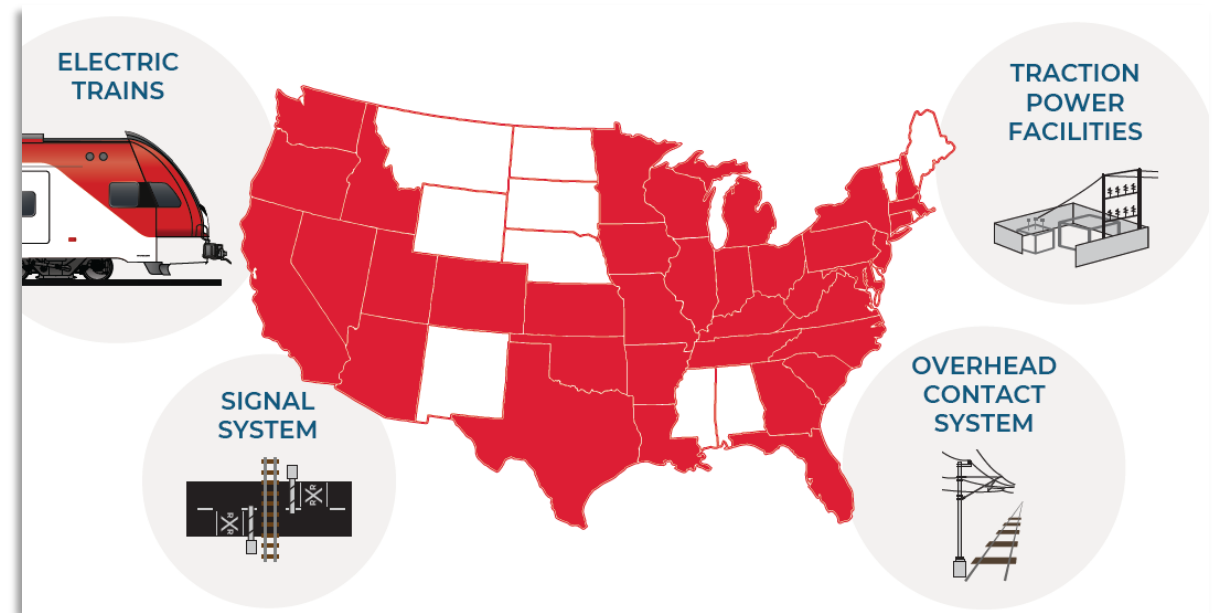
# Equity

- 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

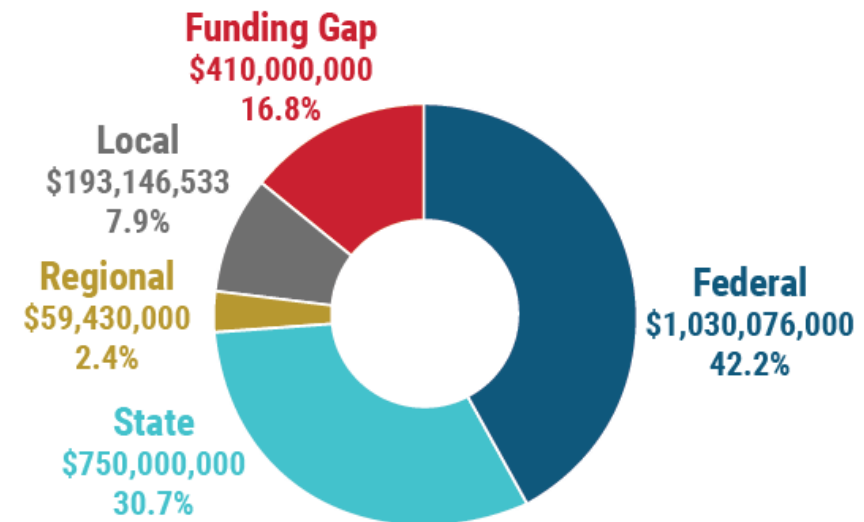
# Cost and Funding

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

