

Caltrain Electrification Update

San Francisco Transportation Authority

December 13, 2022

Agenda Item 9

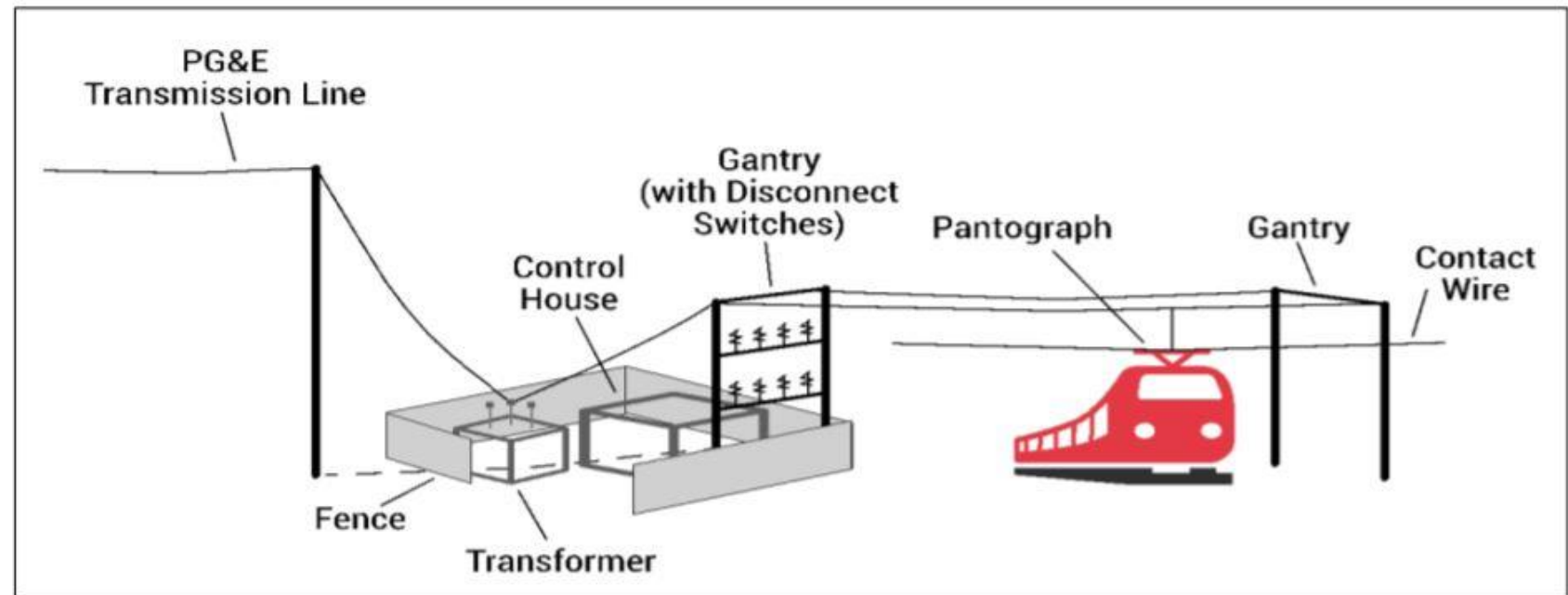


Electrification Project Overview

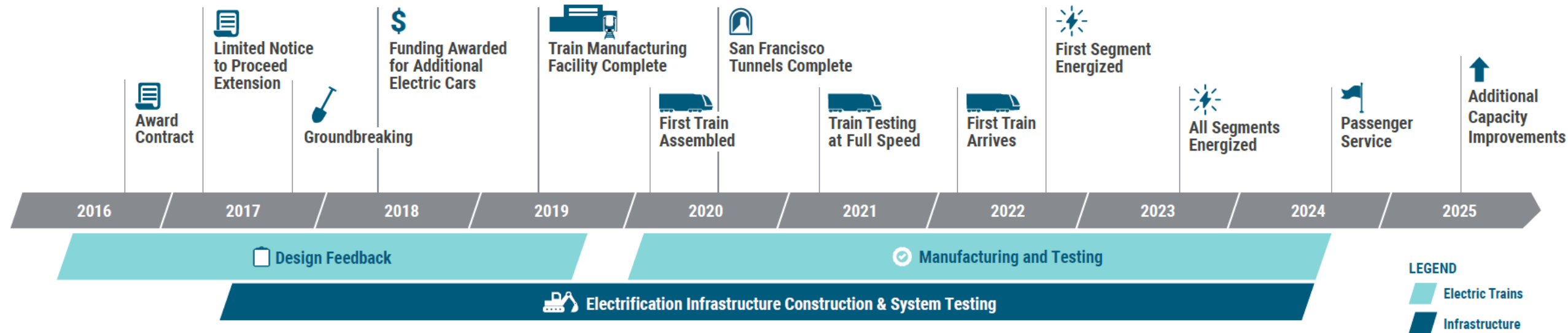
Transition from Diesel to Electric

First Electric Commuter Railroad in CA

- 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)



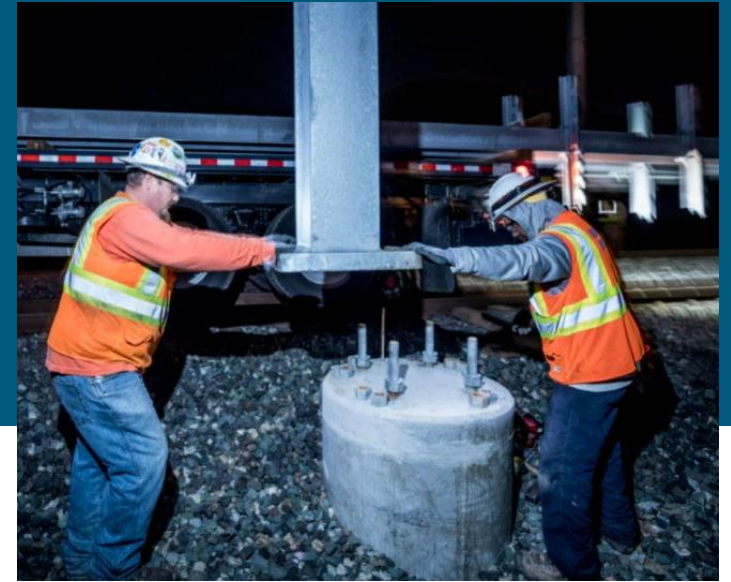
Timeline



Shovels in the Ground

- **Foundations:** All 3,092 foundations complete (January 2022)
- **Poles:** Installation to be completed early 2023
- **Traction Power Facilities:** All 10 facilities to be completed 2023
- **Wire:** Installation to be completed 2023
- **Signal Work / System Integration and Testing:** 2022-2024

Revenue Service: September 2024



Foundations



Overhead Catenary System

Electric Trains

- **Trainsets 1 & 2 on Property** : March 2022
- **Trainsets 3 & 4 on Property**: August 2022
- **Train Arrival Celebration Event**: September 2022
- **Start Dynamic Testing**: Late 2022
- **Public Tours**: 2023

Revenue Service: September 2024



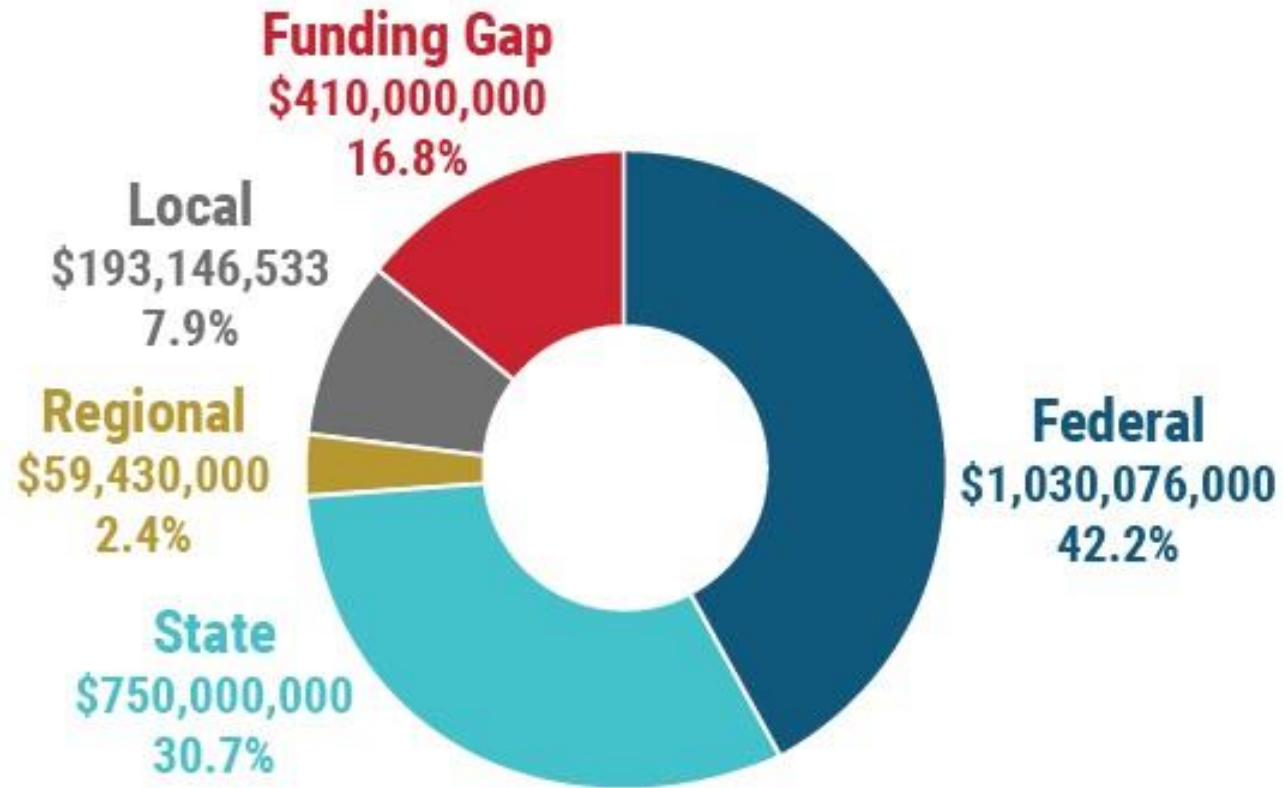
Electric Trains Have Arrived! Key Events 2022/2023



Cost and Funding

Project Funding Need

CALTRAIN ELECTRIFICATION PROJECT FUNDING PLAN



Original Funding Plan

Funding Source	Amount	%
FTA Core Capacity	\$647,000,000	32.67%
FTA Section 5307 (EMU only)*	\$315,000,000	15.91%
FTA Section 5307 (Environmental/Pre-Development Only)	\$15,676,000	0.79%
Prop 1A	\$600,000,000	30.30%
High Speed Rail Cap and Trade	\$113,000,000	5.71%
Transit & Intercity Rail Capital Program	\$20,000,000	1.01%
Prop 1B (Public Transportation Modernization & Improvement Account)	\$8,000,000	0.40%
Bridge Toll Funds (RM1/RM2)	\$39,430,000	1.99%
Carl Moyer	\$20,000,000	1.01%
SFCTA/SFMTA**	\$41,382,178	2.09%
SMCTA Measure A	\$41,382,178	2.09%
VTA Measure A	\$41,382,177	2.09%
Santa Clara (VTA) 7-Party MOU Contribution	\$20,000,000	1.01%
San Francisco 7-Party MOU Contribution	\$20,000,000	1.01%
San Mateo (SMCTA) 7-Party MOU Contribution	\$20,000,000	1.01%
Caltrain Low Carbon Transit Operations Cap and Trade	\$9,000,000	0.45%
Prior Local Contribution	\$9,000,000	0.45%
Total	\$1,980,252,533	

NOTES:

* Includes necessary fund transfer with SMCTA

** Includes \$4M CMAQ Transfer considered part of SF local contribution



Funding Update (\$410M Need)

- **State Targets (Highest Certainty)**

- FY23 State Budget
 - \$10.9B transportation package over 4 years
 - \$900 - \$1.2B available for existing projects outside of Southern California that meet certain criteria: Caltrain Electrification eligible
 - Announcement of awards expected January 2023

- **Federal Targets (Uncertain)**

- Supplemental FTA Capital Investment Grants Full Funding Grant Agreement (FFGA) funding
 - \$51M in House passed THUD Appropriations Bill
- “Community Project” funding
 - \$10M included Senate THUD Appropriations Draft Bill by Senators Feinstein and Padilla
- FRA Federal State Partnership for Intercity Rail grant program (in partnership with HSR)
 - Advocating for beneficial NOFO criteria; NOFO likely out in October 2022

Funding Update (\$410M Need)

- **Caltrain Electrification will be successfully completed in 2 years, if additional funding is secured.** The project has been in construction for 5 years, half of the time during a pandemic that resulted in many challenges but now the project is almost complete.
- **Additional funding is critical for project cash flow.** The timing of the receipt of the full \$410M is important as the Caltrain electrification project will run out of cash in the June 2023 timeframe and Caltrain has pledged to the JPB members (**VTA, SamTrans, San Francisco**) and **MTC** that it will not call on the \$200M super-contingency to fill that gap.
- Filling the \$410M project funding gap will directly benefit the **3 counties and State of California** that are highly invested in electrifying Caltrain. Caltrain Electrification is also a needed requirement for the Downtown Extension, Diridon Station rebuild and California High-Speed Rail Project
- Securing the full \$410M would help Caltrain complete this project without increasing its debt load which **could further constrain ongoing operations/State of Good Repair**. Caltrain issued \$150M in debt to help pay for Electrification, which created a **\$10M/year operating debt expense for 30 years** (and is accounted for in the agency's updated financial projections).
 - As a last alternative, if Caltrain issues more debt in an attempt to finance the remaining Electrification \$200M deficit, this will further burden the railroad operations – **at an estimated \$15M/year for 30 years**. (This is not currently accounted for in the agency's updated financial projections.)

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



Background Information

Caltrain Corridor Overview

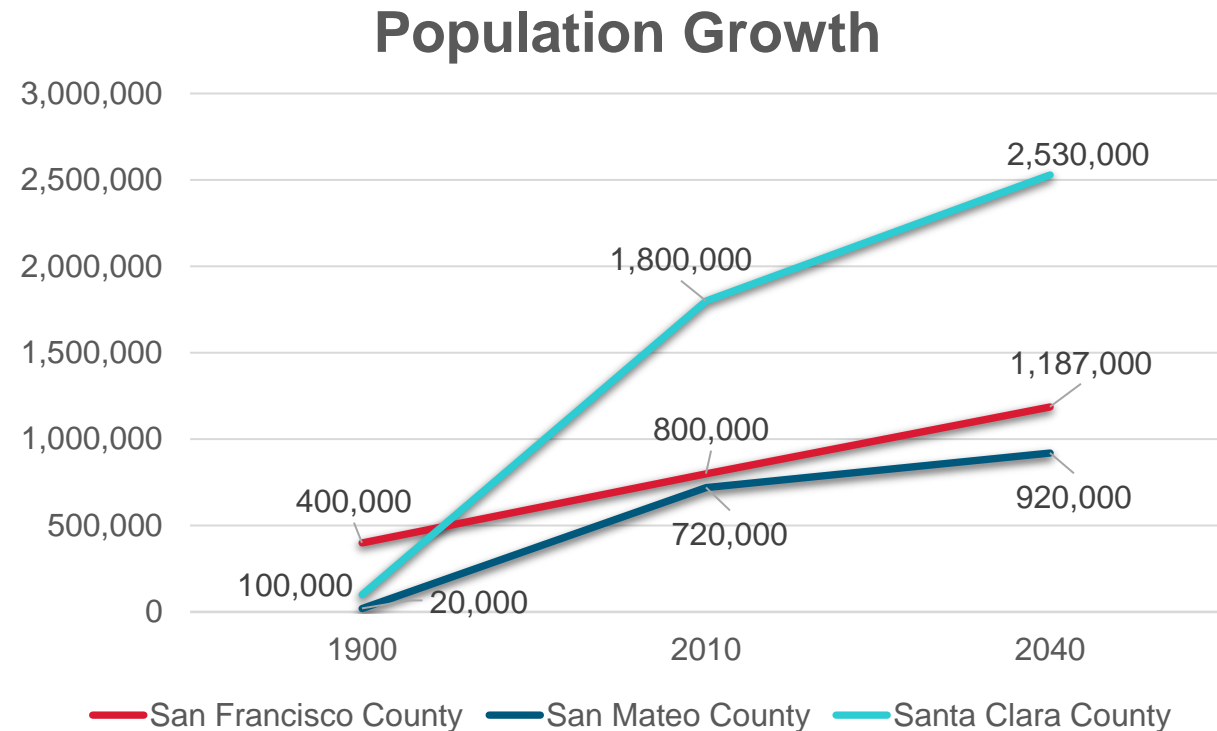
Caltrain Corridor

- 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



Corridor Growth 40% Increase

By 2040, an additional 1.2 million people will work and live within 2 miles of the Caltrain corridor.



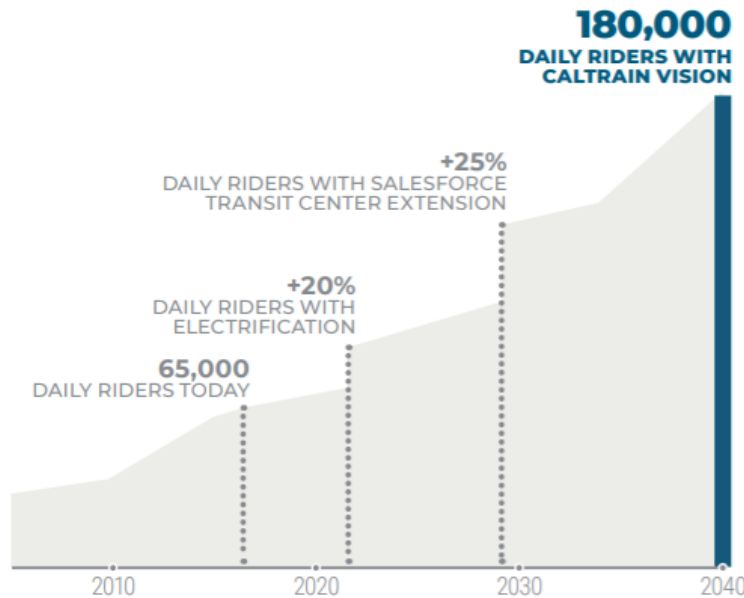
2040 Vision

Zero Emission Future

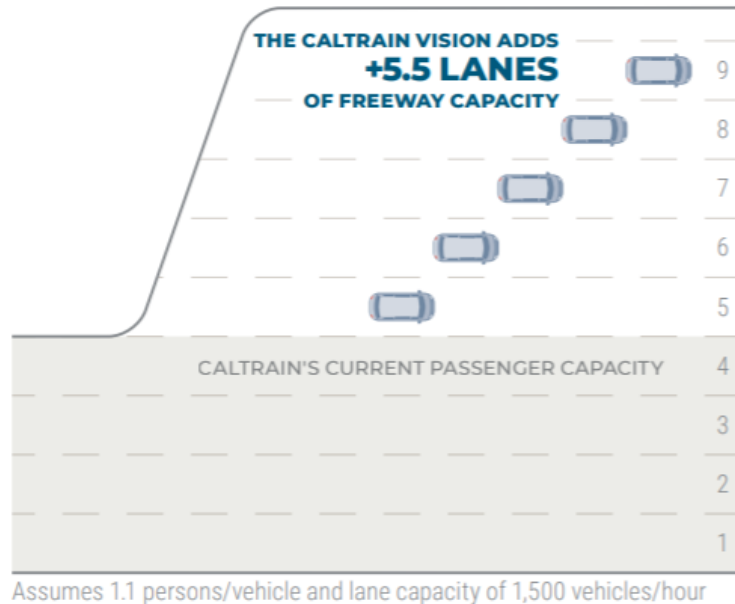
MORE TRANSPORTATION CAPACITY



CARRYING MORE PEOPLE



TRAINS VS LANES

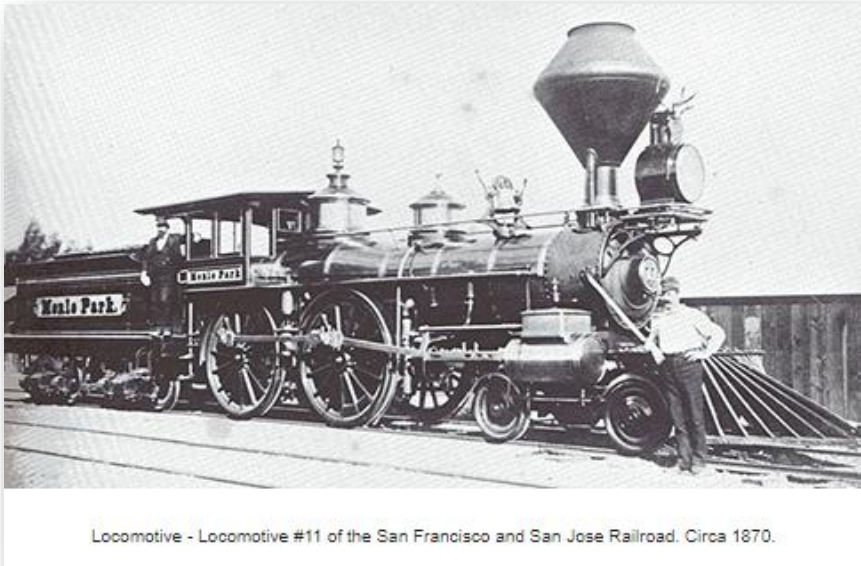


Caltrain's 2040 future service vision supports regional growth, arrival of high-speed rail, and more equitable, sustainable service.



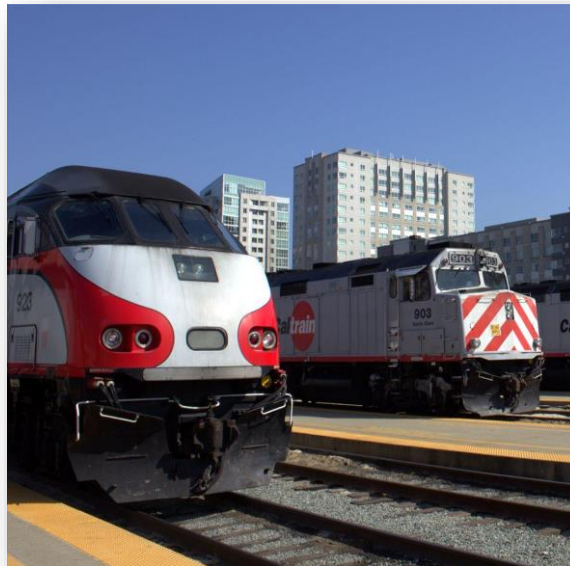
Transformational Moment

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



A Connected Future

- Electrified Caltrain corridor will enable additional investments expanding the Bay Area intercity rail network.
- 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 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

- Eliminates 2.09 million tons of carbon emissions.
- Future Caltrain will carry equivalent of 5½ lanes of freeway traffic.



SUSTAINABILITY

Replacing old diesel trains with new electric trains will reduce GHG emissions and improve air quality



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

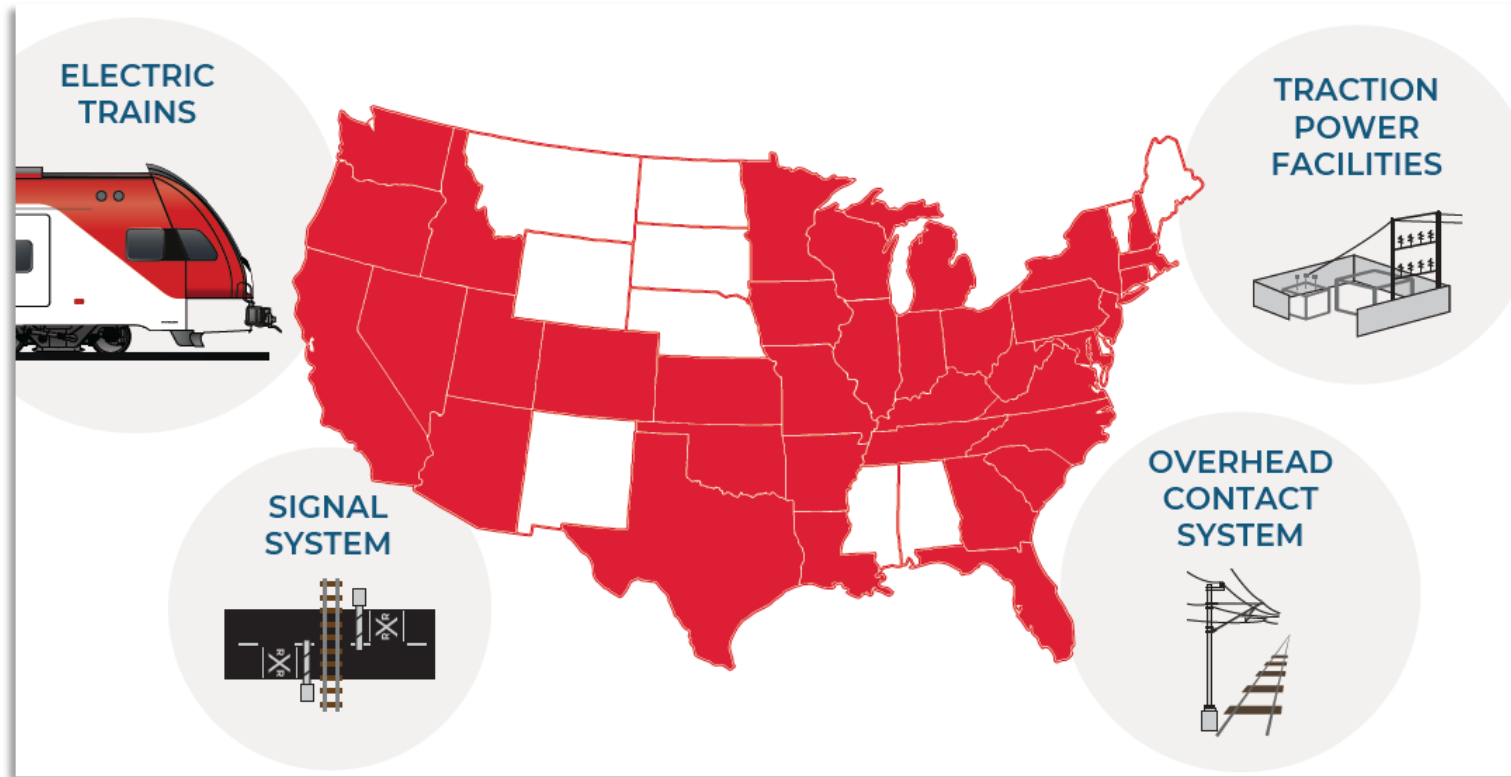


Equity

- 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

