

# CALTRAIN ELECTRIFICATION

## FREQUENTLY ASKED QUESTIONS

### GENERAL

**Q: What Is Caltrain Modernization (CalMod)?**

**A:** The CalMod Program includes electrification and other projects that will upgrade the performance, efficiency, capacity, safety and reliability of Caltrain's service. Electrification provides the foundation that future CalMod improvements are based on, including full conversion to an electric fleet, platform and station improvements, the extension of service to Downtown San Francisco, and other projects that allow Caltrain to grow and evolve with the Bay Area.

**Q: What is Caltrain Electrification?**

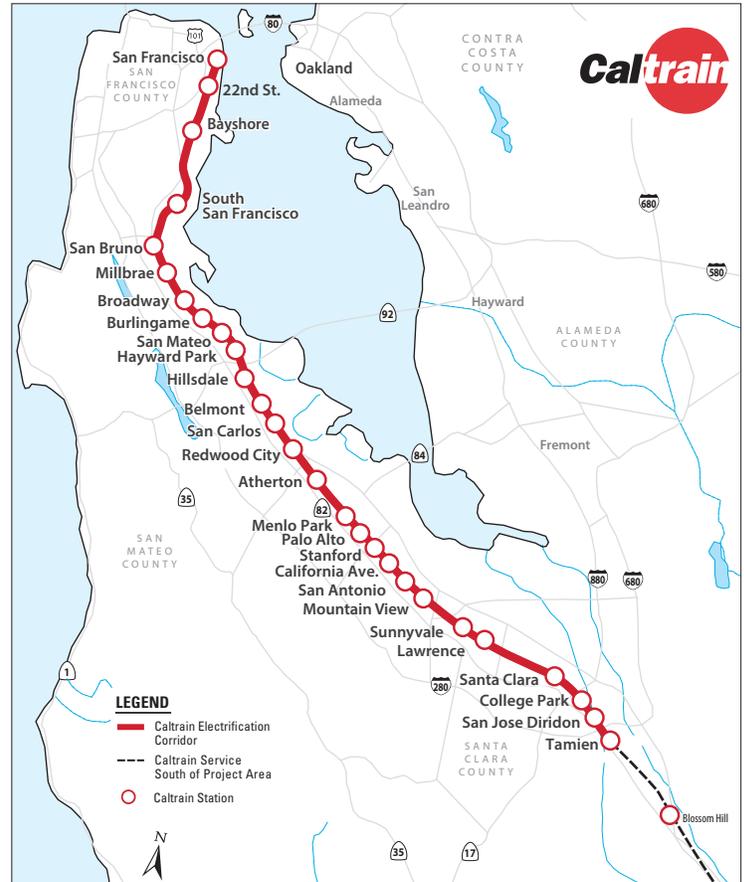
**A:** Caltrain Electrification is a key component of the CalMod Program. The current project will electrify the Caltrain corridor from San Francisco to San Jose, replace the diesel trains with high-performance electric trains, and increase service up to six Caltrain trains per peak hour per direction. When the corridor from the 4th and King Station to the Tamien Station is electrified, Caltrain will run a "mixed fleet" of approximately 75 percent electric trains and 25 percent diesel trains. Full conversion of the fleet will occur at a future time when funding is identified and the remaining diesel trains reach the end of their service life. Electric train service is scheduled to commence in 2022.

**Q: Why is Caltrain Electrification needed?**

**A:** Since 2005, Caltrain ridership has doubled and quickly outpaced the system's capacity as commuters have increasingly relied on the service to connect to some of the world's most innovative and fastest growing companies. Today, Caltrain serves 65,000 daily riders and provides a much needed alternative to the heavily congested U.S. 101 and 280 freeways. The dramatic ridership increase has strained the system and the peak hour service is over maximum capacity, with many trains operating with standing room only. In addition to the needs of the riders, the vast majority of Caltrain's current fleet is over 30 years old and needs replacing. Many of the diesel locomotives are past their expected retirement dates which can result in significant mechanical delays to the system.

**Q: How long has Caltrain operated on the corridor and when did Caltrain start working on the electrification project?**

**A:** For over 150 years, there has been passenger rail service



on the Caltrain corridor. The corridor was first owned by Southern Pacific and officially became "Caltrain" in 1992 when the Peninsula Corridor Joint Powers Board (JPB) was created and bought the corridor. The JPB began planning for the upgrade and electrification of the Caltrain corridor in the 1990's. Both the 1999 and 2004 Caltrain Strategic Plans referenced a desire for electrification of the corridor.

**Q: What are the benefits of Caltrain Electrification?**

**A:** Caltrain Electrification will modernize the Caltrain corridor making it possible to increase service while offering several advantages in comparison with existing aging diesel service.

These include:

- Improved Train Performance, Increased Ridership Capacity and Increased Service**

Electric Trains trains can accelerate and decelerate more quickly than diesel-powered trains, allowing Caltrain to run more efficiently. In addition, because of their performance advantages, electric trains will enable more

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frequent and/or faster train service to more riders. For more information on electric trains, visit [www.calmod.org](http://www.calmod.org).

- **Reduced Engine Noise Emanating from Trains**  
Noise from electric train engines is measurably less than diesel train engines.
- **Improved Regional Air Quality**  
Electric trains will produce substantially less corridor air pollution compared with diesel trains, even when the indirect emissions from electrical power generation are included.
- **Increased Revenue and Reduced Fuel Costs**  
An electrified Caltrain will increase ridership and fare revenues while decreasing fuel costs.
- **Job Creation Throughout the Country**  
Caltrain Electrification will create jobs not just in California but across the country. Manufacturers from Florida to Texas will supply parts for the new infrastructure and electric trains. In Utah, Caltrain Electrification is the driving force behind the building of a new railcar assembly plant that will create new employment opportunities for over 550 workers.

**Q: What will happen to service to Gilroy?**

**A:** The current Caltrain Electrification project only includes electrification to a point approximately two miles south of Tamien Station in San Jose. Caltrain will continue to provide diesel service to Gilroy.

**Q: Why not electrify south of Tamien Station?**

**A:** Caltrain does not own the southbound right-of-way beginning two miles south of Tamien Station. Union Pacific Railroad owns this section of the corridor.

**Q: When will this project start and finish?**

**A:** In June 2017, both the train and infrastructure builders were issued Notices to Proceed, and construction began in July 2017. Communities will be notified prior to the start of construction and major construction activities. Community meetings will also be held prior to construction with regular updates given to the cities and communities. For more information on construction, visit [www.calmod.org](http://www.calmod.org). The first electric trains are scheduled to be in service in 2022.

**Q: Will the project reduce the need to use horns?**

**A:** No. The use of horns is dictated by federal safety regulations for at-grade crossings. The project does not include changes in at-grade crossings and will not change the requirements for, or the use of, horns at these crossings.

**Q: Is Caltrain only considering electrification because of High-Speed Rail (HSR)?**

**A:** Caltrain has been considering electrification for decades,

long before the 2008 voter approval of the HSR Prop 1A Bonds. Both the 1999 and 2004 Caltrain Strategic Plans referenced a desire for electrification. The 25 kVA/60 Hz overhead contact system design is a logical choice for Caltrain Electrification because it is a standard proven design that has been used on the U.S. east coast (Northeast Corridor) and in many locations in Europe.

**Q: Does the Caltrain Environmental Impact Report (EIR) for electrification allow high-speed rail trains to use the Caltrain Corridor?**

**A:** No. Caltrain was the lead agency for environmentally clearing its electrification project. The Caltrain Electrification EIR did not environmentally clear HSR service in the Peninsula corridor. The California High-Speed Rail Authority (CHSRA) is the lead agency for a subsequent and separate environmental process to clear HSR service on the Peninsula Corridor.

## CONSTRUCTION

**Q: What are the construction activities that will occur for the project?**

**A:** Construction activities will include locating underground utilities, testing soil conditions, inspecting signal/communication equipment, pruning/removing trees and installing foundations in preparation for the installation and operation of the overhead contact system (OCS) that will power the electric trains.

Activities for the foundation construction will include excavation, placement of rebar, concrete fill and electrical grounding. After the foundation has been laid in an area, crews will return at a later date to install the poles and wires for the OCS. Additional notification will be conducted prior to the installation of the poles and wires.

**Q: Will Caltrain service be affected during the project construction?**

**A:** Regular scheduled service will continue during project construction. During certain construction activities trains may need to single track, meaning crews perform work on one side of the tracks in an area while both north and southbound trains travel on the opposite side of the tracks. Single tracking may affect the boarding platforms at particular stations. Caltrain will inform riders of boarding information during these periods with visual and audio announcements. Weekly updates on construction activities and single tracking can be found online at: [www.calmod.org](http://www.calmod.org).

**Q: When will construction activities be performed?**

**A:** Work will be performed during the day and at night. In order to limit the impact to regular Caltrain service, night work will occur between 8:00 p.m. and 6:00 a.m. when there are fewer

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regular service trains. Caltrain will work with contractors to minimize night work to limit the impact to surrounding communities.

**Q: Where will the overhead contact poles be placed and how high are the poles?**

**A:** Exact placement and distance of the overhead contact system (OCS) poles will vary depending on geography and curvature of the alignment, but typically OCS poles will be placed 180 to 200 feet apart. In some cases OCS poles will be placed in between the tracks, while in some areas site-specific concerns will require side poles and two-track cantilevers to be placed to the outside of the tracks. Pole height varies between 30 and 45 feet.

**Q: Are grade separations a part of the electrification project?**

**A:** No, grade separations are not included as part of Caltrain Electrification. There are currently several grade separation projects occurring along the Caltrain alignment with separate project scopes and schedules.

**Q: Will any trees be removed as a result of the Project?**

**A:** Installation of the overhead contact system will require pruning, and in some cases removal, of certain trees in or near the right-of-way. Caltrain will compensate for tree removal and pruning by planting replacement trees in areas outside of the electrical safety zone where they enhance screening from the tracks or otherwise enhance the aesthetic character of the area (where possible). Property owners with affected trees will be contacted regarding tree impacts and replacement options.

**Q: Where can I make a comment or ask a question about the project or construction in my area?**

**A:** Caltrain has established an information hotline and a project email for residents to ask questions or share concerns. The Caltrain Electrification hotline can be reached at **650.399.9659** or toll free at **800.660.4287**. The project email is [calmod@caltrain.com](mailto:calmod@caltrain.com).

Messages and e-mails will be returned within one business day. In addition, Caltrain has established a community outreach office at:

**2121 S. El Camino Real, Suite A-100  
San Mateo, CA 94403**

A project representative will be available to answer questions in person from 9:00 a.m. to 5:00 p.m. Mondays through Fridays when construction activities are taking place.

**Q: How can I stay up to date on construction activities?**

**A:** Caltrain will inform nearby residents of upcoming construction activities via physical mailers and door hangers.

Additional project information, including weekly construction activities and upcoming community meetings, can be found at [www.calmod.org](http://www.calmod.org). On the project webpage, you can also sign-up to receive weekly construction notices via email.

**Q: What mitigation measures is the contractor putting in place to minimize the noise and light impacts from construction activities at night?**

**A:** To mitigate noise and other impacts during nighttime activities the field team will utilize acoustical barrier blankets and will position lights away from residential, roadways, and business areas.

**Q: Will there be impacts to local streets during construction (i.e. road closures, detours)?**

**A:** Detours and road closures may occur intermittently in some communities during construction. Other communities may experience lane closures, while maintaining access to the road. In those cases when a road will be temporarily closed, the contractor will notify affected residents and businesses via direct door to door outreach at least one week prior to any road closure. Affected residents and businesses will be provided detour and access maps as well as information about the time and duration of any road closure. This information will also be posted weekly at [www.calmod.org](http://www.calmod.org).

## **ELECTRIC TRAINS**

**Q: Why were electric trains selected for Caltrain service?**

**A:** By electrifying, Caltrain will modernize the system and make it possible to increase service levels while offering several advantages in comparison with existing diesel power. Electric trainsets enable more frequent and/or faster train service to more riders and will provide increased capacity for the system. Electrified operations will also provide improved regional air quality while reducing fuel costs for the agency.

**Q: What is the type of electric train that will be used?**

**A:** Caltrain will use electric multiple unit (EMU) trains which are passenger railcars that are electrically self-propelled, rather than pulled or pushed by a locomotive. Electric trains have the ability to couple multiple units into a trainset, with cab cars placed at the ends from which the engineer operates the train. The improved acceleration and stopping performance of electric trains is made possible by distributing the propulsion equipment throughout the trainset. This provides shorter trip times over diesel or electric locomotive-hauled trains, especially when frequent stops are made. As a commuter rail that provides local service Caltrain makes frequent stops, making electric trains the ideal train type for Caltrain.

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**Q: When will the electric trains be placed into service?**

**A:** The first electric trainsets are scheduled to arrive in 2019. Following reliability and safety testing, the first passenger service on the new electric trains is scheduled to begin in 2022.

**Q: How many electric trains is Caltrain purchasing?**

**A:** Caltrain is purchasing 96 cars which will provide a total of 16 six-car trainsets. Caltrain has the option to purchase an additional 96 cars at a later date.

**Q: How fast will the electric trains travel?**

**A:** The new electric trains will continue to operate at speeds up to 79 mph with the capability to reach higher speed operations in the future.

**Q: What will be the capacity of the electric trains?**

**A:** To learn more about the capacity improvements of Caltrain Electrification visit [www.caltrain.com/EMUcapacity](http://www.caltrain.com/EMUcapacity).

**Q: Will the new electric trains be made in America?**

**A:** Yes, Caltrain Electrification will create thousands of direct and indirect jobs across the United States. The project also made a new vehicle manufacturing plant in Utah possible, where the trains will be built by Stadler U.S. Inc.

**Q: Will there be a bathroom onboard?**

**A:** Yes, each trainset will have one accessible bathroom onboard.

**Q: What will the electric trains look like?**

**A:** In 2017, Caltrain engaged riders and the public on several key design components, including seat colors, bike stands, and the exterior design. The colors of the walls and floors were made based on operational factors, including maintenance, durability, and longevity. In 2018, riders will be able to navigate and explore the new electric trains using virtual reality technology.

**Q: Will the new electric trains be compatible with the level boarding in the future?**

**A:** Level boarding is a future goal of Caltrain which will require additional funding and planning. The new electric trains will not preclude level boarding at a future date.

**Q: What signage will be onboard?**

**A:** The electric trains will have both interior and exterior electronic signs to provide customers with relevant information. The content and layout of the signs will be determined as design advances.

**Q: Will there be WiFi onboard the new trains?**

**A:** No, however, the electric trains will be WiFi ready should funding be secured for implementation.

**Q: Will all the cars be ADA accessible?**

**A:** Yes, all cars will meet the requirements of the Americans with Disabilities Act and will be accessible to persons using wheelchairs and other mobility devices.

**Q: How will passengers using a wheelchair or mobility device board the new electric trains?**

**A:** Similar to the process today, passengers using a wheelchair or mobility device will be able to use the mini-high wheelchair ramp or the mobile platform wheelchair lift to board the new electric trains.

**Q: Will there be specific bicycle cars?**

**A:** Yes, there will be two bike cars per trainset.

**Q: What is the onboard bicycle storage design?**

**A:** During the summer and fall of 2017, Caltrain received feedback on the onboard bicycle storage design options. Input was taken from discussions with local bike advocacy groups; an online poll; station outreach where riders could try out the bike storage options; comments through the website; social media; as well as emails, phone calls, and other in-person engagements. Based on the feedback, the stacking option, which maximizes capacity and is similar to today's onboard bike storage system, was selected for the new electric trains.

**Q: What will be the bicycle capacity with the new electric trains?**

**A:** The new electric trains will meet a 1:8 bike to seat ratio, and bike capacity at the peak commute time will be increased by over 17% compared to today.

**Q: Will there be electrical outlets onboard for riders?**

**A:** Yes, electrical outlets will be provided underneath the seats for riders to charge their phones, laptops, and other electronic devices.

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**FOR MORE INFORMATION**

 [www.calmod.org](http://www.calmod.org)

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