

Electrification of the Caltrain Corridor

The California High-Speed Rail Authority is working in partnership with Caltrain, the Peninsula Corridor Joint Powers Board and regional stakeholders to ensure that Caltrain is well positioned to keep pace with increasing ridership demands, while also preparing its line for high-speed service. The San Francisco Bay Area will see the benefits of improved safety, reliability, efficiency and air quality through the long-awaited electrification of the Caltrain corridor.



HIGH-SPEED RAIL: INVESTING IN BAY AREA RAIL INFRASTRUCTURE

Senate Bill 1029, signed by Governor Brown in 2012, provides \$705 million to electrify the peninsula rail corridor (where the Caltrain system operates), allowing for the replacement of diesel trains and eventually connecting Caltrain with high-speed rail.

In a first step towards making these investments a reality, in May 2013, the Authority signed a Memorandum of Understanding (MOU) with the Peninsula Corridor Joint Powers Board to enhance the existing rail corridor between San Francisco and San Jose. This agreement includes a \$705 million investment that includes the electrification of the Caltrain corridor, which will allow the high-speed rail system to eventually blend with the Caltrain system and create a seamless travel experience. The agreement also provides funding for an Advance Signaling System (also known as Positive Train Control) that significantly reduces the probability of collisions between trains.

Caltrain is a 150-year-old commuter rail line that provides daily service along the San Francisco Peninsula. It connects communities from San Francisco through the South Bay to the cities of San Jose and Gilroy, and has an average weekday ridership count of 62,000. Caltrain is owned and operated by the Peninsula Corridor Joint Powers Board, a governing body consisting of representatives from San Francisco, San Mateo and Santa Clara counties.

- For FY 2013, Caltrain's ridership reached almost 15.6 million, a 10.3% increase from the last year.
- Seven of its 32 stations have been added to the National Register of Historic Places.
- 40,000 San Francisco Giants fans rode Caltrain to the Giants World Series Victory Parade in 2010.

"Caltrain is an ideal partner because it has the ability to work closely with the Authority to provide an improved corridor that allows a single-seat ride from San Francisco to Los Angeles. The blended system will permit the least disruption along the existing corridor while fulfilling the wishes of the public for high-speed service in the future."

- Jackie Speier
U.S. Representative
14th Congressional District

Caltrain Corridor Electrification Project: The project electrifies the Caltrain line between the 4th and King station in San Francisco and the Tamien Station in San Jose and provides signal and safety improvements that will allow Caltrain to operate an electrified fleet by 2020.

This electrification project is a key component of the blended system required to accommodate the high-speed rail project. Once this electrification project is completed, it will result in faster commute service for the region while also preparing for the integration of high-speed rail service. The state's commitment to this project will leverage funding to bring the total investment in the corridor to \$1.5 billion.

An electrified Caltrain addresses Bay Area commuters' vision of an environmentally friendly, fast and reliable service. The primary goals of the Peninsula Corridor Electrification Project include the following:

→ **Improve Train Performance, Increase Ridership and Increase Service:**

Electrified trains can accelerate and decelerate more quickly than diesel-powered trains allowing Caltrain to run longer trains and increase capacity. The project will also accommodate the operation of up to six Caltrain trains per peak hour per direction (an increase from five currently) with operating speeds of up to 79 mph (same as today).

→ **Increase Revenue and Reduce Cost:** Anticipated increased ridership will increase fare revenue. Conversion from diesel to electricity will reduce fuel costs.

→ **Reduce Environmental Impact by Reducing Noise Emanating from Trains:** Noise from electrified trains is measurably less when compared with diesel trains. Train horns will continue to be sounded at grade crossings consistent with safety regulations.

→ **Reduce Environmental Impact by Improving Regional Air Quality and Reducing Greenhouse Gas Emissions:** Electric operations would produce substantial reductions in corridor air pollution emissions when compared with diesel locomotives, even when the indirect emissions from electrical power generation are included in the analysis. Increased ridership will also reduce automobile usage in the Bay Area, resulting in additional air quality benefits.

→ **Provide High-Speed Rail Compatible Electrical Infrastructure:** An electrified Caltrain system will set the stage for an enhanced, modern commuter rail service and for future blended high-speed rail service.

Advanced Signaling System: SB 1029 provides funding for the design, installation, testing, training and warranty for an intelligent network of signals, sensors, train tracking technology, and computer systems on the Caltrain Corridor as part of Caltrain's advanced signaling system. This system is required by federal regulation and allows trains to travel at higher speeds when safe to do so.

Better known as Positive Train Control (PTC), advanced signaling systems are integrated command, control, communications and information systems for controlling train movements with safety, security, precision and efficiency. PTC systems will improve railroad safety by significantly reducing the probability of collisions between trains, casualties to roadway workers and damage to their equipment, and over speed accidents. The National Transportation Safety Board (NTSB) has named PTC as one of its "most-wanted" initiatives for national transportation safety.

The entire California high-speed rail system will have PTC, as required by the Federal Railroad Administration and is included in system design and cost estimates.



Proposed Transbay Transit Center in San Francisco.

The California High-Speed Rail Authority (Authority) is responsible for planning, designing, building and operation of the first high-speed rail system in the nation. California high-speed rail will connect the mega-regions of the state, contribute to economic development and a cleaner environment, create jobs and preserve agricultural and protected lands. By 2029, the system will run from San Francisco to the Los Angeles basin in under three hours at speeds of over 200 miles per hour. The system will eventually extend to Sacramento and San Diego, totaling 800 miles with up to 24 stations. In addition, the Authority is working with its regional partners to implement a statewide rail modernization plan that will invest billions of dollars in local and regional rail lines to meet the state's 21st century transportation needs.