Caltrain electrification
Summer 2009

Federal & State Funds Fuel Electrification of Caltrain

Caltrain's plans to electrify the commuter railroad has passed a major milestone. The Final Environmental Assessment / Environmental Impact Report has been submitted to the Federal Transit Administration, an important step toward meeting one of the American Recovery and Reinvestment Act funding requirements - projects that have completed environmental assessment.

The document evaluates all the potential impacts of the project on the natural and man-made environments and provides an opportunity for the public to comment on the project.

Key Differences

The Final EA/EIR includes a number of revisions to the draft submitted to the FTA in 2004.

Originally estimated at $831 million ($457 million for infrastructure and $374 million for equipment in 2003 dollars) the project is now estimated at $1.23 billion ($785 million for infrastructure and $440 million for rolling stock in year of expenditure dollars).

The updated funding package includes $353 million in Federal Transportation Administration funds and $88 million in matching funds from the Caltrain partners for rail cars. Infrastructure funds include: $191 million in local funds, including county sales taxes; $16 million in federal funds; $62 million in state funds; and $516 million proposed

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Electrification Spurs Caltrain Growth and Advanced Technology

The road to electrified train service includes improvements to Caltrain's infrastructure.

Flexible Equipment

Caltrain hopes to replace its aging cars and diesel locomotives with modern, efficient, flexible Electric Multiple Units.

The light-weight, self-propelled, European-style cars offer several advantages over the traditional heavy rail cars currently in use by Caltrain. Because they are electric, EMUs produce 90 percent less air pollution. They also are quieter, an advantage for neighbors near the right of way.

Electric-powered trains are compatible with Caltrain's existing standard-gauge tracks and are able to start and stop more quickly, offering maximum operating flexibility. Off-the-shelf EMUs commonly used in Europe and Asia are scientifically designed to absorb energy in a collision, providing additional safety for train crews and passengers.

Power Facilities

The power to operate the trains will be transmitted from power facilities through overhead wires to contacts on the roof of the car. In order to provide consistent, reliable power to the trains, a series of 10 power facilities will be built along the Caltrain corridor.

Eight of the power facilities will be located on the Caltrain right of way. Two will be in San Francisco and one in Burlingame, San Mateo, Redwood City, Mountain View, Sunnyvale and San Jose. Two traction power supply substations will be built near existing electrical networks on publicly owned-property in South San Francisco and San Jose.

Each location was chosen based on proximity to the tracks and the availability of land within Caltrain-owned property.

Partnership Key to Funding Electrification

Caltrain and the California High-Speed Rail Authority have joined together to form the Peninsula Rail Program, a joint effort to bring high-speed rail to the Peninsula.

The agreement between the two agencies protects Caltrain's operations and could provide millions of dollars to help fund electrification.

It also emphasizes the importance of an extensive public outreach effort that will inform the environmental process and, ultimately, the overall design of high-speed rail on the Peninsula.

Federal and State Funds Fuel Electrification

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from federal high-speed rail program funds, State Proposition 1A funds, and /or project financing.

The 2004 draft report proposed electrifying the railroad from San Francisco to Gilroy. In the final report, the system will be electrified only along its mainline from San Francisco to San Jose. The year of completion, originally forecast for 2008, has been updated to 2015.

The service plan presented in the final report is based on an electrified line that extends from San Francisco to San Jose.

Service is expected to increase to 114 trains by 2035, or six per hour in each direction during the peak, to serve an average projected weekday ridership of 72,000. Service levels to Gilroy would remain the same. Caltrain currently has an average weekday ridership of about 40,000.

The 2004 draft anticipated that service would increase to 132 weekday trains, with 20 trains traveling between San Jose and Gilroy by 2020.

The final report identifies Electric Multiple Units as the preferred equipment. In the draft report, Caltrain proposed upgrading its diesel fleet with one of three alternatives: electric locomotives that would operate its existing passenger cars; electric locomotives and a fleet of new passenger cars; or Electric Multiple Units.

The original number of power stations has been reduced from 13 to 10. Eight of the stations will be located within Caltrain's right of way. The remaining two substations will be located near existing power facilities in South San Francisco and San Jose.

Next Steps

The FTA will review the Final EA/EIR and submit its final comments. Those comments will be incorporated into the document, which will be presented to the Caltrain Board of Directors for approval. It is anticipated that the FTA will accept the Final EA/EIR in fall 2009.

Artist rendering. Specific vehicle design and manufacturer has yet to be determined.

Changes Reflected in Final EA/EIR

	Draft EA/EIR	Final EA/EIR
Project limits	San Francisco to Gilroy	San Francisco to San Jose
Distance	77 miles	52 miles
Power facilities	13	10
Service		
San Francisco - San Jose	132 weekday trains by 2020	114 weekday trains by 2035
San Jose to Gilroy	20 weekday trains by 2020	Same as current level - 6 weekday trains
Projected weekday ridership	57,918 by 2020	72,029 by 2035
Project cost		
Infrastructure	$457 million (2003 dollars)	$785 million (year of expenditure)
Rail Cars	$374 million (2003 dollars)	$440 million (year of expenditure)

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Electrification a Win for Riders, Environment

Electrifying Caltrain will result in a faster, more efficient, more environmentally friendly rail system.

Electric trains can stop and start faster than diesel trains, which will reduce the time it takes to travel between San Francisco and San Jose by 13 percent.

As Caltrain has already demonstrated, decreased travel time results in increased ridership. As more people decide to ride Caltrain, congestion on Bay Area freeways and surface streets will be reduced.

In addition, the switch to electric power will lower air pollutant emissions from trains by up to 90 percent, while significantly reducing power consumption. Electric powered trains also are significantly quieter, which will benefit neighbors living and working near the rail corridor.

Stay Up-to-Date

Caltrain will post updates on this vital project on its Web site:
www.caltrain.com/electrification.

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