CALIFORNIA HIGH-SPEED RAIL

San Francisco/Silicon Valley Corridor Investment Strategy

June 2009

This report was prepared by:

The City and County of San Francisco

The City of San Jose

Caltrain Joint Powers Board

Metropolitan Transportation Commission

Transbay Joint Powers Authority

Santa Clara Valley Transportation Authority

In association with the:

California High-Speed Rail Authority

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VISION

Civic and **transportation leaders** representing the San Francisco/Silicon Valley Corridor — from San Jose to San Francisco — and from the greater Bay Area are joining together to **accelerate the arrival** of California **high-speed rail** between San Francisco and Los Angeles/Anaheim by preparing the historic Caltrain rail corridor for a **new level of service** appropriate for the **21st century**.

High-Speed Rail Picks Up Speed — Federal, State and Regional Funding Fuel Rail Renaissance

After more than a decade of planning, California's high-speed train system is rapidly gaining momentum, propelled by an infusion of both state and federal funding. The state stands to benefit from a sizable chunk of the $8 billion set aside in the American Recovery and Reinvestment Act (ARRA) signed into law by President Obama in February 2009. Expectations run high that additional high-speed rail moneys in federal funding will become available via the appropriations process in future years.

This federal investment comes on top of the $10 billion high-speed rail bond measure approved by California voters in November 2008, and signals a new era for rail transportation. On April 16, 2009, the Obama Administration went one step further by releasing its *Vision for High-Speed Rail in America*, a strategic plan describing how the agency intends to use the $8 billion in ARRA funds for intercity and high-speed rail.

The Bay Area has been and will continue to be a full partner in this effort with significant local funding commitments that will leverage financial contributions from Sacramento and Washington D.C.

In response to these developments and the potential for substantial new funding for rail projects, the Metropolitan Transportation Commission, the Transbay Joint Powers Authority, the Caltrain Joint Powers Board, the city and county of San Francisco, the San Francisco County Transportation Authority, the city of San Jose and the Santa Clara Valley Transportation Authority present the **San Francisco/Silicon Valley Corridor Investment Strategy for High-Speed Rail**. The agencies agree to an approach that complements the intent of the ARRA and *Vision for High-Speed Rail in America*, including their economic recovery principles and strategic transportation goals.

The San Francisco/Silicon Valley Corridor Investment

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The San Francisco/Silicon Valley Corridor is **uniquely positioned** to **leverage** federal **economic recovery** moneys with local and state funds to **deliver** a *comprehensive package* of **improvements**.

High-speed rail is complementary to Caltrain and would utilize the Caltrain right-of-way and share tracks with **express** Caltrain ***commuter rail services***. The phasing plan includes significant local and regional **funds**, thereby greatly *expanding* the **effectiveness** of the *federal economic recovery program*.

A Two-Phase Approach to High-Speed Rail on the Peninsula

This package of rail improvements will transform the San Francisco Bay Area's landscape by bringing to fruition two iconic multimodal rail stations, one at either end of the San Francisco/Silicon Valley Corridor. These San Francisco and San Jose stations are destined to be stunning additions to the landscape as well as major magnets for transit-oriented development. Each will bring together, under one roof at both locations, Caltrain and high-speed rail along with a multitude of local bus/rail systems. They also will usher in a new era of transit access and connectivity, and help mold the travel patterns of the Bay Area populace into a more sustainable model. The San Francisco/Silicon Valley Corridor investments epitomize the kind of bold, forward-looking infrastructure projects that helped lift the San Francisco Bay Area out of the Great Depression in the 1930s, and that could help put the region on track for renewed prosperity in these economically challenging times.

The region's strategy for achieving this vision calls for implementing a package of transportation capital projects in two phases. Phase I includes transportation projects that will improve regional high-speed rail service between San Francisco's Transbay Transit Center and San Jose's Diridon Station by 2016 and enable state high-speed rail service to operate in the same corridor. These projects have or are expecting National Environmental Policy Act (NEPA) clearance, can proceed into final design and construction, and are projected to be completed and in service by 2016. A summary of the projects and more detailed descriptions are provided in the project detail section at the back of this booklet.

Phase I

Electrifying the entire Caltrain corridor so as to retire outdated diesel technology with electric locomotives or electric multiple unit train sets and introducing "positive train control" will not only speed up Caltrain service but pave the way for high-speed rail. Positive train control is a federal mandate that will reduce the potential for train-to-train collisions and improve signaling at crossings, so as to allow increased train frequencies while enhancing safety. Also included are grade separations at a key Peninsula location; construction of the underground-level train station structure and mezzanine for the Transbay Transit Center in San Francisco; new platforms and other improvements at the Caltrain station at Fourth and King in San Francisco to make way for high-speed trains; and the first increment of the new marquee Diridon Station in downtown San Jose.

Together these Phase 1 investments total $3.4 billion, with funding for more than one-half of that amount already committed. Our investment plan calls for augmenting these committed funds with $1.6 billion from the new federal sources. For more detail see the map on page 7 and the chart on pages 8-9.

Phase II

This later phase upgrades the infrastructure up and down the line (new tunnels, bridges, tracks and signals; enhanced power; and modifications to intermediate stations and grade separations) to accommodate the mixed-traffic capacity requirements of high-speed rail service and Caltrain regional service. Cost and schedule detail for these Phase II elements will emerge when the California High-Speed Rail Authority completes its project-level environmental work on the San Francisco/Silicon Valley corridor in 2011.

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Strategy is remarkably in sync with the *Vision for High-Speed Rail* released by the Obama Administration in April 2009. Our plan performs well against all major criteria in the Vision for selecting projects to benefit from high-speed rail money flowing from the American Recovery and Reinvestment Act (ARRA) and other federal sources.

Stimulate Economic Recovery

The projects in Phase 1 of our investment package will immediately employ hundreds of professional workers during final engineering, and thousands of technical, trade and labor workers during construction. Thousands more will be engaged in producing raw products and vehicles for new transit services.

- Based on federal estimates that $1 billion in infrastructure investment creates or saves 30,000 jobs, the San Francisco/Silicon Valley Corridor Investment Strategy anticipates the creation of over 100,000 jobs for the Phase 1 investments.
- This strategy will maximize total investment by leveraging the ARRA funds on a one-to-one basis with local committed funds to complete an overall financing package.
- This strategy also will focus funding on projects that are environmentally cleared and ready-to-go.

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Build for Economic Competitiveness

The San Francisco/Silicon Valley Corridor is the right place to focus state and federal rail investments because:

- The San Francisco/Silicon Valley High-Speed Rail Corridor serves the heart of one of the world's most innovative, entrepreneurial, competitive and diverse regional economies. With economic output of almost $300 billion annually, the Bay Area ranks 24th in the world when compared to national economies.
- With two major international airports, the corridor is a gateway to international markets.
- The region is at the cutting edge of global technology and is home to the nation's largest concentration of national laboratories, corporate and independent research laboratories, and leading research universities; the highest density of venture capital firms in the world; more Fortune 500

Rooftop garden at the new Transbay Transit Center in San Francisco

companies than any region except New York; and the highest economic productivity in the nation — almost twice the U.S. average.

> As the birthplace of the semiconductor, Silicon Valley has long been known for symbiotic industry clusters that fuel strong economic growth and innovation.

Promote Energy Efficiency and Environmental Quality

By increasing transit ridership and reducing car travel, this package of investments will reduce greenhouse gas emissions. In fact, the California Air Resources Board, in its recently approved scoping plan for implementation of the AB 32 greenhouse gas reduction law, included high-speed rail as a key strategy. Specifically, the San Francisco/Silicon Valley Corridor investment package will:

> Promote energy independence and reduce pollutants and greenhouse gas emissions through the electrification of the San Francisco/Silicon Valley corridor.

> Encourage the use of alternative transportation modes from start to finish by bringing high-speed rail to major transit hubs such as the Transbay Transit Center and Diridon Station, which are also served by local and regional transit operators.

The existing multimodal BART/Caltrain station in Millbrae

Ensure Safe and Efficient Transportation Choices

The San Francisco/Silicon Valley Corridor investment package places a high premium on enhancing safety and efficiency for both the Caltrain commuter rail service and California high-speed rail.

> At the two major hub stations in San Jose and San Francisco, travelers will be able to switch between not only these two rail lines, but also to and from BART and an impressive array of other transit systems, making transit travel more seamless than ever before in the Bay Area.

> The project will enable seamless connections by integrating high-speed rail service with other modes of transportation, particularly San Francisco International Airport and Mineta San Jose International Airport.

> Our package promotes safe rail operations by separating right-of-way from traffic and pedestrians, including an underground connection to downtown San Francisco's Transbay Transit Center and grade separations on the Peninsula.

> The project will integrate the most modern train control technology to improve safety and lower the risk of accidents.

> The package will optimize the use of existing transportation infrastructure by enabling the shared use of right-of-way by the Caltrain commute service and statewide high-speed rail.

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Transit-oriented developments are planned near the Diridon Station in San Jose.

Support Interconnected Livable Communities and a Healthy Urban Core

High-speed rail service and regional rail service will operate in high-density population centers so as to maximize ridership and connect the region's two largest cities — San Francisco and San Jose. Specifically, the package will:

- Link transportation and land-use investments through smart growth to enhance transportation choices.
- The Caltrain corridor has been designated a "priority development area" in the region's focused growth strategy.
- Advance smart growth by bringing high-speed rail directly to the urban core, connecting the two largest cities in the region with frequent train service.
- Encourage transit-oriented development in the Transbay Redevelopment Area and Diridon Station area.
- Leverage investments to improve existing Caltrain services, and thereby bolster the region's urban core.

Sensitivity to Community Partners and Customers

- Besides being environmentally friendly, corridor electrification is a "good neighbor" improvement that is quieter and removes local exposure to diesel emissions.
- We will maintain market-driven Caltrain commuter rail service while the high-speed rail projects are under construction.
- We are committed to protecting community character and minimizing impacts to the greatest extent possible.

Phase I Federal Funding Request

San Francisco/Silicon Valley Corridor ARRA Investment Strategy
(Millions of Year of Expenditure Dollars)

PHASE I	Project Cost	Committed Funds	ARRA Request	ARRA Category	ARRA Share
Transbay Transit Center — includes Rail Level Train Box	$1,590	$1,190	$400	Project	25%
Transbay Transit Center — Rail Platform Extension	$205	—	$205	Project	100%
Transbay Transit Center — Downtown Extension DTX (Design)	$52	—	$52	Project	100%
Caltrain — 4th and King Streets Station	$100	$2	$98	Project	98%
San Jose Diridon Station	$150	$1	$149	Project	99%
Positive Train Control (Corridor-wide)	$231	$1	$230	Corridor	99%
Corridor Electrification	$785	$484	$301	Corridor	38%
San Bruno Grade Separations	$275	$63	$212	Project	77%
TOTAL	**$3,378**	**$1,731**	**$1,647**		**49%**

Note: TJPA — Transbay Joint Powers Authority; Caltrain — Caltrain Peninsula Joint Powers Board

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Construction Start Date	Construction End Date	Jobs	Environmental Status	Agency Awarding Contract
November 2008	March 2014	47,400	NEPA/CEQA cleared	TJPA
November 2008	March 2014	6,150	NEPA/CEQA cleared	TJPA
July 2010	August 2012	1,560	NEPA/CEQA cleared	TJPA
November 2012	January 2015	3,000	Environmental review to be completed by June 2011	Caltrain
July 2012	June 2014	4,500	Environmental review to be completed by January 2012	City of San Jose/ Caltrain/CHSRA
December 2011	June 2013	6,930	Environmental review to be completed September 2009	Caltrain
November 2011	December 2014	23,550	CEQA cleared; NEPA to be completed by August 2009	Caltrain
July 2010	July 2013	8,250	CEQA cleared; NEPA to be completed by December 2009	Caltrain
		101,340		

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CALIFORNIA HIGH-SPEED RAIL
San Francisco/Silicon Valley Corridor
Investment Strategy

PROJECT DETAILS

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TRANSBAY TRANSIT CENTER — TRAIN LEVEL

The Transbay Transit Center project will replace the current Transbay Terminal at First and Mission streets in San Francisco with a 21st century regional transit hub that will serve as the S.F. terminus for the high-speed rail service from Los Angeles as well as for the Caltrain commuter rail service from the Peninsula, and accommodate 45 million passengers annually. The project will include the above-grade levels of the new Transbay Transit Center serving local and regional bus and rail lines, along with Greyhound intercity bus. The project will also construct new ramps connecting the San Francisco-Oakland Bay Bridge with the Transit Center and a new off-site bus storage facility.

Construction of the underground-level train station structure and mezzanine for the Transbay Transit Center, and the future control center for San Francisco Muni, are part of this Phase I project.

New Transbay Transit Center in San Francisco

Consensus on Technical and Operational Requirements

In order to optimize operations of the California High-Speed Rail and Caltrain corridor between San Jose and San Francisco, technical staff of the San Francisco/Silicon Valley Corridor Joint Powers Board (Caltrain), the Transbay Joint Powers Authority (TJPA) and the California High-Speed Rail Authority (CHSRA) have reached a consensus that the Transbay Transit Center is the preferred San Francisco destination for Caltrain and high-speed rail service. However, in order to get the maximum number of high-speed trains into and out of San Francisco in the most cost-effective manner, planners and engineers have determined that utilizing both the Transbay Transit Center at the First/Mission Streets location and an improved facility at the existing Fourth/King Streets station is required. When the nearly 800-mile California high-

TRANSBAY TRANSIT CENTER — RAIL LEVEL (continued)

speed train system is completed, the Transbay Transit Center will accommodate the majority of demand for high-speed rail service to San Francisco with additional demand accommodated, as needed, at an improved Fourth/King facility.

The technical group recommends proceeding with the current Transbay Transit Center design providing two high-speed rail platforms and one Caltrain platform; the Fourth and King site will be upgraded to support the operational and contingency requirements of Caltrain and high-speed rail services across a range of operating scenarios. The capacity of the high-speed rail platforms is dependent upon the dwell time for each train. The technical group will continue to work through the design of the Transbay Transit Center, the development of Caltrain's electrification program and the advancement of the high-speed rail project-level environmental work to optimize the Transbay Transit Center as the primary San Francisco terminus for Caltrain and high-speed rail operations.

Project Scope

The Transbay Terminal Joint Powers Authority (TJPA) is currently seeking funding to advance construction of the underground-level train station structure and mezzanine for the Transbay Transit Center, so that it happens concurrently with construction of the above-ground portions of the building. This would save the project an estimated $100 million compared to excavating under the completed building later on. In accordance with

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Renderings of the new Transbay Transit Center interior and exterior

design elements included in the High-Speed Rail Authority's environmental documents, the rail-level design includes four tracks for high-speed rail and two tracks for Caltrain.

Planning Completed

The Transbay Transit Center/Downtown Extension project is included in the following key planning documents:

- *California High-Speed Rail Authority Plan*;
- 2009 Transportation Improvement Program for the Nine-County San Francisco Bay Area (Metropolitan Transportation Commission); and
- Regional Transportation Plan: *Transportation 2035 Plan for the San Francisco Bay Area* (Metropolitan Transportation Commission).

Project Benefits

- Nearly 48,000 jobs will be created from the construction of the Transbay Transit Center and underground-level train station structure.

Cost and Funding

Project Cost	$1.59 billion
	Committed Revenues
Local	$498 million
State	$457 million
Federal	$235 million (includes TIFIA loan)
Subtotal	$1.19 billion
Additional Funding Need	$400 million

Project Status and Schedule

Phase	Start	Complete
Concept Planning	August 2000	February 2005
Environmental Clearance (NEPA, CEQA)	August 2000	February 2005
Preliminary Engineering	August 2000	December 2009
Final Design	November 2007	July 2010
Construction	November 2008	March 2014

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TRANSBAY TRANSIT CENTER — EXTENSION OF TRAIN PLATFORMS

Project Scope

The Transbay Joint Powers Authority (TJPA) is currently seeking funding to incorporate modifications to the design of the new Transbay Transit Center in San Francisco. The modifications are necessary to accommodate the platform design recommended by the California High-Speed Rail Authority (CHSRA). The current design required the use of train platforms that are on a curve to accommodate the length of the high-speed trains. CHSRA has requested that the platforms accommodating its trains be a minimum straight dimension of 1,312 feet. The only way to accommodate this requirement is to extend the train box approximately 250 feet to the east, bringing the total length of the train station to approximately 1,750 feet.

In addition, CHSRA's ridership projections have highlighted the need to provide expanded functionality at the below-grade level of the Transbay Transit Center to incorporate a taxi queuing area and provide connections to shuttle bus and intercity bus services. Preliminary designs have been developed that include these functions on the rail concourse level immediately above the train platform level. This design change involves extending the rail concourse level to provide a ramp down from Howard Street that would accommodate vehicle movements.

Construction of the extension of the rail platforms will be most cost-effective if completed concurrent with the construction of the underground-level train station structure.

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New high-speed rail station in the train level of the planned Transbay Transit Center

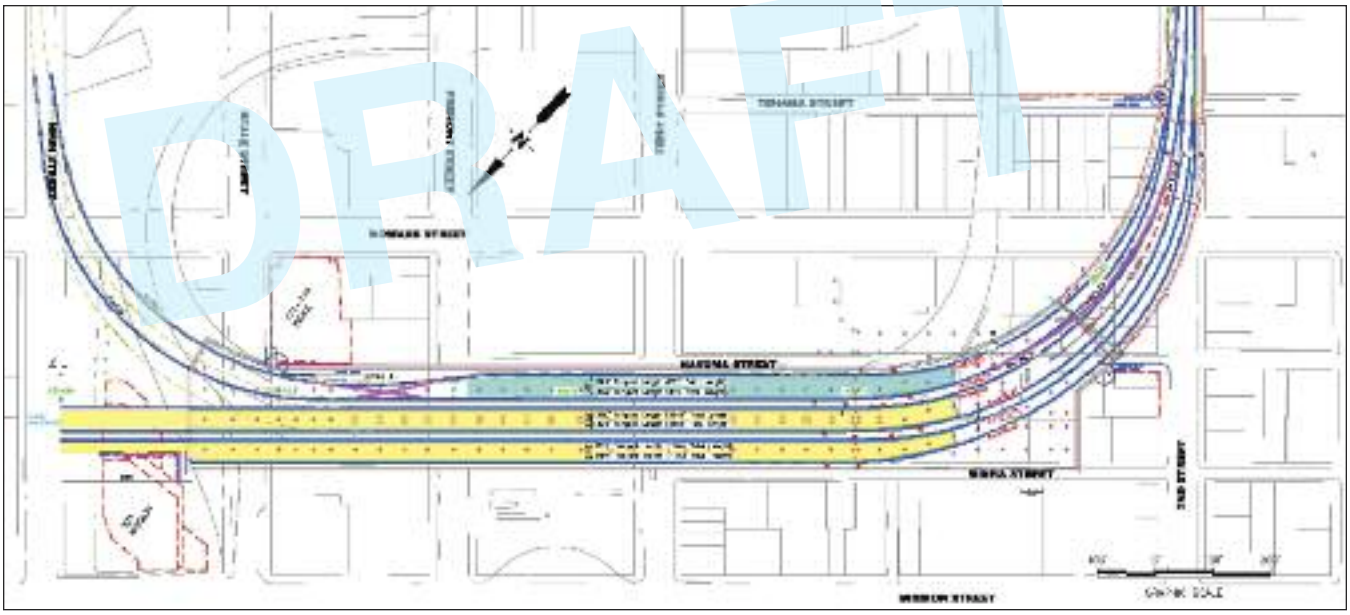

Diagram of rail platforms to be located in the underground-level train station of the Transbay Transit Center

Cost and Funding

Project Cost	$205 million
	Committed Revenues
Local	$0
State	$0
Federal	$0
Subtotal	$0
Additional Funding Need	$205 million

Project Status and Schedule

Phase	Start	Complete
Concept Planning	August 2000	February 2005
Environmental Clearance (NEPA, CEQA)	August 2000	February 2009
Preliminary Engineering	August 2000	December 2009
Final Design	November 2007	July 2010
Construction	November 2008	March 2014

Planning Completed

The Transbay Transit Center/Downtown Extension project is included in the following key planning documents:

- *California High-Speed Rail Authority Plan*;
- 2009 Transportation Improvement Program for the Nine-County San Francisco Bay Area (Metropolitan Transportation Commission); and
- Regional Transportation Plan: *Transportation 2035 Plan for the San Francisco Bay Area* (Metropolitan Transportation Commission).

Project Benefits

- More than 6,000 jobs will be created by the platform extension project.

TRANSBAY TRANSIT CENTER — DOWNTOWN EXTENSION (DTX) DESIGN

The Downtown Extension is a key component of the Transbay Center Project in San Francisco. It will provide a 1.3-mile underground connection along Second Street, between the current train terminal at 4th and King Streets and the new Transbay Transit Center at Mission and First Streets.

Project Scope

The Transbay Terminal Joint Powers Authority (TJPA) is seeking funding to complete the engineering design for the Downtown Extension. ARRA funding would allow completion of the design of the tunnel structures and of the interface with the Transbay Transit Center building, so as to prepare the extension for construction.

Planning Completed

The Transbay Transit Center/Downtown Extension project is included in the following key planning documents:

Rendering of the interior of Mission Plaza at the new Transbay Transit Center

- *California High-Speed Rail Authority Plan*;
- 2009 Transportation Improvement Program for the Nine-County San Francisco Bay Area (Metropolitan Transportation Commission; and
- Regional Transportation Plan: *Transportation 2035 Plan for the San Francisco Bay Area* (Metropolitan Transportation Commission).

Project Benefits

- Some 1,500 jobs will be created during the design phase of the track extension.

Cost and Funding

Project Cost	$52 million
	Committed Revenues
Local	$0
State	$0
Federal	$0
Subtotal	$0
Additional Funding Need	$52 million

Project Status and Schedule

Phase	Start	Complete
Concept Planning	August 2000	February 2005
Environmental Clearance (NEPA, CEQA)	August 2000	February 2005
Preliminary Engineering	August 2000	June 2010
Final Design	July 2010	August 2012
Construction	July 2011	August 2020

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CALTRAIN — 4TH AND KING STREET STATION

The 4th and King Street station currently is the north terminus for the Caltrain system and provides access to the South of Market area of San Francisco that is undergoing tremendous redevelopment and growth. The station is conveniently located adjacent to the San Francisco Giants ballpark, and is heavily used.

In the future, this facility will serve as an overflow station for the California High-Speed Rail (CHSR) service. This station coupled with the Transbay Transit Center will be able to accommodate the full HSR build-out service plans as well as Caltrain's future service profile.

Project Scope

Upgrades to the 4th and King Street station are required to accommodate both high-speed rail and upgraded Caltrain service. The project includes new platforms, track and signal reconfiguration, and minor modifications to the station building.

Project Benefits

> 3,000 jobs will be created.

Cost and Funding

Project Cost	$100 million
	Committed Revenues
Local	$2 million
State	$0
Federal	$0
Subtotal	$2
Additional Funding Need	$98 million

Trains at the Caltrain station at Fourth and King Streets in San Francisco

Project Status and Schedule

Phase	Start	Complete
Selection of Preferred Alternative	July 2009	January 2010
Complete Preliminary Engineering	January 2010	June 2010
Environmental Clearance	January 2010	June 2011
Final Design	July 2011	April 2012
Track Improvement Construction	November 2012	January 2015

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SAN JOSE DIRIDON STATION AND TRANSIT HUB DESIGN

The San Jose Diridon Station is the transit hub of Silicon Valley, located adjacent to the HP Pavillion at the western edge of Downtown San Jose, and two miles from Mineta San Jose International Airport. The station currently serves Caltrain, Amtrak Capitols trains, Amtrak Coast Starlight, Altamont Commuter Express trains and regional bus services, as well as local Valley Transportation Authority (VTA) light-rail and bus lines. The Diridon Station complex is slated for significant expansion to accommodate direct connections with BART, VTA bus rapid transit and high-speed rail. The land area surrounding the station has strong potential for redevelopment as a vibrant, high density, urban center.

Currently, 130 trains a day roll through the Diridon Station; when the station is built out, over 600 trains will pass through each day, nearly a five-fold increase. With the facility projected to serve 4.1 million high-speed rail riders and 2.7 million Caltrain riders annually by 2030, the area and station will emerge as a key regional transportation hub for the entire Bay Area.

Project Scope

The project includes the design and construction of a new multimodal transit station terminal (adjoining the existing historic station building), along with trackside improvements to support a passenger mezzanine, eight platforms and a canopy structure for high-speed rail.

Integration With High-Speed Rail

At present, the Caltrain Joint Powers Board is implementing commuter rail service enhancements on an incremental basis to serve only their commuter patrons, while the High-Speed Rail Authority has released preliminary plans that address only its initial deployment phase. The BART-to-San Jose extension and station is yet another planning track. The focus of the Diridon Station Design Integration Project is to establish a strong but flexible planning and design framework that incorporates all the anticipated uses proposed for the station. This project recognizes that Diridon Station is emerging as one of the most intensive transit hubs in the Western United States.

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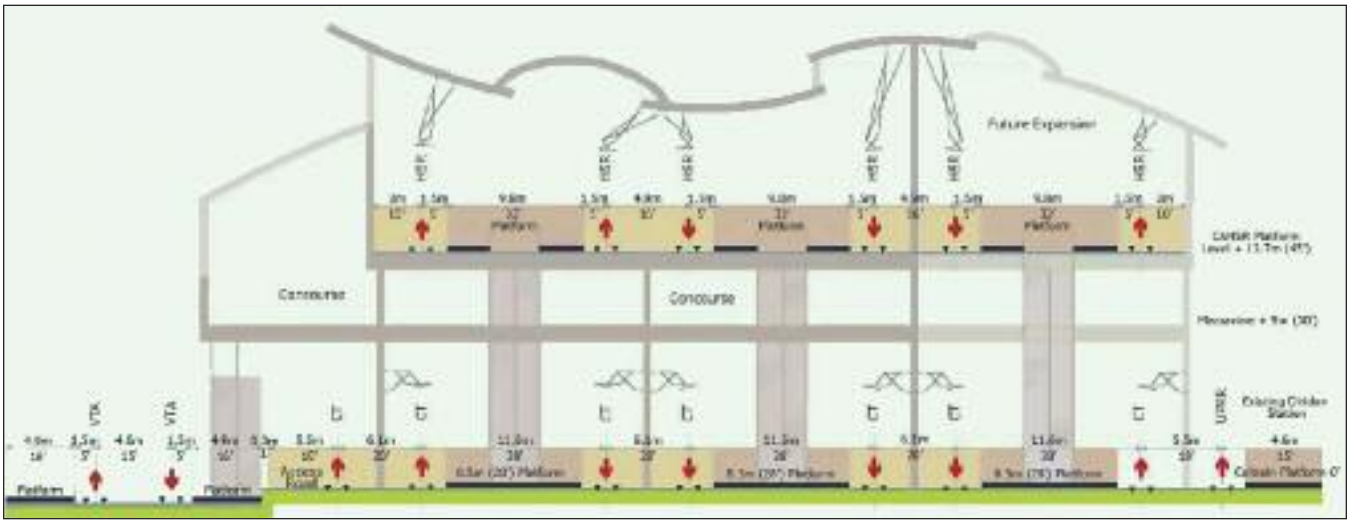

Cross section of platforms at new Diridon train station

New Diridon train station and transit hub planned for downtown San Jose

Planning Completed

This Diridon Station Design Integration Project will be compatible with previous planning studies, including:

1. San Jose General Plan Update
2. High-Speed Rail EIR/EIS
3. San Jose Downtown Strategy, and
4. Diridon Area Masterplan of 2001

The recently awarded and MTC-sponsored 2009 Diridon Station Plan is also a complementary part of the proposed design project.

Project Benefits

The project is expected to create approximately 4,500 professional, technical, trade and labor jobs during the engineering and construction phases.

The completed project will provide a modern and efficient multimodal transit hub in Downtown San Jose, the urban center of Silicon Valley. In addition, the project will serve as a magnet for high-density, walkable communities.

Cost and Funding

Project Cost	**$150 million**
	Committed Revenues
Local	$0.75 million
State	0
Federal	0
Subtotal	$750,000
Additional Funding Need	$149.25 million

Project Status and Schedule

Phase	Start	Complete
Conceptual Design Update ($1 million)	June 2009	March 2010
Environmental Clearance (NEPA, CEQA)	January 2009	January 2012
Engineering/Design ($49 million)	July 2010	July 2012
Phase 1 Construction: Trackside Improvements ($100 million)	July 2012	June 2014

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POSITIVE TRAIN CONTROL

A federal mandate requires the installation of positive train control (PTC) on all commuter railroads and some freight railroads by 2015 to reduce the risk of train-to-train collisions and prevent trains from exceeding authorized speed limits.

Caltrain has made great progress in working on the design for this safer signal system. However, to keep this vital project moving forward, additional funding is needed.

Project Scope

Caltrain is currently working on developing specifications for a new signaling system overlay that will:

- Increase the safety of the current signal system;
- Enable more frequent and dependable passenger service;
- Improve grade crossing warning functions (Caltrain currently crosses dozens of at-grade streets along its 77-mile route);
- Accommodate the unique requirements of future high-speed trains in the Caltrain corridor.

Integration With High-Speed Rail

Since California voters approved the high-speed rail bond proposition on Nov. 4, 2008, Caltrain has been preparing for the introduction of high-speed trains in its corridor. Caltrain has undertaken an extensive investigation of existing signaling and train control technologies in order to define the requirements for a new signal system. Positive train control will be designed to differentiate between the unique operating characteristics (train length, speed, braking distance,

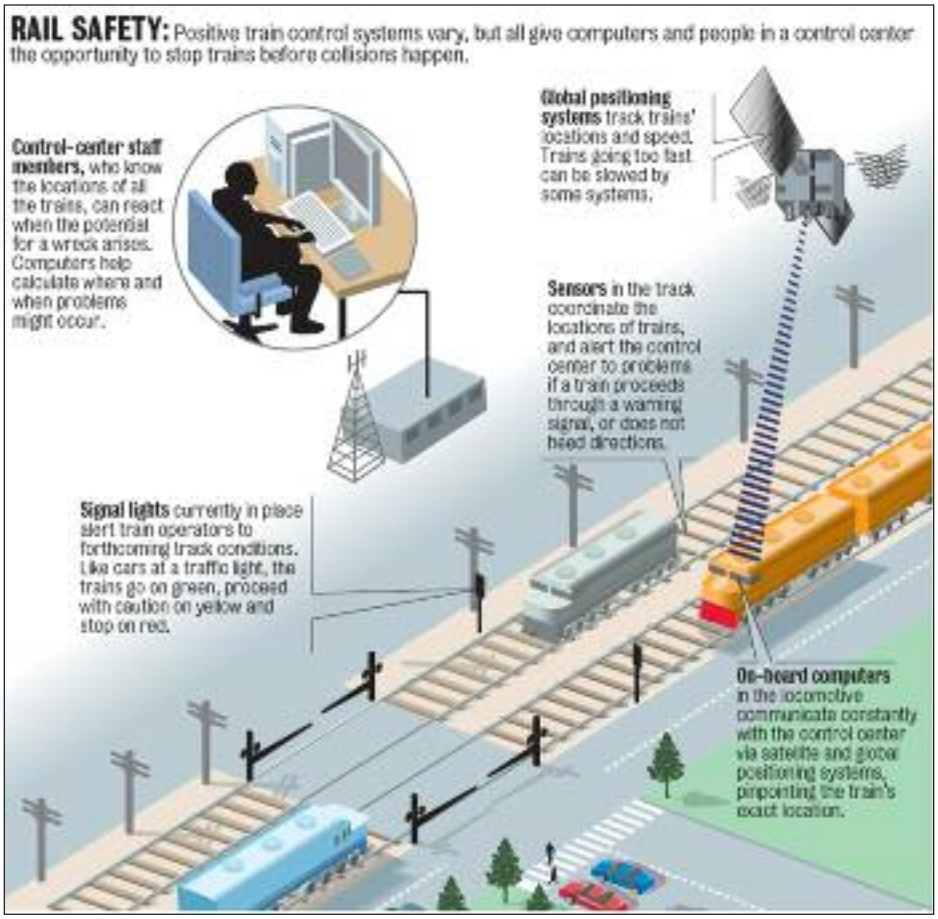

Diagram of how positive train control works

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etc.) of both commuter and high-speed trains. This will enable optimal performance for the different types of train technologies that will operate on the corridor.

Co-Benefit: Energy/Fuel Savings and Security

Increased safety is a compelling reason to implement positive train control. However, an added benefit to this safety enhancement is that the new controls also will reduce fuel consumption by automobiles at grade crossings along the corridor by reducing crossing gate down times and idling.

In terms of employment impacts, the project will create 6,930 jobs.

Cost and Funding

Estimated cost:	**$231 million**

	Committed Revenues
Local	$1 million
State	0
Federal	0
Subtotal	$1
Additional Funding Need	$230 million

Project Status and Schedule

Phase	Start	Complete
Preliminary Design	January 2008	September 2009
Environmental Clearance (NEPA, CEQA)	January 2008	September 2009
Final Design	May 2010	September 2011
Construction/ Installation	December 2011	June 2013
System Testing and Integration	December 2013	December 2014

Caltrain by the Numbers

Passengers:	11.9 million annually
Trains:	98 weekday 32 Saturday 28 Sunday
Stations:	32
Track miles:	52 mainline and an additional 27 commute-hour only
Terminals:	San Francisco San Jose Gilroy

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CORRIDOR ELECTRIFICATION

While required for high-speed rail, electrification will also pay immediate dividends for existing Caltrain patrons and for corridor residents.

Project Scope

This project requires the installation of two traction-power substations and eight auto-transformer stations, with capacity for 172 trains at peak five-minute headways. Work will occur along the length of the rail corridor to string wires for the overhead contact system, which will provide power to trains traveling at up to 90 mph, with the capability to support state voter-approved high-speed rail.

As part of this project and during the same timeframe, electric locomotives or electric multiple unit train sets will be purchased and brought into revenue service.

Project Benefits

Electrifying will result in a faster, more efficient and more environmentally friendly rail system than the current diesel-powered system. Because electric trains can accelerate and decelerate faster than diesel trains, the improvements are anticipated to provide a savings of 13 percent in Caltrain travel time between San Francisco and San Jose. Ridership has grown as Caltrain has decreased travel time through other operational improvements, and is anticipated to continue to grow with additional time savings. Greater ridership would reduce congestion on Bay Area freeways, decrease auto emissions and reduce the demand for parking space in local cities.

Electric-powered trains are significantly quieter, which will benefit neighbors residing along the corridor.

Additionally, the switch to electric locomotives will reduce air pollutant emissions from the trains by up to 90 percent, and decrease power consumption significantly.

This project is one of the largest job generators in the investment package, involving 23,550 workers.

Project Limits

52-mile rail corridor from San Francisco to San Jose.

Cost and Funding

Project Cost	$785 million
	Committed Revenues
Local	$484 million
State	0
Federal	0
Subtotal	$484 million
Additional Funding Need	$301 million

Project Status and Schedule

Phase	Start	Complete
Agreements With Utility Supply	September 2008	December 2010
Environmental Clearance: CEQA Cleared; NEPA	March 2009	August 2009
Final Design	September 2009	March 2011
Construction	November 2011	December 2014
Revenue Service		January 2015

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SAN BRUNO GRADE SEPARATION PROJECT

The San Bruno Grade Separation Project has been recognized on the California Public Utilities Commission (CPUC) Grade Separation Priority List throughout the past decade as a high-priority grade separation project, primarily due to the accident history at the site. Within the past 10 years, there have been six separate accidents resulting in four fatalities.

There is a Citizens Advisory Committee (CAC) comprised of key San Bruno stakeholders focused on addressing community concerns while advancing the project. Over 10 CAC meetings were conducted in addition to presentations at City Council and public meetings to solicit community input. The city of San Bruno is anxious to implement the project to address one of the largest safety concerns in its jurisdiction.

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Project Scope

The project includes grade separation of three existing at-grade street crossings, new pedestrian tunnels and a reconstructed San Bruno Caltrain Station.

Project Limits

City of San Bruno, from Interstate 380 (north) to San Felipe Avenue (south). The project area is immediately adjacent to the city's central business district, elementary school and local park.

Project Benefits

There are approximately 25,000 average daily trips that traverse the subject crossings. In addition to creating 8,250 jobs during construction, the grade separations will:

- Improve safety by eliminating conflicts between trains and vehicular and pedestrian traffic;
- Improve vehicle circulation;
- Reduce automobile emissions equivalent to 1.5 hours of delay per day;
- Improve emergency service response times; and
- Eliminate local impact during Caltrain incidents.

Cost and Funding

Estimated Project Cost	**$275 million**

	Committed Revenues
Local	$63 million
State	0
Federal	0
Subtotal	$63 million
Additional Funding Need	$212 million

Project Status and Schedule

Preliminary Design (35 percent) has been completed.

Phase	Start	Complete
Funding Is Needed For:		
Environmental Clearance: CEQA Cleared; NEPA	April 2009	December 2009
Final Design	July 2009	December 2009
Construction	July 2010	July 2013

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