Local Policy Maker Group (LPMG) Meeting

Thursday, April 25, 2019
5:30 p.m. – 7:30 p.m.
SamTrans Offices – Bacciocco Auditorium 2nd Floor
1250 San Carlos Ave., San Carlos

Members of the public are welcome to attend the teleconference location at 1970 Santa Cruz Ave, Menlo Park, CA

Agenda

1. Call to Order
2. Staff Report
3. Caltrain Business Plan
4. Caltrain Electrification Project
5. HSR Update (Presented by California High-Speed Rail Authority Staff)
6. Public Comments
7. LPMG Member Comments/Requests
    a. Grade Separation Toolkit
8. Next Meeting
    a. Thursday May 23, 2019 at 5:30pm
9. Adjourn

All items on this agenda are subject to action

Memorandum

Date: April 25, 2019

To: CalMod Local Policy Maker Group (LPMG)

From: Sebastian Petty, Senior Advisor

Re: Caltrain Business Plan

Project update

The following is one in a series of monthly project updates for the Caltrain Business Plan. These updates provide a high level summary of project activities and progress and are paired, when applicable, with a presentation that reflects project materials and messaging shared with stakeholder groups during the subject month. The following "April" update covers work completed in late March of 2019 and April of 2019.

ONGOING TECHNICAL WORK

- Through spring of 2019 the Caltrain Business Plan team continued intensive technical work on the plan. The following technical work products are documented in the attached presentation that was provided to the Project Partner Committee as well as the CSCG and LPMG;
- Analysis of grade crossing improvements and potential investments along the Caltrain corridor

The following additional technical analysis is ongoing and will be presented in the coming months;

- Continued service planning work including
  - Initiation of dynamic simulation of all service concepts
  - Exploration of additional service concepts and variations
- Specification and quantification of capital investments needed to support service scenarios including track and system upgrades, station modifications, fleet and support facilities and grade crossing improvements and separations (discussed in the attached presentation)
- Finalization of key inputs and assumptions into the integrated business model including the calculation of key operating and maintenance costs
- Ongoing organizational assessment work specifying key railroad functionalities, mapping of Caltrain organization and analysis of national and international

comparison railroads as well as development of preliminary organizational recommendations
- Ongoing community interface documentation and development of comparison corridor case studies

MEETINGS AND OUTREACH

Stakeholder outreach and engagement activities continued in April with a number of events that covered material related to service planning. The following major meetings occurred in April;

- Transbay Joint Powers Authority Citizen Advisory Committee (April 9)
- Mountain View City Council (April 9)
- Transbay Joint Powers Authority Board of Directors (April 9)
- Caltrain Business Plan Ad Hoc Committee (April 15)
- City County Staff Group (April 17)
- Belmont City Counicl (April 23)
- Local Policy Maker Group (April 25)

In addition to public meetings, the Business Plan team also began the second round of individual meetings with staff from each of the 21 local jurisdictions along the Caltrain corridor. These meetings are still ongoing but were substantially completed during the month of April.

The Project Partner Committee (PPC) held its regular, full meeting on April 23.

NEXT STEPS

The first part of the Business Plan is focused on the development of a long-range service vision for the railroad accompanied by an assessment of the community-corridor interface and the Caltrain organization. The remainder of the project will be focused on the creation of the implementation plan, including a detailed business plan and funding approach. The Business Plan team will continue to provide monthly updates throughout the Business Plan. Over the next several months the team will provide significant updates on further service planning details, ridership projections, and capital and operating costs associated with each scenario.

Caltrain Business Plan

APRIL 2019

LPMG

April 25, 2019

Continuing to Build a Business Case

What is the Caltrain Business Plan?

What Addresses the future potential of the railroad over the next 20-30 years. It will assess the benefits, impacts, and costs of different service visions, building the case for investment and a plan for implementation.

Why Allows the community and stakeholders to engage in developing a more certain, achievable, financially feasible future for the railroad based on local, regional, and statewide needs.

3

What Will the Business Plan Cover?

Technical Tracks

Service
- Number of trains
- Frequency of service
- Number of people riding the trains
- Infrastructure needs to support different service levels

Business Case
- Value from investments (past, present, and future)
- Infrastructure and operating costs
- Potential sources of revenue

Community Interface
- Benefits and impacts to surrounding communities
- Corridor management strategies and consensus building
- Equity considerations

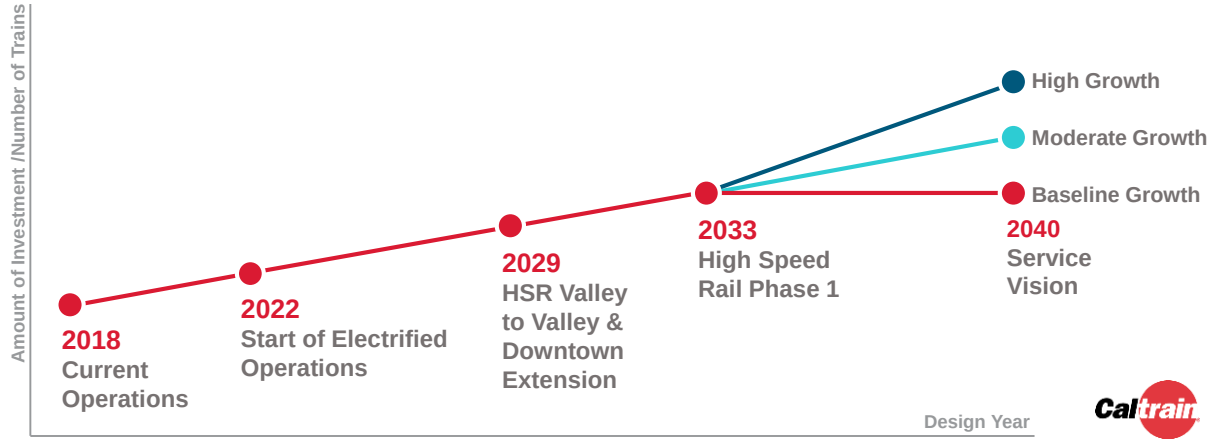
Organization
- Organizational structure of Caltrain including governance and delivery approaches
- Funding mechanisms to support future service

4

Where Are We in the Process?

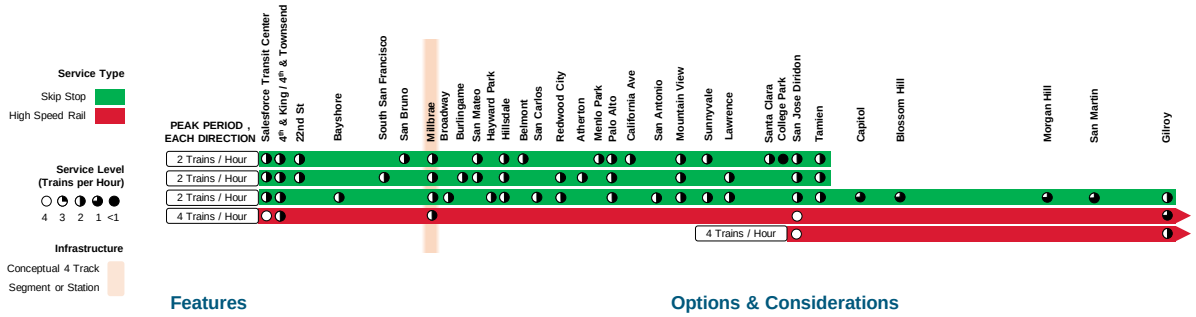
5

2040 Service Scenarios: Different Ways to Grow



6

2040 Baseline Growth Scenario (6 Caltrain + 4 HSR)



Features

- Blended service with up to 10 TPH north of Tamien (6 Caltrain + 4 HSR) and up to 10 TPH south of Tamien (2 Caltrain + 8 HSR)
- Three skip stop patterns with 2 TPH – most stations are served by 2 or 4 TPH, with a few receiving 6 TPH
- Some origin-destination pairs are not served at all

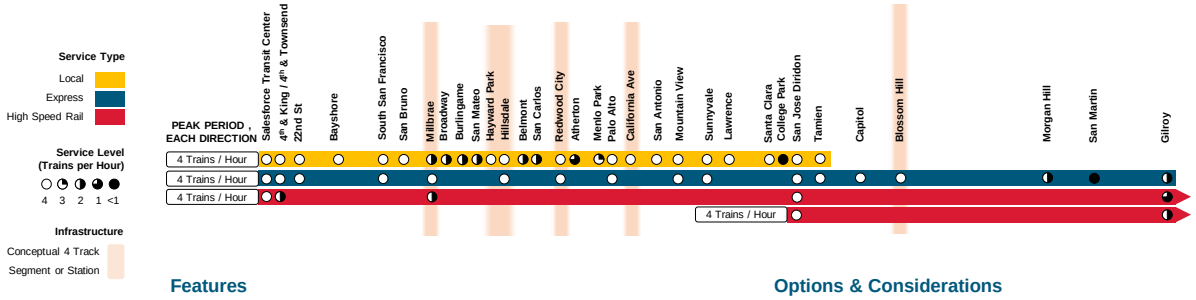
Passing Track Needs

- Less than 1 mile of new passing tracks at Millbrae associated with HSR station plus use of existing passing tracks at Bayshore and Lawrence

Options & Considerations

- Service approach is consistent with PCEP and HSR EIRs
- Opportunity to consider alternative service approaches later in Business Plan process

Moderate Growth Scenario (8 Caltrain + 4 HSR)



Features

- A majority of stations served by 4 TPH local stop line, but Mid-Peninsula stations are serviced with 2 TPH skip stop pattern
- Express line serving major markets – some stations receive 8 TPH
- Timed local/express transfer at Redwood City

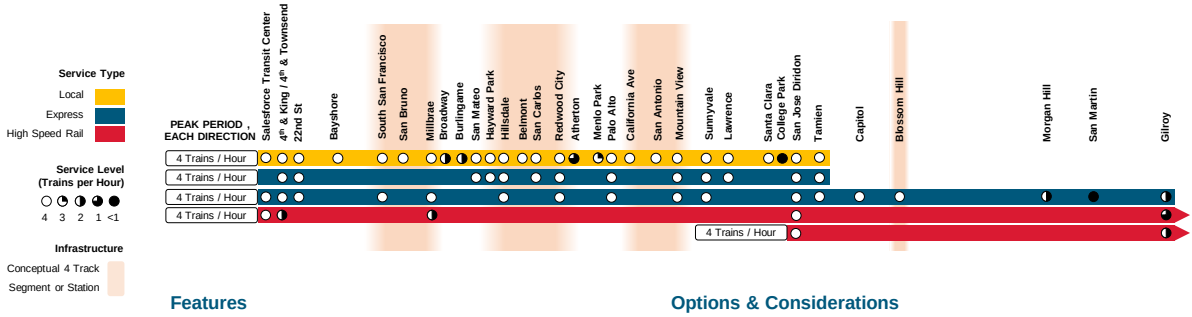
Passing Track Needs

- Up to 4 miles of new 4-track segments and stations: Hayward Park to Hillsdale, at Redwood City, and a 4-track station in northern Santa Clara county (Palo Alto, California Ave, San Antonio or Mountain View. California Ave Shown)

Options & Considerations

- To minimize passing track requirements, each local pattern can only stop twice between San Bruno and Hillsdale - in particular, San Mateo is underserved and lacks direct connection to Millbrae
- Each local pattern can only stop once between Hillsdale and Redwood City
- Atherton, College Park, and San Martin served on an hourly or exception basis

High Growth Scenarios (12 Caltrain + 4 HSR)



Features

- Nearly complete local stop service – almost all stations receiving at least 4 TPH
- Two express lines serving major markets – many stations receive 8 or 12 TPH

Passing Track Needs

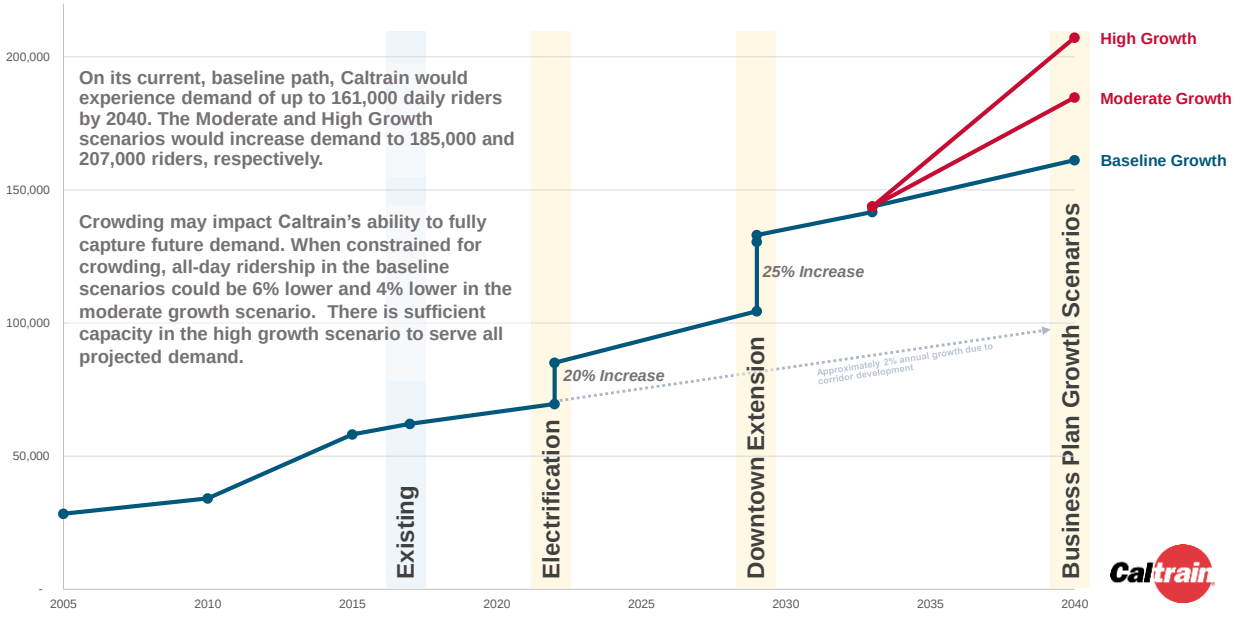
- Requires up to 15 miles of new 4 track segments: South San Francisco to Millbrae, Hayward Park to Redwood City, and northern Santa Clara County between Palo Alto and Mountain View stations (shown: California Avenue to north of Mountain View)

Options & Considerations

- SSF-Millbrae passing track enables second express line; this line cannot stop north of Burlingame
- Tradeoff between infrastructure and service along Mid-Peninsula - some flexibility in length of passing tracks versus number and location of stops
- Flexible 5 mile passing track segment somewhere between Palo Alto and Mountain View
- Atherton, College Park, and San Martin served on an hourly or exception basis

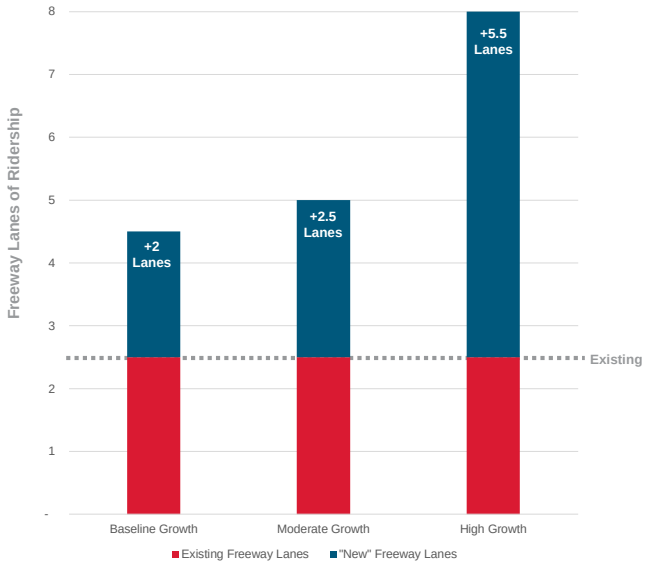
9

Ridership Projections



10

Peak Hour Throughput as Freeway Lanes



Caltrain's peak load point occurs around the mid-Peninsula. Today, Caltrain serves about 3,900 riders per direction during its busiest hour at this peak load point. This is equivalent to 2.5 lanes of freeway traffic.

The **Baseline Growth Scenario** increases peak hour ridership to about 6,400 riders at the peak load point – equivalent to widening US-101 by 2 lanes. Peak hour demand exceeds capacity by about 40%.

The **Moderate Growth Scenario** increases peak hour ridership to about 7,500 riders at the peak load point – equivalent to widening US-101 by 2.5 lanes. Peak hour demand exceeds effective capacity by about 35% due to higher demand for express trains.

The **High Growth Scenario** increases peak hour ridership to over 11,000 at the peak load point – equivalent to widening US-101 by 5.5 lanes. All ridership demand is served.

Assumes 135% max occupancy load

11

Grade Crossings & Grade Separations

12

Purpose

- Provide a corridor wide background and perspective on at-grade crossings and grade separations
- Discuss ongoing city-led grade separation plans and projects
- Quantify the range of investment in grade crossings to be incorporated into the 2040 “Service Vision”
- Discuss next steps

13

Background

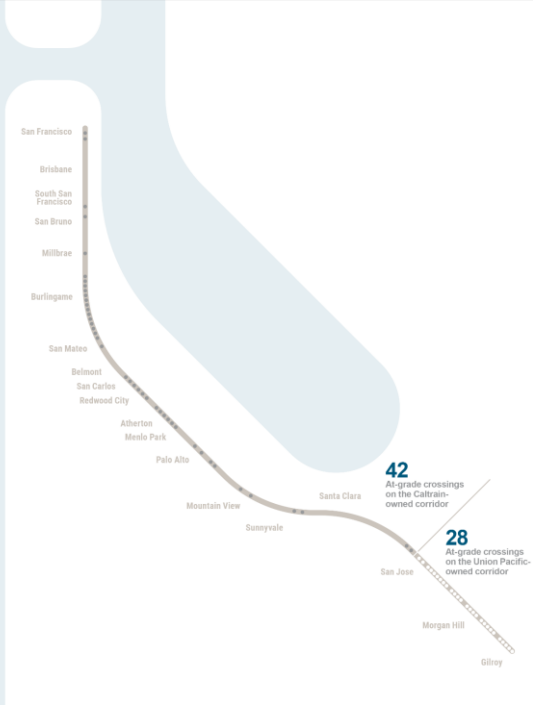
Context

- 42 at-grade crossings on the corridor Caltrain owns between San Francisco and San Jose
- 28 additional at-grade crossings on the UP-owned corridor south of Tamien

At-Grade Crossing by County in Caltrain Territory

- San Francisco: 2 at-grade crossings
- San Mateo: 30 at-grade crossings
- Santa Clara: 10 at grade crossings (with 28 additional crossings on the UP-owned corridor)

Most of the data shown in this presentation pertains to the Caltrain-owned corridor north of Tamien Station



14

Background

History

Today, 71 of 113 crossings along the Caltrain corridor have already been separated (63%) and 12 of 30 crossings along the UP corridor have been separated (29%)

The grade separations have been constructed (and reconstructed) at various points during the corridor's 150-year history

Planning for, funding, and constructing grade separations has been a decades-long challenge for the Caltrain corridor

Bayshore Tunnels under construction, 1907

Background - History

Grade Separations Have Been an Enduring Challenge

"In 1929, Palo Alto City Mayor, C.H. Christen, and Stanford University Engineering Professor Emeritus, W.F. Durand, organized political leaders from San Francisco, San Mateo, and Santa Clara counties to form the Peninsula Grade Crossing Conference, also referred to as the Peninsula Grade Crossing Association. Professor Durand and the association, with help from the San Francisco City Engineer, Southern Pacific Railroad, and the California Railroad Commission, studied the grade crossing situation on the San Francisco Peninsula throughout 1930 and sought ways to eliminate grade crossings.

In 1931, the association's engineering subcommittee released a detailed, $9 million two-phase proposal to eliminate grade crossings on the peninsula. The "Primary Program" of the plan called for construction of grade separations at the 15 most traveled and hazardous grade crossings and closure of the 17 least important grade crossings. The "Secondary Program" would have completed the elimination of all major grade crossings in San Francisco, San Mateo, and Santa Clara counties. The conference's aim was to permit travelers to cross railroad tracks only via grade separations. At an average cost of $270,000 per grade separation, the Peninsula Grade Crossing Conference proposed legislation to fund these projects through a portion of the state's gasoline tax."

- *Historic Context Statement. Roadway Bridges of California 1936-1959. Published by Caltrans in 2003*

Background

History

The following grade separation projects have been completed since the JPB assumed ownership of the Caltrain Service in 1992;

- Millbrae: Millbrae Ave (1990s)
- North Fair Oaks: 5th Ave (1990s)
- Redwood City: Jefferson Ave (1990s)
- Belmont: Ralston, Harbor (1990s)
- San Carlos: Holly, Britain Howard (1990s)
- San Bruno: San Bruno, San Mateo, Angus (2014)

There is one grade separation project under construction:

- San Mateo: 25th Avenue (estimated 2021 completion)

Funding for Grade Separation provided through San Mateo County's "Measure A" sales tax (1988, 2004) has been instrumental in completing these projects, while dedicated funding has previously not been available in San Francisco or Santa Clara Counties

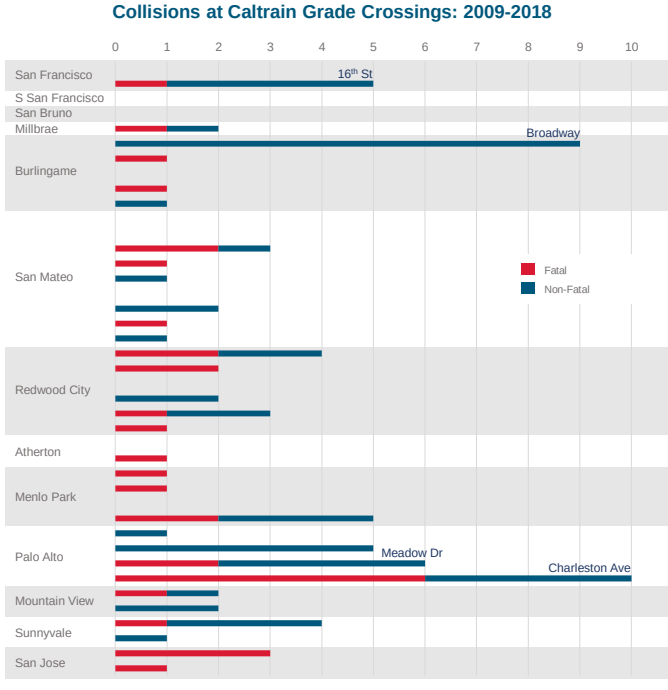
Background

Safety

Over 80 collisions occurred at Caltrain's grade crossings in the 10 years from 2009-2018. More than 30 of these collisions involved a fatality

- 11 crossings had 0 collisions
- 8 crossings had 4 or more collisions
- 21 crossings had 1 or more fatalities

Data presented for Caltrain-owned corridor Only. Collision data from FRA reports



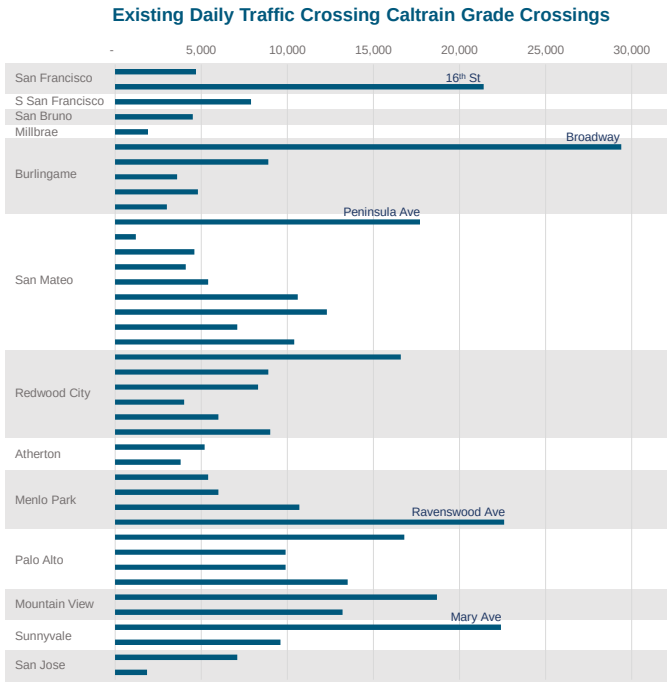
Background

Usage

Today, during a typical weekday, Caltrain's at-grade crossings are traversed by approximately 400,000 cars. This is equivalent to the combined traffic volumes on the Bay Bridge and San Mateo Bridge

The 10 busiest at-grade crossings account for half of all traffic volumes

Data presented for Caltrain-owned corridor only. Data reflects 2016 ADT



Background

Regulation

Caltrain understands that the requirement for grade separation set by the current regulatory framework may be out of pace with the ongoing plans and desires of many communities on the corridor

The 2040 "Vision" will consider substantially expanded investment in grade crossing improvements and separations

When is Grade Separation or Closure of a Crossing Required?

Grade crossings are regulated by the Federal Railroad Administration (FRA) and, in California, by the California Public Utilities Commission

Under current regulations, the separation or closure of an at-grade crossing is required in the following circumstances:

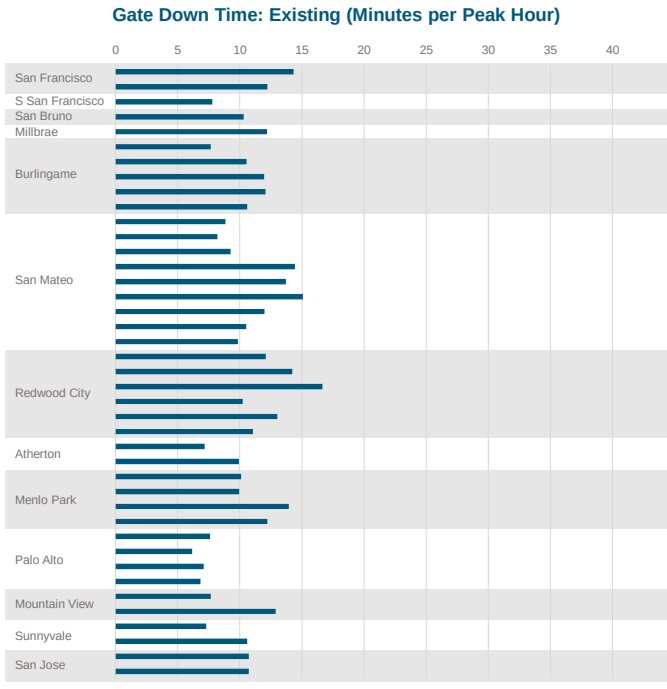
- When maximum train speeds exceed 125 mph (FRA regulation)
- When the crossing spans 4 or more tracks (CPUC guidance interpreted into Caltrain Standards)

Existing Gate Downtimes

Today, Caltrain's crossing gates are down for an average of about 11 minutes during the peak weekday commute hour. Gate down times range from 6 minutes up to nearly 17 minutes.

Note: Gate downtimes shown reflect the average time crossing gates are down only. Depending on individual crossing and roadway configuration traffic signals may stay red for longer and auto users may experience longer delays

Data presented for Caltrain-owned corridor only.



21

2040 Gate Downtimes

In 2040, projected crossing gate down times vary by scenario. This evaluation does not take into consideration planned or potential grade separations

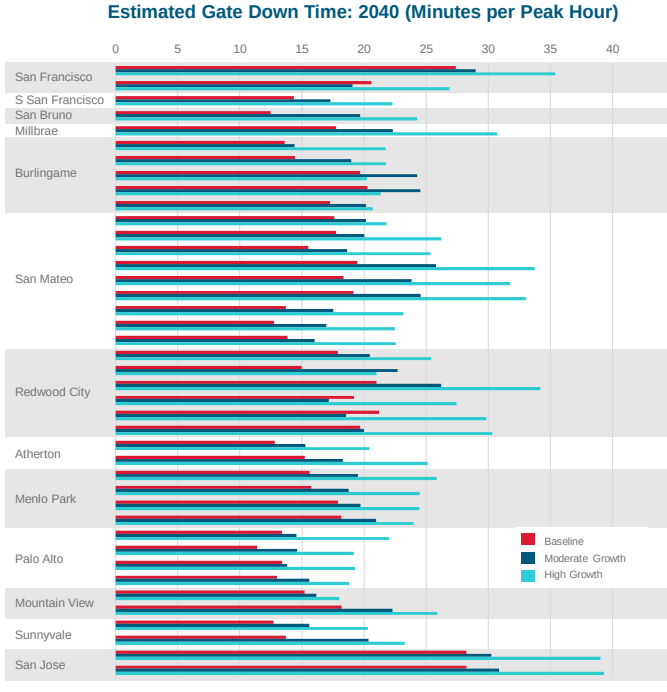
Gate Down Time by Scenario

	Shortest	Average	Maximum
Baseline	11	17	28
Moderate	14	20	31
High	18	25	39

Minutes per Peak Hour

Note: Gate downtimes shown reflect the average time crossing gates are down only. Depending on individual crossing and roadway configuration traffic signals may stay red for longer and auto users may experience longer delays

Data presented for Caltrain-owned corridor only.



22

What Total Investment is Needed in Grade Separations?

The purpose of this analysis is to generate a defensible estimate of the overall financial investment in grade separations that might be needed to support different levels of future train service in the corridor

Understanding the total financial need is an essential part of developing a "business case" for increased Caltrain service – it is required to fairly represent and align the potential costs of new service with the benefits claimed

This work is not an attempt to redefine standards for grade separation nor is it intended to prescribe individual treatments or outcomes at specific crossings

Weighing the Cost of Grade Crossing Improvements

Purpose

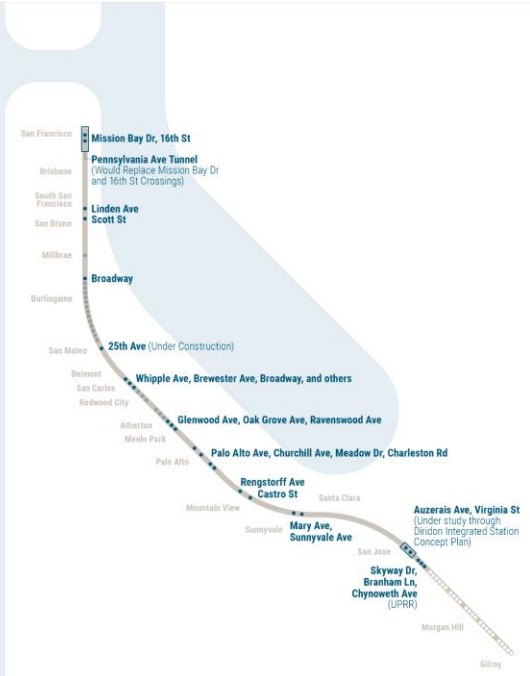
- Ensure that the overall capital costs developed for each service scenario include a reasonable level of **total, corridor wide** investment in grade separations and grade-crossing improvements

Overall Methodology

- Review and utilize and City-led plans for each grade separations or closures
- Develop generic investment types and costs for crossings where no plans are currently contemplated
- Develop ranges of potential investment costs varied by:
  - Service Scenario
  - Intensity of investment (low, medium, high)

City Studies, Plans and Projects

- Many cities along the corridor are actively planning or considering grade separations
- Each of these represents a major community effort to plan a significant and impactful project
- These projects, including their estimated and potential costs (as available), have been incorporated into the Business Plan



Types of Investments Considered

Today, many crossings on the corridor are not actively being studied for grade separation but may require investment or intervention in the future. A range of generic costs were developed to help estimate the aggregate potential costs of these investments

City-Generated Cost
Project type and cost already specified or estimated by city

Cost varies

Grade Separation
Full grade separation of an existing crossing, or a new crossing

$255 - 355 M unit cost

Mitigated Closure
Road closure with separated bike/ped access or equivalent investment

$35M unit cost

Crossing Improvement
Quad gates and/or other safety improvements and treatements

$1M unit cost

City-led Grade Separation and Closure Plans

Caltrain has incorporated or accounted for grade separation concepts, plans and cost estimates from the following city-led studies into the Business Plan

City	Crossings Under Study	Status of Plan or Study	City Generated Cost Estimate or Range	Included in Business Plan?
San Francisco	Pennsylvania Ave Tunnel (includes both Mission Bay Dr and 16th St Crossings)	Feasibility / 1% Design	$1.4B*	✔
South San Francisco	Linden Ave	PSR	TBD	✔
San Bruno	Scott St	PSR	TBD	✔
Burlingame	Broadway	EIR	$274M	✔
San Mateo	25th Ave	Construction	$180M	✔
Redwood City	Whipple Ave, Brewster Ave, Broadway (Maple, Main and Chestnut under potential consideration)	PSR	$350 - 500M (Whipple, Brewster and Broadway)	✔

In many cases cities have not yet selected a single preferred option or have not approved specific cost estimates. In these instances standardized unit costs may be used for Business Planning purposes. These can costs can be updated at a later point in the planning process based on City decisions and input

***Cost shown is highly preliminary and subject to change**

27

City-led Grade Separation and Closure Plans

Caltrain has incorporated or accounted for grade separation concepts, plans and cost estimates from the following city-led studies into the Business Plan

City	Crossings Under Study	Status of Plan or Study	City Generated Cost Estimate or Range	Inlcuded in Business Plan?
Menlo Park	Glenwood Ave Oak Grove Ave Ravenswood Ave	PSR	$310M – 380M	✔
Menlo Park	Middle Ave (Ped. xing only)	Feasibility	TBD	✔
Palo Alto	Palo Alto Ave	Under Study through Coordinated Area Plan	TBD	✔
Palo Alto	Churchill Ave	Alternatives Analysis	TBD	✔
Palo Alto	East Meadow Dr Charleston Rd	Alternatives Analysis	$200 - 950M	✔
Mountain View	Rengstorff Ave	PE/EIR	$150M	✔
Mountain View	Castro St	PE/EIR	$44 - 64M	✔

In many cases cities have not yet selected a single preferred option or have not approved specific cost estimates. In these instances standardized unit costs may be used for Business Planning purposes. These can costs can be updated at a later point in the planning process based on City decisions and input

28

City-led Grade Separation and Closure Plans

Caltrain has incorporated or accounted for grade separation concepts, plans and cost estimates from the following city-led studies into the Business Plan

City	Crossings Under Study	Status of Plan or Study	City Generated Cost Estimate or Range	Included in Business Plan?
Sunnyvale	Mary Ave	Feasibility Study with 15% Design	$100 - 200M	✔
Sunnyvale	Sunnyvale Ave	Feasibility Study with 15% Design	$40 - 250M	✔
San Jose	Azurais Ave Virginia Ave	Under study through Diridon Integrated Station Concept Plan	TBD	✔
San Jose	Skyway Dr Branham Ln Chynoweth Ave	Feasibility Study	$366M – $1,054M	✔

Crossings are part of UP-Owned Corridor

In many cases cities have not yet selected a single preferred option or have not approved specific cost estimates. In these instances standardized unit costs may be used for Business Planning purposes. These can costs can be updated at a later point in the planning process based on City decisions and input

29

Building Ranges of Investment

Variation by Service Scenario

The potential need and desire for grade separations and grade crossing improvements is significant across all scenarios.

The details of potential investments will vary between scenarios based on the location and extent of 4-track segments as well as the amount of gate downtime projected

Key Variables between Scenarios

Estimated Number of Crossings in 4-Track Segments*

- Baseline : 0
- Moderate: 2
- High: 12

Estimated Gate Downtime Ranges

- Baseline: 11 – 28
- Moderate: 14 – 31
- High: 18 – 39

Minutes per Peak Hour

**A range of options are discussed for potential 4-track segments within the Moderate and High Growth service scenarios. Number of crossings impacted by 4-track segments are indicative estimates only and subject to variation based on more detailed design and feasibility studies*

30

Potential Planning Level Grade Crossing Cost Estimates

Legal Minimum Investments

	Type	Baseline Growth	Moderate Growth	High Growth
Corridor Wide Cost Estimate	Auto	$221M	$926M	$4.1B
	Bike / Ped	-	-	-
	Total	**$221M**	**$926M**	**$4.1B**
Auto Crossing Treatments	Quad Gates & Safety Improvements	41	39	30
	Mitigated Closure	0	0	0
	Grade Separation	1	3	12

The legal minimum investments in grade separation and at-grade crossings would include grade separation at all crossings in 4-track segments and installation of quad gates at all remaining crossings. City-generated projects are not included in this estimate except for the 25th Avenue Grade Separation (which is already under construction)

31

Union Pacific Corridor (Tamien to Gilroy)

Caltrain does not own the Union Pacific Corridor

Plans for expanded service on this corridor are relatively new and the details of potential future train volumes are highly dependent on HSR's future plans and service levels

For Business Planning purposes, Caltrain has proposed carrying a single general allocation cost to capture the need for grade crossing improvements on this corridor. This allocation assumes estimated costs for City-planned separations in San Jose as well as potential additional investments throughout the UP corridor

Legal Minimum

- Quad gates at all crossings
- Total costs = approx. $28M

Recommended Approach for Business Planning

- City planned separations at Skyway Dr, Branham Ln, and Chynoweth Ave
- Two additional separations
- 3 mitigated closures
- Quad gates at remaining crossings
- Total cost = approx. $1.4B

32

Building Ranges of Investment

Variation by Level of Investment

Caltrain understands that local plans and interest in grade separation go significantly beyond current regulatory requirements.

The Business Plan team has developed three different "levels" of corridor wide investments that represent different approaches to grade separation- all significantly exceeding minimum legal requirements

These ranges are simply intended to convey different approaches to investment- they do not define new standards nor do they prescribe specific plans at individual crossings

Investment Included

Lower Intensity Investment
- All city-planned projects
- Recommended UP corridor investments
- Separation and/or mitigated closure of remaining crossings with **highest** ADT and gate downtimes
- Quad gates at remaining crossings

Medium Intensity Investment
- All city-planned projects
- Recommended UP corridor investments
- Separation and/or mitigated closure of **many** remaining crossings with higher ADT and gate downtimes
- Quad gates at remaining crossings

Higher Intensity Investment
- All city-planned projects
- Recommended UP corridor investments
- Separation and/or mitigated closure of **most or all** remaining crossings
- Quad gates at remaining crossings (if any)

Potential Planning Level Grade Crossing Cost Estimates: Low

	Type	Baseline Growth	Moderate Growth	High Growth
Total Corridor Wide Cost Estimate for Crossings	Auto	$8.4B	$8.6B	$9.6B
	Bike / Ped	$140M	$140M	$140M
	Total	**$8.5B**	**$8.7B**	**$9.7B**
Investments on JPB-owned Corridor	Quad Gates & Safety Improvements	14	14	10
	Mitigated Closure	3	3	6
	Grade Separation	24	24	25
Investments on UP-owned Corridor	Quad Gates & Safety Improvements	20	20	20
	Mitigated Closure	3	3	3
	Grade Separation	5	5	5

Builds on and accounts for costs associated with all City-led separation and closure plans

Potential Planning Level Grade Crossing Cost Estimates: Medium

	Type	Baseline Growth	Moderate Growth	High Growth
Total Corridor Wide Cost Estimate for Crossings	Auto	$8.7B	$8.9B	$10.1B
	Bike / Ped	$140M	$140M	$140M
	Total	**$8.8**	**$9.0B**	**$10.2B**
Investments on JPB-owned Corridor	Quad Gates & Safety Improvements	12	11	6
	Mitigated Closure	4	5	8
	Grade Separation	25	25	27
Investments on UP-owned Corridor	Quad Gates & Safety Improvements	20	20	20
	Mitigated Closure	3	3	3
	Grade Separation	5	5	5

Builds on and accounts for costs associated with all City-led separation and closure plans

35

Potential Planning Level Grade Crossing Cost Estimates: High

	Type	Baseline Growth	Moderate Growth	High Growth
Total Corridor Wide Cost Estimate for Crossings	Auto	$8.9B	$9.8B	$11.0B
	Bike / Ped	$140M	$140M	$140M
	Total	**$9.0B**	**$9.9B**	**$11.1B**
Investments on JPB-owned Corridor	Quad Gates & Safety Improvements	10	5	0
	Mitigated Closure	5	8	11
	Grade Separation	26	28	30
Investments on UP-owned Corridor	Quad Gates & Safety Improvements	20	20	20
	Mitigated Closure	3	3	3
	Grade Separation	5	5	5

Builds on and accounts for costs associated with all City-led separation and closure plans

36

Next Steps

There is a significant body of work remaining to address the issue of at grade crossings in the Caltrain corridor

Caltrain plans to continue advancing a corridor wide conversation regarding the construction, funding and design of grade separations while continuing to support the advancement of individual city-led projects

Within the Business Plan

- Incorporate grade crossing investment estimates into overall corridor costing and business case analysis
- Continue peer review of corridor wide grade separation case studies and examples

Beyond the Business Plan

- Develop corridor wide grade separation strategy, potentially addressing;
  - Construction standards and methods
  - Project coordination and sequencing
  - Community resourcing and organizing
  - Funding analysis and strategy

For individual City projects

- Continue working with cities and county partners to support advancement of individual grade separation plans and projects

FOR MORE INFORMATION

WWW.CALTRAIN.COM

Memorandum

Date: April 25, 2019

To: CalMod Local Policy Maker Group (LPMG)

From: John Funghi, CalMod Chief Officer; Casey Fromson, Gov. Affairs Director

Re: Caltrain Electrification Project E-Update

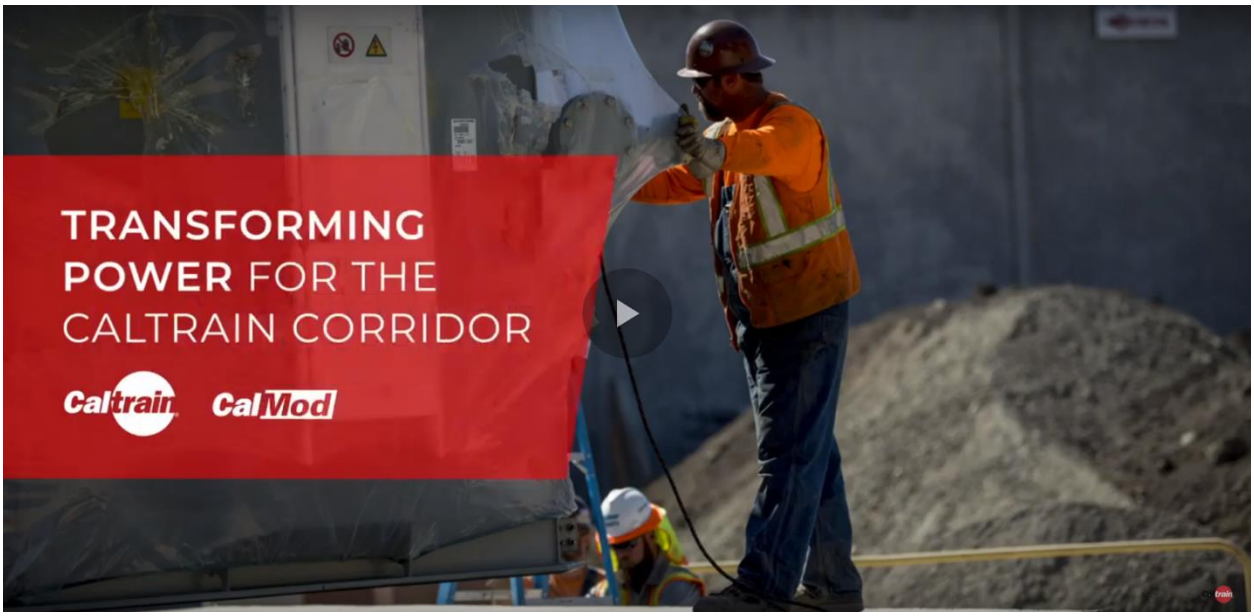
CALMOD CELEBRATES EARTH DAY

April is Earth Month, so Caltrain is sharing some facts about how the Caltrain Modernization program is contributing to a healthier planet and a happier local community. The electrification of the fleet will result in a 97% reduction in emissions and will remove 176,000 metric tons of greenhouse gases annually, which are the main contributor to climate change. Switching from diesel to electric-powered trains also means reductions in noise pollution along the corridor. Together these environmental benefits mean a healthier habitat for people, plants, and animals alike. Over 65,000 people ride Caltrain every day. That's a lot of cars off the road, and electrification will allow even more people to choose a form of transportation that's only getting greener.

Visit CalMod.org/project-benefits to learn more

ELECTRIFICATION INFRASTRUCTURE UPDATE

This month, crews continued installation of foundations as well as conduit along the corridor from South San Francisco to San Jose. Work was also performed on paralleling stations in Sunnyvale and San Mateo, and three traction power facilities along the corridor. Check out our video to see a timelapse of crews working to install a transformer, which is an important element of a substation that helps to ensure electricity is consistently distributed throughout the Caltrain system.



To sign up for weekly construction updates or for more construction information, visit CalMod.org/Construction.

ELECTRIC VEHICLE UPDATE

In April, the front-end mask of the first cab car (pictured above) began production in Los Angeles. Trainset #1 also ushered in a new era at the Salt Lake City manufacturing facility, with cars moving into the new production hall.

View more pictures at www.CalMod.org/Gallery.

PUBLIC MEETINGS

San Jose Community Meeting – April 22, 2019 at 6:30 p.m.
San Francisco Community Meeting – May 1, 2019 at 6:00 p.m.

For more details, and a full list of upcoming meetings, please visit CalMod.org/events.

DETAILED PROGRESS REPORT

- February 2019 Monthly Progress Report presented to Caltrain Board on April 4, 2019

CALIFORNIA High-Speed Rail Authority

Memorandum

Date: April 25, 2019
To: Local Policy Maker Group (LPMG)
From: Boris Lipkin, Northern California Regional Director
Re: California High-Speed Rail Program Update

STATEWIDE UPDATE

Construction Update

Construction continues in the Central Valley with significant progress in Kings County, where work has begun on an abutment construction for an overcrossing at Excelsior Avenue. North of Fresno, workers are busy installing metal decking and reinforcing steel to serve as the floor of the San Joaquin River Viaduct. These activities, along with other ongoing work in Construction Packages 1-4, translates into a total of 2,680 construction jobs since the groundbreaking in 2015.

Follow all construction updates at https://buildhsr.com/construction_update/

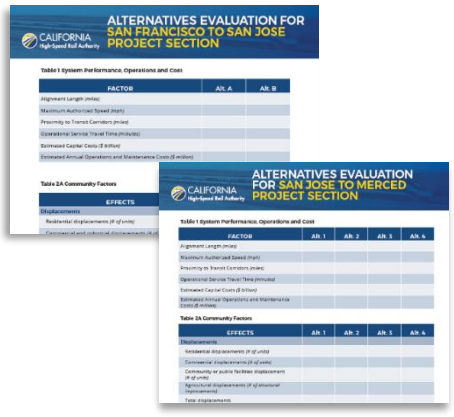
NORTHERN CALIFORNIA UPDATE

Spring 2019 Community Working Group Meetings and Other Outreach

On April 22, 2019, the Authority began the next round of Community Working Group (CWG) meetings in both the San Francisco to San Jose and San Jose to Merced Project Sections.

Discussion topics at these meetings include a presentation on the safety and security characteristics of high-speed rail and an update on the Preferred Alternative (PA) process and how the community working groups will be engaged. The PA update in this round of meetings will be introducing the process for soliciting CWG feedback on the Staff Recommended PA at the next round of CWG meetings (Summer 2019).

The summer CWG meetings will take place on the way to the identification of the Northern California preferred alternatives at the September Board meeting. During the summer CWG meetings, the Authority will share the staff recommendation for the preferred alternative in each project section and solicit feedback from the group so that it can be shared with the Board of Directors. As part of that, the Authority will provide the PA evaluation tables focused on the differentiating factors between the alternatives that summarize the analysis that's been done. A sample of the tables that will include the information from the analysis for each alternative are enclosed.



Spring CWG Meetings have been scheduled as follows:

Date and Time	Meeting	Location	Meeting Materials
April 22 at 6 – 8:00 p.m.	Morgan Hill – Gilroy CWG	250 Old Gilroy St, Gilroy, CA 95020	Link
May 2 at 6 – 8:00 p.m.	San Jose CWG	Edenvale Branch Library, 101 Branham Ln E, San Jose, CA 95111	
May 7 at 6 – 8:00 p.m.	South Peninsula CWG	Santa Clara Central Park Library, Margie Edinger Room, 2635 Homestead Road, Santa Clara, CA 95051	Link
May 20 at 6 – 8:00 p.m.	San Mateo County CWG	San Mateo Senior Center, 2645 Alameda de las Pulgas, San Mateo, CA 94403	
May 28 at 6 – 8:00 p.m.	San Francisco CWG	Bay Area Metro Center, Yerba Buena Room, 375 Beale Street, San Francisco, CA 94105	

Beyond the information shared at the CWG meetings, the Authority will also provide the LPMG a presentation on how environmental justice is addressed in the environmental process. This is an important component of the environmental process and will be included in the Draft EIR/EIS but the focus now is to share the methodology and approach and answer any questions the LPMG may have on the subject.

RECENT AND UPCOMING OUTREACH ACTIVITIES

- March 28: LifeMoves Homeless Walk (Redwood City)
- March 29: Gilroy Mobility Partnership
- April 4: LifeMoves Homeless Walk (South San Francisco)
- April 9: Visitacion Valley Neighbor Up Tabling Event
- April 11: West San Jose Kiwanis Club
- April 20: South San Francisco Tree Planting
- April 22: Morgan Hill-Gilroy CWG
- April 25: North Fair Oaks Community Meeting
- May 2: San Jose CWG
- May 7: South Peninsula CWG
- May 18: Sunnydale Family Day
- May 20: San Mateo County CWG
- May 28: San Francisco CWG

ALTERNATIVES EVALUATION FOR SAN FRANCISCO TO SAN JOSE PROJECT SECTION

Table 1 System Performance, Operations and Cost

FACTOR	Alt. A	Alt. B
Alignment Length *(miles)*		
Maximum Authorized Speed *(mph)*		
Proximity to Transit Corridors *(miles)*		
Operational Service Travel Time *(minutes)*		
Estimated Capital Costs *($ billion)*		
Estimated Annual Operations and Maintenance Costs *($ million)*		

Table 2A Community Factors

EFFECTS	Alt. A	Alt. B
Displacements		
Residential displacements *(# of units)*		
Commercial and industrial displacements *(# of units)*		
Community and public facilities displacement *(# of units)*		
Total displacements		

Table 2B Environmental Factors

EFFECTS	Alt. A	Alt. B
Biological Resources		
Permanent impacts on wetlands *(acres)*		
Permanent impacts on other waters of the U.S. *(acres)*		
Transportation		
Temporary impacts on major roadways and intersections from construction vehicles		
Continuous permanent impacts on passenger rail and bus access		

Table 2B Environmental Factors, continued

EFFECTS	Alt. A	Alt. B
Safety and Security		
Temporary impacts on emergency access and response times from construction vehicles		
Station Planning Land Use and Development		
Permanent Impacts of the Brisbane Light Maintenance Facility to Land Uses Designated as Mixed-Use *(acres)*		
Aesthetics and Visual Quality		
Permanent degradation of visual quality within the San Mateo to Redwood City Landscape Unit		
Environmental Justice		
Impacts on minority and low-income communities		

CALIFORNIA High-Speed Rail Authority

ALTERNATIVES EVALUATION FOR SAN JOSE TO MERCED PROJECT SECTION

Table 1 System Performance, Operations and Cost

FACTOR	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Alignment Length *(miles)*				
Maximum Authorized Speed *(mph)*				
Proximity to Transit Corridors *(miles)*				
Operational Service Travel Time *(minutes)*				
Estimated Capital Costs *($ billion)*				
Estimated Annual Operations and Maintenance Costs *($ million)*				

Table 2A Community Factors

EFFECTS	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Displacements				
Residential displacements *(# of units)*				
Commercial displacements *(# of units)*				
Community or public facilities displacement *(# of units)*				
Agricultural displacements *(# of structural improvements)*				
Total displacements				
Community Cohesion				

Table 2B Environmental Factors

EFFECTS	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Biological Resources				
Permanent impacts on wetlands *(acres)*				
Permanent impacts on waters of the U.S. *(acres)*				
Permanent impacts on habitat for listed plant species habitat *(non-overlapping)*				
Permanent impacts on habitat for listed wildlife species with the most impacts overall *(California tiger salamander, acres)*				
Wildlife corridor impacts				

Table 2B Environmental Factors, continued

EFFECTS	Alt. 1	Alt. 2	Alt. 3	Alt. 4
Section 4(f)/6(f) Resources				
Permanent use of 4(f)/6(f) park resources *(acres)*				
Permanent use of NRHP-listed/eligible historic resources per Section 4(f) and acreage				
Build Environment Historic Resources				
Number of SU impacts on NRHP-listed/eligible resources				
Number of SU impacts on CEQA only historic resources				
Noise				
Severe noise impacts after noise barrier mitigation *(# of sensitive receptors)*				
Severe noise impacts with noise barrier mitigation and if local municipalities implement quiet zones *(# of sensitive receptors)*				
Transportation				
Permanent SU impacts on intersections after mitigation				
2040 peak travel time delay in Monterey Corridor *(NB - AM/PM, SB – AM/PM, minutes)*				
Permanent road closures				
Permanent SU impacts to freeway segments				
Safety and Security				
Impacts on emergency access and response times				
Station Planning Land Use and Development				
Consistency with City of Gilroy HSR Station Transit-Oriented Development Plan				
Agricultural Farmland				
Permanent conversion of Important Farmland *(acres)*				
Aesthetics and Visual Quality				
Number of Visual Landscape Units with Significant Unavoidable Impacts				
Environmental Justice				
Impacts on minority and low-income communities				

NORTHERN CALIFORNIA REGION

Local Policy Maker Group

April 25, 2019

CALIFORNIA High-Speed Rail Authority

MEETING AGENDA

Introduction from the Regional Director	Environmental Justice Analysis	Safety & Security Characteristics of High-Speed Rail	Preferred Alternative Engagement Update

Introductions | Environmental Justice | HSR Characteristics | PA Engagement

ENVIRONMENTAL JUSTICE

Rich Walter, ICF

PREFERRED ALTERNATIVE PROCESS

ENVIRONMENTAL JUSTICE ANALYSIS

Regulatory Considerations

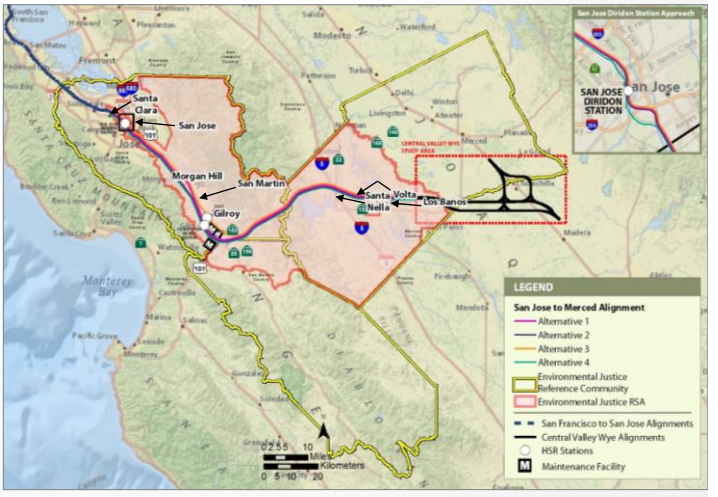
- **Federal**
  - Title VI of the Civil Rights Act (42 U.S.C. § 2000(d) et seq.)
  - Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (USEO 12898)
  - Presidential Memorandum Accompanying USEO 12898
  - Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (USDOT Order 5610.2(a))
  - Uniform Relocation Assistance and Real Property Acquisition Policies Act (42 U.S.C. § 61)
- **State**
  - California Gov. Code Section 11135(a), 11136
  - California Gov. Code 65040.12(e)

ENVIRONMENTAL JUSTICE EXISTING CONDITIONS

- **Identify Resource Study Area (RSA).**
- **Identify Reference Community**

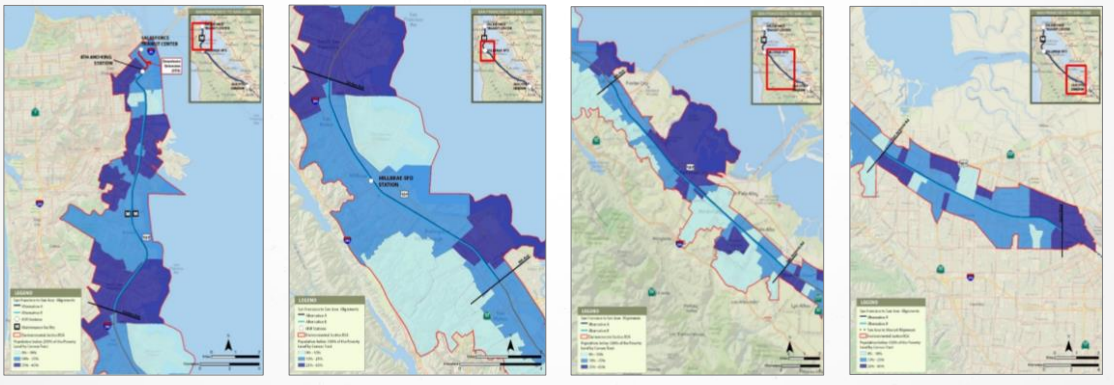
ENVIRONMENTAL JUSTICE
EXISTING CONDITIONS

- **Identify Resource Study Area (RSA)**
- **Identify Reference Community**



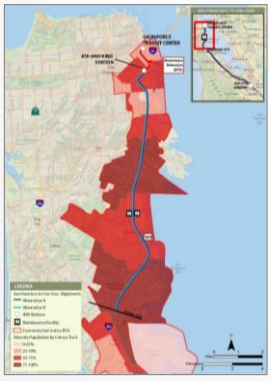
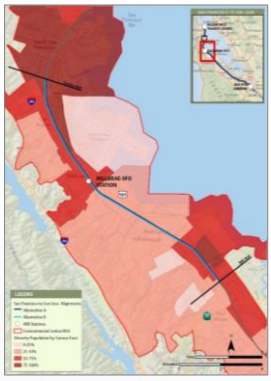
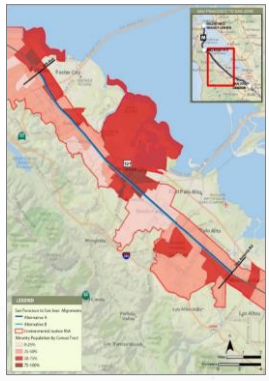
ENVIRONMENTAL JUSTICE
EXISTING CONDITIONS

- **Identify low-income populations within resource study area** = persons with household incomes at or below 200 percent of the poverty guidelines.



ENVIRONMENTAL JUSTICE
EXISTING CONDITIONS

- **Identify minority populations within resource study area** = American Indian and Alaskan Native, Asian, Black or African American, Hispanic or Latino, and Native Hawaiian and other Pacific Islander

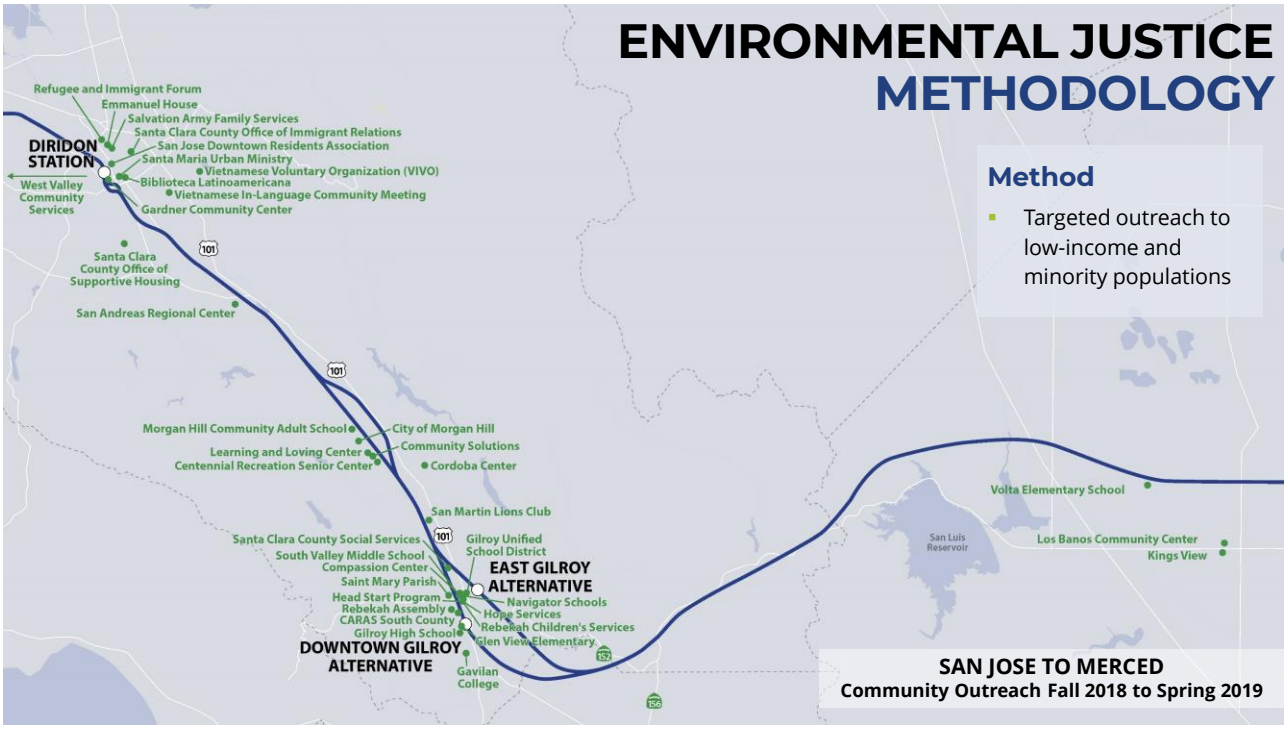





ENVIRONMENTAL JUSTICE
METHODOLOGY

SAN FRANCISCO TO SAN JOSE
Community Outreach
Fall 2018/Winter 2019

Method

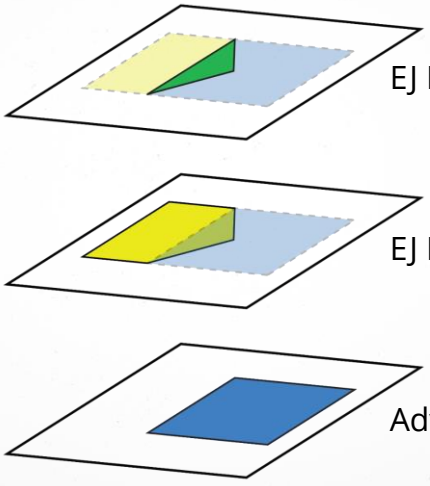
- Targeted outreach to low-income and minority populations



ENVIRONMENTAL JUSTICE METHODOLOGY

Method

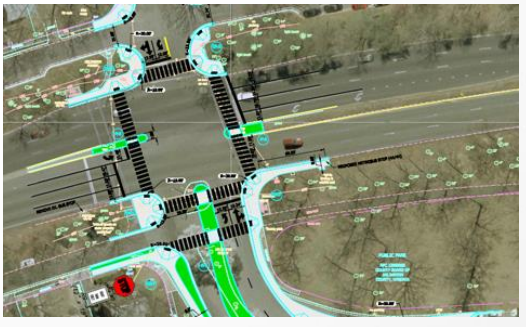
- Use impact analysis methodologies
- Identify specific impacts to low-income and minority populations through overlay of impacts on identified locations

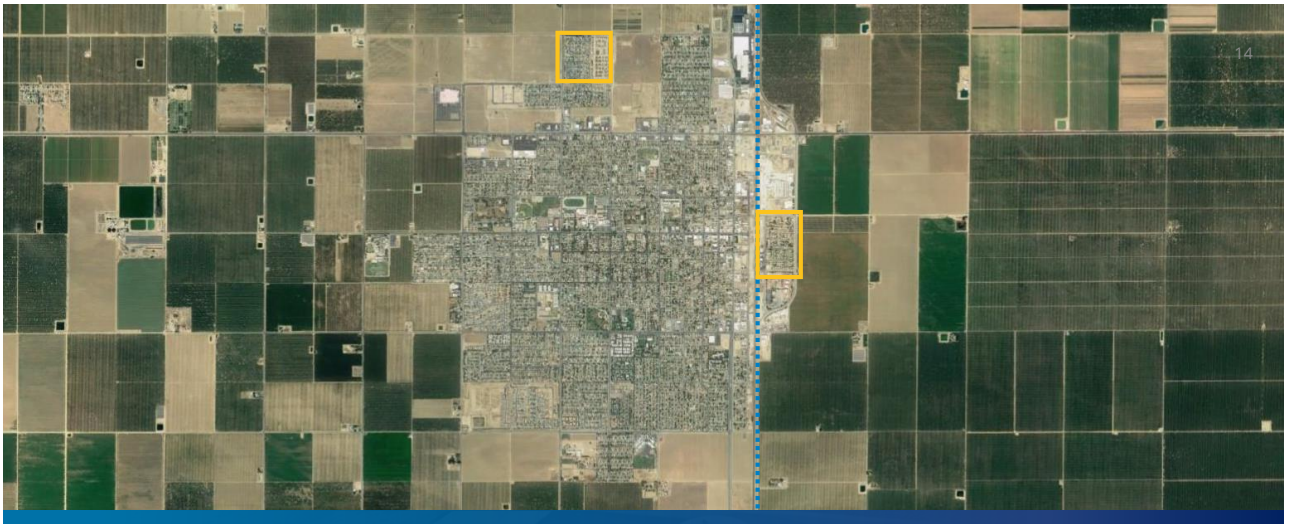


IMPACT AVOIDANCE, MINIMIZATION & MITIGATION

Measures Applied from other Analyses:

- **Traffic**
  - Construction Management Plan
  - Intersection improvements
  - Emergency vehicle detection, etc.
- **Noise/Vibration**
  - Construction measures
  - Noise barriers
  - Building sound insulation





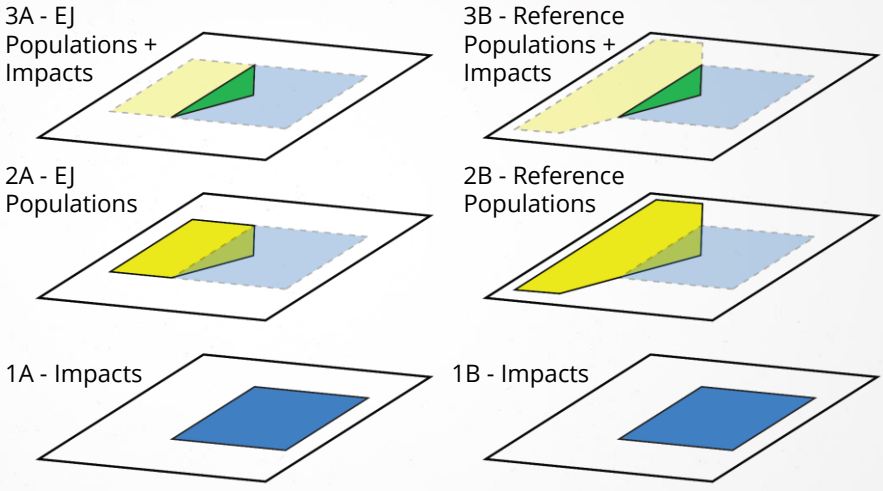
CASE STUDY: ROSELEDA VILLAGE, WASCO

- 17 acres
- >200 units
- $10 million HSR allocation in lieu of in-place mitigation

DISPROPORTIONATE IMPACTS

Determination

- Identify impacts to reference population
- Compare to impacts to low-income and minority populations
- Determine if impacts are disproportionately high and adverse in EJ populations as compared to impacts to reference population
- If 3A/2A > 3B/2B → disproportionate
- If 3A/2A ≤ 3B/2B → not disproportionate



ENVIRONMENTAL JUSTICE ANALYSIS

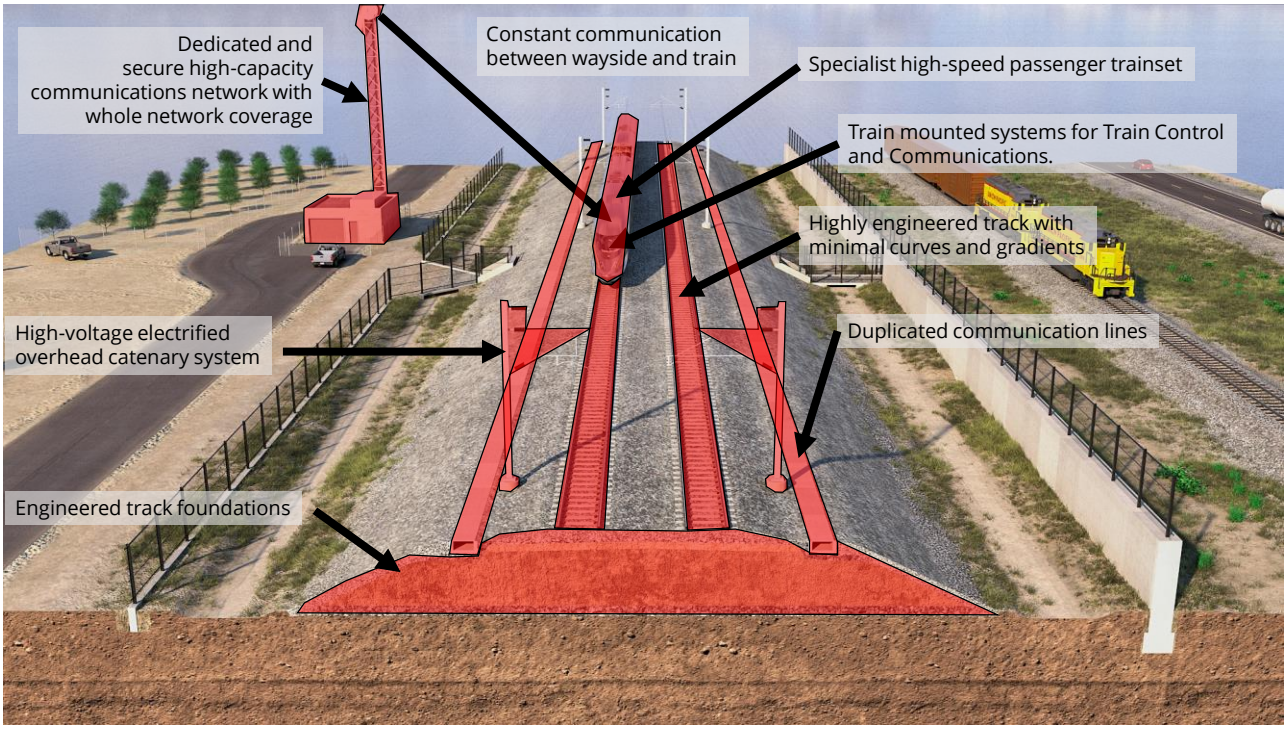
Where will I find the information and analysis?

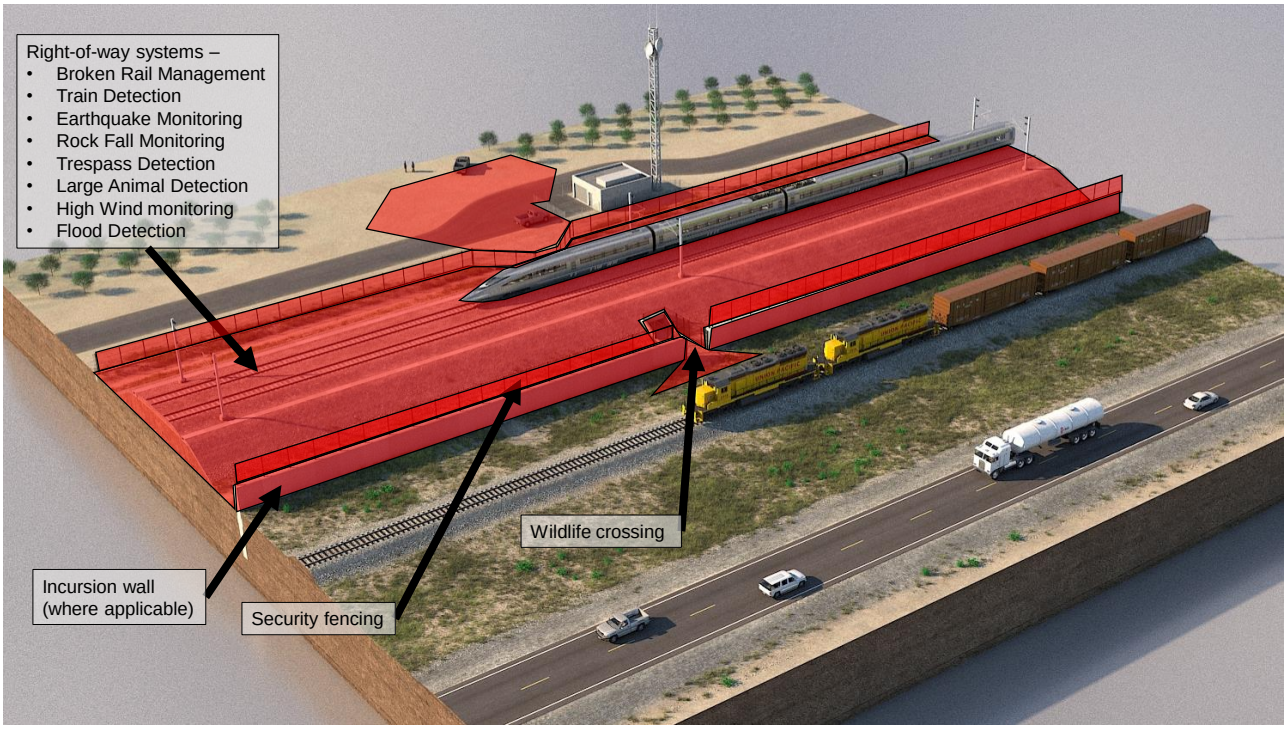
- **Technical Reports**
  - Technical Resource Reports: Agricultural Farmland, Aesthetics and Visual Quality, Relocation Impact Report, Community Impact Assessment, Transportation, Noise and Vibration, etc.
  - Environmental Justice Engagement Summary
- **EIR/EIS**
  - Technical Impact Analyses: Aesthetics and Visual Quality, Agricultural Farmland, Socioeconomics and Communities, Noise and Vibration, Transportation, Parks and Recreation, Open Space
  - Chapter 5: Environmental Justice

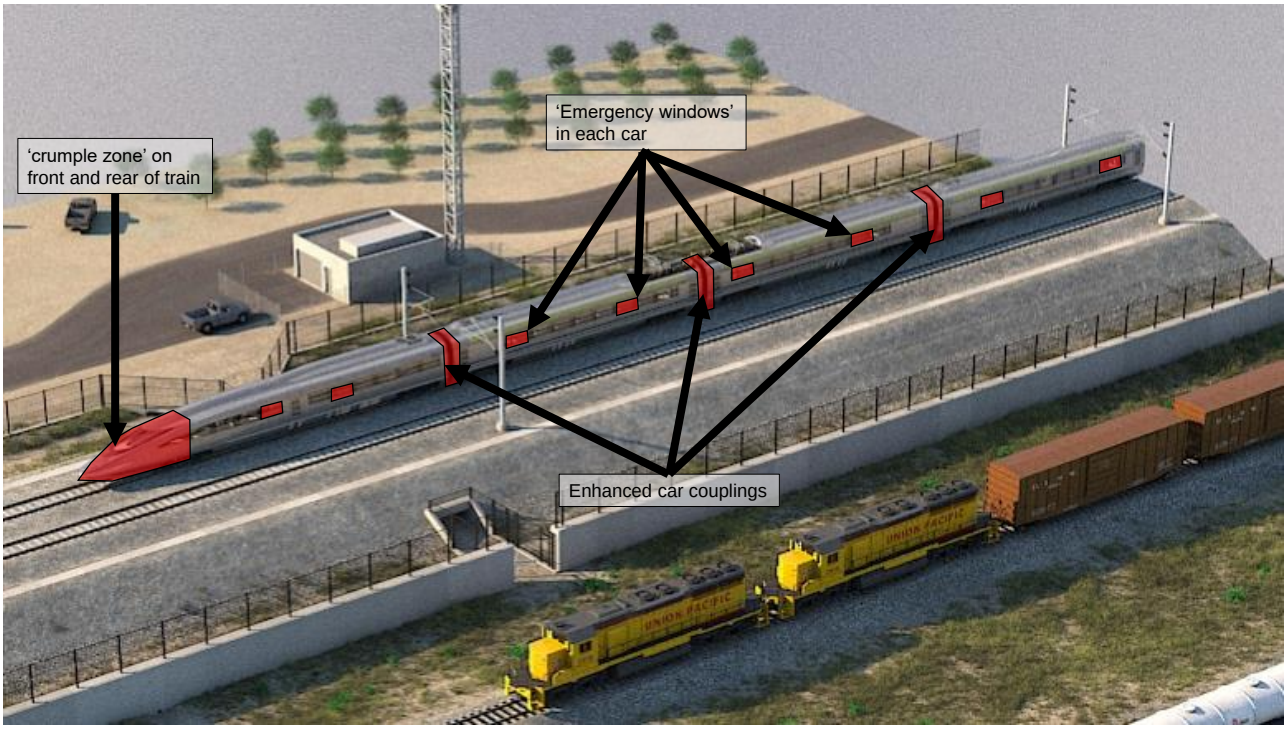
17

SAFETY & SECURITY CHARACTERISTICS OF HIGH-SPEED RAIL

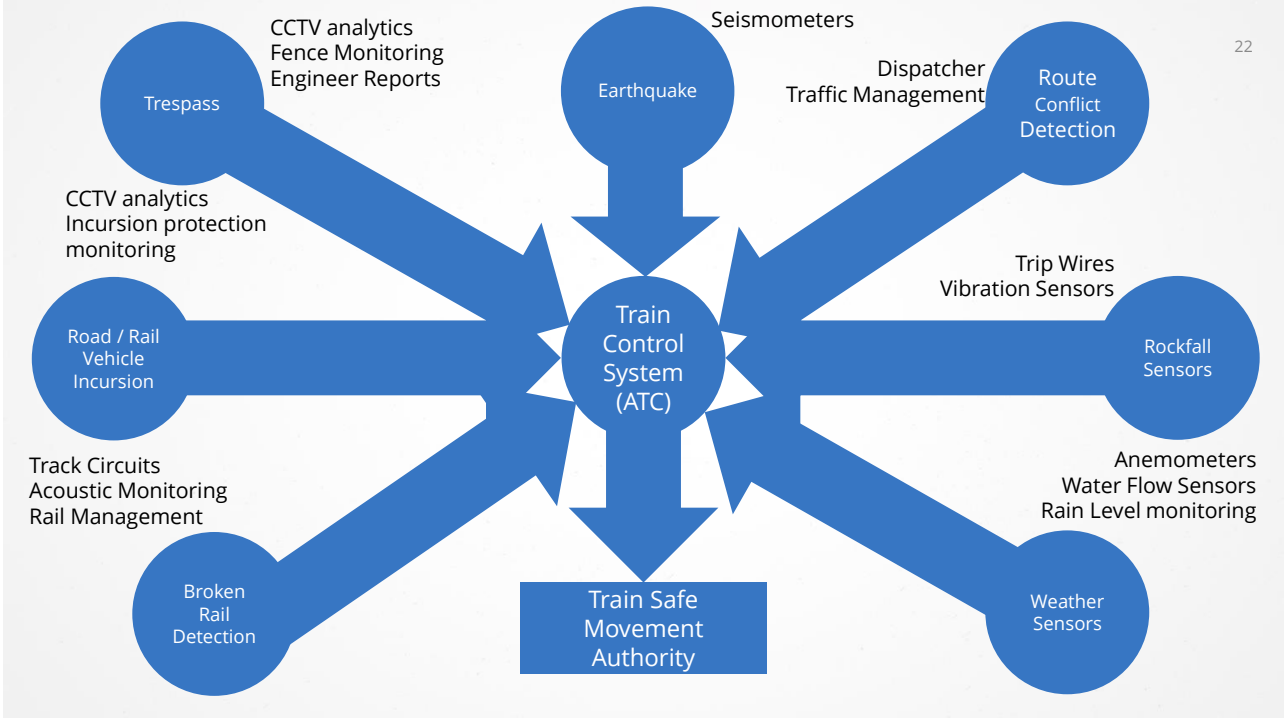
Simon Whitehorn, Deputy Director, Operations & Maintenance

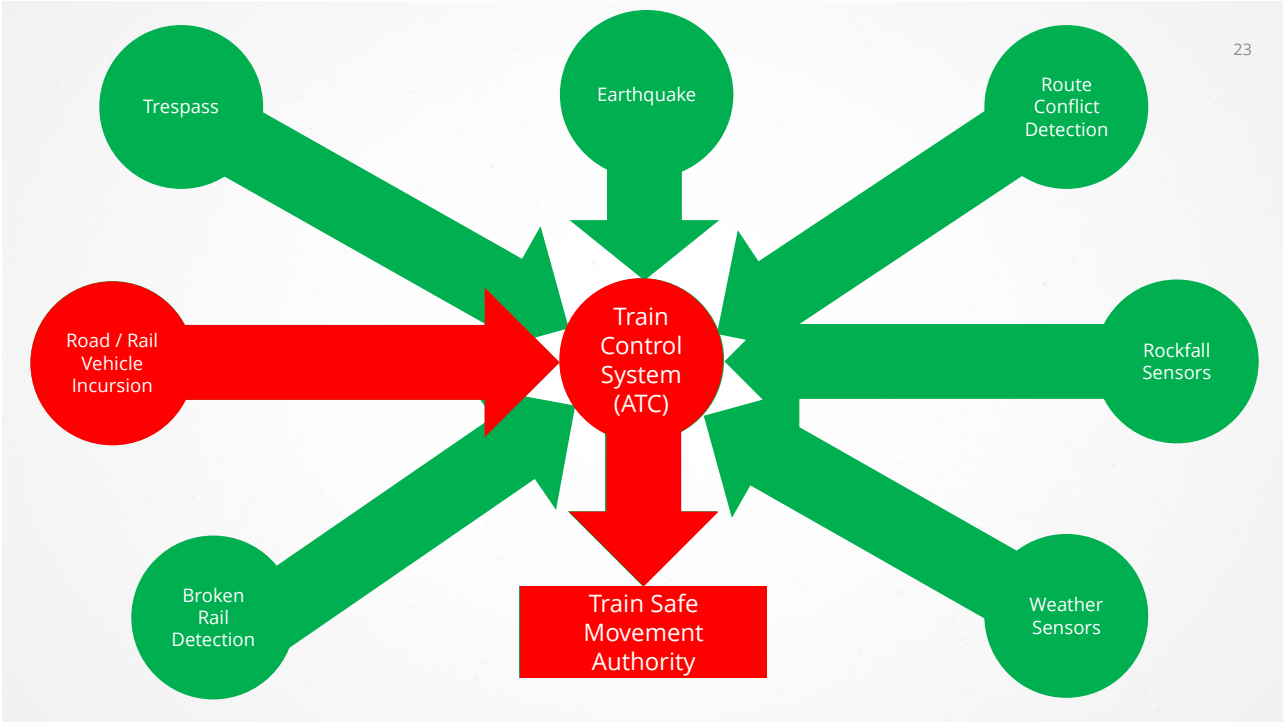


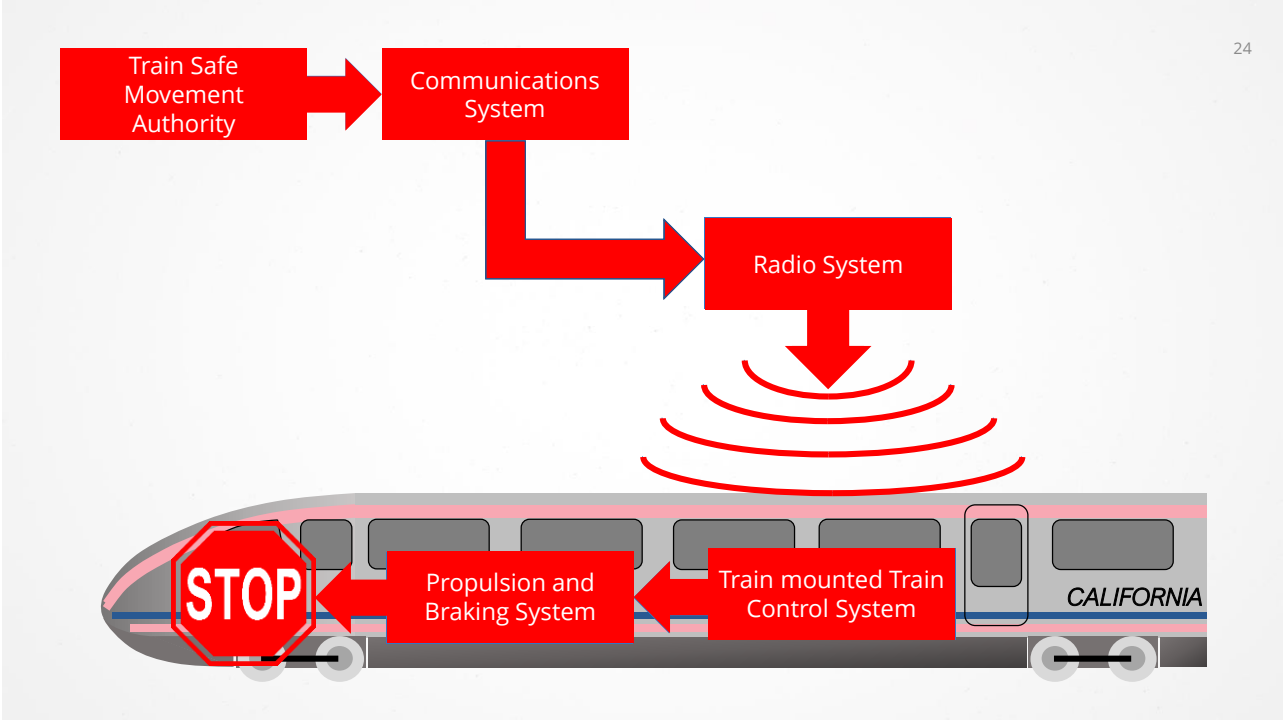

Right-of-way systems –
• Broken Rail Management
• Train Detection
• Earthquake Monitoring
• Rock Fall Monitoring
• Trespass Detection
• Large Animal Detection
• High Wind monitoring
• Flood Detection
Wildlife crossing
Incursion wall (where applicable)
Security fencing


'crumple zone' on front and rear of train
'Emergency windows' in each car
Enhanced car couplings


8ft high right-of-way fence
Quad road barriers
Channelization
MAIN STREET
Grade crossing features


22
Trespass
CCTV analytics
Fence Monitoring
Engineer Reports
Earthquake
Seismometers
Dispatcher
Traffic Management
Route
Conflict
Detection
CCTV analytics
Incursion protection
monitoring
Trip Wires
Vibration Sensors
Road / Rail
Vehicle
Incursion
Train
Control
System
(ATC)
Rockfall
Sensors
Track Circuits
Acoustic Monitoring
Rail Management
Anemometers
Water Flow Sensors
Rain Level monitoring
Broken
Rail
Detection
Train Safe
Movement
Authority
Weather
Sensors


23
Trespass
Earthquake
Route Conflict Detection
Road / Rail Vehicle Incursion
Train Control System (ATC)
Rockfall Sensors
Broken Rail Detection
Train Safe Movement Authority
Weather Sensors


24
Train Safe Movement Authority
Communications System
Radio System
STOP
Propulsion and Braking System
Train mounted Train Control System
CALIFORNIA

FEATURES OF A MODERN RAILROAD SYSTEM

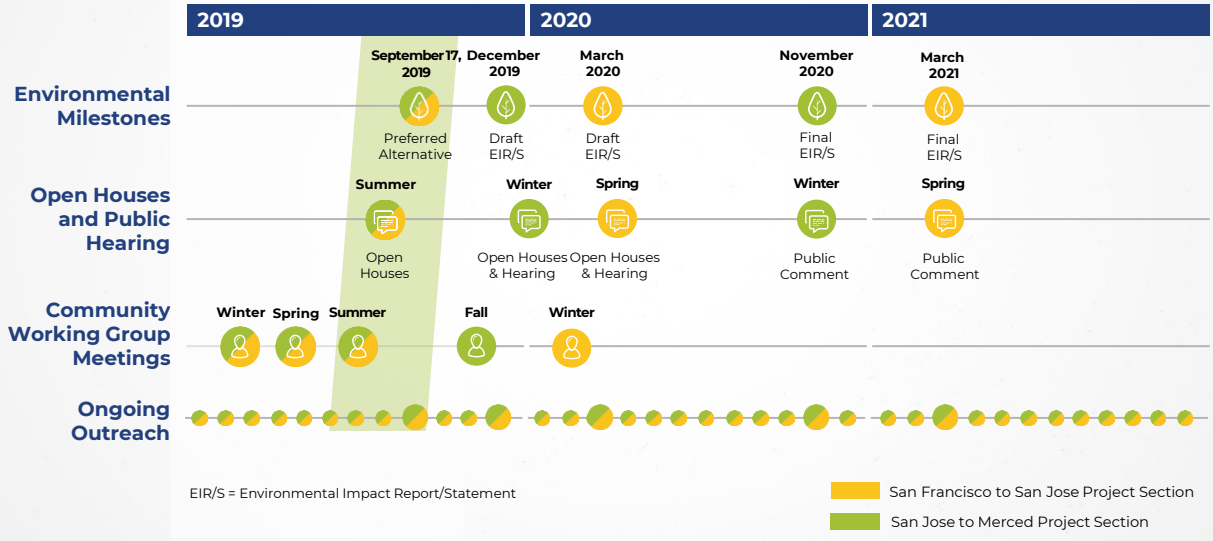
Designed so Safety and Security are built in to every element provided:

- Foundation
- Train
- Operation

PREFERRED ALTERNATIVE ENGAGEMENT UPDATE

Boris Lipkin, Northern California Regional Director
Yosef Yip, Northern California Outreach Representative

NORTHERN CALIFORNIA OUTREACH



PREFERRED ALTERNATIVE CRITERIA

System Performance, Operations, & Costs

- Alignment Length
- Maximum Authorized Speed
- Proximity to Transit Corridors
- Travel Time
- Capital Costs
- O&M Costs

Environmental Factors

- Analysis will determine which factors are differentiators
- Wetlands and Waters
- Parks and Recreation Areas
- Historical Sites
- Environmental Justice

Community Factors

- Residential Units
- Commercial Properties
- Community/Public Facilities
- Acres Affected
- Additional factors identified by communities

SYSTEM PERFORMANCE, OPERATIONS & COSTS

FACTOR	SAN FRANCISCO-SAN JOSE ALTERNATIVES	
	Alt A	Alt B
Alignment Length *(miles)*		
Maximum Authorized Speed *(mph)*		
Proximity to Transit Corridors *(miles)*		
Operational Service Travel Time *(minutes)*		
Estimated Capital Costs *($ billion)*		
Estimated Annual Operations and Maintenance Costs *($ million)*		

SYSTEM PERFORMANCE, OPERATIONS & COSTS

FACTOR	SAN JOSE-MERCED ALTERNATIVES			
	Alt 1	Alt 2	Alt 3	Alt 4
Alignment Length *(miles)*				
Maximum Authorized Speed *(mph)*				
Proximity to Transit Corridors *(miles)*				
Operational Service Travel Time *(minutes)*				
Estimated Capital Costs *($ billion)*				
Estimated Annual Operations and Maintenance Costs *($ million)*				

UPCOMING WORKING GROUP MEETINGS

SPRING 2019

Morgan Hill-Gilroy CWG
April 22, 6:00 – 8:00 pm
Portuguese Hall
Gilroy, CA

San Jose CWG
May 2, 6:00 – 8:00 pm
Edenvale Branch Library
San Jose, CA

South Peninsula CWG
May 7, 6:00 – 8:00 pm
Santa Clara Library
Santa Clara, CA

San Mateo County CWG
May 20, 6:00 – 8:00 pm
San Mateo Senior Center
San Mateo, CA

San Francisco, CWG
May 28, 6:00 – 8:00 pm
Bay Area Metro Center
San Francisco, CA

THANK YOU & HOW TO STAY INVOLVED

HELPLINE 1-800-455-8166

WEBSITE www.hsr.ca.gov

EMAIL San.Jose_Merced@hsr.ca.gov

CALIFORNIA High-Speed Rail Authority

Northern California Regional Office
California High-Speed Rail Authority
100 Paseo De San Antonio, Suite 206
San Jose, CA 95113

www.hsr.ca.gov

instagram.com/cahsra

facebook.com/CaliforniaHighSpeedRail

twitter.com/cahsra

youtube.com/user/CAHighSpeedRail