Local Policy Maker Group (LPMG) Meeting

Thursday, March 28, 2019
5:30 p.m. – 7:30 p.m.
SamTrans Offices – Bacciocco Auditorium 2nd Floor
1250 San Carlos Ave., San Carlos

Agenda

1. Staff Report
2. Caltrain Business Plan
3. Caltrain Electrification Project
4. HSR Update (Presented by California High-Speed Rail Authority Staff)
5. Public Comments
6. LPMG Member Comments/Requests
   a. Grade Separation Toolkit
7. Next Meeting
   a. Thursday April 25, 2019 at 5:30pm

All items on this agenda are subject to action
Memorandum

Date: March 28, 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 “March” update covers work completed in late February of 2019 and March of 2019.

ONGOING TECHNICAL WORK
In early 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;

- Completion of initial terminal planning related to San Francisco and the Diridon Station Area
- Completion initial ridership forecasts for all growth scenarios and interim years

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
- 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 February and March with a number of events that covered material related to service planning. The following major meetings occurred in February and March:

• San Mateo County City/County Association of Governments Committee on Congestion Management and Air Quality (Feb 25th)
• Local Policy Maker Group Meeting (February 28)
• Caltrain Business Plan Ad Hoc Committee (March 11)
• San Francisco Transportation Authority Board (March 12)
• City County Staff Group (March 20)
• Friends of Caltrain Event (March 20)
• San Mateo County City/County Association of Governments Committee Congestion Management Technical Advisory Committee (March 21)
• San Mateo County City/County Association of Governments Committee Congestion Management and Environmental Quality Committee (March 25)
• Local Policy Maker Group (March 28)

The Project Partner Committee (PPC) held its regular, full meeting on March 12.

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.
Starting 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.

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
Where Are We in the Process?

2018
- Board Adoption of Scope
- Initial Scoping and Stakeholder Outreach

2019
- Stanford Partnership and Technical Team Contracting
- Technical Approach Refinement, Partnering, and Contracting
- Part 1: Service Vision Development

2020
- Board Adoption of 2040 Service Vision
- Part 2: Business Plan Completion
- Board Adoption of Final Business Plan
- Implementation

We Are Here

2040 Service Scenarios: Different Ways to Grow

- 2018 Current Operations
- 2022 Start of Electrified Operations
- 2029 High Speed Rail Phase 1
- 2033 High Speed Rail Phase 1
- 2040 Service Vision

Amount of Investment / Number of Trains

High Growth
Moderate Growth
Baseline Growth

Design Year
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

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### Terminal Analysis
Purpose and Process

**Purpose**
- Extend initial service planning analysis to identify how each growth 2040 growth scenario will function at and around terminals
- Establish initial service plans as a basis for estimating ridership, identifying areas of operational risk and clarifying needed investments

**Process**
- Initial staff discussions with partner agencies at each terminal regarding goals and planning parameters
- Initial planning analysis
- Follow up discussion and review with partner agencies at each terminal
- Move to detailed simulation analysis and continued coordination
### Service Planning Parameters

The following rail operating parameters are used as the starting point for 2040 service planning. Some variation to these parameters may be explored as service planning progresses.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>HSR</th>
<th>Caltrain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum headway between trains*</td>
<td>2 minutes</td>
<td>2 minutes</td>
</tr>
<tr>
<td>Turnaround time at terminal</td>
<td>20 minutes</td>
<td>20 minutes</td>
</tr>
<tr>
<td>Minimum station dwell time**</td>
<td>2 minutes</td>
<td>1.0 (high ridership stations)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.7 (low ridership stations)</td>
</tr>
<tr>
<td>Train equipment</td>
<td>High speed trainset</td>
<td>8-car electric multiple unit trainset</td>
</tr>
<tr>
<td>Speed limit</td>
<td>110 MPH</td>
<td>110 MPH</td>
</tr>
<tr>
<td>Recovery time</td>
<td>10% distributed</td>
<td>10% distributed</td>
</tr>
</tbody>
</table>

*Assumes investment in new signal system

**Assumes investment to achieve level-boarding

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### San Francisco Terminal

Terminal Planning Context

San Francisco Terminal

San Jose Terminal

Next Steps
San Francisco Terminal

Key Points and Findings

• In the Baseline and Moderate Scenarios preliminary analysis suggests that all train service can utilize Sales Force Transit Center. In the High Growth Scenario the additional 4 trains would terminate at 4th & King.

• Some platform availability preserved at 4th & King in all scenarios to account for event, disruption, and/or regular revenue service.

• Direct sharing of platforms between Caltrain and HSR as part of scheduled revenue service provides no direct capacity benefits in any of the scenarios studied at either terminal. The importance of platform interoperability to system reliability is under study through ongoing analysis.

• All findings will be further tested and evaluated through simulation analysis.

San Francisco Terminal Area

Source: TJPA Draft Preliminary Engineering Track Plans for Phase 2 Downtown Rail Extension (October 25, 2018)
SF Terminal: Baseline Growth

Some conflict potential into/out of STC, but plan works within the planning parameters and will be subject of more detailed analysis with dynamic simulation.

Turn times at STC above minimum requirements are achievable with HSR assigned to two tracks and Caltrain assigned to four tracks. Three and three is also achievable with tighter turns for Caltrain.

SF Terminal: Moderate Growth

15-minute repeating pattern allows two additional trains to STC without creating additional conflicts.

Turns at STC are tighter for both HSR and Caltrain compared to the Baseline, but are still within minimum parameters with two HSR and four Caltrain platforms faces for normal operations. Three and three in normal operation would result in unacceptably short turns for Caltrain.
Potential conflicts exist with trains routed between the two terminals (4th & King and STC). Conflicts could be resolved through adjustment to service patterns and/or construction of additional infrastructure including:

- Sending locals to 4th & King and Express to STC
- Other adjustments to 16 tph operating plan
- Construction of significant, vertically separated junction

16 trains to STC is not possible due to unrealistic turn times for all operators.
San Jose Terminal

Key Points and Findings

- Work developed in conjunction with Diridon Integrated Station Concept Plan and some analysis is ongoing.
- Solutions were found for all three Growth Scenarios that are consistent with ongoing Diridon planning efforts.
- For Caltrain, the ability to “turn” trains south of Diridon is important and will require investments.
- Analysis of “diesel” system including freight and intercity operators (Amtrak, ACE, and CCJPA) is ongoing.
- All findings will be further tested and evaluated through simulation analysis.

San Jose Terminal Area

1. Existing
San Jose Terminal Area
2. HSR-PEPD

San Jose Terminal Area
3. HSR-PEPD + Generalized Initial Diridon Integrated Station Concept Plan (DISC) Concepts
San Jose Terminal Area
4. HSR-PEPD + DISC Concepts + Potential Additional Infrastructure

UPRR and Diesel Passenger Service Tracks (Analysis Ongoing through DISC Process)

SJ Terminal: Baseline Growth

Scenario generally works within infrastructure currently contemplated with some level of operational risk that will be tested with simulation in next round of Business Plan

Operational challenges result from turning six Caltrain and three HSR trains in the Diridon/Tamien area. Possible mitigations for operational risk in the Baseline include additional interlocking infrastructure and/or adjustment to turn locations for HSR in San Jose.
SJ Terminal: Moderate Growth

Operating all Caltrain through Diridon and turning a maximum of four trains at Tamien broadly works in currently contemplated infrastructure in PEPD and assumed changes at Diridon contemplated in DISC analysis.

SJ Terminal: High Growth

Scenario works with San Jose terminal planning assumptions, but requires some trains to turn at new maintenance facility.
Next Steps

Next Steps: Simulation

Process

- The primary objective for the simulation analysis is to determine whether the simulation model indicates a stable rush-hour operation absent any major disruptions (e.g., track outages or disabled trains) for the three growth scenarios subject to analysis.

- Of particular concern is the extent to which the variability of dwells at intermediate stations will affect the ability to deliver the proposed timetables within reasonable on-time performance parameters.
Next Steps: Storage & Maintenance Analysis

Process
• Analyze fleet, storage and maintenance needs associated with the fleet requirements for each of the growth scenarios considered
• Understand when and where new investments in storage and maintenance facilities may be required and analyze how these may impact or benefit overall system operations

Next Steps: Explorations

Examples:
• High Growth stopping pattern tradeoffs
• Dumbarton service connection in Redwood City
• East Bay run-through service via second Transbay Tube
• 22nd St Station relocation
Ridership Forecasts

Ridership Context

Ridership Context  Ridership Forecasts  Capacity & Crowding
Existing Ridership

Today, Caltrain serves bidirectional and polycentric ridership demand
• 62,000 daily boardings\(^1\)
• 64%-36% NB-SB split during AM peak period
• Half of trips occur outside of San Francisco

Ridership is highly concentrated around stations with fastest & most frequent Service
• 73% of ridership at 8 Baby Bullet stations served by 4 or more trains per hour, per direction
• There is substantial latent demand, particularly at stations with low service

Train occupancy varies by service type
• Many Baby Bullet trains carry 100%-140% of their seated capacity during peak periods, while limited trains vary from about 50% to 120% of seated capacity

\(^1\) Based on 2017 ridership data

Ridership Growth Over Time

<table>
<thead>
<tr>
<th>Year</th>
<th>Ridership Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>-500 Riders</td>
</tr>
<tr>
<td>1999</td>
<td>+1,000 Riders</td>
</tr>
<tr>
<td>2000</td>
<td>+5,000 Riders</td>
</tr>
<tr>
<td>2001</td>
<td>+10,000 Riders</td>
</tr>
<tr>
<td>2002</td>
<td>+15,000 Riders</td>
</tr>
<tr>
<td>2003</td>
<td>+20,000 Riders</td>
</tr>
<tr>
<td>2004</td>
<td>+25,000 Riders</td>
</tr>
<tr>
<td>2005</td>
<td>+30,000 Riders</td>
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<tr>
<td>2006</td>
<td>+35,000 Riders</td>
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<tr>
<td>2007</td>
<td>+40,000 Riders</td>
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<tr>
<td>2008</td>
<td>+45,000 Riders</td>
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<tr>
<td>2009</td>
<td>+50,000 Riders</td>
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<td>2010</td>
<td>+55,000 Riders</td>
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<tr>
<td>2011</td>
<td>+60,000 Riders</td>
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<td>2013</td>
<td>+70,000 Riders</td>
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<tr>
<td>2014</td>
<td>+75,000 Riders</td>
</tr>
<tr>
<td>2015</td>
<td>+80,000 Riders</td>
</tr>
<tr>
<td>2016</td>
<td>+85,000 Riders</td>
</tr>
<tr>
<td>2017</td>
<td>+90,000 Riders</td>
</tr>
</tbody>
</table>

Source: 1998-2017 Passenger Counts

Top 8 Stations
4th & King, Millbrae, Hillsdale, Redwood City, Palo Alto, Mountain View, Sunnyvale, San Jose Diridon

Middle 8 Stations
22nd Street, Burlingame, San Mateo, San Carlos, Menlo Park, California Ave, Santa Clara, Tamien

Bottom 8 Stations
Bayshore, San Francisco, San Bruno, Hayward Park, Belmont, San Antonio, Lawrence, College Park

Gilroy Service
Capitol, Blossom Hill, Morgan Hill, San Martin, Gilroy
Ridership Forecasts

Amount of Investment / Number of Trains

2018 Current Operations

2022 Start of Electrified Operations

2029 HSR Valley to Valley & Downtown Extension

2033 High Speed Rail Phase 1

2040 Service Vision

High Growth

Moderate Growth

Baseline Growth

Design Year
Objectives

Update the Caltrain Ridership Model to forecast changes associated with Growth Scenarios
• System, station, and origin-destination forecasts
• Weekday and weekend forecasts
• Breakdown by time period for weekdays (AM peak, midday, PM peak, and evening)

Incorporate sensitivity to regional and local factors influencing ridership
• Regional transportation changes
• Station area land use
• Differentiated service patterns
• Socioeconomic characteristics

Understand implications of train crowding
• Align ridership against capacity provided
• Consider extent to which service will be able to fully “capture” market given potential train crowding

Ridership Model Structure

Modeling Process
1. VTA-C/CAG Travel Model
   → Regional Context
2. Caltrain Ridership Model
   → Station Area Context
3. HSR Ridership Adjustment
   + HSR Access Trips
   - HSR Overlap Trips
4. Crowding-Constrained Forecasts
   - Train Crowding Constraints → Caltrain Ridership Forecasts

Modeling Objectives
1. Forecast for changes in regional travel behavior over time
2. Refine Caltrain regional distribution & account for micro travel behavior related to Caltrain
   • Net Effect: adjusts ridership by station and reduces overall ridership forecast
3. Account for HSR influence on Caltrain ridership
   • Net Effect: Subtracts riders on HSR ODs; adds riders as HSR access mode
4. Constrain capacity to a comfortable crowding load of 1.35 at each segment
   • Net Effect: Decrease overall Caltrain ridership for baseline and moderate growth scenarios
On its current, baseline path, Caltrain would experience demand of 161,000 daily riders by 2040. The Moderate and High Growth scenarios would increase demand to 185,000 and 207,000 riders, respectively.

Early 2020s: Demand increases 20% with electrification, though some trips shift to express buses and managed lanes.

Late 2020s: Demand increases 25% with DTX while HSR, Dumbarton, and BART to SJ enable improved connections.

2030s: Land use growth fuels continued ridership gains over time.

However, ridership demand exceeds a comfortable crowding level shortly after the completion of DTX.

Nearby development activity increases Caltrain ridership demand by about 2% per year—or 40% of growth by 2040.
Peer Comparison: Ridership Demand

Caltrain’s 2040 ridership demand is more balanced (directionally and geographically) than peer corridors

<table>
<thead>
<tr>
<th>System</th>
<th>Daily</th>
<th>Peak Hour, Max Load Point</th>
<th>Peak % - Reverse Peak %</th>
<th>Peak Hour, Peak Direction Max Load Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>Existing</td>
<td>62,000</td>
<td>6,500</td>
<td>60% - 40%</td>
<td>3,900</td>
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<tr>
<td>Caltrain 2040 Baseline</td>
<td>161,000*</td>
<td>15,300*</td>
<td>57% - 43%*</td>
<td>8,700</td>
</tr>
<tr>
<td>Caltrain 2040 Moderate</td>
<td>185,000*</td>
<td>17,700*</td>
<td>56% - 44%*</td>
<td>9,900</td>
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<tr>
<td>Caltrain 2040 High</td>
<td>207,000</td>
<td>20,600</td>
<td>56% - 44%</td>
<td>11,500</td>
</tr>
<tr>
<td>BART (All Lines)</td>
<td>414,000</td>
<td>28,400</td>
<td>88% - 12%</td>
<td>24,900</td>
</tr>
<tr>
<td>Metro North (Harlem &amp; New Haven Lines)</td>
<td>176,000</td>
<td>27,900</td>
<td>94% - 6%</td>
<td>26,200</td>
</tr>
<tr>
<td>Long Island Railroad (All Lines)</td>
<td>350,000</td>
<td>35,900</td>
<td>94% - 6%</td>
<td>33,700</td>
</tr>
</tbody>
</table>

*Excludes capacity constraining for Baseline and Moderate

Ridership vs. Population/Jobs within ½ Mile, Existing Caltrain vs. Existing BART
Key Findings

1. Ridership demand could exceed 200,000 riders by 2040
   i. Under the Baseline Growth condition, Caltrain would attract 161,000 riders by 2040
   ii. Increasing to 8 TPH would increase ridership to 185,000 for the Moderate Growth scenario
   iii. Increasing to 12 TPH would increase ridership to 207,000 for the High Growth scenario

2. PCEP will provide near-term crowding relief, but growing demand will lead to overcrowded conditions during peak hours upon completion of DTX around 2029
   i. Caltrain could reach 100,000 riders over the next decade with electrification and land use growth alone
   ii. The Completion of DTX increases Caltrain ridership demand by about 25 percent (27,000 riders)
   iii. While new trains will enable better standing conditions for passengers, the level of crowding expected will be uncomfortable and may not be a competitive option for choice riders

3. By 2040 the Baseline and Moderate Growth scenarios face crowding challenges, while the High Growth does not.
   i. By 2040 the Baseline and Moderate Growth scenarios exceed a comfortable crowding condition by about 30 to 40 percent for peak hour, peak direction travel.
DTX & Intra-San Francisco Ridership

1. STC Surcharge
   i. Assumed average surcharge of $2.50 (or $3 in 2029 dollars) per trip, roughly equivalent to a separate fare zone
   ii. STC would serve about 25,000 daily boardings, but some potential riders may shift to other modes
   iii. Ultimate surcharge amount and mechanism will influence ridership outcomes at STC

2. Location of 22nd Street Station
   i. Ridership forecasts suggest 6,000-10,000 daily station boardings by 2040, but may be higher or lower depending on potential station relocation

3. Intra-SF Ridership
   i. With opening of DTX Caltrain could offer substantial time savings for intra-SF trips and as connection to BART, Transbay buses, and ferries
   ii. Ridership forecasts suggest 4,000-7,000 trips, but could be 20,000-30,000 if similar to BART

<table>
<thead>
<tr>
<th>Origin-Destination Pair</th>
<th>Estimated Travel Time &amp; Frequency by Growth Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Muni</td>
</tr>
<tr>
<td>4th &amp; King – STC/Montgomery Station</td>
<td>15 minutes (6 trains per hour)</td>
</tr>
<tr>
<td>22nd Street – STC/Montgomery Station</td>
<td>25 minutes (6 trains per hour)</td>
</tr>
<tr>
<td>Bayshore – STC/Montgomery Station</td>
<td>37 minutes (8 buses per hour)</td>
</tr>
</tbody>
</table>

South of Tamien Ridership

<table>
<thead>
<tr>
<th>Topic</th>
<th>Existing</th>
<th>2040 Baseline</th>
<th>2040 Moderate</th>
<th>2040 High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capitol &amp; Blossom Hill</td>
<td>300</td>
<td>700</td>
<td>3,500</td>
<td>4,300</td>
</tr>
<tr>
<td>Morgan Hill &amp; Gilroy</td>
<td>400</td>
<td>600</td>
<td>1,300</td>
<td>1,600</td>
</tr>
</tbody>
</table>

*Excludes capacity constraining for Baseline and Moderate

Findings
- There is reasonably strong demand for service in southern San Jose, where Capitol and Blossom Hill would serve 3,000-4,000 new boardings per day with service every 15 minutes
- There is lower demand in Morgan Hill and Gilroy with half-hourly peak period service and hourly off-peak service
  - Smaller markets with less housing growth
  - HSR is attractive option at Gilroy due to higher frequency service to San Jose and faster travel times to San Francisco and Millbrae
Off-Peak & Weekend Ridership

<table>
<thead>
<tr>
<th>Topic</th>
<th>Existing</th>
<th>2040 Baseline</th>
<th>2040 Moderate</th>
<th>2040 High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Off-Peak Boardings (Early AM, Midday, and Evening)</td>
<td>7,300</td>
<td>23,000</td>
<td>34,700</td>
<td>35,900</td>
</tr>
<tr>
<td>Weekend Boardings</td>
<td>12,400</td>
<td>43,300</td>
<td>58,800</td>
<td>61,200</td>
</tr>
</tbody>
</table>

Findings

- There is strong potential for growth during off-peak and weekend periods, although there is particularly high uncertainty given data and model limitations
- However, station demand is highly sensitive to service frequency. Demand is highest at stations receiving service every 15 minutes or greater, and lower at stations receiving service every 30 or 60 minutes

2040 Capacity & Crowding
Crowding

How crowded will trains be? Will they still be a competitive choice? Will they be able to serve their full potential market demand?

- The underlying ridership model projects demand based on land use and service levels; it does not take comfort and crowding into account.
- If Caltrain is highly crowded and uncomfortable will it still be a competitive mode? Is there a portion of future demand that we may not capture if the trains are uncomfortably full?

For the purposes of Business Planning, Caltrain is assuming that it can competitively serve passenger loads of up to 135% of seated capacity during regular service. At higher levels of crowding the service may not be competitive for choice riders and Caltrain may not be able to fully capture potential demand.

Context - Crowding

Today, 15 of 28 peak commute direction trains exceed seated capacity during peak periods. Baby Bullet trains are usually beyond their seated capacities (averaging 115%), while Limited trains are typically near capacity (averaging 92%). Max train loads vary from 40% to 140%.

At 100% seated capacity, everyone gets a seat.
Train Capacity and Crowding

50% Occupancy – Many seats available

Train Capacity and Crowding

100% Occupancy – Everyone gets a seat

This level of occupancy is the planning standard used for commuter rail by FTA
Train Capacity and Crowding

135% Occupancy – Most are seated and everyone else can stand comfortably

This level of occupancy roughly equates to the planning standard used for commuter rail lines into London and on S-Bahn (commuter) trains in Germany. Depending on the specific train design this level of occupancy generally equates to less than two standees per square meter of space.

Train Capacity and Crowding

More than 135% Occupancy – Many are standing and may be uncomfortable

While occupancy loads well over 150% can be safely accommodated, passengers will feel crowded and uncomfortable and the service may not be attractive to choice riders.
Baseline & Moderate scenarios exceed comfortable crowding level during peak hours.

Assumes 8 car trains in Baseline and 10 car trains in Moderate and High scenarios.

Baseline Demand over Time – Weekday

Under the Baseline Scenario, demand exceeds crowding capacity by 10,000 riders during peak hours by 2040.

Crowding-Constrained Growth (94% of potential demand)
Under the Moderate Scenario, demand exceeds crowding capacity by 7,500 riders during peak hours by 2040.

Caltrain is able to fully accommodate 2040 demand
## System Forecasts - Constrained for Crowding

### Systemwide Boardings: Weekday Ridership

<table>
<thead>
<tr>
<th>Model Year</th>
<th>Service Plan</th>
<th>Demand</th>
<th>Capacity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>5 TPH</td>
<td>62,100</td>
<td>62,100</td>
<td>Electrification increases service and capacity. Combined with the Central Subway, significant latent demand is unlocked within the system. After the completion of DTX, peak Caltrain ridership demand would exceed capacity. Ridership continues to grow during shoulder peak and off-peak periods.</td>
</tr>
<tr>
<td>2022</td>
<td>5 TPH</td>
<td>69,700</td>
<td>69,700</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 TPH</td>
<td>85,000</td>
<td>85,000</td>
<td></td>
</tr>
<tr>
<td>2029</td>
<td>6 TPH</td>
<td>103,100</td>
<td>103,100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 TPH (+ DTX)</td>
<td>130,600</td>
<td>124,900</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 TPH (+ DTX and 2 HSR)</td>
<td>132,900</td>
<td>128,900</td>
<td></td>
</tr>
<tr>
<td>2033</td>
<td>6 TPH (+ 2 HSR)</td>
<td>141,700</td>
<td>135,700</td>
<td></td>
</tr>
<tr>
<td></td>
<td>6 TPH (+ 4 HSR)</td>
<td>143,800</td>
<td>137,600</td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td>Baseline 6 TPH (+ 4 HSR)</td>
<td>161,200</td>
<td>151,700</td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td>Moderate 8 TPH (+ 4 HSR)</td>
<td>184,800</td>
<td>177,200</td>
<td>Demand for express trains would exceed a comfortable crowding level. While local trains could serve some excess capacity, some riders would choose other modes in lieu of a longer local travel time.</td>
</tr>
<tr>
<td>2040</td>
<td>High 12 TPH (+ 4 HSR)</td>
<td>207,300</td>
<td>207,300</td>
<td>Sufficient peak capacity and more connected local service serving off-peak and weekend demand.</td>
</tr>
</tbody>
</table>

### Rider 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
Next Steps

Upcoming Work & Updates

• Service Planning
  • Explorations and Variations
  • Simulation analysis

• Business Case Development
  • Corridor Investments and Capital Costs
  • Operating Costs and Revenues
  • Mobility and Environmental Benefits

• Community Interface Assessment
  • Grade Separation Update
### 2040 Station Demand: Top 12

<table>
<thead>
<tr>
<th>Station</th>
<th>Existing</th>
<th>Baseline Growth</th>
<th>Moderate Growth</th>
<th>High Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th &amp; King</td>
<td>15,200</td>
<td>20,600</td>
<td>23,800</td>
<td>27,300</td>
</tr>
<tr>
<td>Salesforce Transit Center</td>
<td>0</td>
<td>21,600</td>
<td>26,800</td>
<td>25,000</td>
</tr>
<tr>
<td>Palo Alto</td>
<td>7,400</td>
<td>14,900</td>
<td>15,700</td>
<td>18,000</td>
</tr>
<tr>
<td>Mountain View</td>
<td>4,500</td>
<td>11,700</td>
<td>12,700</td>
<td>14,100</td>
</tr>
<tr>
<td>San Jose</td>
<td>4,700</td>
<td>11,100</td>
<td>12,000</td>
<td>13,400</td>
</tr>
<tr>
<td>Sunnyvale</td>
<td>3,300</td>
<td>7,700</td>
<td>10,000</td>
<td>11,700</td>
</tr>
<tr>
<td>Redwood City</td>
<td>3,900</td>
<td>8,300</td>
<td>9,400</td>
<td>11,500</td>
</tr>
<tr>
<td>Hillsdale</td>
<td>3,000</td>
<td>8,400</td>
<td>9,000</td>
<td>10,400</td>
</tr>
<tr>
<td>22nd Street</td>
<td>1,700</td>
<td>5,800</td>
<td>7,100</td>
<td>9,500</td>
</tr>
<tr>
<td>Millbrae</td>
<td>3,400</td>
<td>8,900</td>
<td>7,900</td>
<td>8,100</td>
</tr>
<tr>
<td>Lawrence</td>
<td>900</td>
<td>5,400</td>
<td>4,700</td>
<td>6,100</td>
</tr>
<tr>
<td>South San Francisco</td>
<td>500</td>
<td>2,100</td>
<td>5,500</td>
<td>5,600</td>
</tr>
</tbody>
</table>

**Notes:**

- Excludes capacity constraining.
- San Francisco ridership may vary depending on location of 22nd Street station and Salesforce Transit Center surcharge. Future SFCHAMP modeling may better inform intra-SF ridership demand.
## 2040 Station Demand: Largest Gains

<table>
<thead>
<tr>
<th>Station</th>
<th>Existing</th>
<th>2040 High Growth</th>
<th>Change</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capitol</td>
<td>55</td>
<td>1,700</td>
<td>1,600</td>
<td>2,909%</td>
</tr>
<tr>
<td>Blossom Hill</td>
<td>107</td>
<td>2,600</td>
<td>2,500</td>
<td>2,336%</td>
</tr>
<tr>
<td>Bayshore</td>
<td>240</td>
<td>3,200</td>
<td>3,000</td>
<td>1,250%</td>
</tr>
<tr>
<td>South San Francisco</td>
<td>496</td>
<td>5,600</td>
<td>5,100</td>
<td>1,028%</td>
</tr>
<tr>
<td>Hayward Park</td>
<td>376</td>
<td>2,900</td>
<td>2,500</td>
<td>665%</td>
</tr>
<tr>
<td>Lawrence</td>
<td>907</td>
<td>6,100</td>
<td>5,200</td>
<td>573%</td>
</tr>
<tr>
<td>22nd St</td>
<td>1,687</td>
<td>9,500</td>
<td>7,800</td>
<td>462%</td>
</tr>
<tr>
<td>Morgan Hill</td>
<td>181</td>
<td>900</td>
<td>700</td>
<td>387%</td>
</tr>
<tr>
<td>Gilroy</td>
<td>173</td>
<td>700</td>
<td>600</td>
<td>347%</td>
</tr>
<tr>
<td>Tamien</td>
<td>1,264</td>
<td>5,100</td>
<td>3,900</td>
<td>309%</td>
</tr>
<tr>
<td>Hillsdale</td>
<td>2,963</td>
<td>10,400</td>
<td>7,500</td>
<td>253%</td>
</tr>
<tr>
<td>San Antonio</td>
<td>904</td>
<td>3,000</td>
<td>2,100</td>
<td>232%</td>
</tr>
</tbody>
</table>

Notes:
- Excludes Salesforce Transit Center.
- 22nd Street Station ridership may vary depending on station location and Salesforce Transit Center surcharge.

## 2040 County to County Demand

### Daily County to County Ridership Demand

<table>
<thead>
<tr>
<th>County OD Pair</th>
<th>Existing</th>
<th>Baseline Growth</th>
<th>Moderate Growth</th>
<th>High Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco-San Mateo</td>
<td>11,500</td>
<td>36,500</td>
<td>37,200</td>
<td>37,700</td>
</tr>
<tr>
<td>San Francisco-Santa Clara</td>
<td>22,600</td>
<td>57,400</td>
<td>71,200</td>
<td>74,800</td>
</tr>
<tr>
<td>San Mateo-Santa Clara</td>
<td>15,800</td>
<td>29,700</td>
<td>35,500</td>
<td>46,400</td>
</tr>
<tr>
<td>Within San Francisco</td>
<td>100</td>
<td>4,400</td>
<td>7,000</td>
<td>7,100</td>
</tr>
<tr>
<td>Within San Mateo</td>
<td>4,900</td>
<td>13,300</td>
<td>11,900</td>
<td>16,000</td>
</tr>
<tr>
<td>Within Santa Clara</td>
<td>7,200</td>
<td>19,900</td>
<td>21,900</td>
<td>24,500</td>
</tr>
</tbody>
</table>

Notes:
- Excludes capacity constraining.
- Future SFCHAMP modeling may better inform intra-SF ridership demand and implications of STC fare surcharge.
- Southern Santa Clara County stations account for 1,300 riders in Baseline Scenario, 4,800 in Moderate Scenario, and 5,900 in High Scenario.
- HSR, Dumbarton Rail, and BART to San Jose each account for an increase of about 1,000-2,000 daily trips over existing.
## 2040 Station OD Demand

<table>
<thead>
<tr>
<th>Station-Station OD Pair</th>
<th>Existing</th>
<th>Baseline Growth</th>
<th>Moderate</th>
<th>High Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>STC/4th &amp; King-Palo Alto</td>
<td>4,300</td>
<td>9,100</td>
<td>12,300</td>
<td>12,300</td>
</tr>
<tr>
<td>STC/4th &amp; King-Mountain View</td>
<td>4,100</td>
<td>8,100</td>
<td>9,300</td>
<td>9,200</td>
</tr>
<tr>
<td>STC/4th &amp; King-Sunnyvale</td>
<td>3,700</td>
<td>6,900</td>
<td>8,400</td>
<td>8,600</td>
</tr>
<tr>
<td>STC/4th &amp; King-San Jose</td>
<td>3,700</td>
<td>5,000</td>
<td>5,900</td>
<td>6,500</td>
</tr>
<tr>
<td>STC/4th &amp; King-Lawrence</td>
<td>500</td>
<td>4,600</td>
<td>4,700</td>
<td>5,200</td>
</tr>
</tbody>
</table>

### Excludes capacity constraining

## Top 5 Station OD Pairs, Excluding Downtown San Francisco

<table>
<thead>
<tr>
<th>Station-Station OD Pair</th>
<th>Existing</th>
<th>Baseline Growth</th>
<th>Moderate</th>
<th>High Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Jose-Palo Alto</td>
<td>1,500</td>
<td>4,200</td>
<td>3,800</td>
<td>3,500</td>
</tr>
<tr>
<td>San Jose-Mountain View</td>
<td>400</td>
<td>2,900</td>
<td>3,600</td>
<td>3,300</td>
</tr>
<tr>
<td>Redwood City-Palo Alto</td>
<td>600</td>
<td>2,200</td>
<td>2,000</td>
<td>3,100</td>
</tr>
<tr>
<td>22nd Street-Palo Alto</td>
<td>1,400</td>
<td>1,700</td>
<td>2,000</td>
<td>2,600</td>
</tr>
<tr>
<td>Redwood City-Hillsdale</td>
<td>300</td>
<td>1,500</td>
<td>2,100</td>
<td>2,400</td>
</tr>
</tbody>
</table>

Excludes capacity constraining

### Land Use/Transportation Context: ½-Mile Area

*Indicates a station where substantial growth beyond Plan Bay Area forecasts is anticipated, but not yet approved.*
3 million people and jobs within 2 miles of Caltrain stations

Indicates a station where substantial growth beyond Plan Bay Area forecasts is anticipated, but not yet approved.

4.2 million people and jobs within 2 miles of Caltrain stations
Memorandum

Date: March 28, 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 RELEASES SAFETY VIDEO

As Caltrain outfits 51 miles of the corridor with electric overhead wires between San Francisco 4th and King Station and San Jose Tamien Station, outreach staff has launched a safety campaign to ensure riders are aware and informed. The electrification will eliminate diesel emissions and result in cleaner air along the Caltrain corridor. Staying safe around these new electric overhead wires is vital, so Caltrain staff has developed a safety video featuring a few easy ways to stay safe.

To watch the video, visit https://www.youtube.com/watch?v=RX52I5EU3mA.
ELECTRIFICATION INFRASTRUCTURE UPDATE

This month, crews continued foundation installation from South San Francisco to Menlo Park and pole installation from South San Francisco to San Mateo. Five traction power facilities are currently under construction in South San Francisco, San Jose, Redwood City and San Mateo.

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

ELECTRIC VEHICLE UPDATE

Interior equipment installation is now occurring in 7 of the car shells! Trainset #1 is well underway, as first article inspections continue.
View more pictures at www.CalMod.org/Gallery.

In case you missed it, check out our Electric Train Manufacturing Video from February, and see the upper level floors taking shape.

PUBLIC MEETINGS

Caltrain Board Meeting – April 4, 2019 at 10:00 a.m.

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

DETAILED PROGRESS REPORT

- January 2019 Monthly Progress Report presented to Caltrain Board on March 7, 2019
Date: March 28, 2019
To: Local Policy Maker Group (LPMG)
From: Boris Lipkin, Northern California Regional Director
Re: California High-Speed Rail Program Update

STATEWIDE UPDATE
Over the past month, the high-speed rail program has continued to be in the headlines. On March 4, 2019, CEO Brian Kelly responded to the Federal Railroad Administration’s (FRA) February letter threatening to cancel our grant agreements and issued the below statement.

CEO Brian Kelly’s Statement on the Federal Railroad Administration Letter
Today [March 4, 2019], I sent a response to the Federal Railroad Administration (FRA) Administrator Ron Batory’s February 19, 2019, letter threatening to take back federal funds directed to the nation’s first truly high-speed rail project. I informed Administrator Batory that withdrawing federal funds from this project is unwarranted, unprecedented and harmful to the people and the economy of the Central Valley, California and the nation.

The threat to de-obligate these funds ignores the steady progress made on the project that now has 24 active or completed construction sites, employs some 2,600 workers in the Central Valley, and includes the participation of some 488 small businesses, including 15 from outside California. I informed Administrator Batory that the Authority has met our obligations under our federal grant agreements to date and encouraged him to reject the harmful act of withdrawing federal funds from the project. Instead, I urged him to follow a more constructive path: join me in restoring a functional relationship between our agencies and engage in a structured process to share information, review project risks and resolve all issues to move forward on the project together.

Our mutual goal should be the successful delivery of America’s first truly high-speed rail service.

Here is a link to Mr. Kelly’s response letter to Ronald Batory, FRA (summary):

Here is a link to Mr. Kelly’s response letter to Jamie Rennert, FRA (full):
http://www.hsr.ca.gov/docs/newsroom/2019_Rennert_030419.pdf

We are awaiting a response from the FRA.

Construction Update
Construction activities continue in the Central Valley with significant progress in constructing both a high-speed rail crossing over Garces Highway near Wasco and a viaduct over the San Joaquin River north of Fresno. These activities, along with other, ongoing activities in
Construction Packages 1-4, has resulted in a total of 2,632 construction workers being dispatched to the job site.

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

NORTHERN CALIFORNIA UPDATE

Community Working Group Meetings
In February and March, the Authority hosted five Community Working Group (CWG) meetings across the Northern California region. Meeting topics included a discussion of the rationale and process for identifying a preferred alternative, which will be presented to the Authority Board in September 2019 for both project sections in Northern California. Additionally, a presentation by the Early Train Operator (Deutsche Bahn [DB]) and an outreach update were provided to working group members.

Please see the attached Key Themes for a brief overview of the feedback heard at each of the five meetings. Additional meeting materials have been posted on the Authority’s website. Go to Community Meetings under the respective project section links below.
San Francisco to San Jose Project Section
San Jose to Merced Project Section

Environmental Justice Outreach
In March, the Authority’s Outreach Team participated in meetings with communities identified as having higher concentrations of environmental justice (EJ) populations and service providers along the San Francisco to San Jose and San Jose to Merced Project Sections to generate neighborhood-specific, place-based insights. The team presented to the Vietnamese Voluntary Foundation in San Jose and met with the Visitation Valley Service Providers Collaborative.

Next steps for EJ outreach will include: in-language materials and meetings; continue follow up with community members; service provider and small groups meetings.

RECENT AND UPCOMING OUTREACH ACTIVITIES
- March 5: Morgan Hill-Gilroy Community Working Group
- March 6: Santa Clara County Vietnamese Community Meeting
- March 7: Visitacion Valley Service Providers Collaborative Meeting
- March 12: San Mateo County Community Working Group
- March 14: South Peninsula Community Working Group
- March 18: San Francisco Community Working Group
- March 26: TEAM-C Meeting
- March 26: LifeMoves Homeless Walk (San Mateo)
- March 28: LifeMoves Homeless Walk (Redwood City)
- March 29: Gilroy Mobility Partnership
- April 4: LifeMoves Homeless Walk (South San Francisco)
- April 25: North Fair Oaks Community Meeting
NORTHERN CALIFORNIA REGION
COMMUNITY WORKING GROUP MEETINGS
KEY THEMES
WINTER 2019

San Jose Community Working Group – February 22, 2019
- Request for additional outreach in the Monterey Corridor
- Interest in the role of the Early Train Operator (ETO) and global expertise
- Clarification on Preferred Alternative (PA) criteria, identification process, and opportunities for public comment
- Interaction between Diridon Integrated Station Concept Plan and High-Speed Rail (HSR) EIR

Morgan Hill – Gilroy Community Working Group – March 5, 2019
- Request for time for conversation amongst members on input into the PA
- Project costs and schedule
- Status of federal funding
- ETO roles and responsibilities
- Clarification on PA criteria, identification process, and working group input

San Mateo County Community Working Group – March 12, 2019
- Funding sources, including status of federal funding
- Project costs and schedule
- How the differentiating factors are weighted and considered in identifying a PA
- ETO roles and responsibilities
- Design and procurement process of rolling stock

South Peninsula Community Working Group – March 14, 2019
- Authority’s coordination with local rail and infrastructure projects
- Ridership projections
- Potential reformatting of group to improve attendance
- ETO roles and responsibilities

San Francisco Community Working Group – March 18, 2019
- Caltrain electrification funding and status
- Distinction between the Downtown Extension EIR and the HSR EIR
- Status of federal funding
- Stipulations of franchise agreements with future private concessionaire
NORTHERN CALIFORNIA REGION

Local Policy Maker Group
Morgan Galli, Northern California Regional Stakeholder Manager

March 28, 2019

STATEWIDE UPDATE
# Northern California Outreach Update

## Northern California Region Winter 2019 Community Working Groups

<table>
<thead>
<tr>
<th>Meetings</th>
<th>Participation to Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>San Jose</strong></td>
<td>21 CWG members</td>
</tr>
<tr>
<td>February 21</td>
<td>20 members of the public</td>
</tr>
<tr>
<td><strong>Morgan Hill-Gilroy</strong></td>
<td>9 CWG members</td>
</tr>
<tr>
<td>March 5</td>
<td>15 members of the public</td>
</tr>
<tr>
<td><strong>San Mateo County</strong></td>
<td>10 CWG members</td>
</tr>
<tr>
<td>March 12</td>
<td>8 members of the public</td>
</tr>
<tr>
<td><strong>South Peninsula</strong></td>
<td>1 CWG members</td>
</tr>
<tr>
<td>March 14</td>
<td>4 members of the public</td>
</tr>
<tr>
<td><strong>San Francisco</strong></td>
<td>5 CWG members</td>
</tr>
<tr>
<td>March 18</td>
<td>5 members of the public</td>
</tr>
</tbody>
</table>

Statewide: 21 CWG members, 20 members of the public

NorCal Update: 9 CWG members, 15 members of the public

EJ Outreach: 10 CWG members, 8 members of the public

1 CWG members, 4 members of the public

5 CWG members, 5 members of the public
NORTHERN CALIFORNIA COMMUNITY WORKING GROUPS  **KEY THEMES**

Winter 2019

**EARLY TRAIN OPERATOR**
- Role and Scope of Work
- Business Transfer Model and Stipulations
- Interest in DB Group's Global Expertise

**OUTREACH**
- Continued neighborhood-specific outreach
- Ongoing working group collaboration
- Community feedback on Preferred Alternative

**ENVIRONMENTAL PROCESS**
- Preferred Alternative criteria and schedule
- Relationship to local planning (DISC, Caltrain Business Plan, DTX)
- Project costs and status of federal funding needed to complete environmental document

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SANTA CLARA COUNTY VIETNAMESE COMMUNITY MEETING

**Key Themes – March 6, 2019**

- Excitement for connecting Vietnamese communities across the state.
- Project timeline and initiation of operations.
- San Jose – Merced Project Section Range of Alternatives.
- Air quality, safety, traffic, and noise.
- Fair and responsible labor practices of contractors.
- Benefits and impacts to disadvantaged communities.
VISITACION VALLEY SERVICE PROVIDERS
COLLABORATIVE MEETING

Key Themes – March 7, 2019

- Air quality, safety, quality of life, and noise effects associated with construction and operations of light maintenance facility.
- Community benefits to offset impacts, including jobs and job training for local residents, green and open space, improved lighting around the tracks.
- Appreciated early engagement with the community and interested in ongoing engagement and updates on the project.

NORTHERN CALIFORNIA
COMMUNITY OUTREACH

Next Steps

- Community Engagement Activities:
  - Homeless Community Walks:
    3/26 (San Mateo), 3/28 (Redwood City), 4/4 (South San Francisco)
  - North Fair Oaks (Spanish)
  - Gardner Neighborhood (Spanish)
  - Ongoing: Service provider meetings and small groups
  - Ongoing: Informational tabling and sharing at community events
THANK YOU & HOW TO STAY INVOLVED

HELPLINE 1-800-435-8670
WEBSITE www.hsr.ca.gov
EMAIL san.francisco_san.jose@hsr.ca.gov

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