



## **Local Policy Maker Group (LPMG) Meeting**

**Thursday, December 20, 2018**

**5:30 p.m. – 7:30 p.m.**

**SamTrans Offices – Bacciocco Auditorium 2nd Floor  
1250 San Carlos Ave., San Carlos**

### **Agenda**

1. Staff Report
  - a. 2019 Meeting Dates / LPMG Membership
2. Caltrain Business Plan
3. Caltrain Electrification Project
4. HSR Updates (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, January 24, 2018 at 5:30pm

*All items on this agenda are subject to action*



## Memorandum

**Date:** December 20, 2018  
**To:** Caltrain Local Policy Maker Group (LPMG)  
**From:** Casey Fromson, Gov. Affairs Director  
**Re:** LPMG Dates and Membership

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Below is the 2019 LPMG meeting schedule and the current list of LPMG members. If there are new LPMG representatives for your city, please tell Casey Fromson: [fromsonc@samtrans.com](mailto:fromsonc@samtrans.com)

Date
January 24, 2019
February 28, 2019
March 28, 2019
April 25, 2019
May 23, 2019
June 27, 2019
July 25, 2019
August 22, 2019
September 26, 2019
October 24, 2019
November 21, 2019*
December 19, 2019*

Note: \*Changed to avoid conflicts on Thanksgiving and Christmas

## Local Policy Maker Group Members

Updated 12/17/18

<b>City / County</b>	<b>Representative</b>	<b>Alternate</b>
<b>Atherton</b>	Mayor Cary Wiest	
<b>Belmont</b>	Vice Mayor Davina Hurt	Councilmember Julia Mates
<b>Brisbane</b>	Councilmember Terry O'Connell	
<b>Burlingame</b>	Councilmember Emily Beach	Mayor Ricardo Ortiz
<b>Gilroy</b>	Councilmember Cat Tucker	Councilmember Peter Leroe-Muñoz
<b>Menlo Park</b>	TBD	TBD
<b>Millbrae</b>	Councilmember Reuben Holober	Mayor Gina Papan
<b>Mountain View</b>	Mayor Lenny Siegel	Councilmember Chris Clark
<b>Morgan Hill</b>	Councilmember Larry Carr	
<b>Palo Alto</b>	Councilmember Greg Sharff	Councilmember Adrian Fine
<b>Redwood City</b>	Councilmember Shelly Masur	Councilmember Janet Borgens
<b>San Bruno</b>	Mayor Rico Meina	
<b>San Carlos</b>	Councilmember Ron Collins	Councilmember Mark Olbert
<b>San Francisco</b>	Ms. Gillian Gillett	
<b>San Jose</b>	Councilmember Sergio Jimenez	Councilmember Dev Davis
<b>San Mateo</b>	Councilmember Joe Goethals	Deputy Mayor Diane Papan
<b>Santa Clara</b>	Councilmember Kathy Watanabe	Councilmember Patricia Mahan
<b>South San Francisco</b>	Mayor Karyl Matsumoto	Councilmember Rich Garbarino
<b>Sunnyvale</b>	Councilmember Nancy Smith	Vice Mayor Gustav Larsson
<b>San Francisco BOS</b>	TBD	
<b>San Mateo BOS</b>	TBD	
<b>Santa Clara BOS</b>	TBD	
<b>CHAIR (JPB Member) TBD</b>		
<b>VICE CHAIR (LPMG Member) Emily Beach</b>		



## Memorandum

**Date:** December 20, 2018  
**To:** Caltrain Local Policy Maker Group (LPMG)  
**From:** Sebastian Petty, Senior Policy Advisor  
**Re:** Caltrain Business Plan Update

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### PROJECT UPDATE

The following is the fourth 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 with an annotated presentation that reflects project materials and messaging shared with stakeholder groups during the subject month. The following “December” update covers work completed in late November and December of 2018.

### ONGOING TECHNICAL WORK

The Caltrain Business Plan consulting team is continuing technical work on the Business Plan. Key areas of focus for the team during December have included;

- Continuation of major service planning work focused on the development of a “high growth” 2040 service scenario for the corridor including;
  - Evaluation and refinement of peak hour “High Growth” concepts
  - Development of draft recommendation regarding “High Growth” concepts to advance for further analysis
  - Development of service analysis for South San Jose and Gilroy service
  - Development of off-peak and weekend service concepts
  - Summary of “Baseline Growth” service planning work developed in prior Caltrain and HSR planning
  - Work with agency partners to agree to terminal planning parameters and approach
- Continued development of technical modeling tools and approaches that will be used to support the articulation of a 2040 service vision and accompanying business case. Key areas of focus include;
  - The ongoing development and calibration of an integrated business modeling tool
  - The population of a capital costing framework with initial cost estimates

- Further development of economic analysis and regional benefit assessment methodology
- Continued research related to national and international peer organizations
- Documentation of community interface and identification of key issues and areas of focus for peer corridor analysis

## **MEETINGS AND OUTREACH**

Regular stakeholder outreach continued in November and December. Key meetings have included;

Meetings focused on new Technical Materials

- Project Partner Committee Meetings, December 3 and December 18
- CSCG, December 12
- JPB Business Plan Ad Hoc Committee, December 17
- LPMG, December 20

The Caltrain Business Plan website is updated regularly with all project materials and will be periodically promoted through social media and other channels. It can be accessed at [www.caltrain2040.org](http://www.caltrain2040.org)

## **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. During the month of January the team will launch another quarterly round of major public and stakeholder outreach focused on presenting service planning concepts developed over the preceding month

# Caltrain Business Plan

DECEMBER 2018

LPMG

December 20, 2018



## **The 2040 Vision: A Continued Focus on Service Planning**



# 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?



## Service Planning: High Growth

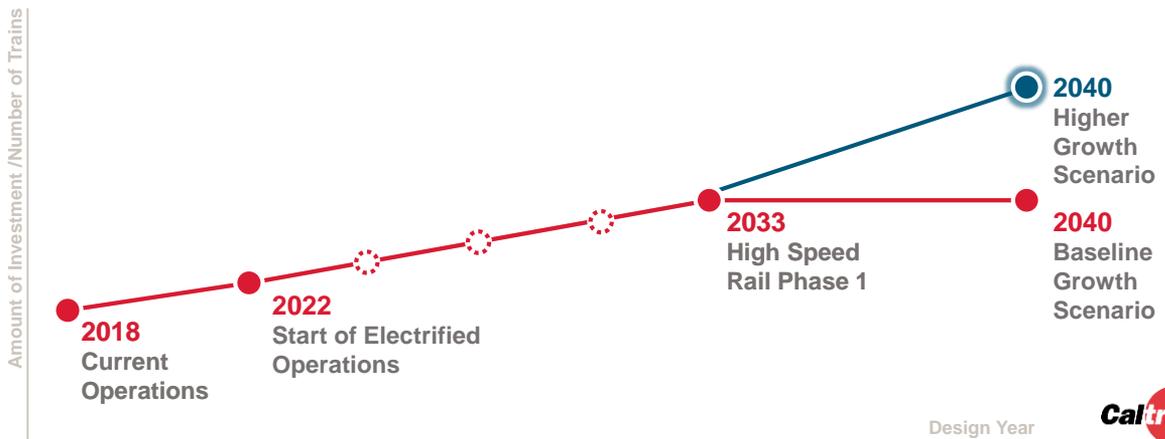




# Review & Evaluate Concepts



# Context: Different Ways to Grow



# 2040 Demand

## The Caltrain corridor is growing

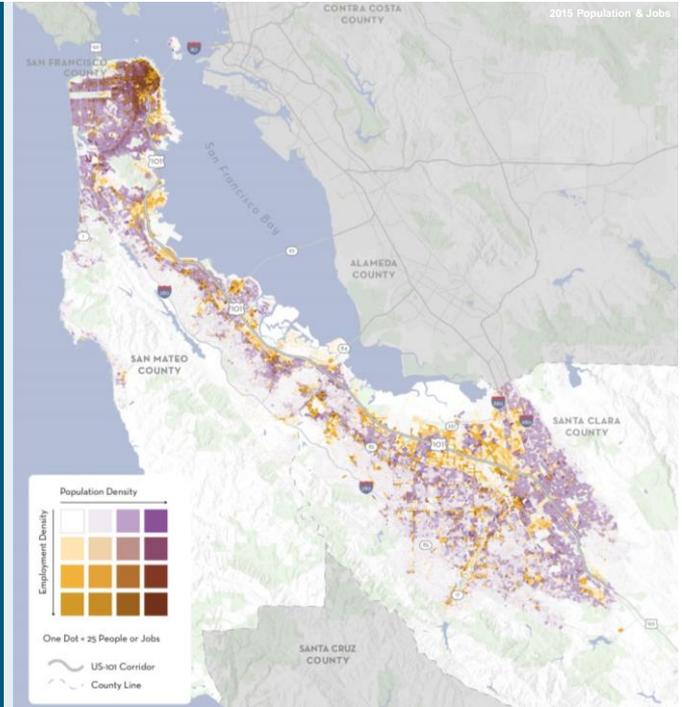
- Corridor expected to add 1.2 million people and jobs within 2 miles of Caltrain (+40%)<sup>1</sup>
- 80% of growth expected in San Francisco and Santa Clara Counties

## Major transit investments are opening new travel markets to Caltrain

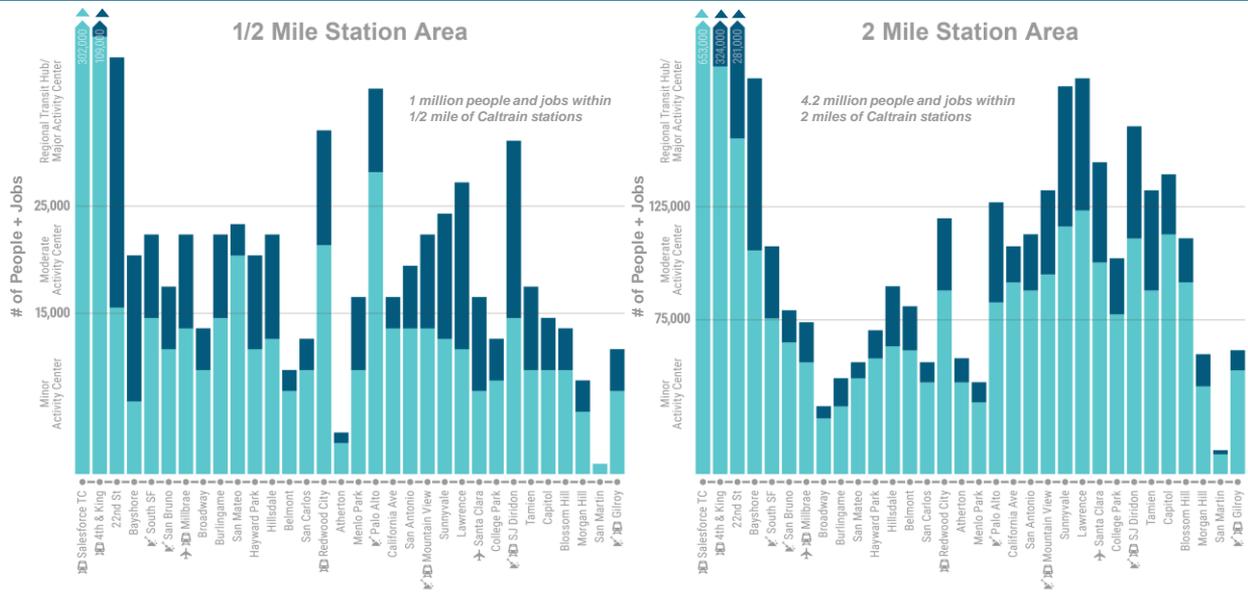
- Downtown Extension and Central Subway to provide more direct connections to downtown San Francisco
- Dumbarton Rail, BART to San Jose, and improvements to Capitol Corridor and ACE to strengthen connectivity with East Bay
- HSR and Salinas rail extensions to increase interregional travel demand

With greatly improved service, 2040 Ridership demand could reach up to 240,000 riders per day<sup>2</sup>

<sup>1</sup>Based on Plan Bay Area forecasts and approved projects by individual cities  
<sup>2</sup>Derived from a rough order-of-magnitude sensitivity test using the C/CAG Model



# 2040 Land Use & Transportation Context



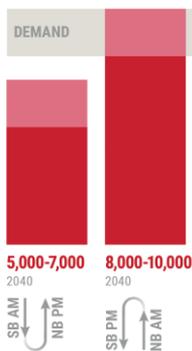
↑ Indicates a station where substantial growth beyond Plan Bay Area forecasts is anticipated, but not yet approved

# Throughput Demand vs. Capacity

To comfortably serve the potential market for rail in 2040, Caltrain would need to operate 8 trains per hour, per direction (TPHPD) with 10 car trains or 12 TPHPD with 8 or 10 car trains

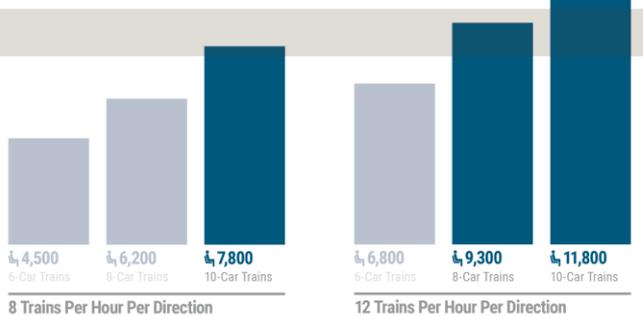
## Passenger Demand

Peak-Hour Ridership at Peak Load Point (Millbrae-Burlingame)



## Caltrain Seated Capacity

Peak-Hour Trains per Hour per Direction and Associated Seated Passenger Capacity



Seated capacity based on Stadler EMU with different door and bike car configurations. Does not include consideration of potential HSR capacity to serve demand

## Selecting a “High Growth” Service Concept

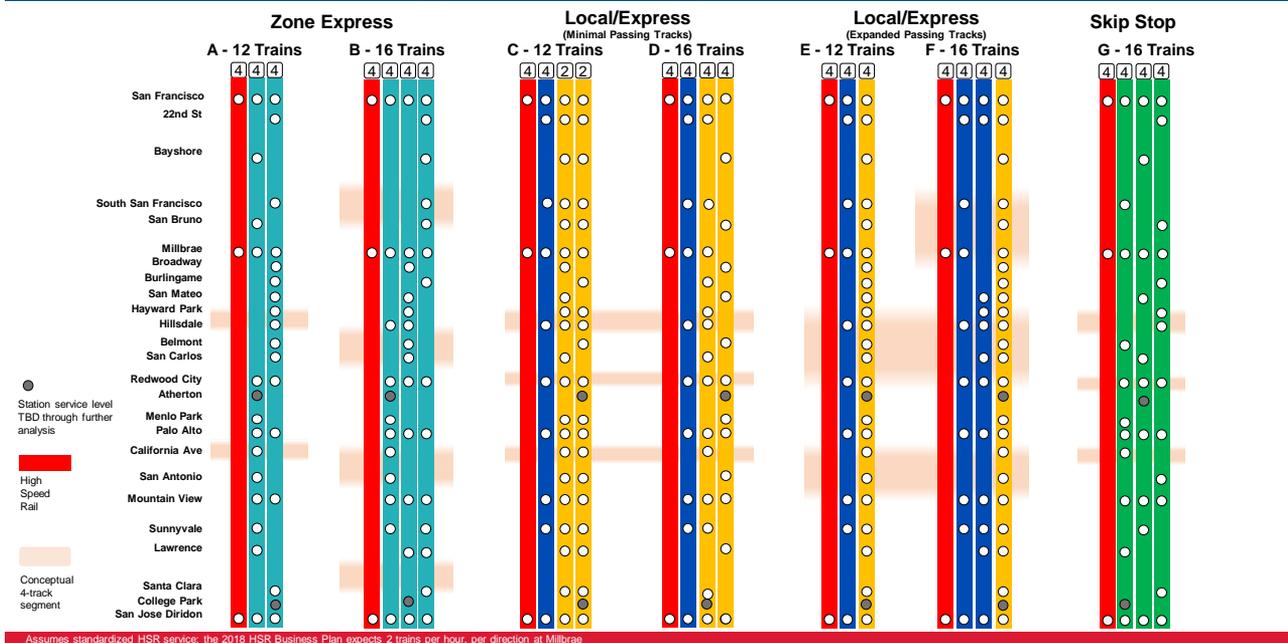
**Why** Last month we reviewed seven different “High Growth” service concepts. We now want to evaluate these concepts and select an option that provides the best illustrative example of a “High Growth” service strategy for the corridor. This will allow us to pursue a more detailed analysis and comparison with the “Baseline Growth” Scenario

**Next Steps** The selected “High Growth” concept will be further refined and expanded into a full day service plan including Gilroy service, off-peak service and terminal operations.

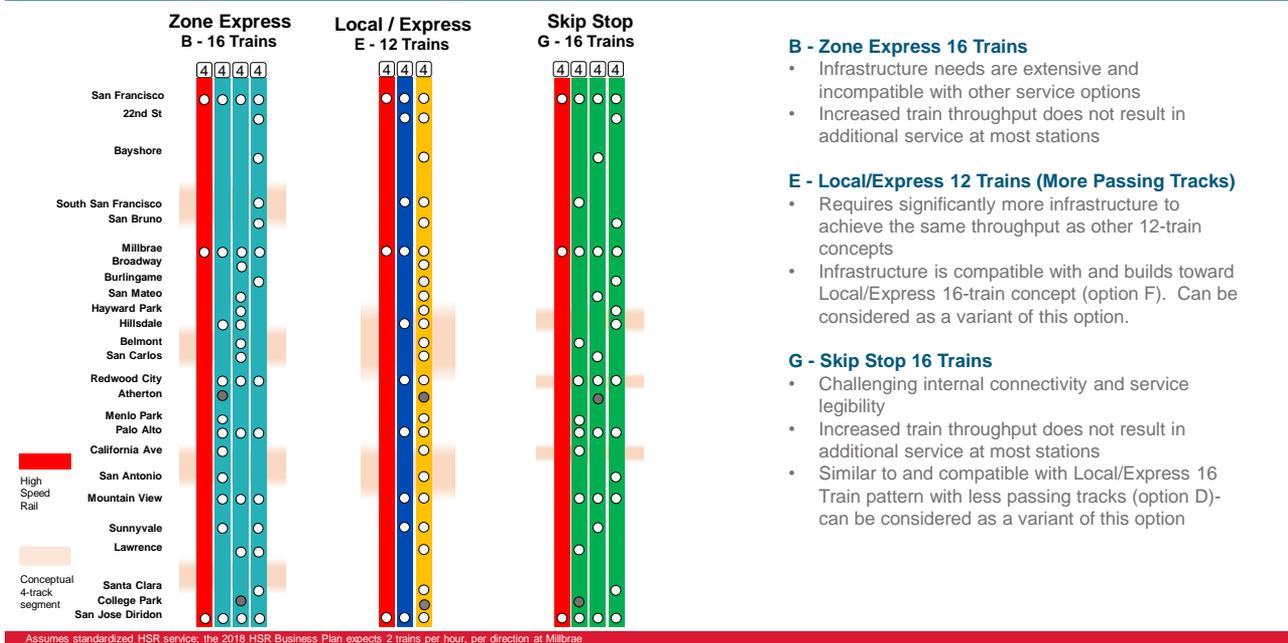
The “High Growth” and “Baseline” service plans will then be compared as part of a “business case” analysis that includes full ridership runs, operations simulation, infrastructure and operations costing, and economic benefit assessments.



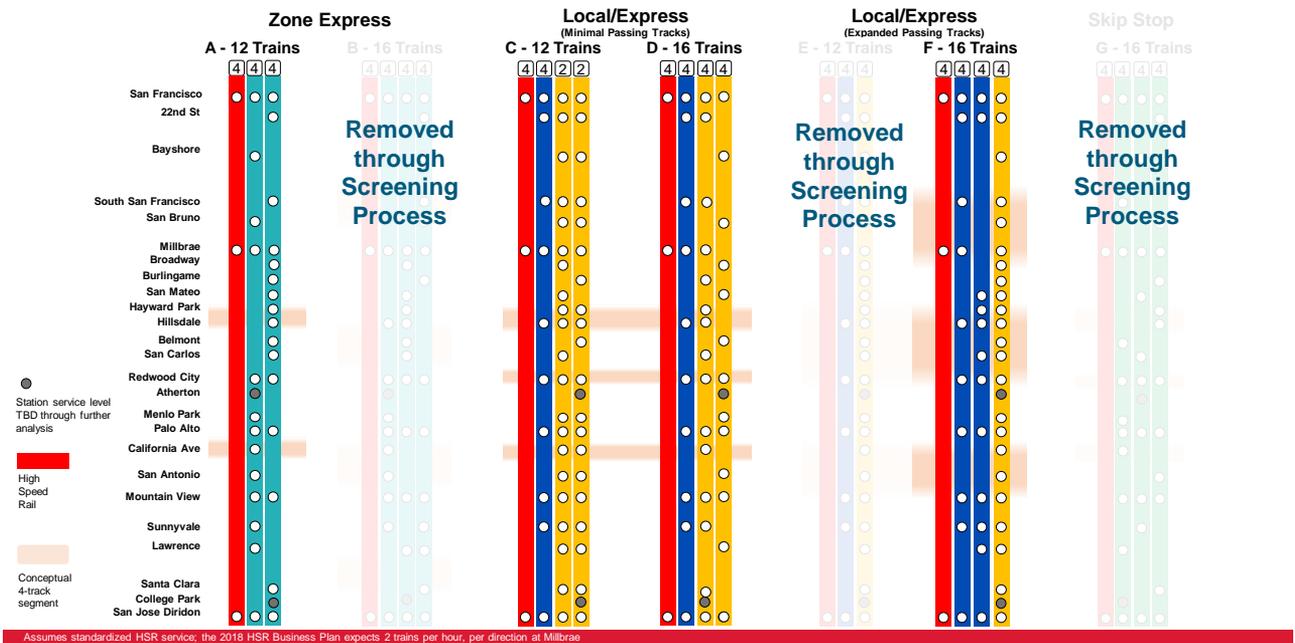
# Service Concepts - Recap



# Initial Screening Not Recommended for Further Evaluation



# Initial Screening Results



## Service Goals

- 1. Maximize Ridership** - with fast and frequent service between major markets
- 2. Improve Coverage and Connectivity** - by ensuring that most stations are connected with frequent service
- 3. Enhance Capacity and Convenience** - with service that is comfortable and easy to understand
- 4. "Right Size" New Infrastructure** - by investing strategically to provide corridor-wide benefits

# Service Concept Evaluation

## 1. Maximize Ridership

Goal	Metric	Existing	Minimal Passing Tracks			Expanded Passing Track
			A - 12 TPH Zone Express	C - 12 TPH Local/Express	D - 16 TPH Local/Express	F - 16 TPH Local/Express
		5 TPH				
Provide high frequency service	Number of stations served every 10 minutes or more	0 Stations	6 Stations	10 Stations	10 Stations	14 Stations
Improve travel times between major markets	Average travel times plus wait times between major stations <sup>1</sup>	55 Minutes	28 Minutes	31 Minutes	28 Minutes	24 Minutes

<sup>1</sup>Averaged matrix of travel times between the eight busiest stations accounting for approximately ¼ of existing ridership (4<sup>th</sup> & King, Millbrae, Hillsdale, Redwood City, Palo Alto, Mountain View, Sunnyvale, and San Jose). Includes travel time riding the train plus half of train headway.

All metrics include Broadway and Atherton stations but exclude College Park station

# Service Concept Evaluation

## 2. Improve Coverage and Connectivity

Goal	Metric	Existing	Minimal Passing Tracks			Expanded Passing Track
			A - 12 TPH Zone Express	C - 12 TPH Local/Express	D - 16 TPH Local/Express	F - 16 TPH Local/Express
		5 TPH				
Achieve 15-minute frequencies at most stations during peak	Number of stations without service every 15 minutes <sup>2</sup>	17 Stations	4 Stations Broadway, Burlingame, Atherton, Menlo Park	7 Stations San Mateo, Belmont, San Carlos plus Broadway, Burlingame, Atherton, Menlo Park	2 Stations Atherton, Menlo Park	4 stations Broadway, Burlingame, Atherton, Menlo Park
Maintain connectivity between stations	Percentage of stations directly connected by local trains without a transfer	83%*** ***Local service every 60 minutes	66% Zone service every 15 minutes	95% Local service every 15 minutes	64% Local service every 15 minutes	99% Local service every 15 minutes

<sup>2</sup>Stations that do not receive 4 TPHPD are served with 2 TPHPD except Atherton (1 TPHPD) and Menlo Park (3 TPHPD)

All metrics include Broadway and Atherton stations but exclude College Park station

# Service Concept Evaluation

## 3. Enhance Capacity and Convenience

Goal	Metric	Existing	Minimal Passing Tracks			Expanded Passing Track
			A - 12 TPH Zone Express	C - 12 TPH Local/Express	D - 16 TPH Local/Express	F - 16 TPH Local/Express
		5 TPH				
Provide capacity responsive to 2040 demand	Percent demand served relative to seated capacity <sup>3</sup>	35% 2040 demand	80% 2040 demand	80% 2040 demand	100% 2040 demand	100% 2040 demand
Provide legible service structure	Complexity of stopping pattern	High Complexity 5+ patterns per hour	Moderate Complexity 2 patterns without connected local service	Moderate Complexity 3 patterns with 2 local service variants	High Complexity 3 patterns with 2 distinct local skip stop patterns	Low Complexity 2 patterns with fully connected local service

<sup>3</sup>Assumes 10 car trains and 2040 peak demand of approximately 10,000 passengers per hour in the peak direction

All metrics include Broadway and Atherton stations but exclude College Park station

# Service Concept Evaluation

## 4. "Right Size" Infrastructure

Goal	Metric	Existing	Minimal Passing Tracks			Expanded Passing Track
			A - 12 TPH Zone Express	C - 12 TPH Local/Express	D - 16 TPH Local/Express	F - 16 TPH Local/Express
		5 TPH				
Minimize mainline track expansions	Miles of new passing track	0 Existing passing tracks at Bayshore and Lawrence stations	2 Hayward Park-Hillsdale and a northern Santa Clara County station	3 Hayward Park-Hillsdale, a northern Santa Clara County station, and a 4-track Redwood City Station	3 Hayward Park-Hillsdale, a northern Santa Clara County station, and a 4-track Redwood City Station	15 South San Francisco-Millbrae, Hillsdale-San Carlos, a 4-track Redwood City Station and 5 miles in northern Santa Clara County

See appendix slides for additional detail on infrastructure needs and options (excerpted and repeated from November presentation)

All metrics include Broadway and Atherton stations but exclude College Park station

# Evaluation Results

Goal	Metric	Existing	Minimal Passing Tracks			Expanded Passing Track	
			5 TPH	A - 12 TPH Zone Express	C - 12 TPH Local/Express	D - 16 TPH Local/Express	F - 16 TPH Local/Express
<b>1. Maximize Ridership</b>	Provide high frequency service	Number of stations served every 10 minutes or more	0 Stations	6 Stations	10 Stations	10 Stations	14 Stations
	Improve travel times between major markets	Average travel times plus wait times between major stations <sup>1</sup>	55 Minutes	37 Minutes	34 Minutes	33 Minutes	30 Minutes
<b>2. Improve Connectivity</b>	Achieve 15-minute frequencies at most stations	Number of stations without service every 15 minutes	17 Stations	4 Stations	7 Stations	2 Stations	4 stations
	Maintain connectivity between stations	Percentage of stations directly connected by local train without a transfer	83%*** (at 60 min headways)	66%	95%	64%	99%
<b>3. Enhance Convenience</b>	Provide capacity responsive to 2040 demand	% 2040 demand relative to seated capacity <sup>2</sup>	35%	80%	80%	100%	100%
	Provide legible service structure	Complexity of stopping pattern	High Complexity	Moderate Complexity	Moderate Complexity	High Complexity	Low Complexity
<b>4. "Right Size" Infrastructure</b>	Minimize mainline track expansions	Miles of new passing track	0	2	3	3	15

### A - Zone Express 12 TPH

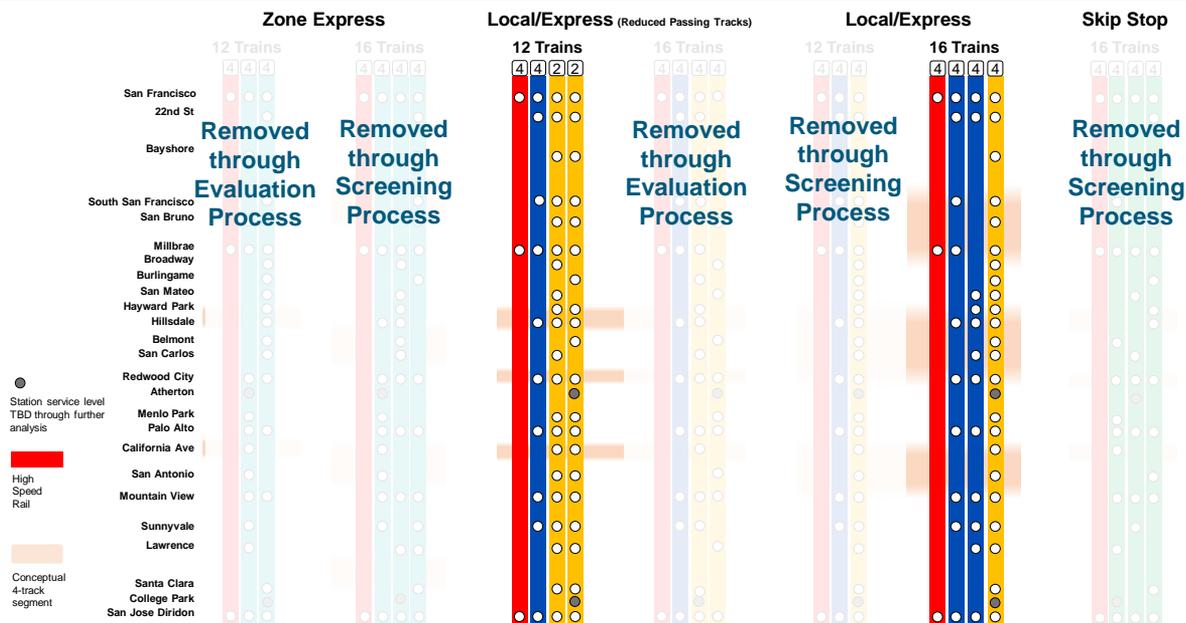
- Insufficient capacity to fully meet future demand
- Longest average travel times
- Least stations with high-frequency service

### D – Local/Express 16 TPH

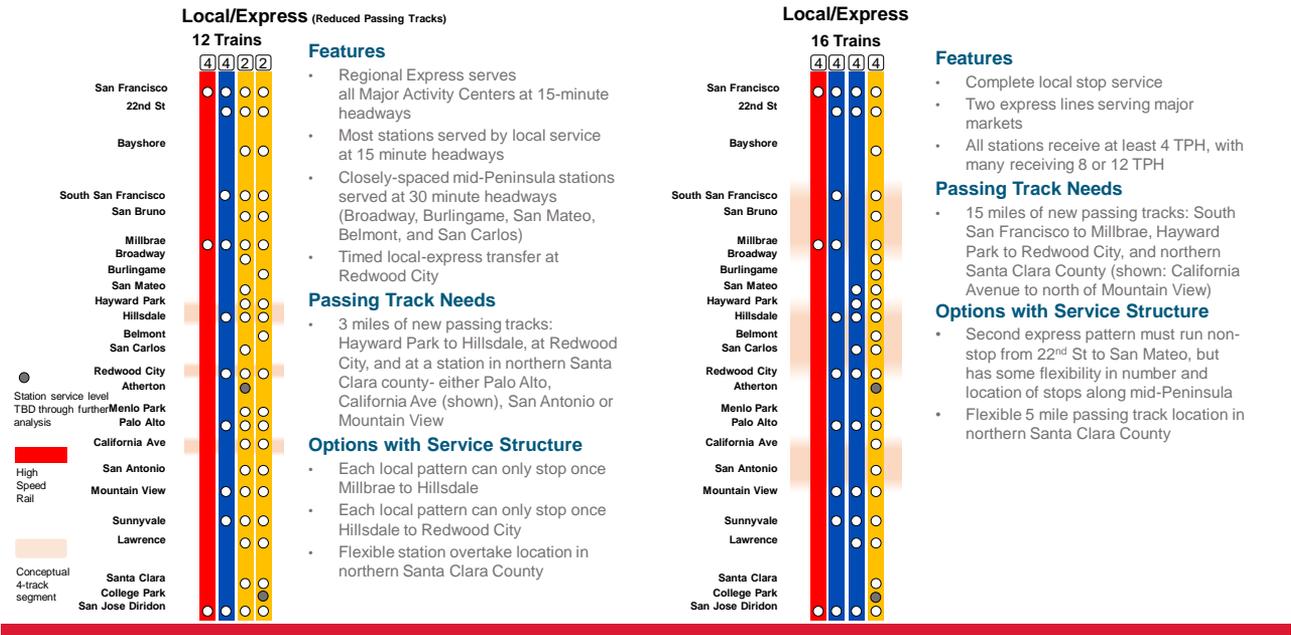
- High complexity and poor connectivity
- 15% of stations are not connected at all due to skip stop service



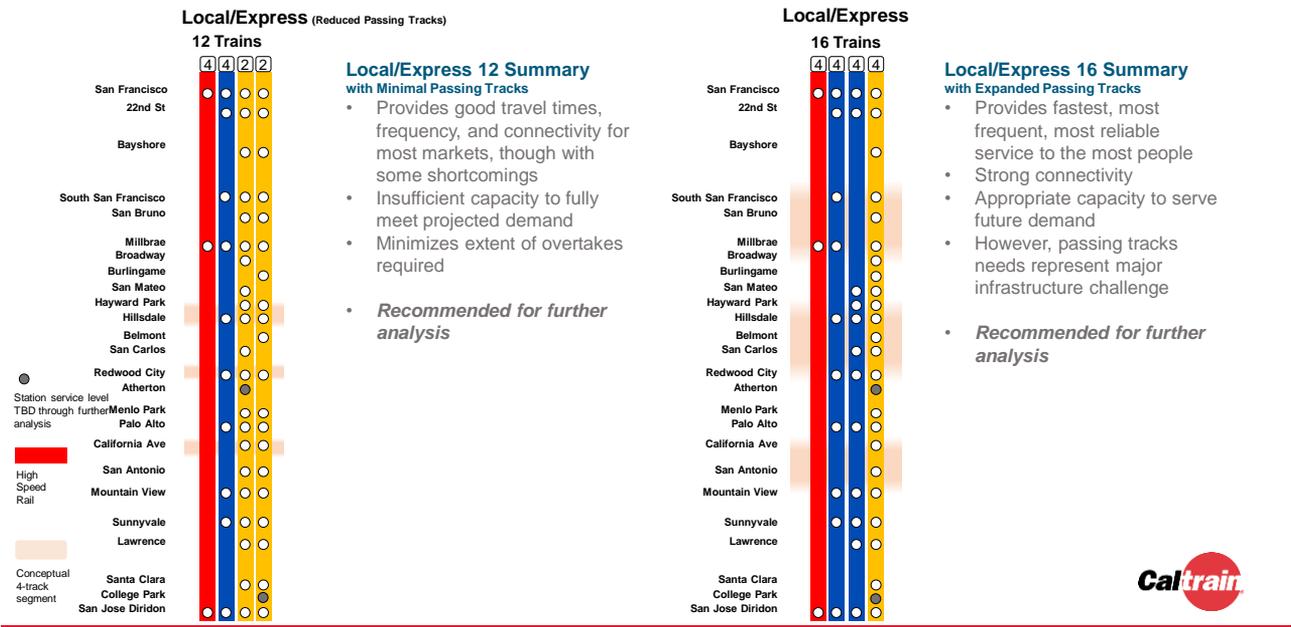
# Evaluation Results



# Evaluation Results



# Evaluation Results



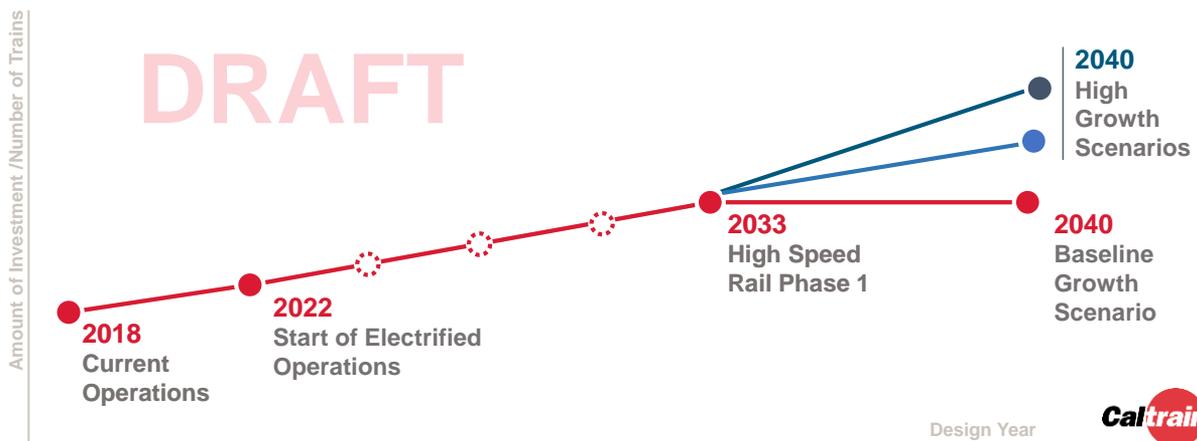
# Recommendation

## DRAFT

1. Analyze a Local/Express service in the Business Plan as the “High Growth” Scenario
2. Carry forward and evaluate two "high growth" service scenarios
  - A 12-train local / express service using limited passing tracks
  - A 16 train local / express using full passing tracks
3. Continue dialogue with project partners and local jurisdictions to understand interests and concerns with each variant

## DRAFT

# Context: Different Ways to Grow



SHARING SESSION

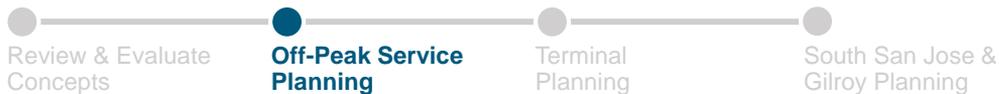
**Do you have any questions about the evaluation process or scoring criteria?**

**How do you feel about the findings of the evaluation?**

**Do you agree with the recommendation to evaluate two "high growth" scenarios?**



## Off-Peak & Weekend Service Planning



# Considerations

## Off-peak and weekend service provides unique opportunities and challenges for Caltrain

- The Caltrain corridor has very high all-day travel demand, 7 days a week
- Demand for off-peak service may increase overtime along with corridor development and densities
- Early morning, midday, evening, and weekend periods all present different challenges and opportunities related to operating costs and work windows for construction and maintenance

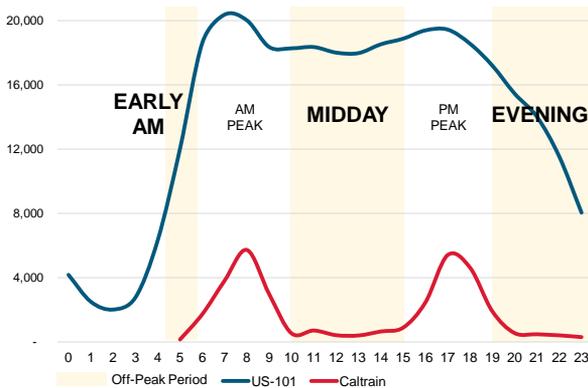
These slides illustrate options of how Caltrain may respond to these factors over time



# Off-Peak & Weekend Demand

## Existing Off-Peak Service

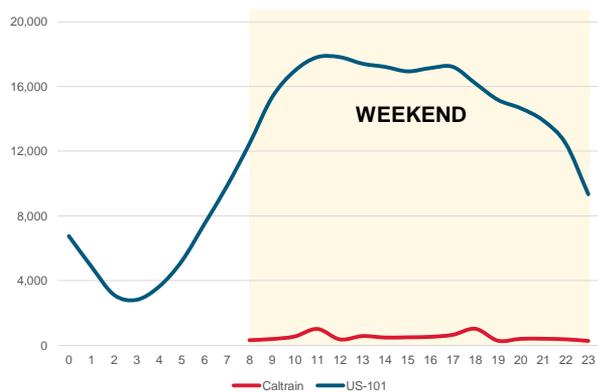
- Most Caltrain service and ridership occurs during the morning and evening periods. Hourly midday and evening service captures a very small market share
- US-101 experiences a 14-hour bidirectional peak period from 6 AM to 8 PM



Based on US-101, BART, and Caltrain person trip volumes at San Francisco County line. Volumes are comparable along most of Caltrain corridor.

## Existing Weekend Service

- Hourly weekend service that primarily serves long-distance trips and captures a very small market share
- US-101 experiences a 12-hour peak period from 9 AM to 9 PM with volumes near weekday levels

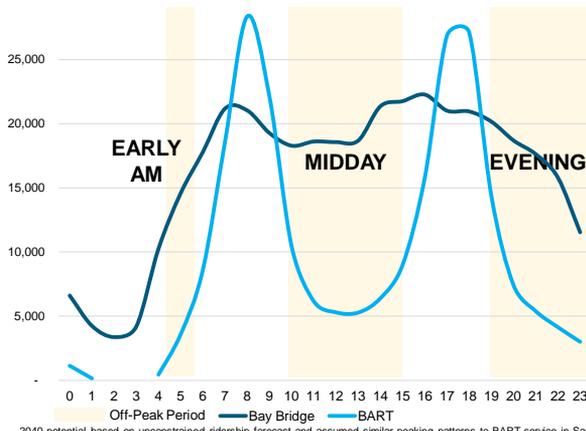


Caltrain US-101

# Off-Peak Demand: BART vs. Caltrain

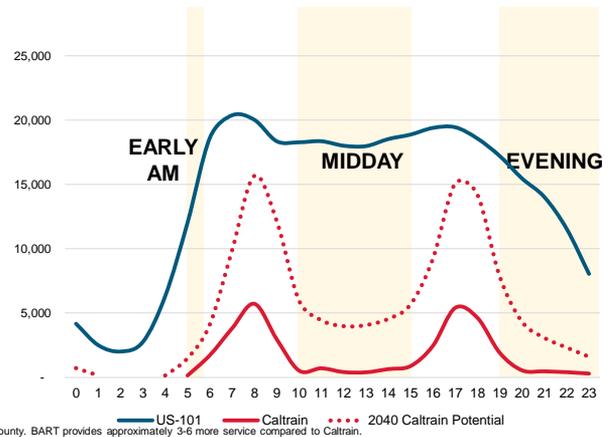
## Transbay Corridor

BART serves about 20-30% of midday and weekend travel on the Transbay corridor, whereas Caltrain serves about 2-3% of travel on the Peninsula



## Caltrain Corridor

Assuming similar peaking patterns to BART, Caltrain may serve approximately 4,000-5,000 passengers per hour during the midday and evening periods

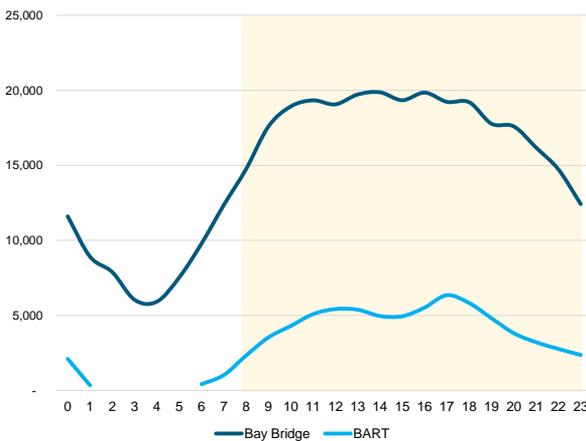


2040 potential based on unconstrained ridership forecast and assumed similar peaking patterns to BART service in San Mateo County. BART provides approximately 3-6 more service compared to Caltrain.

# Weekend Demand: BART vs. Caltrain

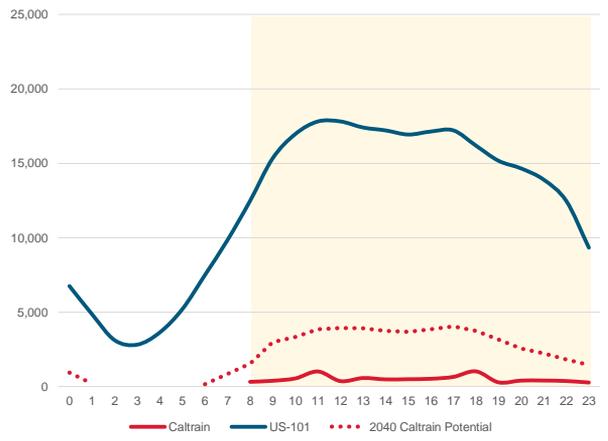
## Transbay Corridor

BART serves about 20-30% of weekend travel on the Transbay corridor, whereas Caltrain serves about 3-4% of travel on the Peninsula



## Caltrain Corridor

Assuming similar weekend service to BART, Caltrain may serve approximately 4,000-5,000 passengers per hour during most of the day on weekends



# Off-Peak & Weekend Service Options

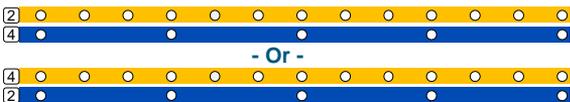
Caltrain may serve Early Morning, Midday, Evening, and Weekend periods with various potential service types depending on demand and construction/maintenance needs.

## 8 TPHPD with Local and Express



- Maximizes mobility by mirroring all-day corridor demand; potential to carry highest mode share
- Highest operating and maintenance cost
- Best suited for midday service

## 6 TPHPD with Reduced Express or Reduced Local



- Prioritizes either station coverage or maximizing ridership between major markets
- Moderate operating and maintenance cost

## 4 TPHPD with Local Only



- Prioritizes coverage while sacrificing ridership between major markets
- Lower operating and maintenance cost
- Best suited for evening and weekend service



## SHARING SESSION

**What sorts of off-peak service improvements are most important to your community?**

**Do you have any thoughts about the specific mix of service types and frequencies that would work at different times of day?**



## South San Jose & Gilroy Planning



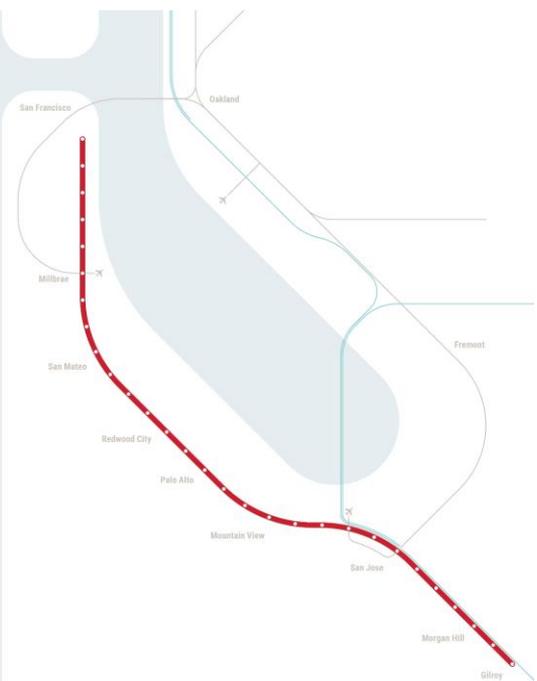
### What's Different South of San Jose?

#### North of San Jose

- Corridor between San Francisco and Tamien owned by Caltrain
- Electrification under construction
- Caltrain will share corridor with HSR

#### South of San Jose

- Union Pacific owns existing corridor between Tamien and Gilroy
- HSR and State of California negotiating with UP
- 2018 HSR Business Plan contemplates building two electrified tracks alongside non-electrified freight track
- Creates an opportunity to extend electrified Caltrain service south to Gilroy



# Opportunities & Constraints

## Track Capacity is Constrained

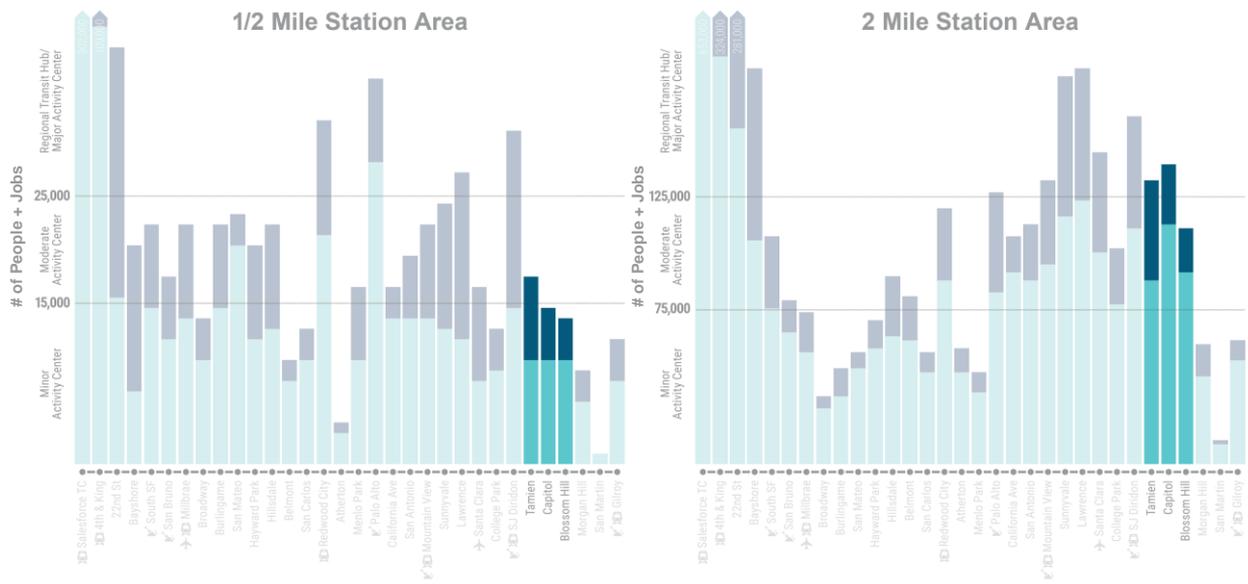
- Caltrain service is limited by operational constraints of a two track corridor
- HSR plans to operate up to 8 trains per hour, per direction south of San Jose

## Demand is Unevenly Distributed

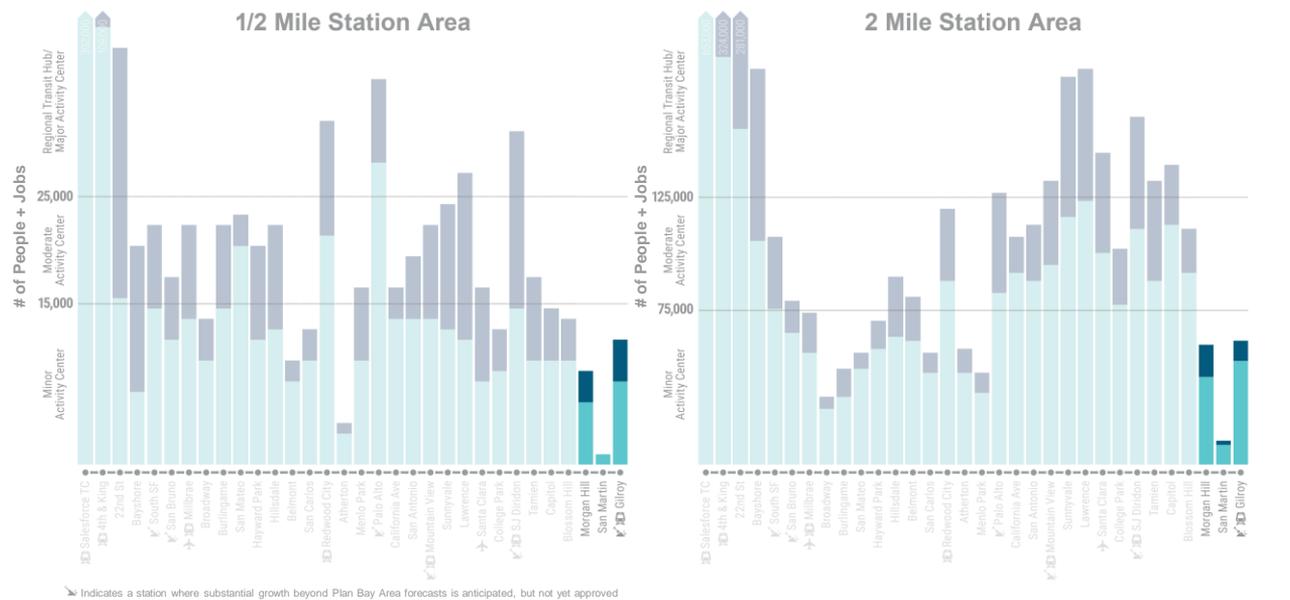
- Southern San Jose stations serve densely populated area with bidirectional demand
- Morgan Hill, San Martin, and Gilroy serve fewer people with directionally peaked demand
- HSR provides more competitive travel times between Gilroy and San Francisco/ Millbrae



# 2040 Land Use & Transportation Context



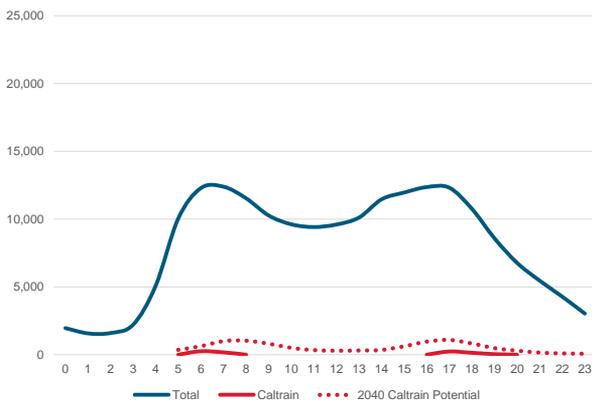
# 2040 Land Use & Transportation Context



# Morgan Hill & Gilroy Demand

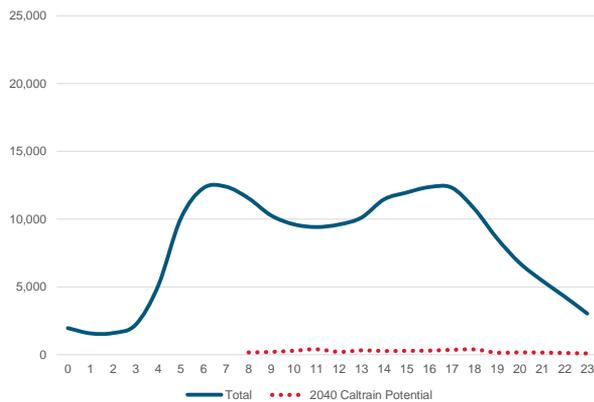
### Weekday Demand

- Caltrain's serves about 2% of existing peak period travel
- US-101 experiences a morning and evening peak periods, with lower reverse-peak travel
- Potential 2040 demand of about 1,000 passengers per hour in the peak direction and 500 passengers per hour in the reverse-peak direction

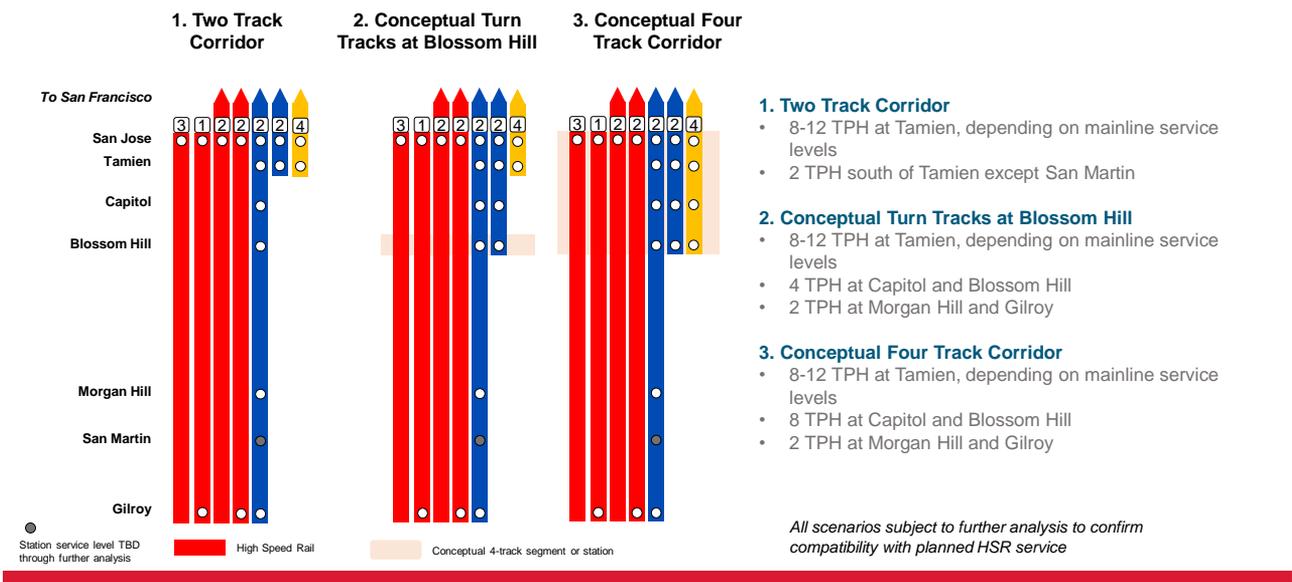


### Weekend Demand

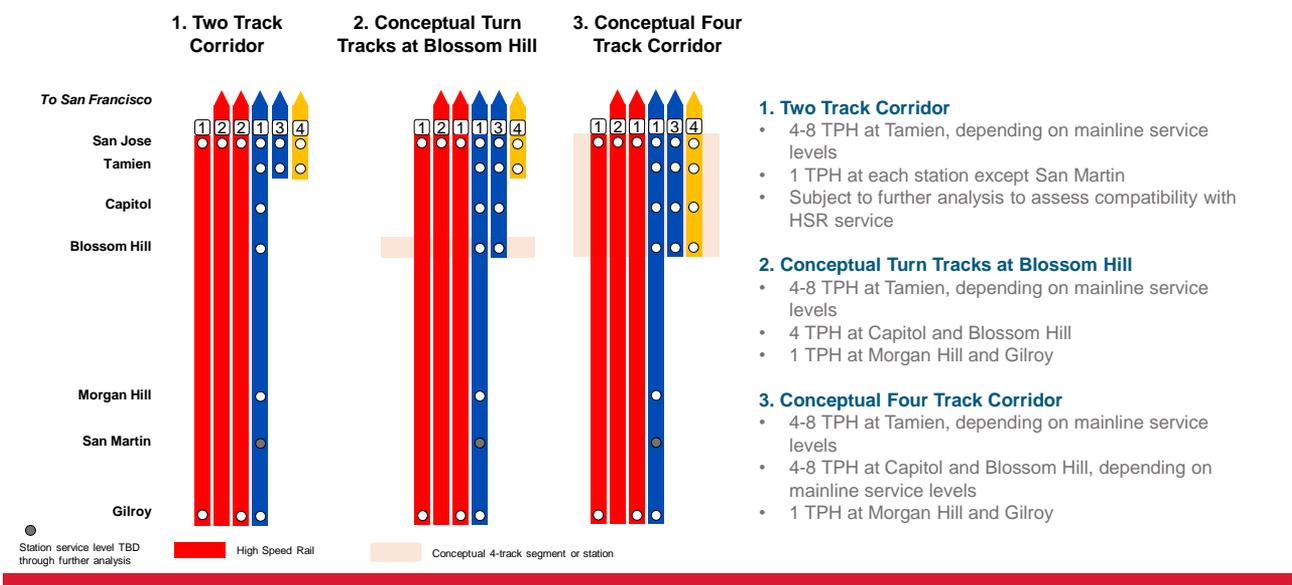
- Volumes on US-101 are comparable to weekday periods, with the highest demand between 9 AM and 7 PM
- Potential 2040 demand of about <500 passengers per hour, per direction



# Peak Period Service Concepts



# Off-Peak & Weekend Concepts



SHARING SESSION

**Do you understand the service options  
shown south of San Jose?**

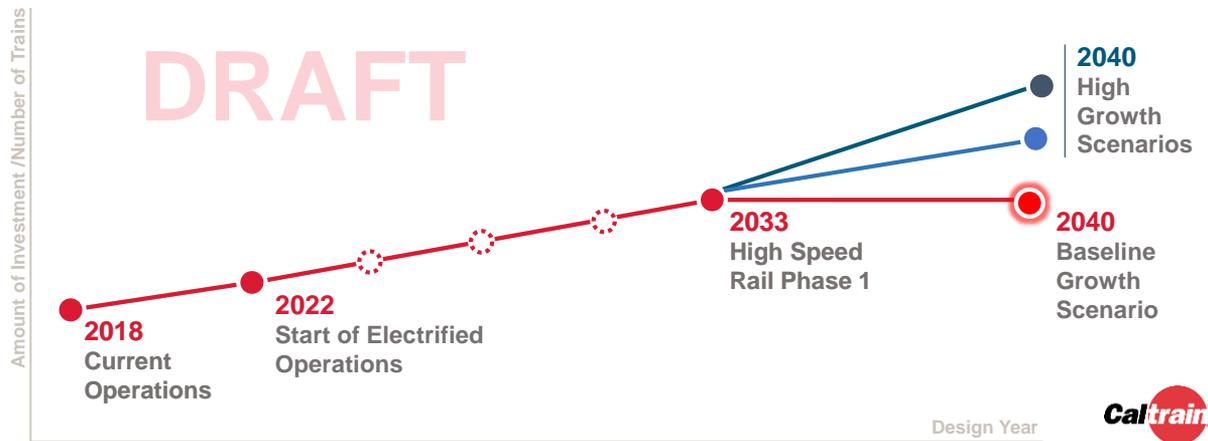
**Are there particular options that seem better  
or worse to you? Why?**



## **Service Planning: 2040 Baseline**



# Context: Different Ways to Grow



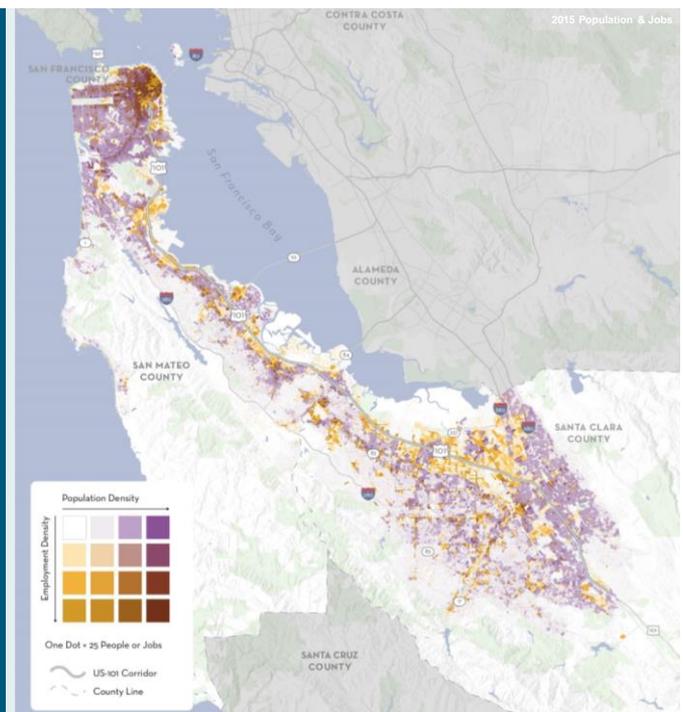
## 2040 Baseline

### Operational Parameters

- Blended service with 10 trains per hour, per direction north of San Jose (6 Caltrain, 4 HSR)
- Blended operations with existing/committed levels of Caltrain service assumed south of San Jose (equivalent of 4 round trip Caltrain trains per day)

### Service Pattern

- Historically, Caltrain has planned to operate a skip stop service after electrification
  - Emphasizes increasing service for high ridership origin-destination pairs
  - No service differentiation within Caltrain service
- Blended service planning with HSR has carried forward this concept
- There is some flexibility in service levels and stopping patterns at individual stations





SHARING SESSION

**Do you understand the 2040 “Baseline” service pattern shown and how it relates to prior planning work and policy commitments?**

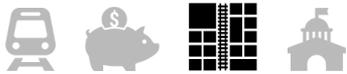


## Terminal Planning



## Proposed Process

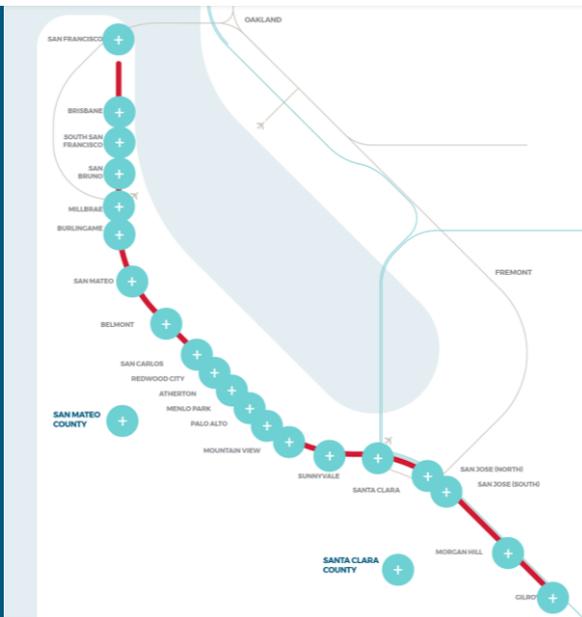
- North and South Terminal working sessions with relevant partner and city staff
- Define key outcomes and constraints
- Identify range of acceptable planning-level analysis and assumptions that can serve as basis for continued Business Plan development including completion of service plans, ridership modeling and costing
- Define operations simulation parameters, methodology and process. Simulation completion required to confirm terminal assumptions



# Community Interface Assessment Update

# Business Plan Website is Up!

- Project timeline
- Project summary
- Corridor-wide factsheet
- Jurisdiction-specific factsheets
- Monthly presentations
- Glossary of key terms
- FAQs



[www.caltrain2040.org](http://www.caltrain2040.org)



# Round 1 Community Interface Meetings

## Purpose

Introduce Business Plan and understand breadth of community interface concerns

## Attendees

City and county staff representing public works, planning, economic development, and city managers offices + Caltrain Community Interface team

## When

September – October 2018

### CALTRAIN BUSINESS PLAN: COMMUNITY - CORRIDOR INTERFACE ASSESSMENT CITY OF BELMONT



2 What are the most significant challenges Caltrain poses to your city (both today and considering the city's future plans)? Rate each one 1 to 5, with 5 being issues that create the most concern and 1 being the least concern. Please mark '0' for issues where you do not believe that Caltrain creates any issues or where you do not consider the category described to be a concern.

	No Concern/ Most Concern	1	2	3	4	5
Local traffic congestion at at-grade crossings	<input type="checkbox"/>					
Security and safety concerns related to corridor facilities (including safety concerns related to at-grade crossings and/or concerns about activities occurring within the Caltrain right-of-way)	<input type="checkbox"/>					
Noise and vibration (including noise related to both trains and horns)	<input type="checkbox"/>					
Visual impacts of corridor structures and facilities	<input type="checkbox"/>					
Physical impacts (concerns that existing or future facilities impact adjacent properties or preclude potential uses)	<input type="checkbox"/>					
Spillover parking demand or impacts related to connecting services and modes (e.g., traffic to stations, shuttle traffic, etc.)	<input type="checkbox"/>					
Others not listed (please list)						

3 What type of Caltrain service improvements do you think would be the most important to your city (both to residents and businesses)? RANK top three in order (e.g. #1 frequency, #2 travel times, #3 access)

- Increased frequency (more stops at stations)
- Reduced travel times (faster connections to major origins and destinations along the corridor)
- More commute hour service (improved frequency, better travel times and improved capacity during the commute peak)
- Better off-peak service (increased frequency and improved travel times) during the midday and evenings
- Better off-peak service (increased frequency and improved travel times) during the weekends
- Access improvements to connecting modes (e.g. improved parking, bike and bikeshare facilities and transit connections)
- Regional connections to either Downtown San Francisco (Salesforce Transit Center), Gilroy and Monterey Peninsula, East Bay (via Dumbarton or second transbay tunnel)

September 2018

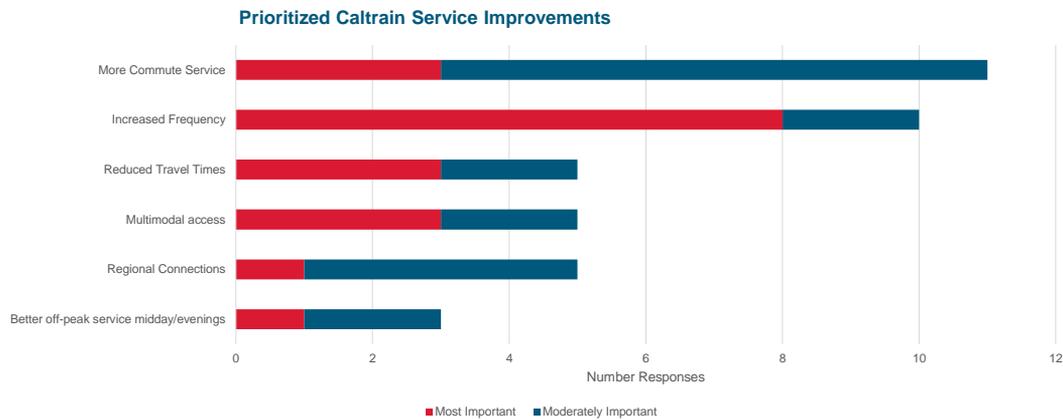
16

[SUBMIT](#)



# Community Interface Meeting Results

## Service Priorities



# Community Interface Meeting Results

## Key Themes



### Service Levels & Schedules

Travel demand and mode split goals in relation to existing and anticipated roadway congestion



### Physical Corridor

Grade crossings, grade separations, and the stretches of fencing, walls, and vegetation in between



### Land Development

Placemaking, jobs-housing balance, transit-oriented development, and zoning changes



### Station Connectivity & Access

Local first/last mile solutions, multi-modal access, and equitable incentive programs



# Next Steps



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## Next Steps

### Upcoming Work

- Finalize recommendations for high growth and baseline growth service plans to be studied further
- Terminal planning working sessions with Caltrain partners
- Capital costing, ridership projections and business model integration
- Ongoing organizational assessment and community interface work



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# Appendix:

## Land Use Details & Service Concept Stringlines



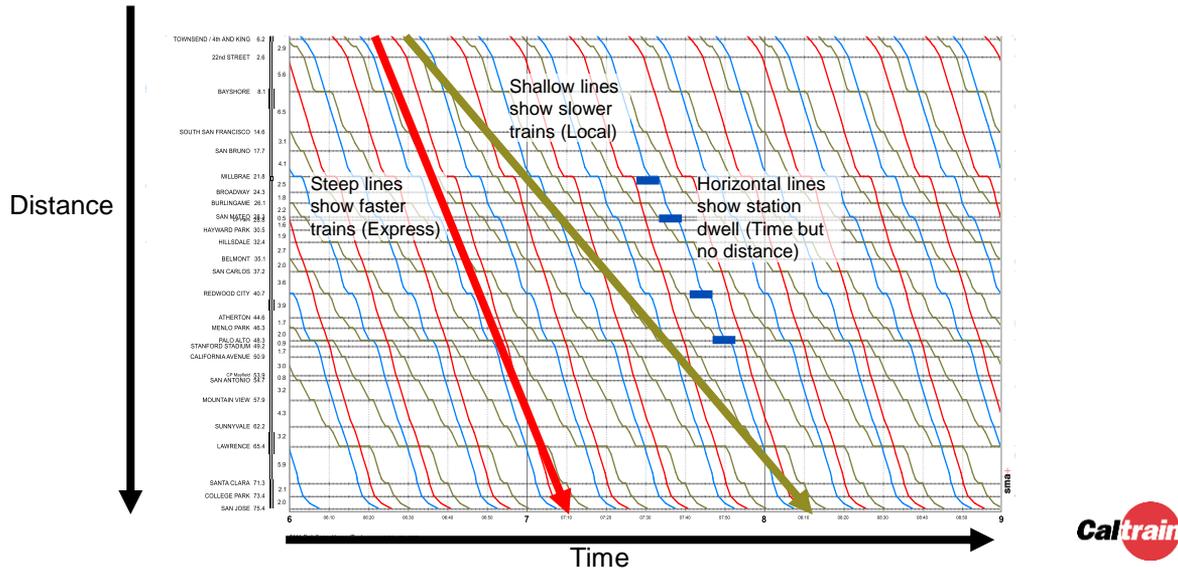
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## Land Use Planning Along Caltrain Corridor

Station	Major Projects Included in Forecasts (Approved or consistent with Plan Bay Area projections)	Major Projects Noted but Not Quantified in Forecasts (Not yet approved and potentially inconsistent with Plan Bay Area)
4th & King	Central SoMa Plan, Mission Bay & Mission Rock	The Hub Plan
22nd St	Pier 70, Potrero Power Plant, India Basin	
Bayshore	Hunters Point, Candlestick Point, Schlage Lock, Sierra Point buildout, Brisbane Baylands	
South SF	6 MSF of approved East of 101 developments and the Downtown Station Area Specific Plan	Other employment projects in pipeline such as Genentech Master Plan
San Bruno	Transit Corridors Plan	Bayhill Specific Plan (Youtube)
Millbrae	Station Plan	
Burlingame	Burlingame Point (Facebook)	
San Mateo	Downtown Area Plan	General Plan/Downtown Plan Update
Hayward Park	Nearby TOD projects under construction	
Hillsdale	Bay Meadows, Hillsdale Station Plan	
Belmont	General Plan Update, Belmont Village Specific Plan	
San Carlos	Meridian 25, Downtown TOD projects	
Redwood City	Downtown Precise Plan, Stanford Redwood City Campus	Facebook campus expansion in Menlo Park (Caltrain connection via Dumbarton Rail)
Menlo Park	El Camino Real Downtown Specific Plan	
Palo Alto	Stanford Hospital Expansion	Stanford General Use Permit
California Ave	Stanford Research Park redevelopment	
San Antonio	San Antonio Precise Plan	
Mountain View	El Camino Real Precise Plan, North Bayshore Precise Plan, Moffett Field redevelopment	East Whistman Specific Plan, additional Moffett Field redevelopment
Lawrence	Lawrence Station Plan, City Place	
San Jose Diridon		Google Campus, Downtown Strategy 2040
Morgan Hill	Downtown Specific Plan	
Gilroy		Station Plan

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# How to Read a Stringline



# Zone Express: 12 Trains

**Features**

- Provides 15-minute service to all stations except Broadway/Burlingame with two semi express zone patterns
- Major activity centers receive 8 TPH
- Direct service from all markets to major activity centers, but transfer required between minor stations in different zones

**Passing Track Needs**

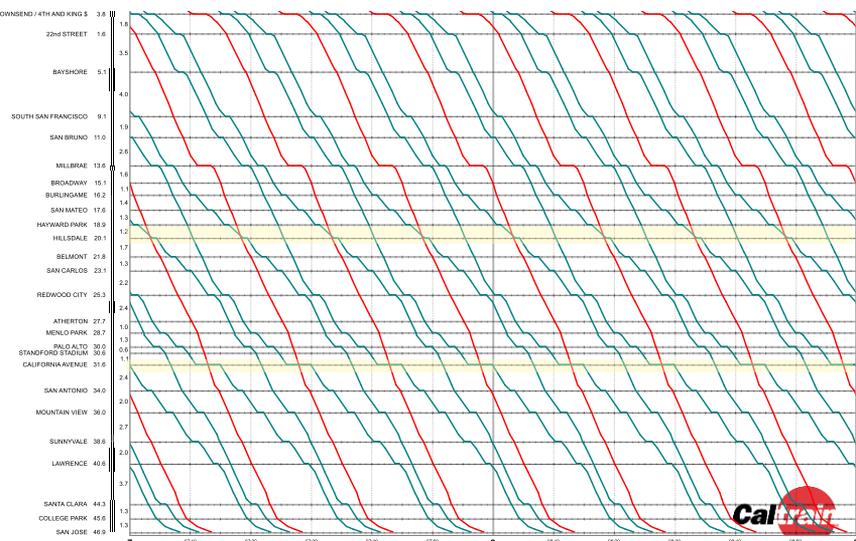
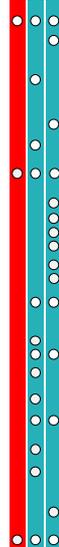
- 2 new miles of passing track between Hayward Park to Hillsdale and at a station in northern Santa Clara county (shown: California Ave)

**Options with Service Structure**

- Each pattern can at only stop at 2 of the 4 stations north of Millbrae
- Middle-zone train needs to stop at two stations south of California Ave
- Flexible station overtake location in northern Santa Clara County

Frequency per Hour

4 4 4



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# Zone Express: 16 Trains

### Features

- Provides 15-minute service to all stations except Broadway/Burlingame with three semi-express zone patterns (with major activity centers receiving 12 TPH)
- Direct service from all markets to major activity centers, but transfer required between minor stations in different zones

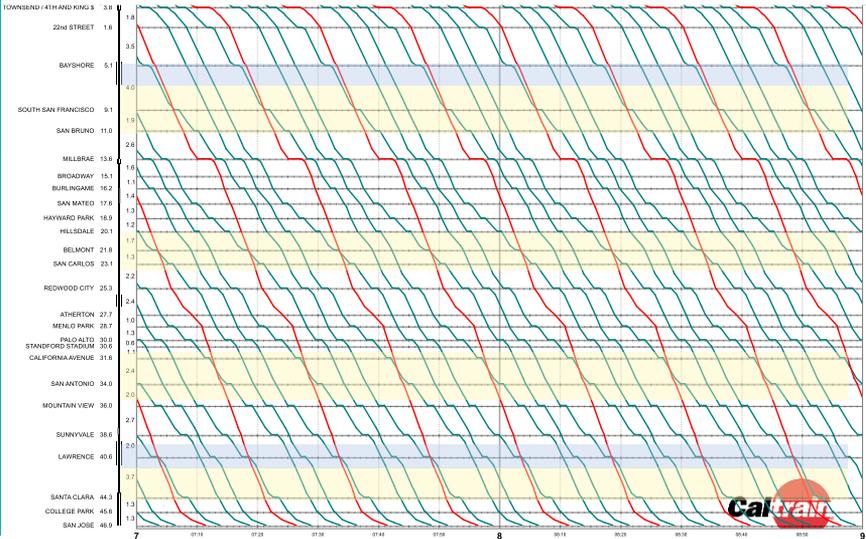
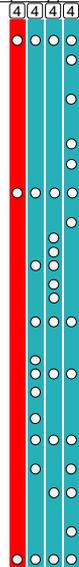
### Passing Track Needs

- 15 miles of new passing track: south of Bayshore to San Bruno, mid-Peninsula (shown: Hillsdale to San Carlos), northern Santa Clara County (shown: California Avenue to north of Mountain View), and south of Lawrence to Santa Clara

### Options with Service Structure

- Flexible location for 3 mile passing track in mid-peninsula and 5 mile passing track in northern Santa Clara County

Frequency per Hour



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# Local/Express: 12 Trains

### Features

- Regional Express serves all Major Activity Centers at 15-minute headways
- All stations receive local service at 15-minute headways except Broadway and Burlingame
- Timed local-express transfer at Redwood City

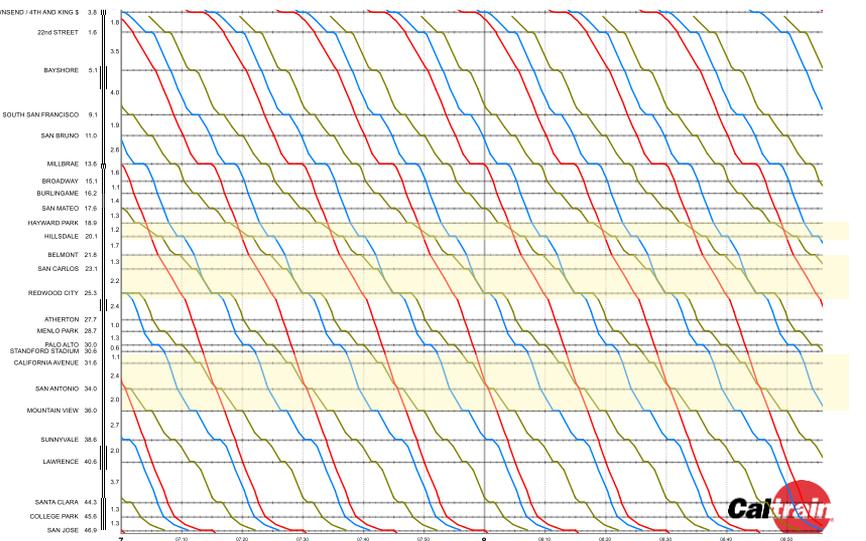
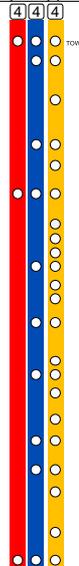
### Passing Track Needs

- 10 miles of new passing tracks: Hayward Park to Redwood City and northern Santa Clara County (shown: California Avenue to north of Mountain View)

### Options with Service Structure

- One stop on Express Train between Millbrae and Redwood City
- One or two stops on express south of Palo Alto
- Flexible 5 mile passing track location in northern Santa Clara County

Frequency per Hour



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# Local/Express: 12 Trains, Less Passing Tracks

### Features

- Regional Express serves all Major Activity Centers at 15-minute headways
- Most stations served by local service at 15 minute headways
- Closely-spaced mid-Peninsula stations served at 30 minute headways (Broadway, Burlingame, San Mateo, Belmont, and San Carlos)
- Timed local-express transfer at Redwood City

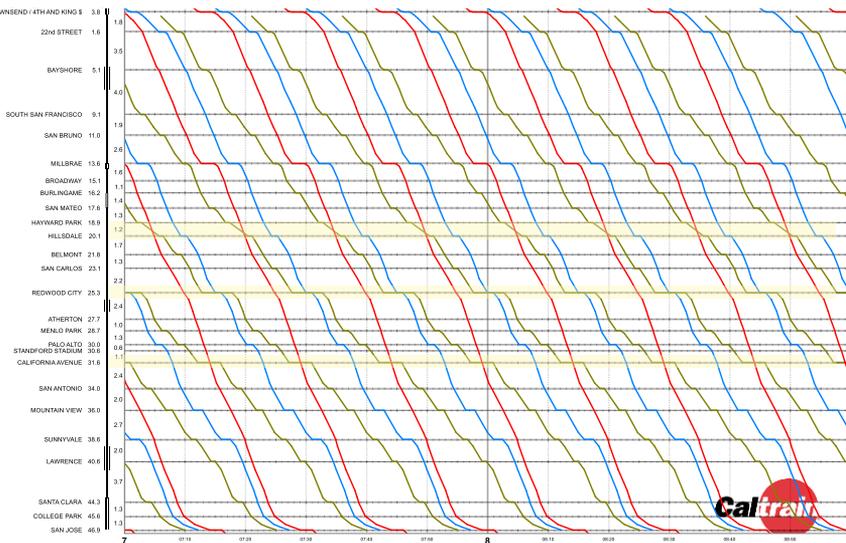
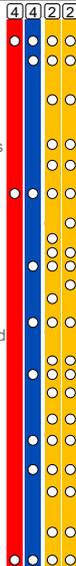
### Passing Track Needs

- 3 miles of new passing tracks: Hayward Park to Hillsdale, at Redwood City, and at a station in northern Santa Clara county (shown: California Ave)

### Options with Service Structure

- Each local pattern can only stop once Millbrae to Hillsdale
- Each local pattern can only stop once Hillsdale to Redwood City
- Flexible station overtake location in northern Santa Clara County

Frequency per Hour



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# Local/Express: 16 Trains, Less Passing Tracks

### Features

- Local service becomes skip-stop service
- All stations receive 15 minute headways with major stations receiving 8 or 12 trans per hour
- Many station pairs require transfer at regional hubs
- Half of station OD pairs between 22<sup>nd</sup> Street and Redwood City are not served at all

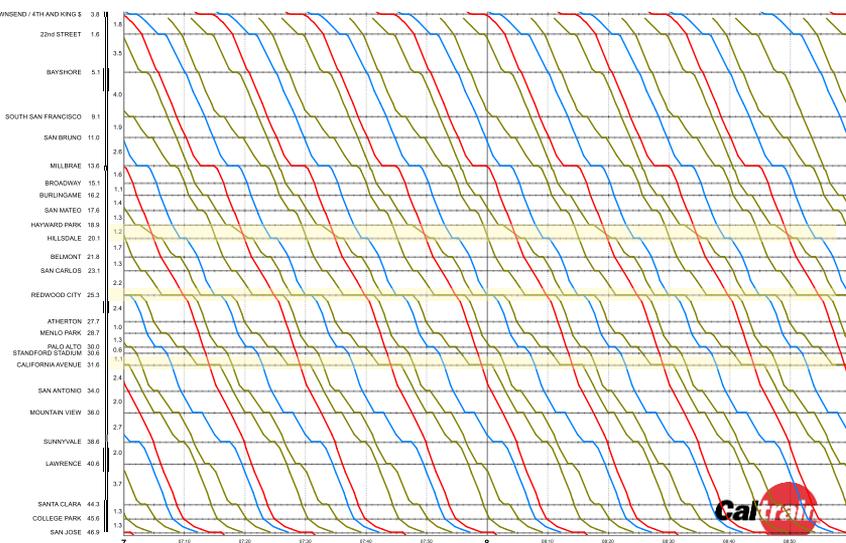
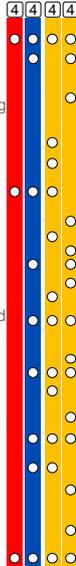
### Passing Track Needs

- 3 miles of new passing tracks: Hayward Park to Hillsdale, at Redwood City, and at a station in northern Santa Clara county (shown: California Ave)

### Options with Service Structure

- Generally need each pattern to stop at every other station
- Pattern overtaken by express must stop at Hayward Park & Hillsdale; other pattern cannot stop at these stations
- Flexible station overtake location in northern Santa Clara County

Frequency per Hour



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# Local/Express: 16 Trains

### Features

- Complete local stop service
- Two express lines serving major markets
- All stations receive at least 4 TPH, with many receiving 8 or 12 TPH

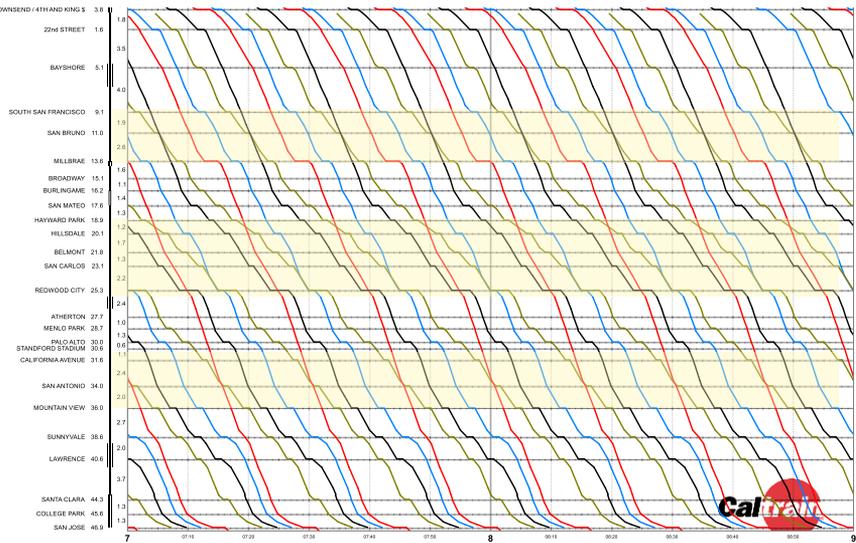
### Passing Track Needs

- 15 miles of new passing tracks: South San Francisco to Millbrae, Hayward Park to Redwood City, and northern Santa Clara County (shown: California Avenue to north of Mountain View)

### Options with Service Structure

- Express B pattern must run non-stop from 22<sup>nd</sup> St to San Mateo, but has some flexibility in number and location of stops along mid-Peninsula
- Flexible 5 mile passing track location in northern Santa Clara County
- Passing tracks between Lawrence and San Jose may enhance reliability and save 1-2 min of travel time for HSR and Caltrain (for passengers traveling south of Diridon)

Frequency per Hour



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FOR MORE INFORMATION  
WWW.CALTRAIN.COM



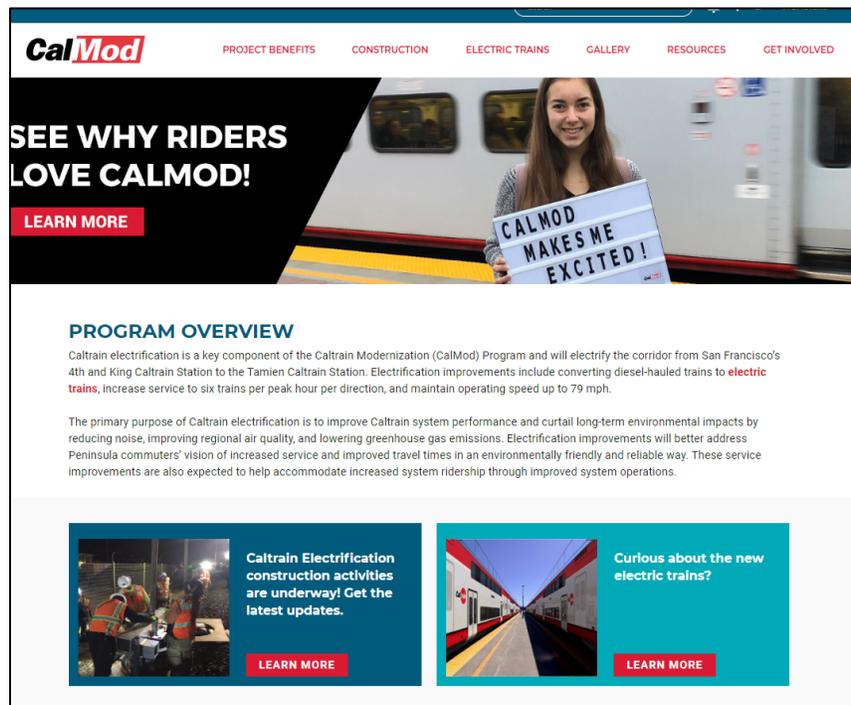


## Memorandum

**Date:** December 20, 2018  
**To:** CalMod Local Policy Maker Group (LPMG)  
**From:** John Funghi, CalMod Chief Officer; Casey Fromson, Gov. Affairs Director  
**Re:** Caltrain Electrification Project Update

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This year, we've made great progress on the Caltrain Modernization (CalMod) program. In January 2018, we launched a new website [CalMod.org](http://CalMod.org), the one-stop-shop to get all the exciting updates on CalMod construction and the electric trains as well as information on events and other resources.



Construction has been underway since July 2017 but this year, we reached many construction milestones including pouring 550+ foundations, installing 250+ poles, and stringing the first mile of wire in San Bruno. Work on the traction power facilities occurred in San Jose, South San Francisco and San Mateo, and pre-construction work has occurred throughout the corridor from San Francisco to San Jose. Most of the construction work happens at night to make sure Caltrain can still serve over 65,000

daily riders. To view a time-lapse of a pole installation in South San Francisco, click [here](#).



Work on the new high-performance electric trains gained momentum this year as well. In March, the first car's roof was welded to the car's lower half, marking the start of recognizable train cars. Manufacturing progressed, including inspections and various testing; and in summer, the first cab car donned the new exterior design chosen by Caltrain riders. This cab is now ready for interior equipment and furnishing installation. Three trainsets are now underway, and the new electric [train manufacturing](#) plant in Salt Lake City, Utah is giving riders a lot to be excited about.



The “Did You Know” and the Rider Appreciation campaigns were launched, sharing the future benefits of the electric trains and thanking all of you for your continued support during construction.

- In March, our “[Did You Know](#)” social media campaign was designed to educate the public about the project. The campaign reached 10,743 people and 2,499 of you engaged with our posts!
- In November, [Rider Appreciation](#) events were held in San Francisco, Redwood City, and San Jose. The events were a great opportunity to hear directly from riders about why they are excited about CalMod.

We held 52 community outreach events up and down the Caltrain corridor to educate and answer questions about the project. Over 170,000 mailers were sent to residents throughout the corridor to ensure everyone was well-informed of construction activities and the benefits of the new trains. [Learn more](#) about how you can get involved.

And to end the year with more great news - we [received funding](#) to build an additional 37 electric vehicles and install Wi-Fi on the new electric trains! This will allow Caltrain to retire additional diesel trains, making room for additional comfort and convenience for our riders.

It’s been a great year, and we are excited about more to come in 2019!

#### **DETAILED PROGRESS REPORT**

To view the detailed Monthly Progress Report, please visit:

[http://www.caltrain.com/projectsplans/CaltrainModernization/CalMod\\_Document\\_Library.html](http://www.caltrain.com/projectsplans/CaltrainModernization/CalMod_Document_Library.html)



## *Memorandum*

**Date:** December 20, 2018  
**To:** Local Policy Maker Group (LPMG)  
**From:** Boris Lipkin, Northern California Regional Director  
**Re:** California High-Speed Rail Program Update

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### STATEWIDE PROGRAM

#### Central Valley Construction Update



[CLICK TO SEE VIDEO](#)

Construction activities continue to progress across construction packages 1-4 in the Central Valley. Major work on bridges, viaducts, the Fresno trench, and other elements along the 119 miles of construction is steadily advancing and is outlined below:

- Construction Package 1
  - 32 miles total
  - Anticipated cost of \$1.55 billion
  - As of November 2018:
    - \$877 million spent
    - \$202.3 million in Small Business revenues
    - 1,604 jobs in construction trades
- Construction Packages 2 & 3
  - 65 miles total
  - Anticipated cost of \$1.65 billion
  - As of November 2018:
    - \$571 million spent
    - \$23.3 million in Small Business revenues
    - 634 jobs in construction trades

- Construction Package 4
  - 22 miles total
  - Anticipated cost of \$513 million
  - As of November 2018:
    - \$94 million spent
    - \$11.1 million in Small Business revenues
    - 228 jobs in construction trades

Read the [December Construction Update](#) or [visit the construction website at www.buildhsr.com](http://www.buildhsr.com) for the latest on the project construction activities across the Central Valley.

## **SAN JOSE TO MERCED PROJECT SECTION**

### November Community Working Groups

The San Jose to Merced Project Section Community Working Groups (CWG) met in November:

- November 7, 2018: Morgan Hill-Gilroy CWG at IFDES Lodge Portuguese Hall of Gilroy
- November 28, 2018: San Jose CWG at Biblioteca Latinoamericana

During these meetings, members reviewed: program-wide updates; the Authority’s Connecting Communities Strategy; the San Jose to Merced Project Section alternatives, including the blended alignment between San Jose and Gilroy and wildlife crossing accommodations and analysis; and upcoming and recent community outreach. Additionally, the San Jose CWG meeting reviewed the alignment and coordination efforts between the City of San Jose, the Santa Clara Valley Transit Authority, Caltrain, and the Authority as it relates to planned projects at Diridon Station and throughout the city at large. Key feedback provided by CWG members during the November meetings are listed below.

Key areas of interest:

- Private property impacts
- Community impacts associated with train frequency
- Continued updates on status of projects and planning at Diridon Station outside scope of High-Speed Rail
- Overlap of DISC planning and High-Speed Rail environmental analysis
- City of San Jose Generated Options
- Rationale and timeline for selecting a Preferred Alternative
- Accommodations for wildlife crossings in system design
- Blended Alternative
  - Status of electrification, particularly between San Jose and Gilroy
  - Status of Union Pacific negotiations
  - Request for additional opportunities for stakeholders to learn more about blended alignment and provide input
  - Implications of electrification at existing Gilroy and Diridon stations
  - Potential impacts and safety concerns at grade crossings
  - Traffic concerns associated with increased gate down times

Materials from both CWG meetings can be found [here](#).

## ENVIRONMENTAL JUSTICE OUTREACH

During November and December, the Authority’s Outreach Team conducted canvassing of communities with concentrations of environmental justice (EJ) populations and service providers along the San Jose to Merced Project Section to generate neighborhood-specific, place-based insights. This feedback will be utilized by the Authority as it continues to develop a staff recommended Preferred Alternative for the San Jose to Merced Project Section. Key topics heard during these canvassing activities are listed below and are organized by geography:

### *San Jose*

- Concerns heard
  - Transportation coordination and connections
  - Traffic
  - Safety (e.g., at grade crossings, illicit activities around tracks)
  - Homeless shelters inventory
  - Displacement by gentrification
- Benefits heard
  - In-language outreach and engagement (e.g., Spanish and Vietnamese)
  - Community benefits (e.g., transportation assistance, new shelter)

### *Morgan Hill*

- Concerns heard
  - Safety (at at-grade crossings)
  - Noise
  - Proximity to “communities of concern”
  - Access to services and transportation (no station)
  - Homeless program disruption (Focus Program)
- Benefits heard
  - Economic opportunities for residents
  - Community benefits (e.g., transportation assistance; WiFi and recycled water infrastructure improvements)

### *San Martin*

- Concerns heard
  - New Islamic Center project impacts (Alternative 2)
  - Access to services and transportation (no HSR station)
  - Homeless displacement
  - Safety
- Benefits heard
  - New land acquisition and siting of Islamic Center
  - Community benefits (e.g., transportation assistance)

### *Gilroy*

- Concerns heard
  - Schools and city facilities displacement (Alternatives 1 & 2)
  - Community project impacts (Alternatives 1 & 2)

- Safety
- Access to services
- Benefits heard
  - Funding of new land acquisition and siting of schools and facilities
  - Community benefits (e.g., interim funding of school programs and resources; transportation assistance for students/staff at displaced schools)

*Los Banos*

- Concerns heard
  - Access to emergency/health/family services, if Henry Miller or Igomar Roads are impacted by construction etc.
  - Safety
  - Traffic
  - Noise
  - Increased homelessness around tracks
- Benefits heard
  - Additional busing for Volta school
  - Ensure road access for students of Volta school during construction and beyond (Henry Miller or Ingomar)

Next steps for EJ outreach include: follow up outreach in San Jose, Morgan Hill, and Gilroy; in-language materials and meetings; service provider and small groups meetings The Authority will also look to continue furthering community partnerships to engage EJ populations and organize meetings with service provider and small groups of community leaders.

**RECENT AND UPCOMING OUTREACH ACTIVITIES**

- February 19: Santa Clara City Council Study Session

# NORTHERN CALIFORNIA PROJECT UPDATE Local Policy Maker Group

December 20, 2018



2

## AGENDA

Statewide  
Update

Northern  
California  
Update

Environmental  
Justice  
Outreach

Statewide

NorCal Update

EJ Outreach

# STATEWIDE UPDATE

## CENTRAL VALLEY CONSTRUCTION UPDATE

### Construction Package 1

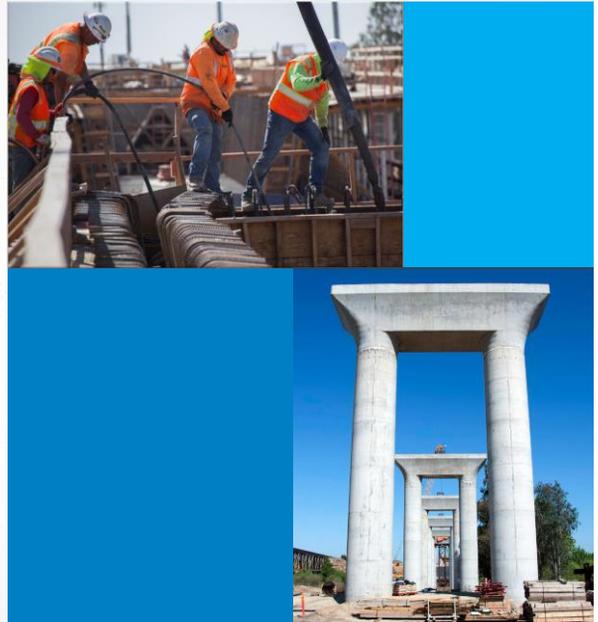
- 32 Miles
- \$1.55 Billion
- \$877 Million\* spent (\$202.3 Million – Small Biz)

### Construction Package 2 & 3

- 65 Miles
- \$1.65 Billion
- \$571 Million\* spent (\$23.3 Million – Small Biz)

### Construction Package 4

- 22 Miles
- \$513 Million
- \$94 Million\* spent (\$11.1 Million – Small Biz)



\* As of November 2018

Statewide

NorCal Update

EJ Outreach

# CENTRAL VALLEY CONSTRUCTION UPDATE

JOB NUMBERS AS OF OCTOBER 2018

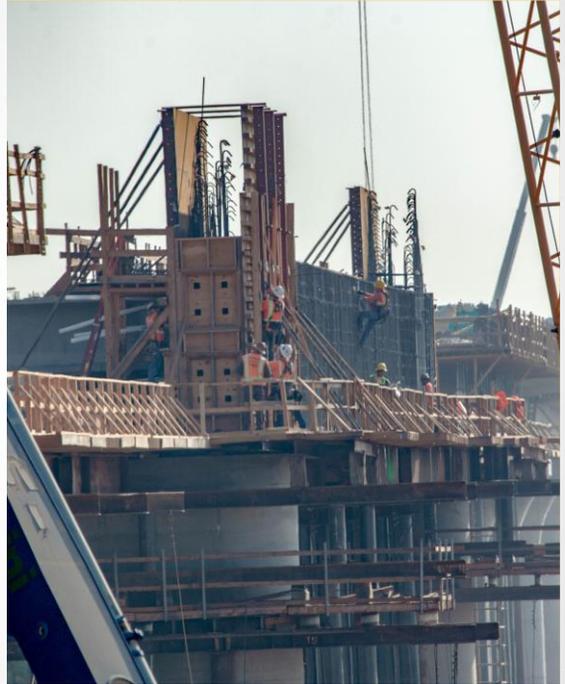
CONSTRUCTION  
LABOR WORKERS

↑ INCREASED **2466**

CP 1: ↑ INCREASED **1604**

CP 2-3: ↑ INCREASED **634**

CP 4: ↑ INCREASED **228**



5

Statewide

NorCal Update

EJ Outreach



# NORTHERN CALIFORNIA UPDATE



## SAN JOSE TO MERCED NOVEMBER COMMUNITY WORKING GROUPS



### Meetings

#### **Morgan Hill-Gilroy**

November 7 at 6:00 to 8:00 p.m.

#### **San Jose**

November 28 at 6:00 to 8:30 p.m.



### Participation

- 6 CWG members
- 14 members of the public
  
- 18 CWG members
- 17 members of the public

# NOVEMBER COMMUNITY WORKING GROUPS

## Key Themes Heard from Working Group Members

- Private property impacts
- Community impacts associated with train frequency
- Continued updates on status of projects and planning at Diridon Station outside scope of High-Speed Rail
- Overlap of DISC planning and High-Speed Rail environmental analysis
- City of San Jose Generated Options
- Rationale and timeline for selecting a Preferred Alternative
- Accommodations for wildlife crossings in system design

Statewide

NorCal Update

EJ Outreach

# NOVEMBER COMMUNITY WORKING GROUPS

## Key Themes Heard from Working Group Members – Blended Alternative

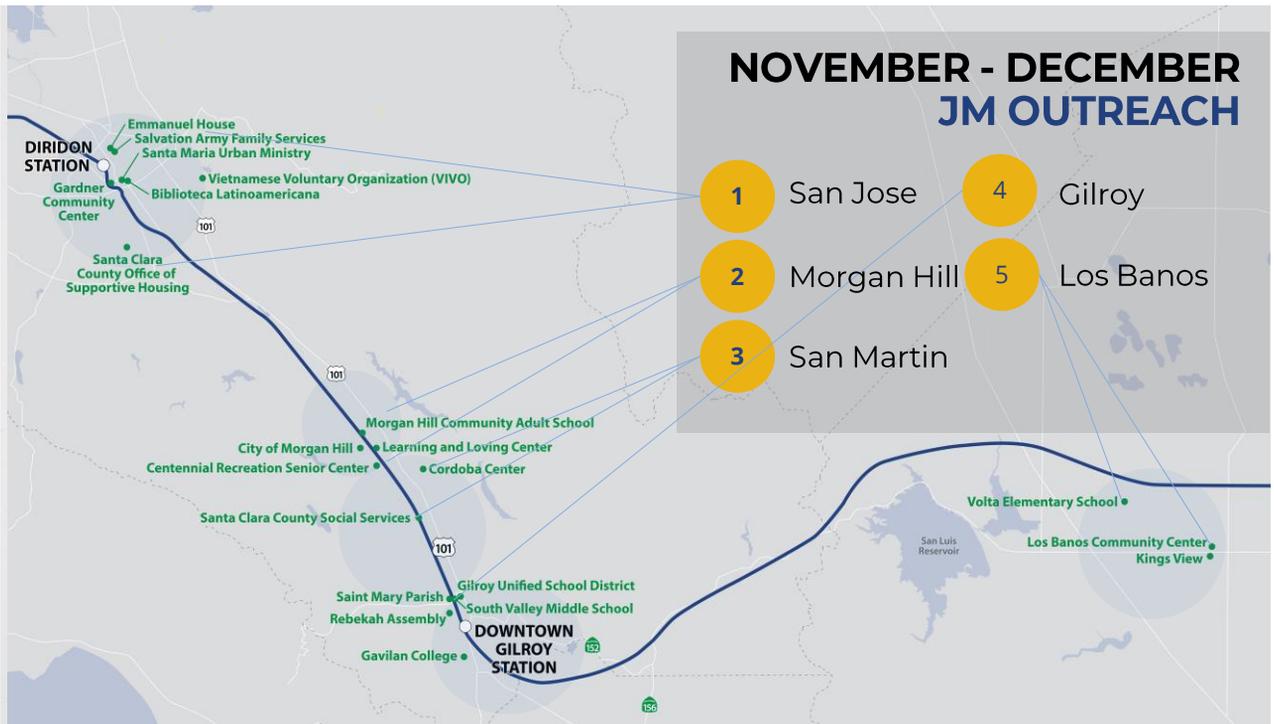
- Status of electrification, particularly between San Jose and Gilroy
- Status of Union Pacific negotiations
- Request for additional opportunities for stakeholders to learn more about blended alignment and provide input
- Implications of electrification at existing Gilroy and Diridon stations
- Potential impacts and safety concerns at grade crossings
- Traffic concerns associated with increased gate down times

Statewide

NorCal Update

EJ Outreach

# ENVIRONMENTAL JUSTICE OUTREACH



# JM EJ OUTREACH

## 1. SAN JOSE CANVASS

13

### Key Themes

#### Concerns Heard

- Transportation coordination and connections
- Traffic
- Safety (e.g., at grade crossings, illicit activities around tracks)
- Homeless shelters inventory
- Displacement by gentrification

#### Benefits Heard

- In-language outreach and engagement (e.g., Spanish and Vietnamese)
- Community benefits (e.g., transportation assistance, new shelter sitings)

# JM EJ OUTREACH

## 2. MORGAN HILL CANVASS

14

### Key Themes

#### Concerns Heard

- Safety (at at-grade crossings)
- Noise
- Proximity to "communities of concern"
- Access to services and transportation (no station)
- Homeless program disruption (Focus Program)

#### Benefits Heard

- Economic opportunities for residents
- Community benefits (e.g., transportation assistance; WiFi and recycled water infrastructure improvements)

# JM EJ OUTREACH

## 2. MORGAN HILL CANVASS

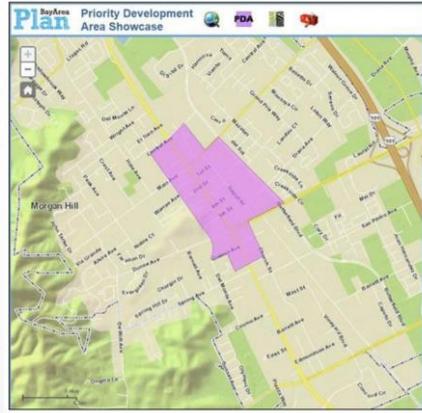
15

- Communities of Concern
- Priority Development Area

**Communities of Concern 2017**  
This dataset represents the tracts selected as Communities of Concern for the 2017 Regional Transportation Plan. The dataset was developed using ACS 2010-2014 Data for Eight Variables Considered for MTC Communities of Concern.



County of Santa Clara, Bureau of Land Management, Esri, HERE, DeLorme, INCREMENT P, NOAA, USGS



# JM EJ OUTREACH

## 2. MORGAN HILL CANVASS

16

- Photo of Priority Development Area



## JM EJ OUTREACH

### 2. MORGAN HILL CANVASS

17

#### Photo of Priority Development Area



## JM EJ OUTREACH

### 3. SAN MARTIN CANVASS

18

#### Key Themes

#### Concerns Heard

- New Islamic Center project impacts (Alternative 2)
- Access to services and transportation (no HSR station)
- Homeless displacement
- Safety

#### Benefits Heard

- New land acquisition and siting of Islamic Center
- Community benefits (e.g., transportation assistance)

# JM EJ OUTREACH

## 4. GILROY CANVASS

19

### Key Themes

#### Concerns Heard

- Schools and city facilities displacement (Alternatives 1 & 2)
- Community project impacts (Alternatives 1 & 2)
- Safety
- Access to services

#### Benefits Heard

- Funding of new land acquisition and siting of schools and facilities
- Community benefits (e.g., interim funding of school programs and resources; transportation assistance for students/staff at displaced schools)

# JM EJ OUTREACH

## 5. LOS BANOS CANVASS

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### Key Themes

#### Concerns Heard

- Access to emergency/health/family services, if Henry Miller or Igomar Roads are impacted by construction etc.
- Safety
- Traffic
- Noise
- Increased homelessness around tracks

#### Benefits Heard

- Additional busing for Volta school
- Ensure road access for students of Volta school during construction and beyond (Henry Miller or Ingomar)

# JM EJ OUTREACH NEXT STEPS

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## Next Steps

- Follow up outreach in Morgan Hill, Gilroy and San Jose communities
- In-language materials and meetings
- Service provider and small groups meetings

## THANK YOU & HOW TO STAY INVOLVED

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