Caltrain Business Plan

JANUARY 2019

Quarterly Update

PCJPB

Different Ways to Grow

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?

Planning for Service in 2040

Service Planning Overview

Service Planning Overview

Understanding the 2040 Baseline

The Growing Market for Rail

Developing “High Growth” Service Concepts

2040 Service Scenarios

Choosing a Vision: How Will the Railroad Grow?

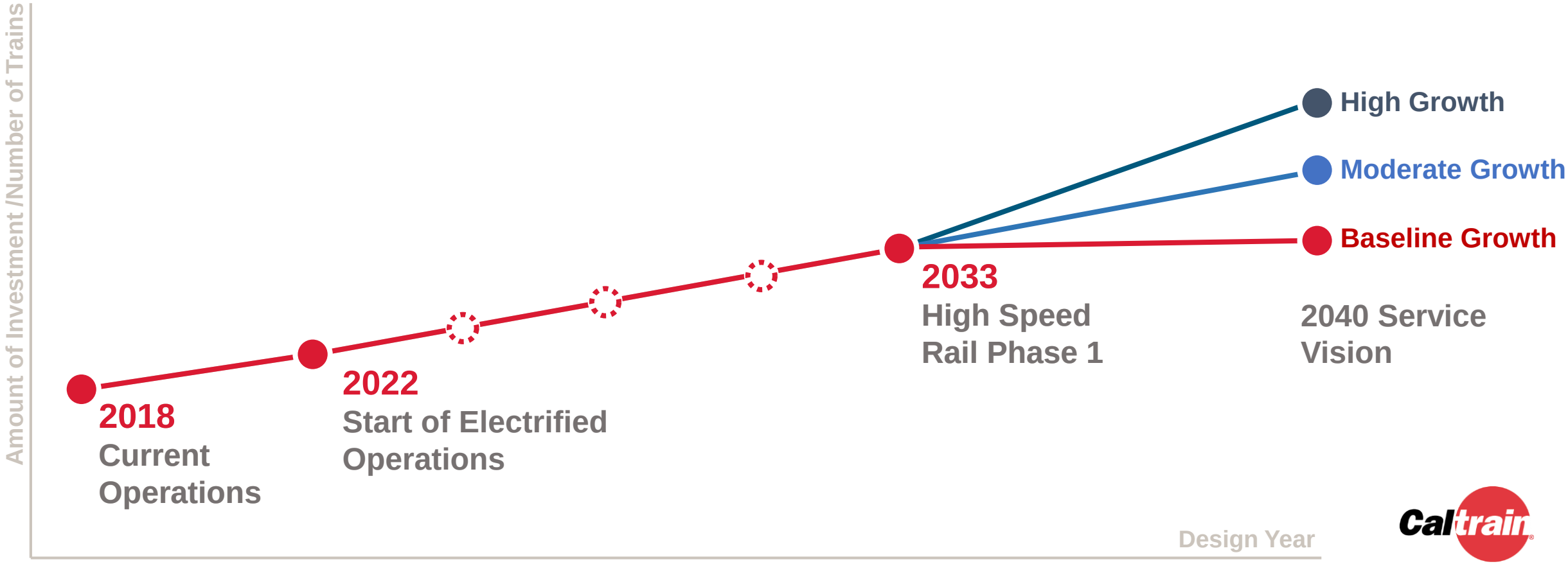
What

In the Spring of 2019 the team will present three growth scenarios to the Board. One “baseline” scenario will reflect past and ongoing Blended System planning efforts while two new scenarios will explore higher levels of growth. Each scenario will provide a detailed picture of how the railroad could grow over the next 20-30 years. The Board will be asked to choose one of these growth scenarios as the “Service Vision” for the corridor

Why

In selecting a long range Service Vision the Board will answer the question “How should the railroad grow?” This will allow Caltrain to further optimize and refine the Vision while developing a Business Plan that builds towards the future in a consistent and efficient manner

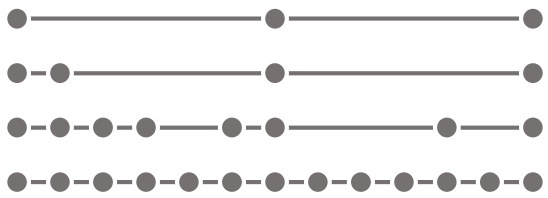
Growth Scenarios: Different Ways to Grow



Key Concept

Planning within Constraints – Tradeoffs and Choices Required

The Caltrain corridor is not a blank slate. Service can be improved and expanded but tradeoffs and choices are required across all scenarios. There is no perfect answer.



1. Service Differentiation

How can local, regional and high speed services be blended and balanced on the corridor to best serve multiple markets?

2. Peak Service Volume

How much growth in peak train traffic volume can the corridor support and what kinds of growth may be required to meet long term demand?

3. Service Investments

What types of investments into operations, systems and infrastructure will be required to achieve the desired types and volumes of service?

Key Concept

Improving Service Requires Investment

Delivery of the “Baseline,” “Moderate,” and “High” Growth scenarios all require substantial investments in the corridor. These investments will take many different forms

Operations

- Increased service coordination and expanded operations to maximize the use of physical infrastructure

Systems

- Improved train performance
- Fleet expansion
- Improved train control and signaling

Infrastructure

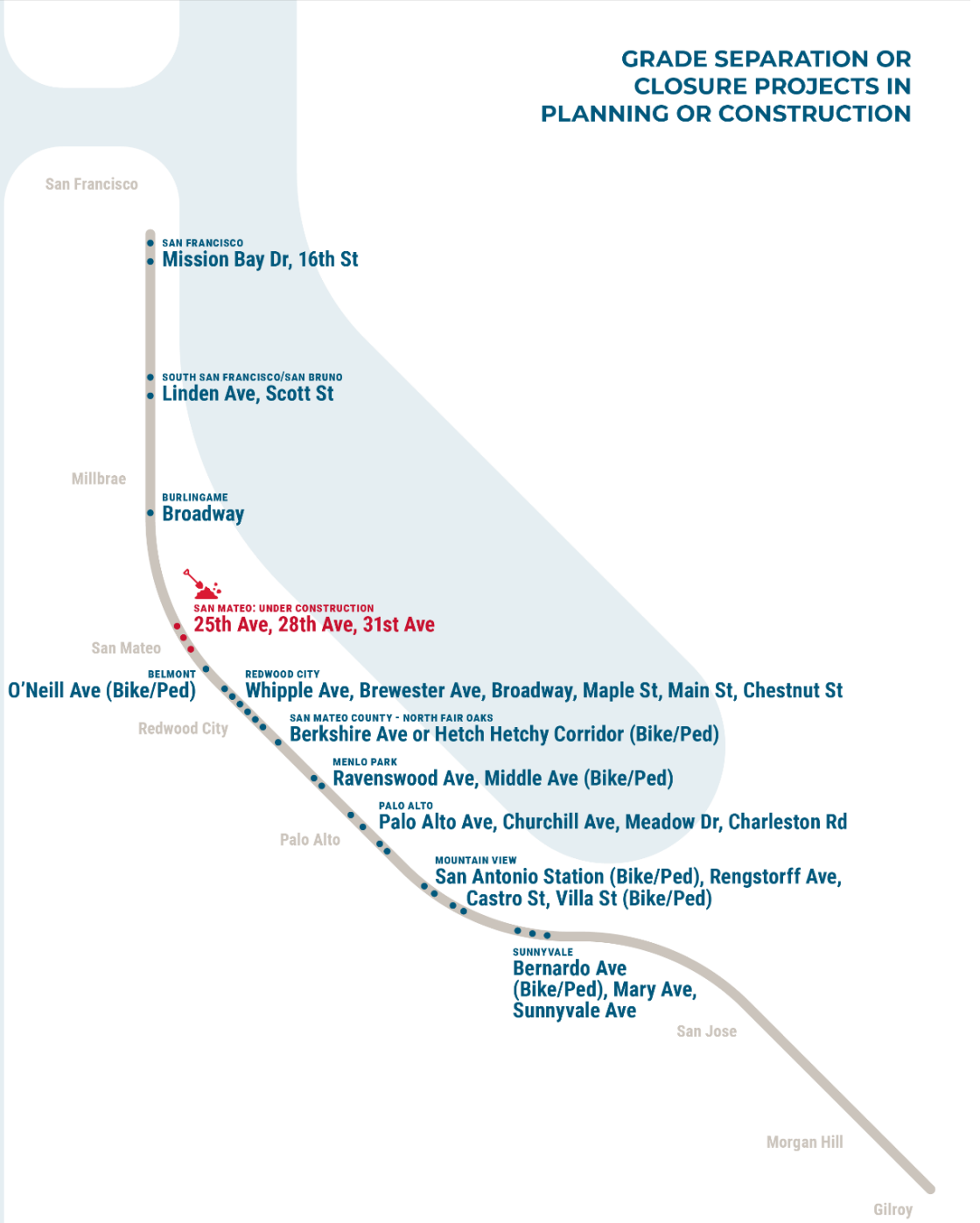
- Track enhancement and expansion
- Station and terminal improvements
- Grade crossing investments

Key Concept

Grade Separations are Critical

All of the scenarios being considered involve significant increases in the number of trains per hour operating in the corridor

The Business Plan will consider the costs and challenges associated with grade separations and improvements to at-grade crossings as part of the overall plan



Key Concept

Developing and Evaluating Growth Scenarios

Choosing a long range “Service Vision” is not just about picking which service pattern looks the best- it requires evaluating which package of service and investments will deliver the best value to the corridor and the region

Service

This update describes the process used to develop different **illustrative** 2040 service concepts. The different concepts shown are not proposals or recommendations. They represent an indicative **range of options** for how Caltrain service could grow given different levels of investment in the corridor

Business Case

During the spring of 2019 the Business Plan team will develop a detailed “Business Case” analysis for each of the different growth scenarios. The Business Case will quantify the financial implications and wider costs and benefits of each growth scenario

Understanding the 2040 Baseline

Service Planning Overview

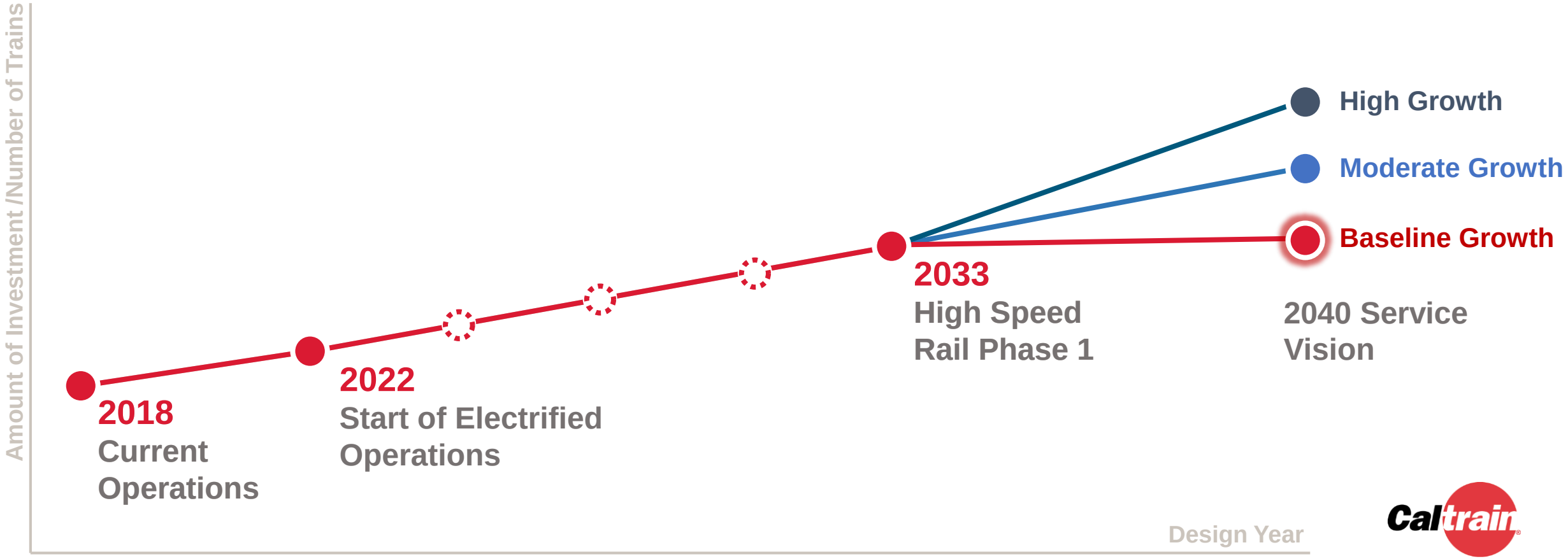
Understanding the 2040 Baseline

The Growing Market for Rail

Developing “High Growth” Service Concepts

2040 Service Scenarios

Baseline Growth



2040 Baseline

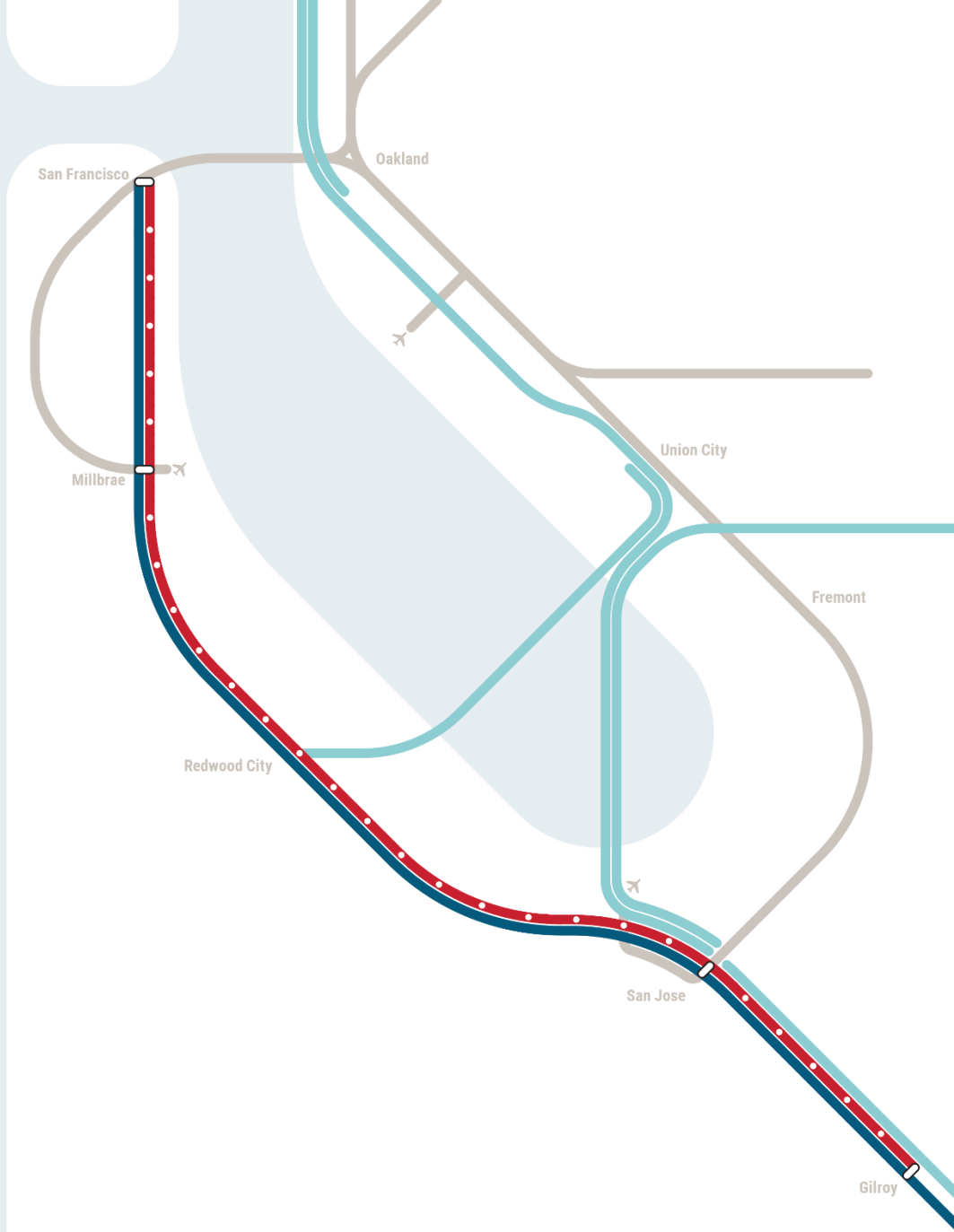
The “Baseline” growth scenario includes service assumptions that meet the JPB’s existing policy commitments and reflect past and ongoing Blended System planning

Operating 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
- Blended service planning with HSR has carried forward this concept
- There is some flexibility in service levels and stopping patterns at individual stations



2040 Baseline Illustrative Service Plan

Features

- Skip stop patterns with 60-65 minute run times
- Most stations receive 2 or 4 TPHPD, with a few stations receiving 6 TPHPD in both directions
- Schedule varies by direction with 10 minute frequencies at San Francisco and San Jose

Passing Tracks

- Uses existing locations at Bayshore and Lawrence stations.
- HSR station with dedicated tracks assumed at Millbrae.

Options with Service Structure

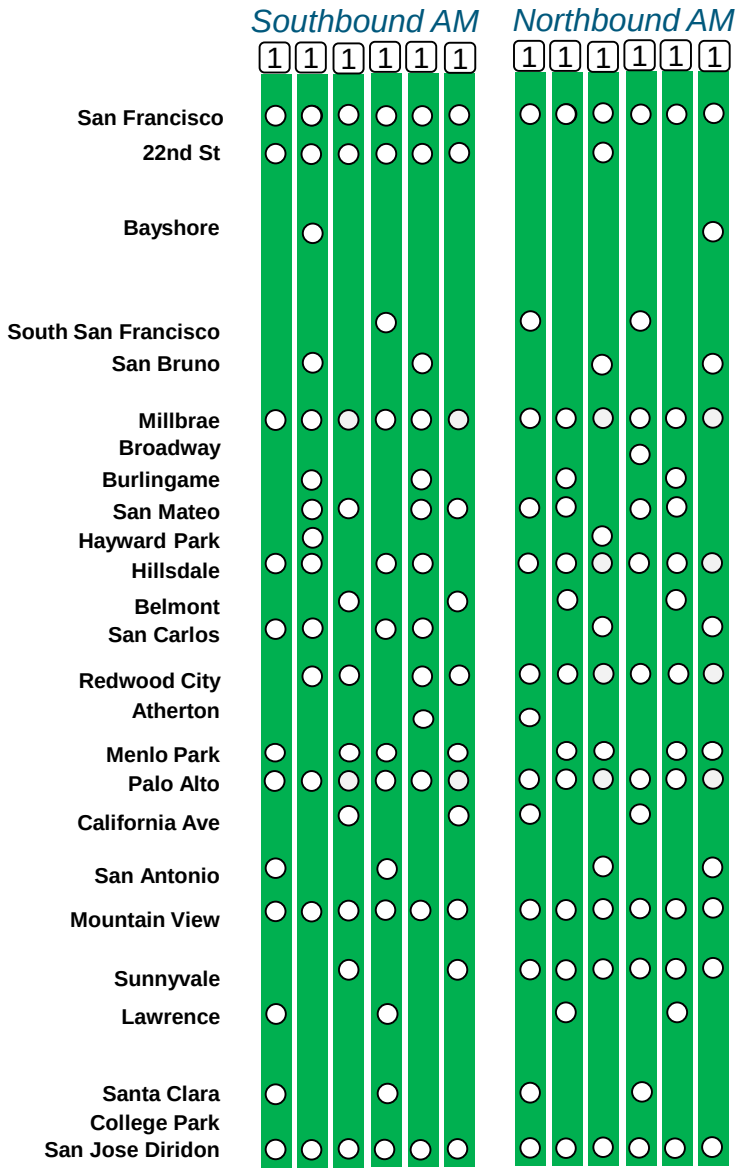
- Flexibility in service levels at individual stations

High Speed Rail

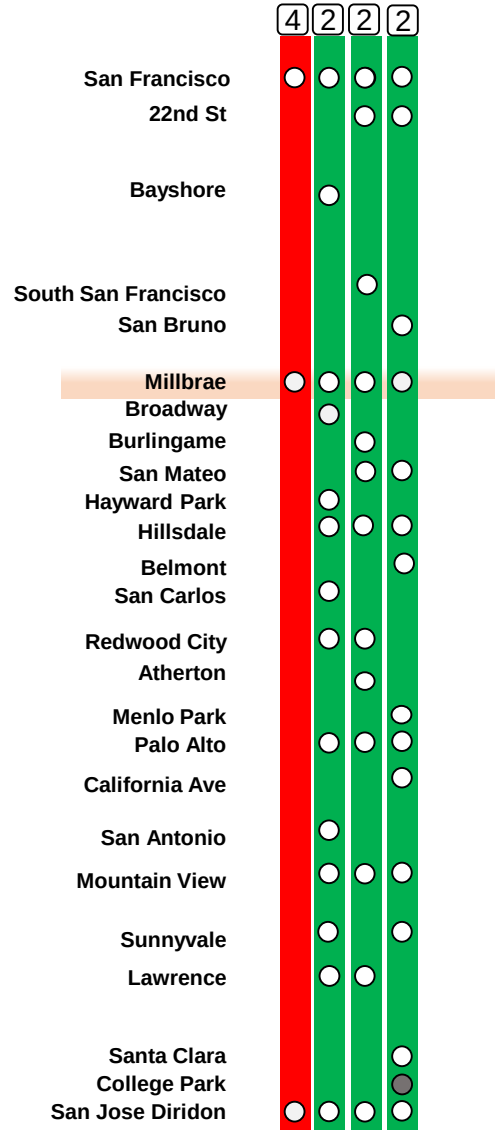
Conceptual 4-track segment or station

Station service level TBD through further analysis

Caltrain Electrification EIR (6 TPHPD)



HSR EIR (10 TPHPD)[1]

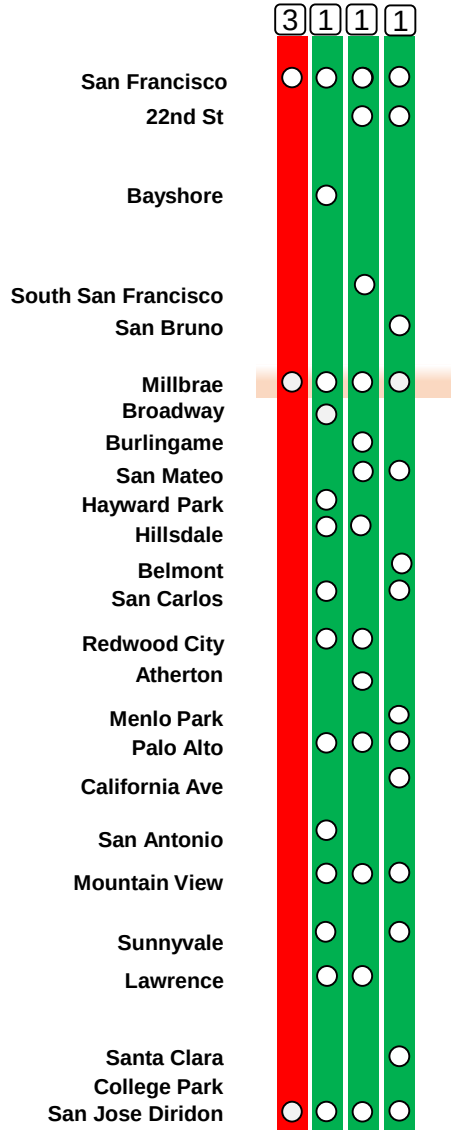


[1]Includes minor modifications to standardize Caltrain and HSR service patterns

Off-Peak & Weekend Southern SJ/Gilroy

Features

- Same skip stop patterns at hourly headways
- Most stations receive service every 30 or 60 minutes



High Speed Rail

Conceptual 4-track segment or station

Station service level TBD through further analysis

Features

- Peak period service equivalent to 4 northbound AM trains and 4 southbound PM trains
- Replicates committed service levels within parameters of new, blended infrastructure
- Gilroy Station served by 2 Caltrain trains per hour and 2 HSR trains per hour
- Connection to Central Coast rail service at Gilroy
- No off-peak or weekend service south of Tamien

Passing Tracks

- None

Options with Service Structure

- Service levels between Morgan Hill and San Martin could be varied based on further demand analysis and policy direction

The Growing Market for Rail

Service Planning Overview

Understanding the 2040 Baseline

The Growing Market for Rail

Developing “High Growth” Service Concepts

2040 Service Scenarios

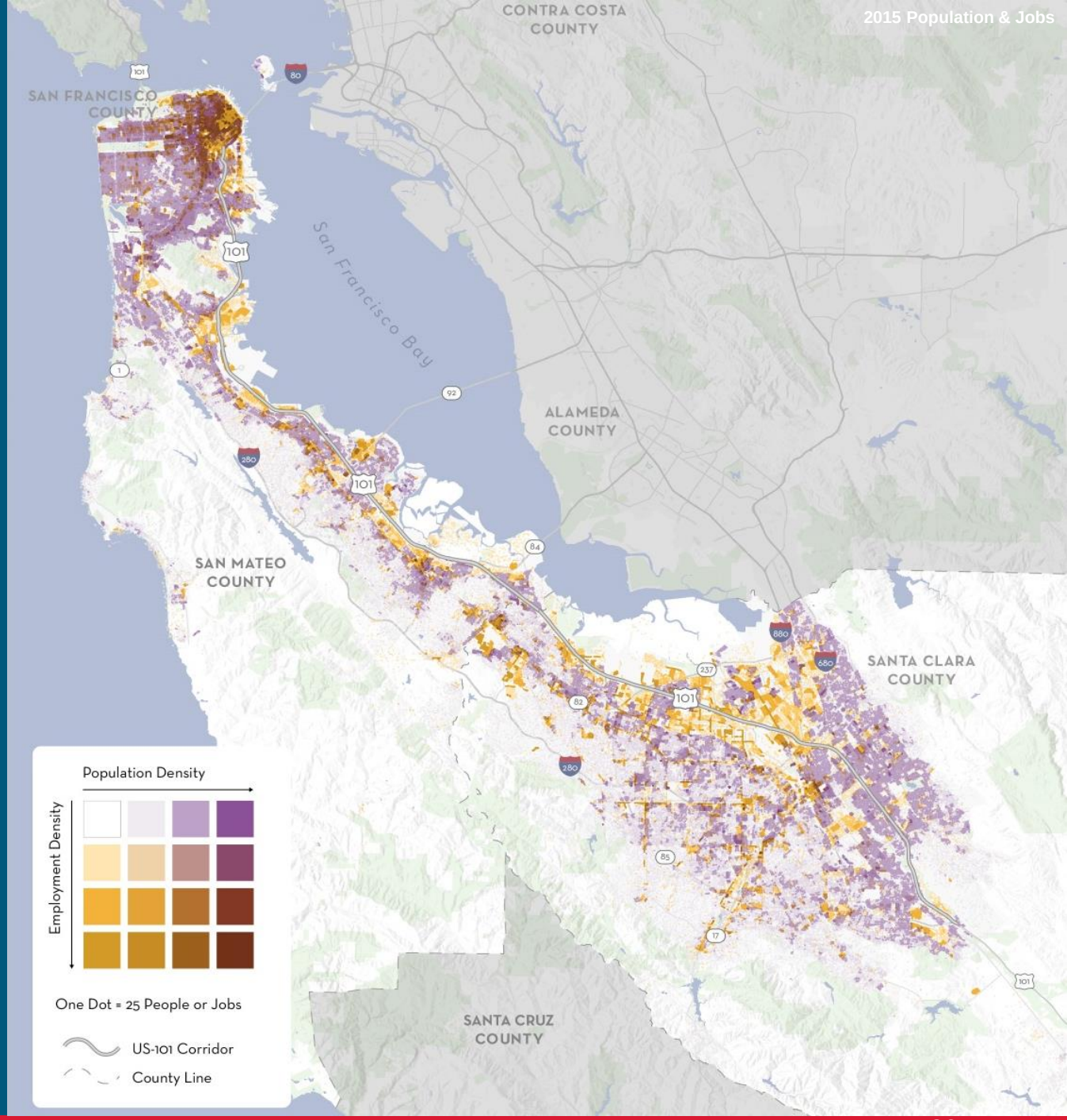
2040 Demand

The Caltrain corridor is growing

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

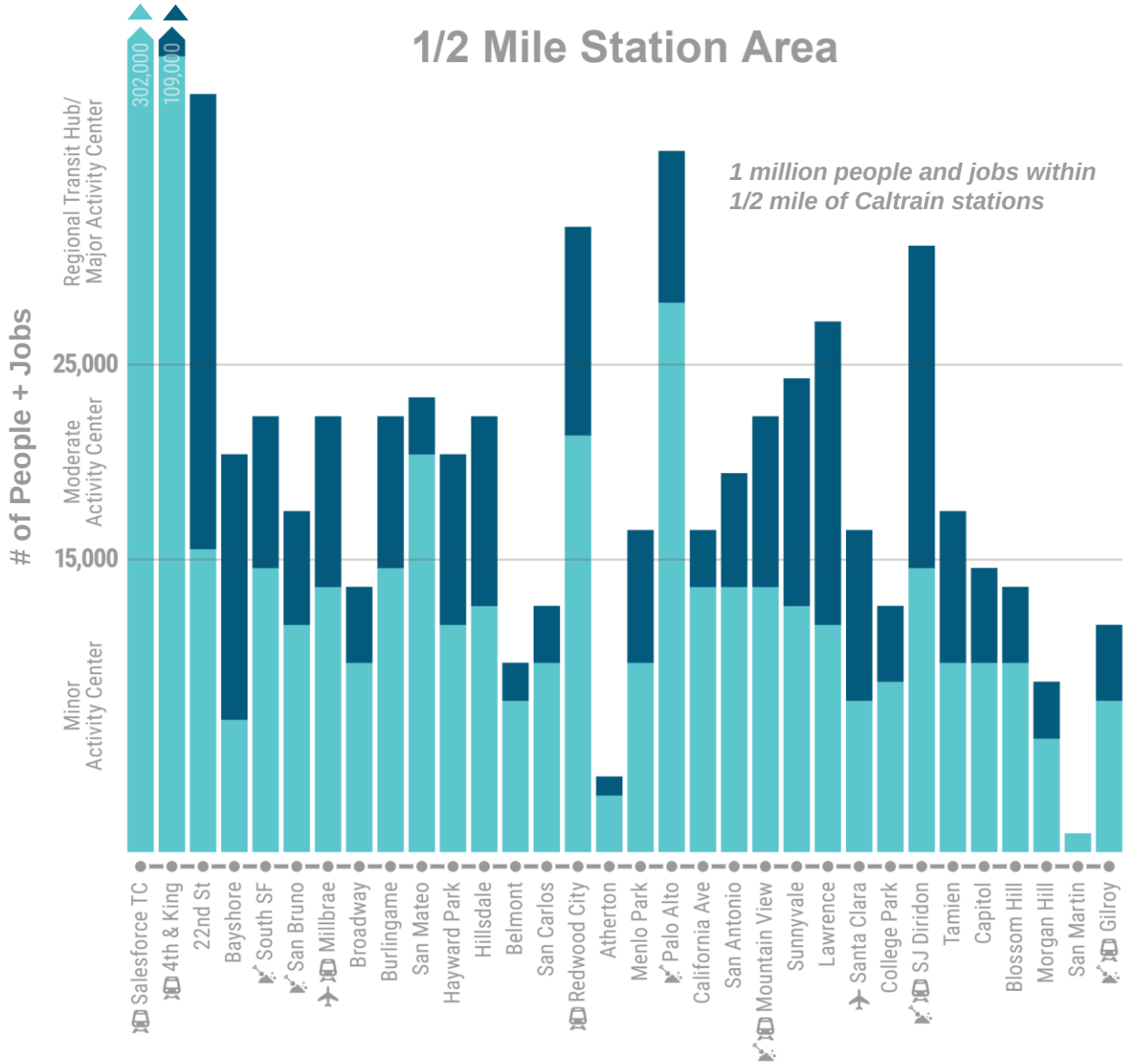
Major transit investments are opening new travel markets to Caltrain

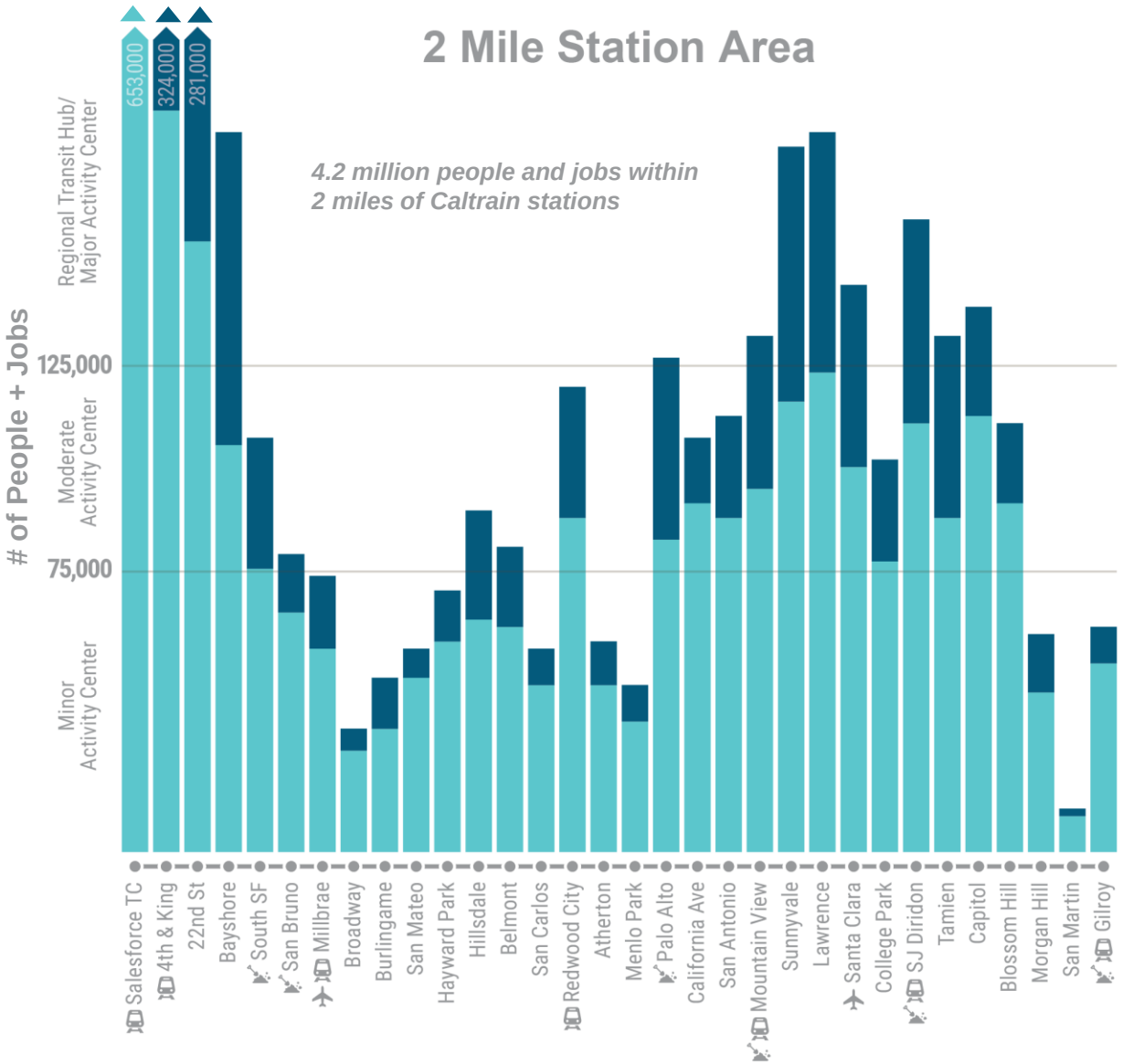
- Downtown Extension and Central Subway to provide more direct connections to downtown San Francisco
- Dumbarton Rail, BART to San Jose, and improvements to Capitol Corridor and ACE to strengthen connectivity with East Bay
- HSR and Salinas rail extensions to increase interregional travel demand



[1]Based on Plan Bay Area forecasts and approved projects by individual cities

2040 Land Use & Transportation Context

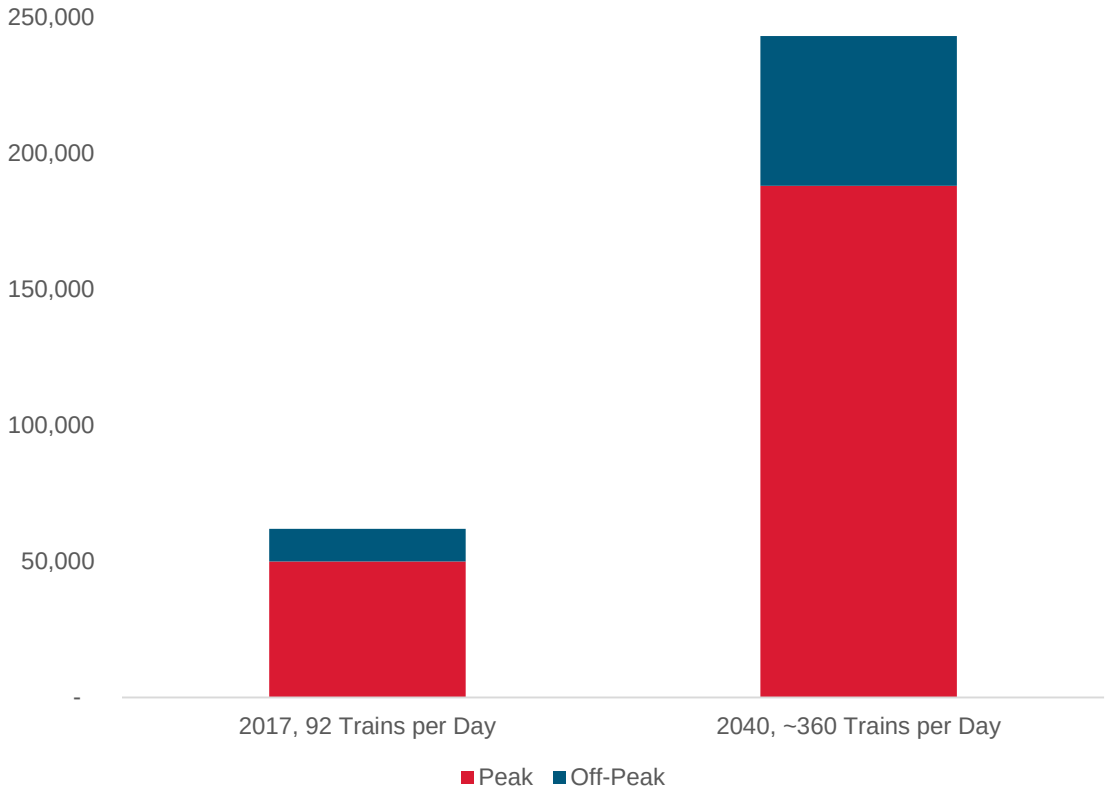




Indicates a station where substantial growth beyond Plan Bay Area forecasts is anticipated, but not yet approved

Exploring the Potential Long Term Demand for Caltrain Service

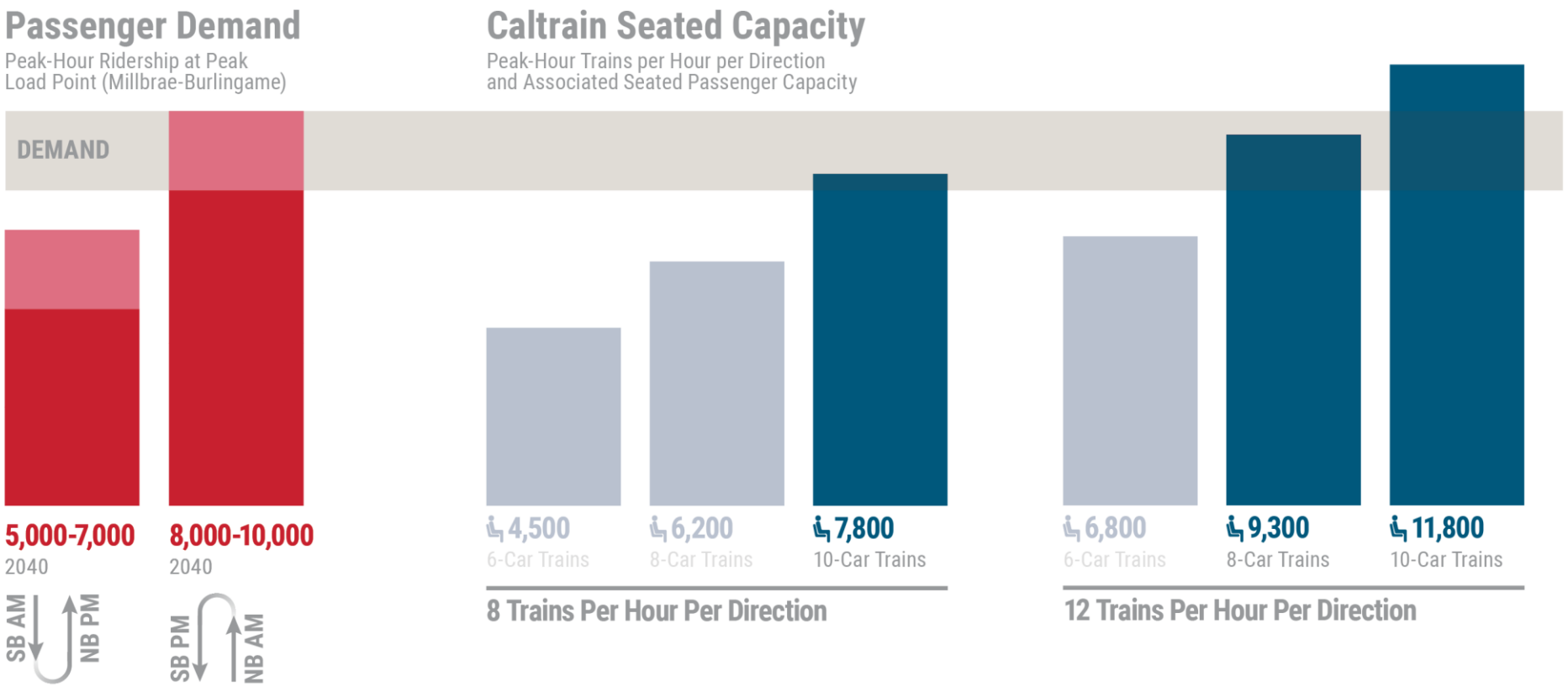
Using Plan Bay Area numbers for projected growth in jobs and housing, an unconstrained model run of high frequency, all-day BART-like service in the Caltrain corridor suggests that by 2040 there could be underlying demand for approximately 240,000 daily trips on the system



Description	2017: 92 Trains/Day	2040: ~360 Trains/Day
Daily	**62,000**	**240,000**
Peak	50,000	185,000
Off-Peak	12,000	55,000

Throughput Demand vs. Capacity

To comfortably serve the full 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



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

Developing “High Growth” Service Concepts

Service Planning Overview

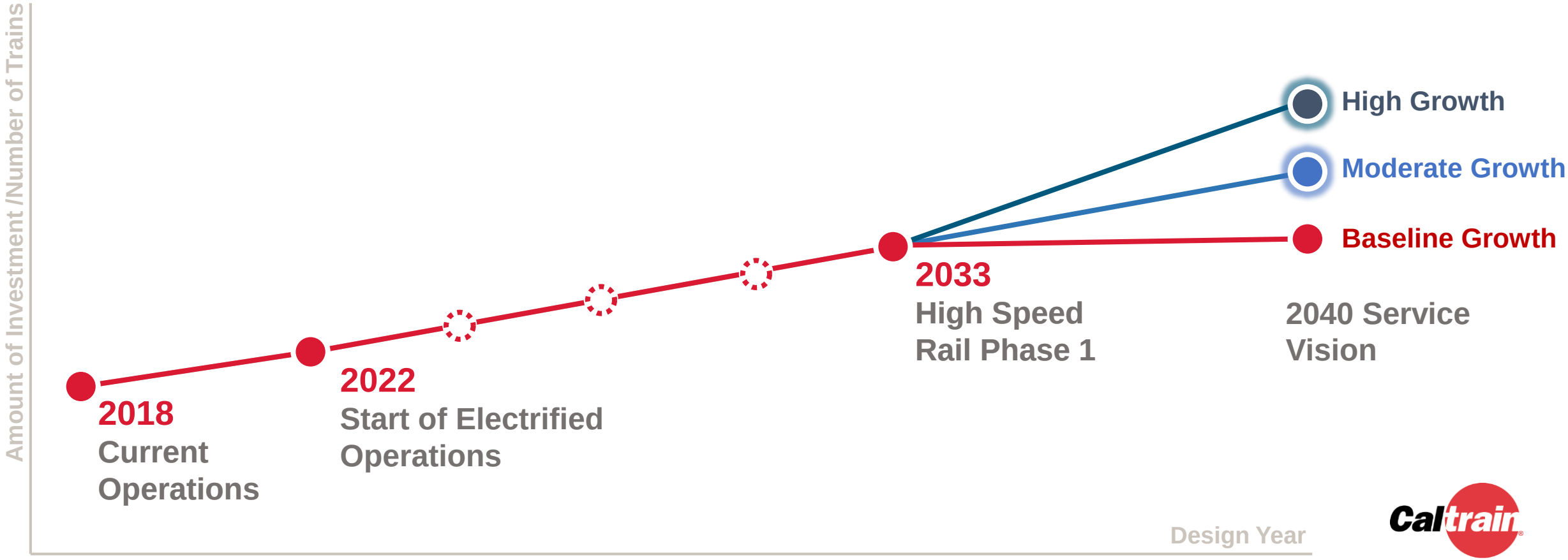
Understanding the 2040 Baseline

The Growing Market for Rail

Developing “High Growth” Service Concepts

2040 Service Scenarios

Higher Growth Scenarios



What was the Process for Developing the Higher Growth Service Plans?

This work was undertaken in October through December of 2018 with the engagement and review of partner agency staff, the City and County Staff Working Group, The Business Plan Ad Hoc Committee and the Local Policy Maker Group

Detailed presentations can be found at **www.caltrain2040.org**

Service Planning Steps

1. **Develop service planning parameters, and goals**
2. **Identify initial service approaches**
3. **Develop detailed SF – SJ peak hour concepts**
4. **Screen and evaluate detailed service concepts**
5. **Expand service concepts to include service to South San Jose and Gilroy**
6. **Consider off-peak and weekend service levels and develop all-day and weekend service plans**

1. 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

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

**Assumes investment in new signal system*

***Assumes investment to achieve level-boarding*

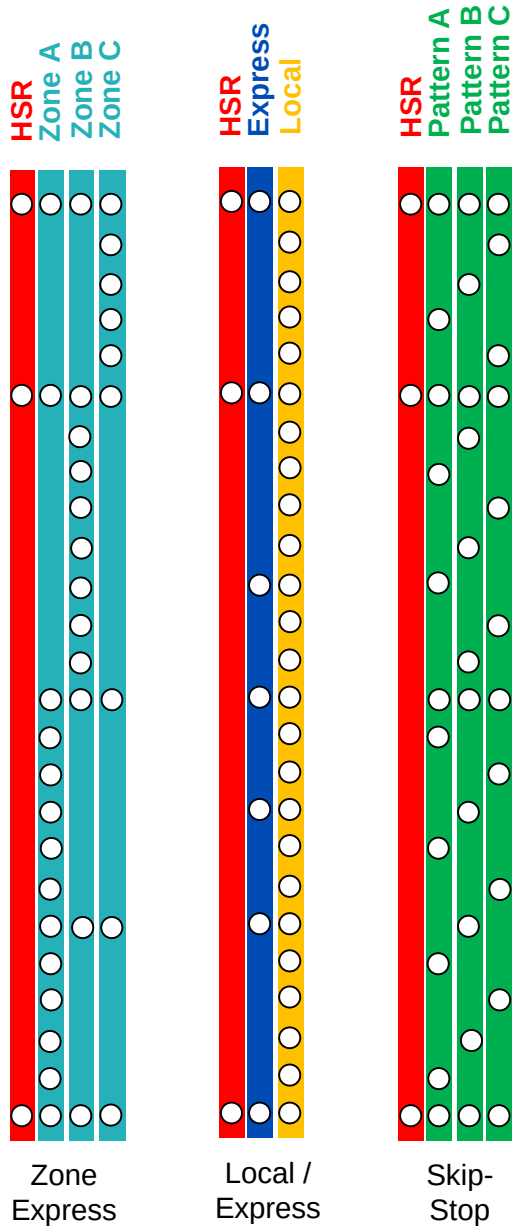
1. Service Goals

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

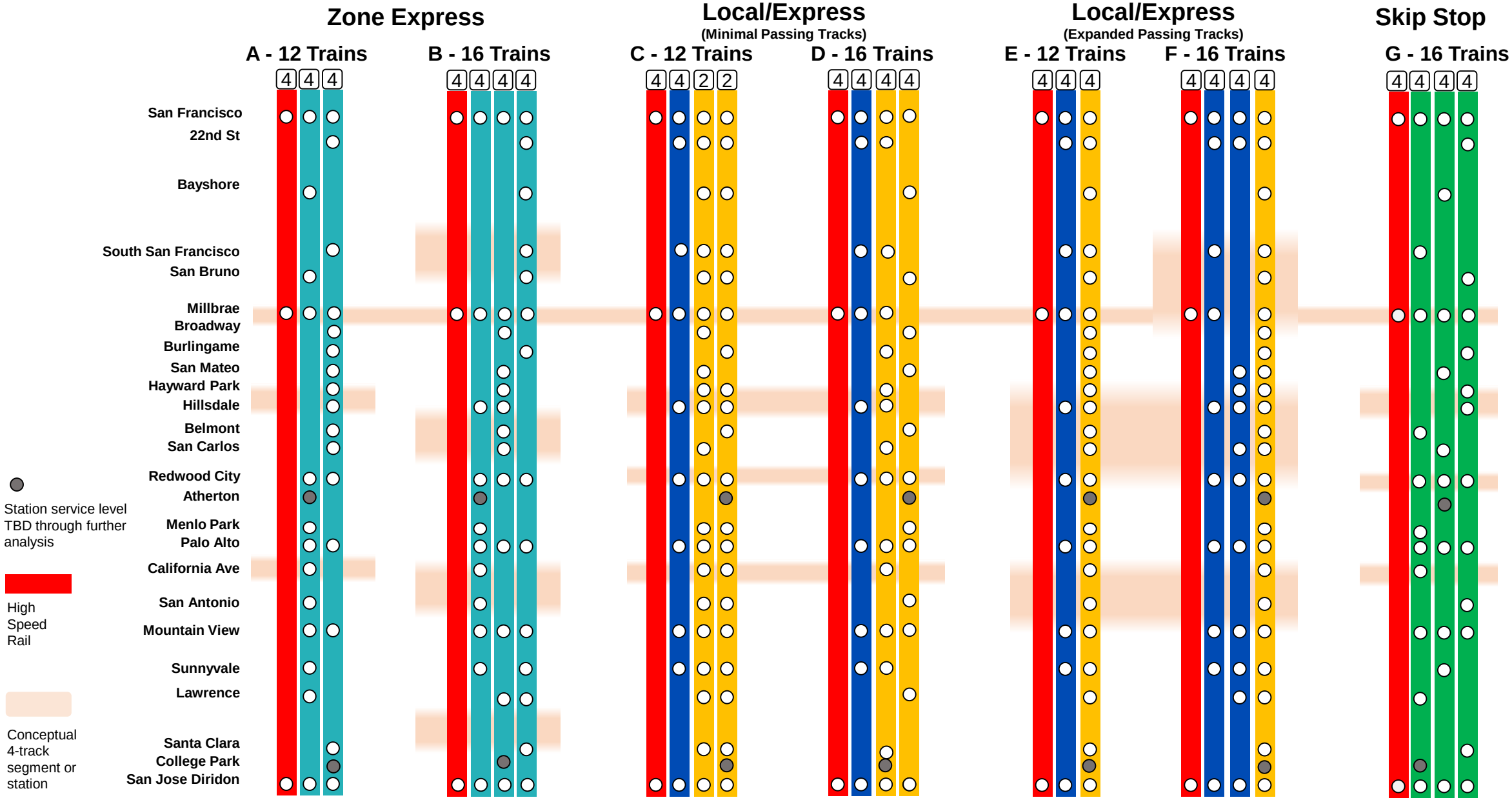
2. Identifying Initial Service Approaches

The service planning work began by initially considering three different “approaches” or styles of service that could be used on the corridor in 2040

Illustrative peak hour service concepts were then developed using each of the three different approaches



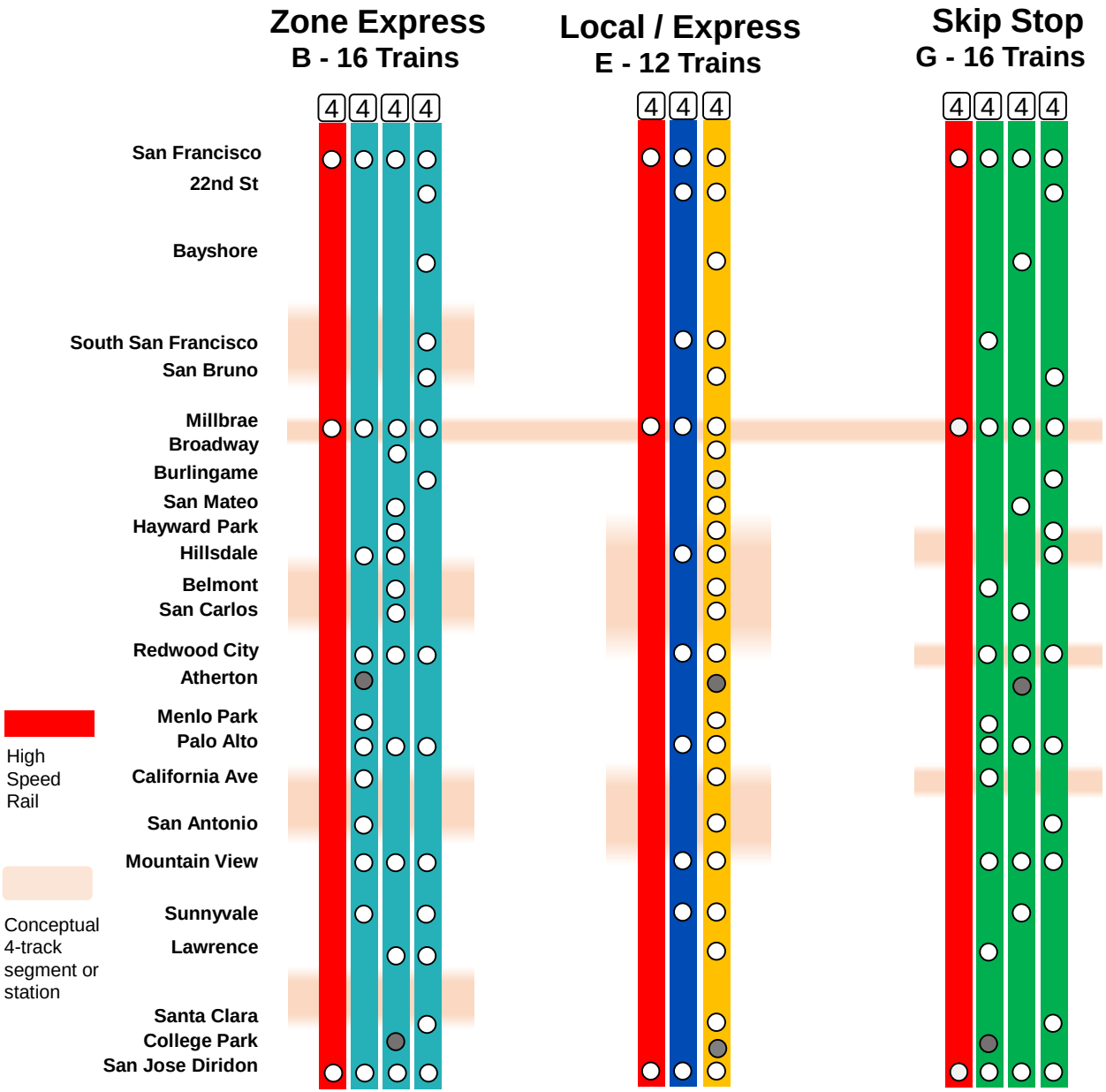
3. Initial Illustrative Service Concepts



Assumes standardized HSR service; the 2018 HSR Business Plan expects 2 trains per hour, per direction at Millbrae

4. Initial Screening

Concepts Not Recommended for Further Evaluation



B - Zone Express 16 Trains

- Infrastructure needs are extensive and incompatible with other service options
- Increased train throughput does not result in additional service at most stations

E - Local/Express 12 Trains (Expanded Passing Tracks)

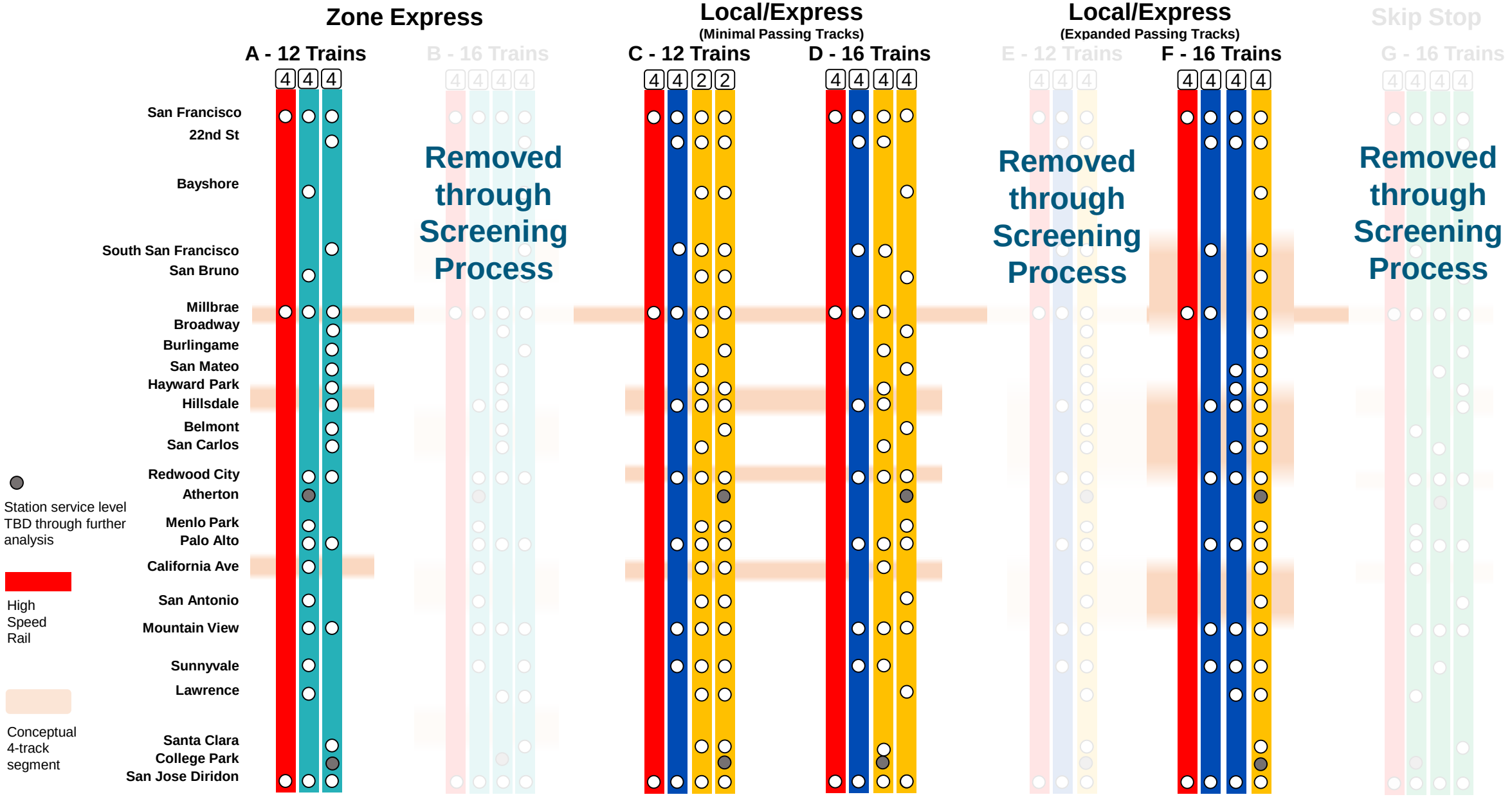
- Requires significantly more infrastructure to achieve the same throughput as other 12-train concepts
- Infrastructure is compatible with and builds toward Local/Express 16-train concept (option F). Can be considered as a variant of this option.

G - Skip Stop 16 Trains

- Challenging internal connectivity and service legibility
- Increased train throughput does not result in additional service at most stations
- Similar to and compatible with Local/Express 16 Train pattern with less passing tracks (option D)- can be considered as a variant of this option

Assumes standardized HSR service; the 2018 HSR Business Plan expects 2 trains per hour, per direction at Millbrae

4. Initial Screening Results



Assumes standardized HSR service; the 2018 HSR Business Plan expects 2 trains per hour, per direction at Millbrae

4. Detailed Evaluation

	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
1. Maximize Ridership	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	55 Minutes	32 Minutes	31 Minutes	28 Minutes	24 Minutes
2. Improve Connectivity	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%
3. Enhance Convenience	Provide capacity responsive to 2040 demand	% 2040 demand relative to seated capacity[2]	35%	80%	80%	100%	100%
	Provide legible service structure	Complexity of stopping pattern	High Complexity	Moderate Complexity	Moderate Complexity	High Complexity	Low Complexity
4. "Right Size" Infrastructure	Minimize mainline track expansions	Miles of new passing track	0	3	4	4	15

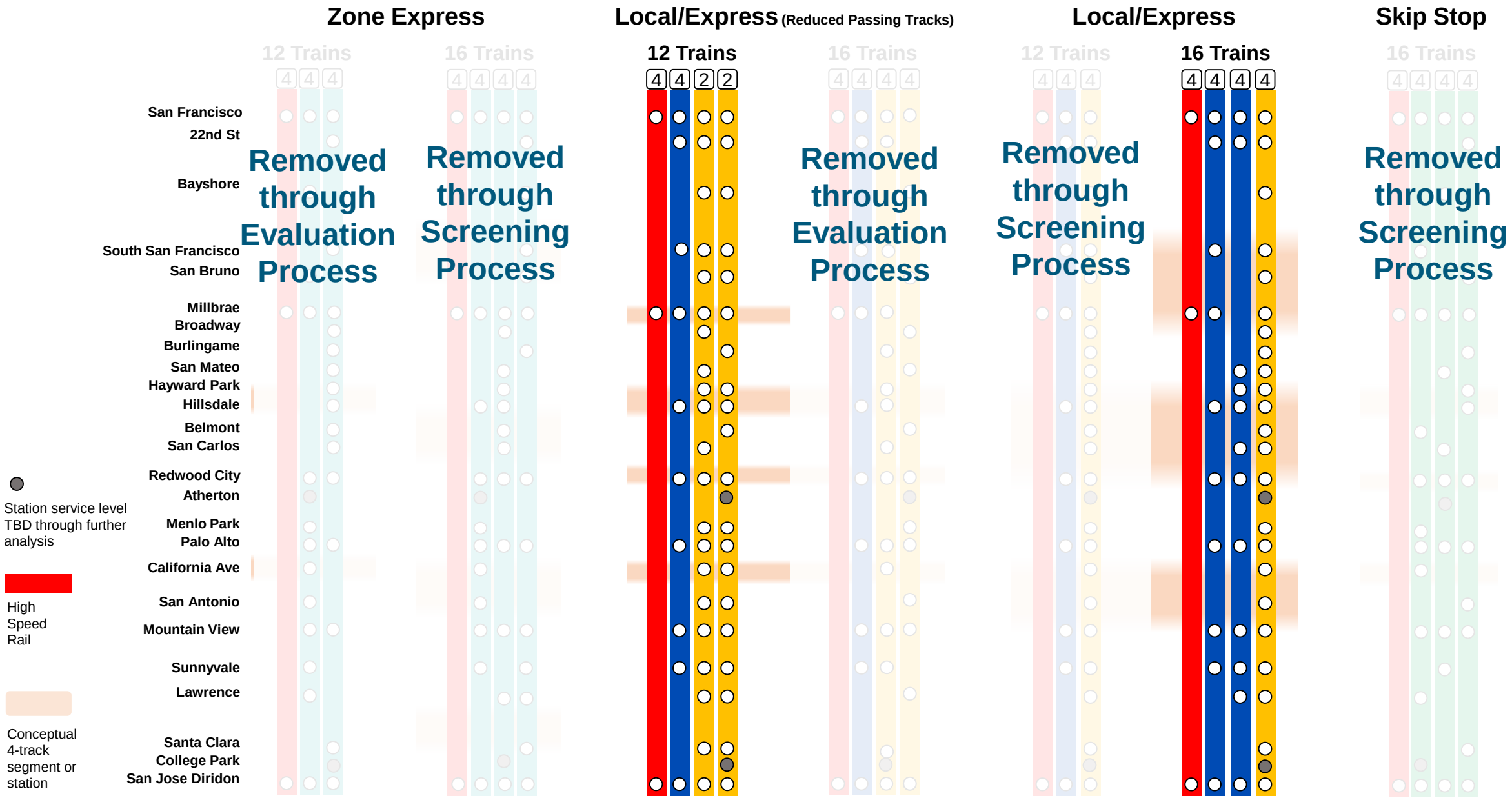
A - Zone Express 12 TPH

- 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

4. Evaluation Results



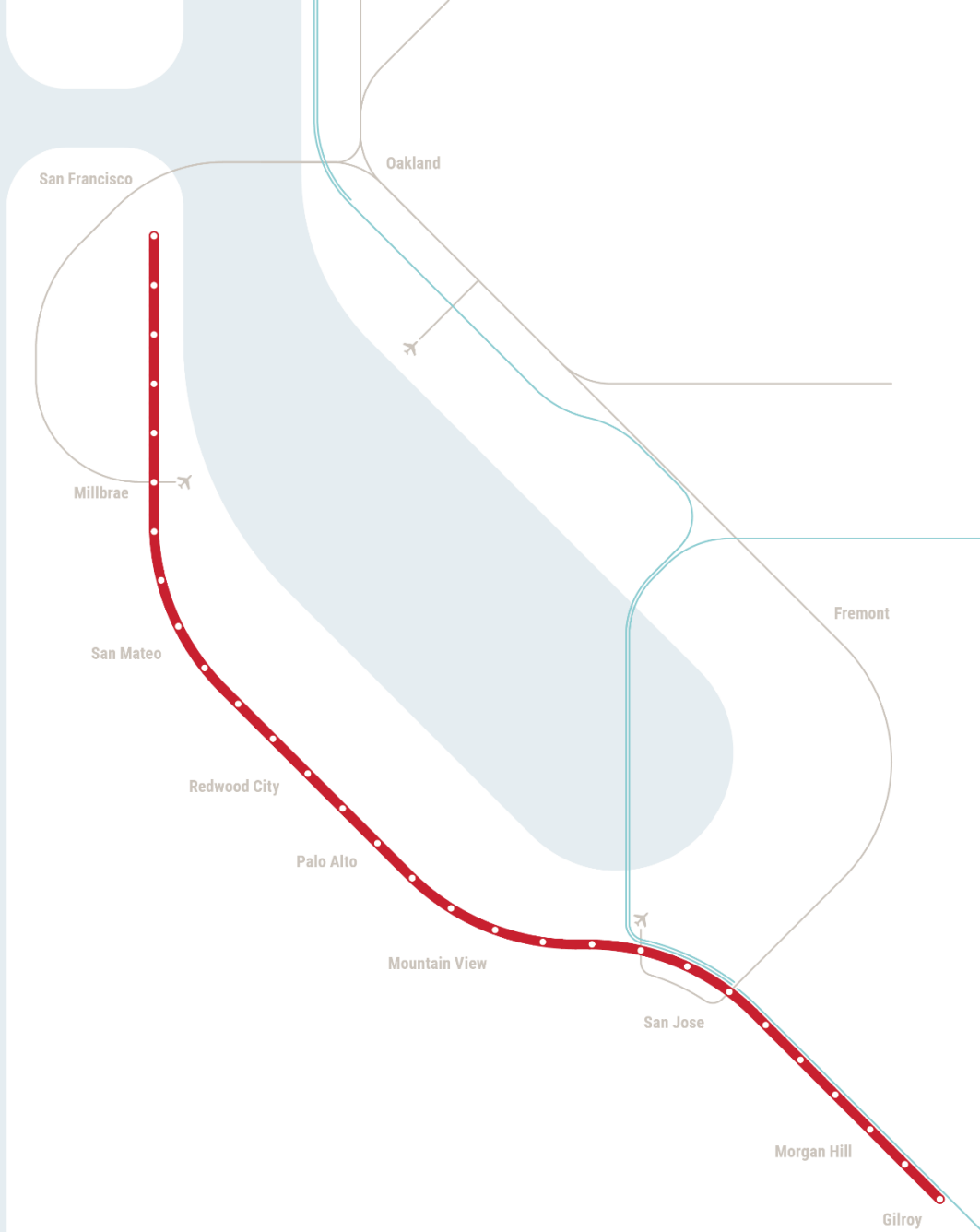
5. Expanding Concepts South of San Jose

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 and Challenges South of San Jose

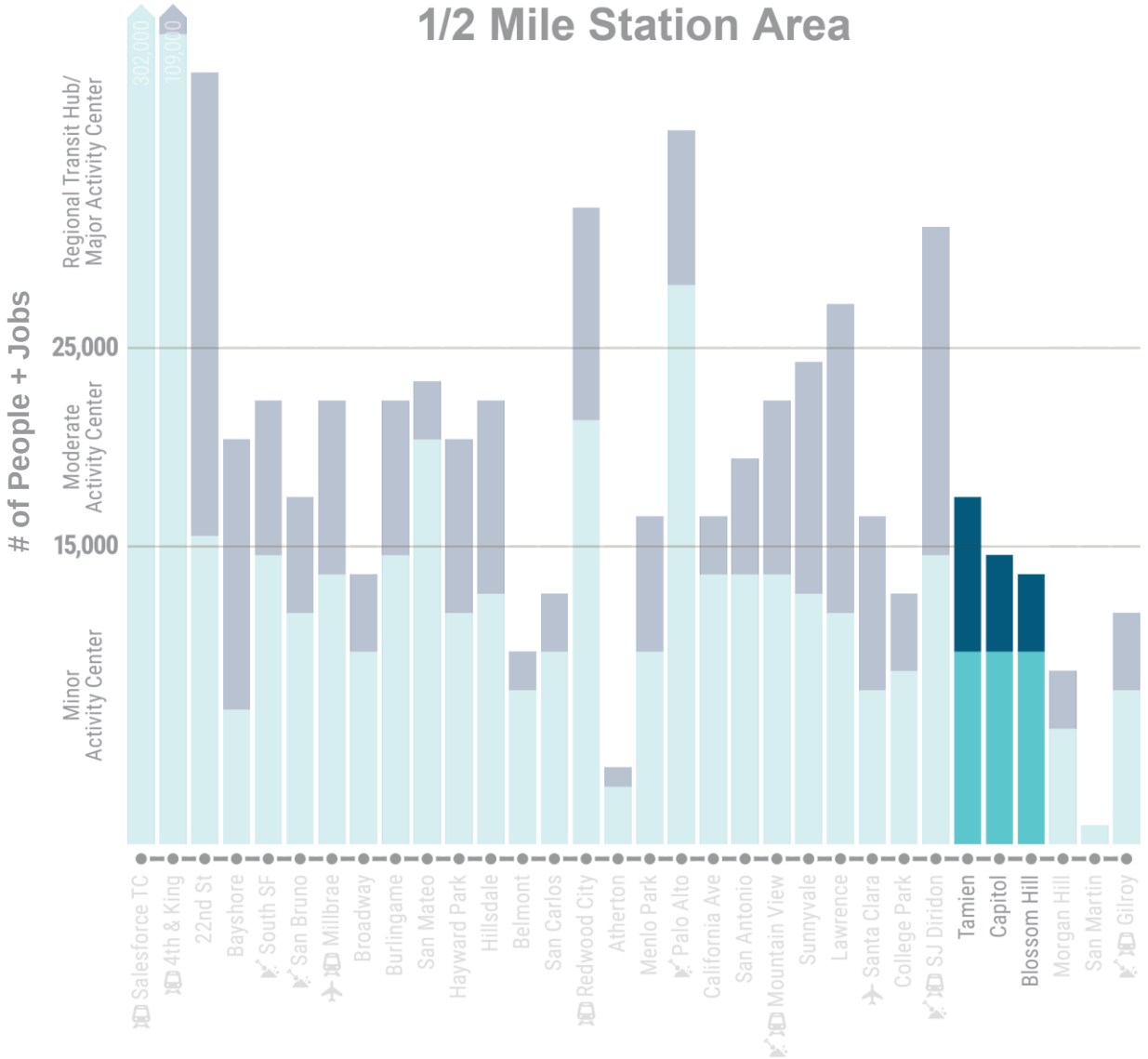
Track Capacity is Constrained

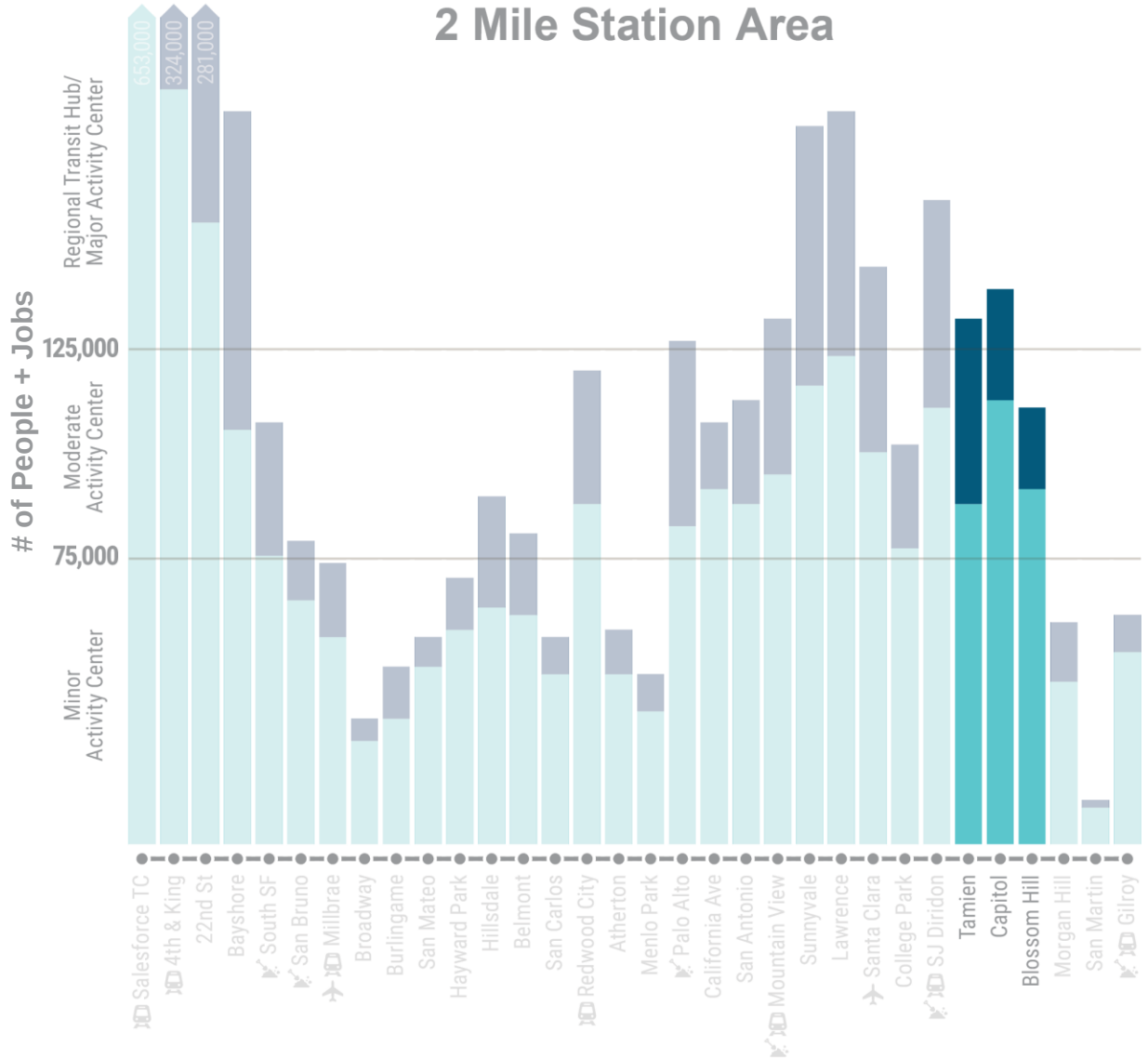
- Caltrain service is limited by operational constraints of a two track corridor
- HSR plans to operate up to 8 trains per hour, per direction south of San Jose

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

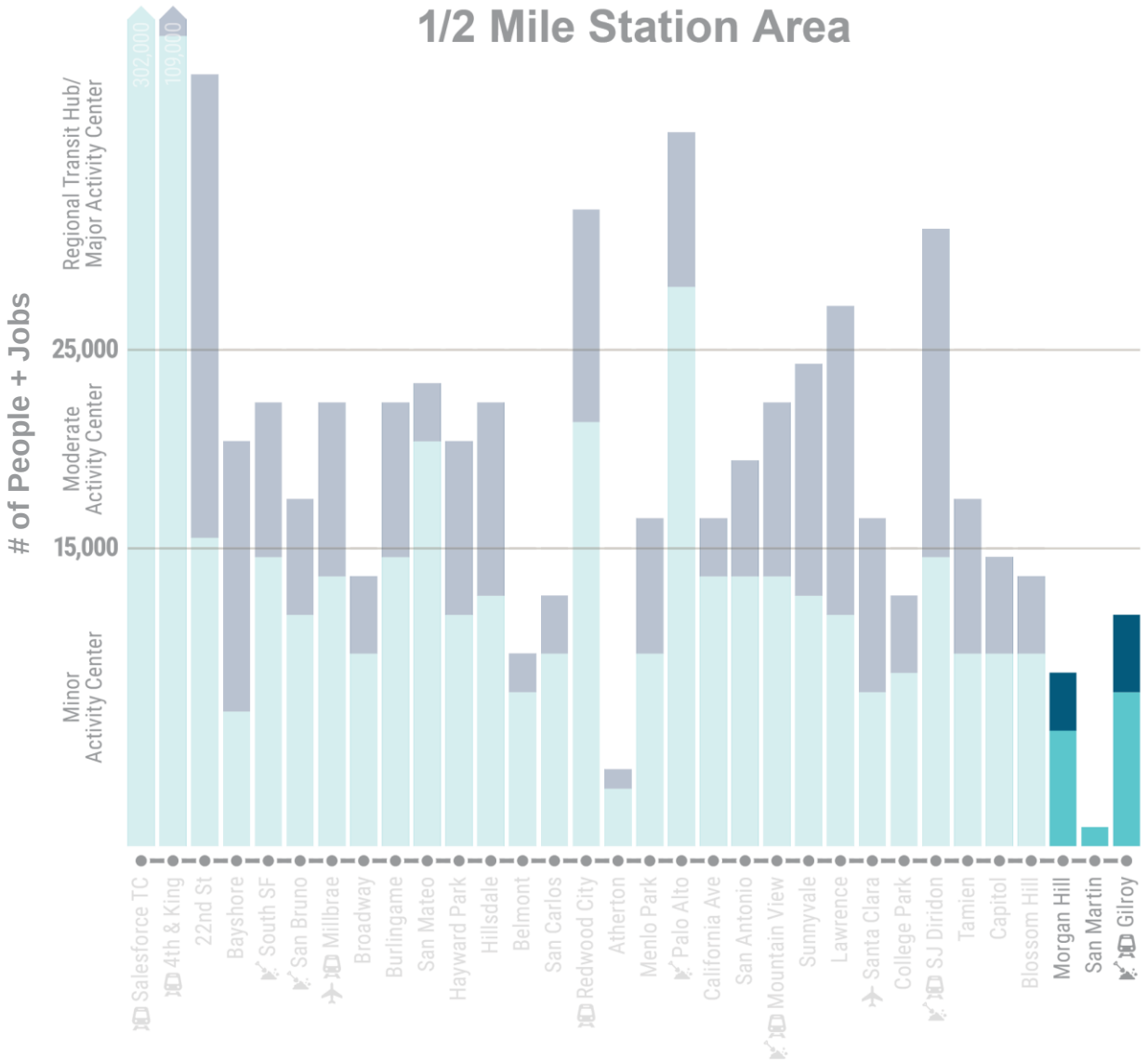
Transportation and Land Use Context

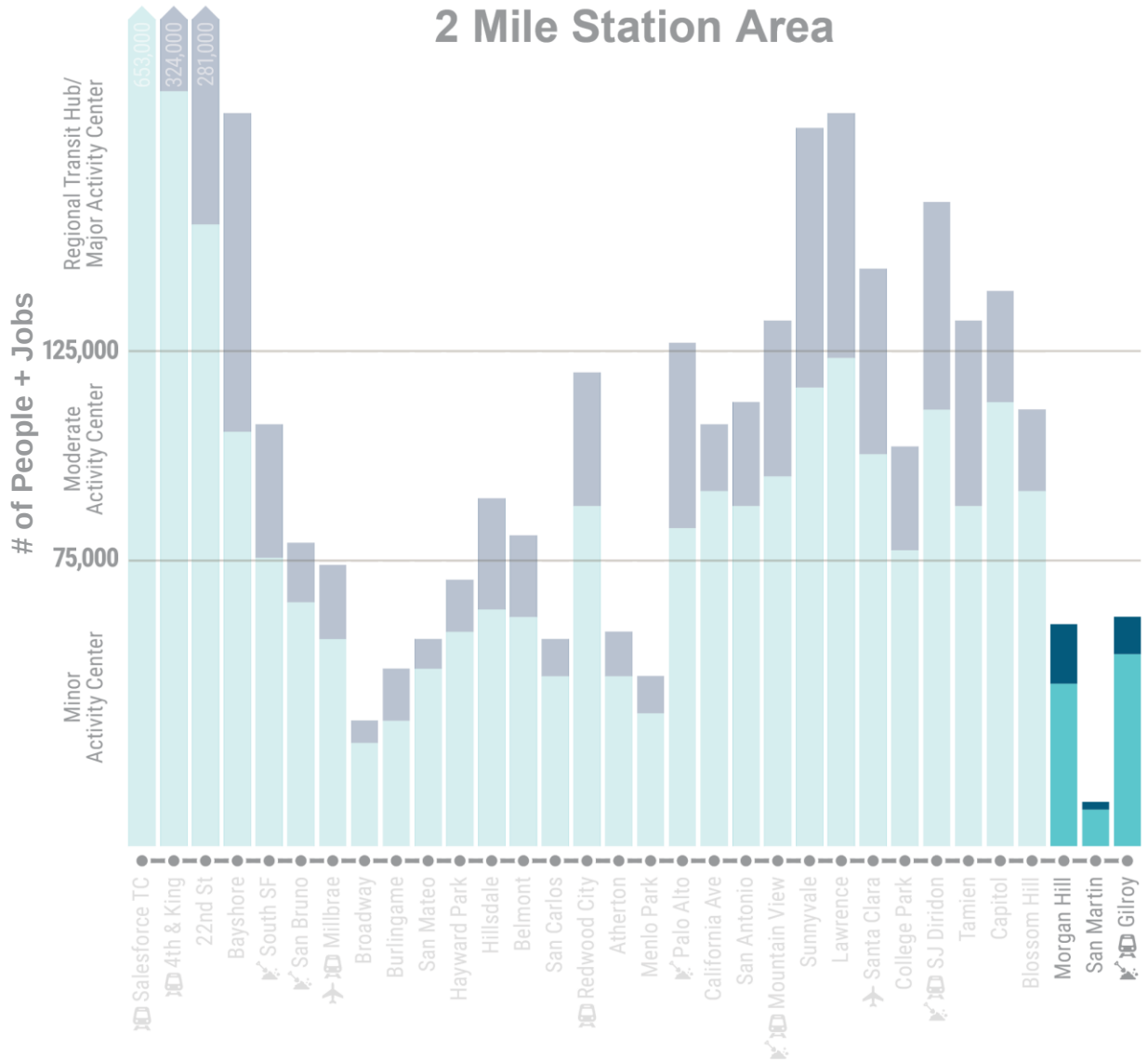




Indicates a station where substantial growth beyond Plan Bay Area forecasts is anticipated, but not yet approved

Transportation and Land Use Context

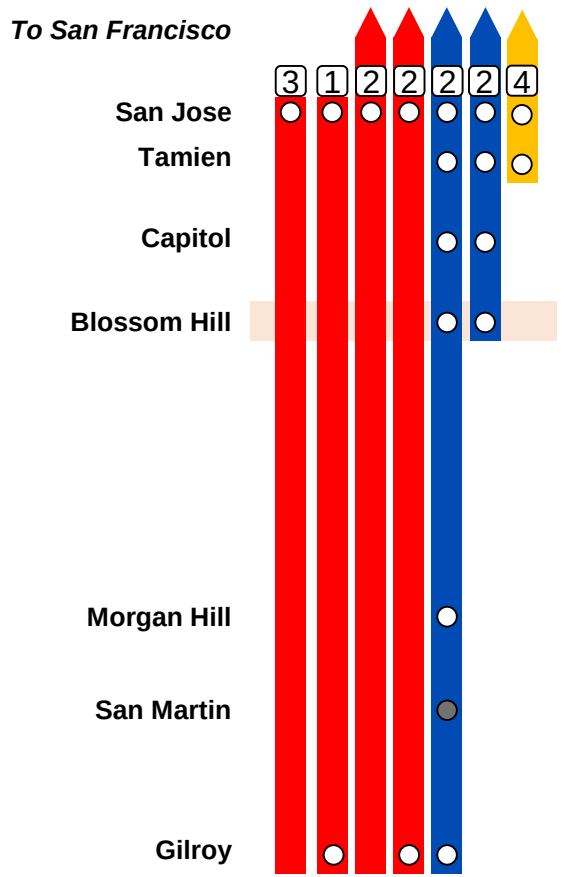




Indicates a station where substantial growth beyond Plan Bay Area forecasts is anticipated, but not yet approved

Expanding Concepts South of San Jose

2. Conceptual Turn Tracks at Blossom Hill



Station service level TBD through further analysis

High Speed Rail

Conceptual 4-track segment or station

1. Two Track Corridor

- 8-12 TPH at Tamien, depending on mainline service levels
- 2 TPH south of Tamien except San Martin

2. Conceptual Turn Tracks at Blossom Hill

- 8-12 TPH at Tamien, depending on mainline service levels
- 4 TPH at Capitol and Blossom Hill
- 2 TPH at Morgan Hill and Gilroy

3. Conceptual Four Track Corridor

- 8-12 TPH at Tamien, depending on mainline service levels
- 8 TPH at Capitol and Blossom Hill
- 2 TPH at Morgan Hill and Gilroy

All scenarios subject to further analysis to confirm compatibility with planned HSR service

6. Develop All Day Service Plans

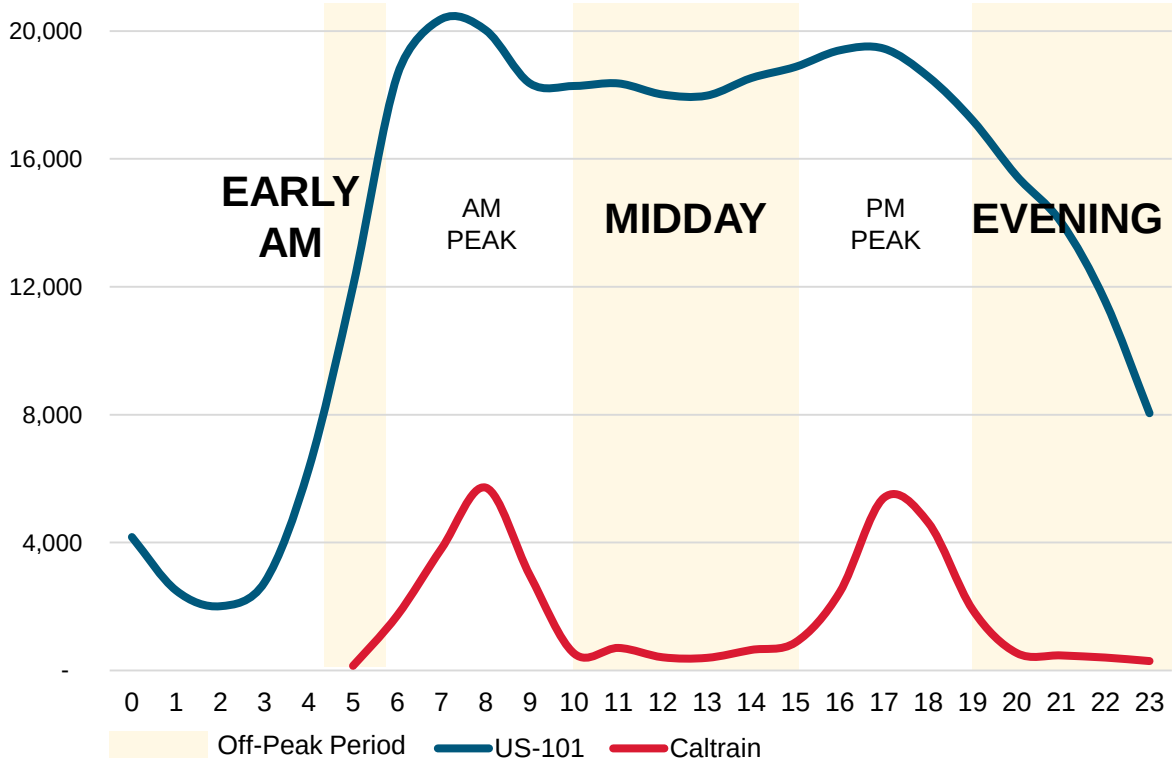
Off-peak and weekend service provides unique opportunities and challenges for Caltrain

- 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

Off-Peak & Weekend Demand

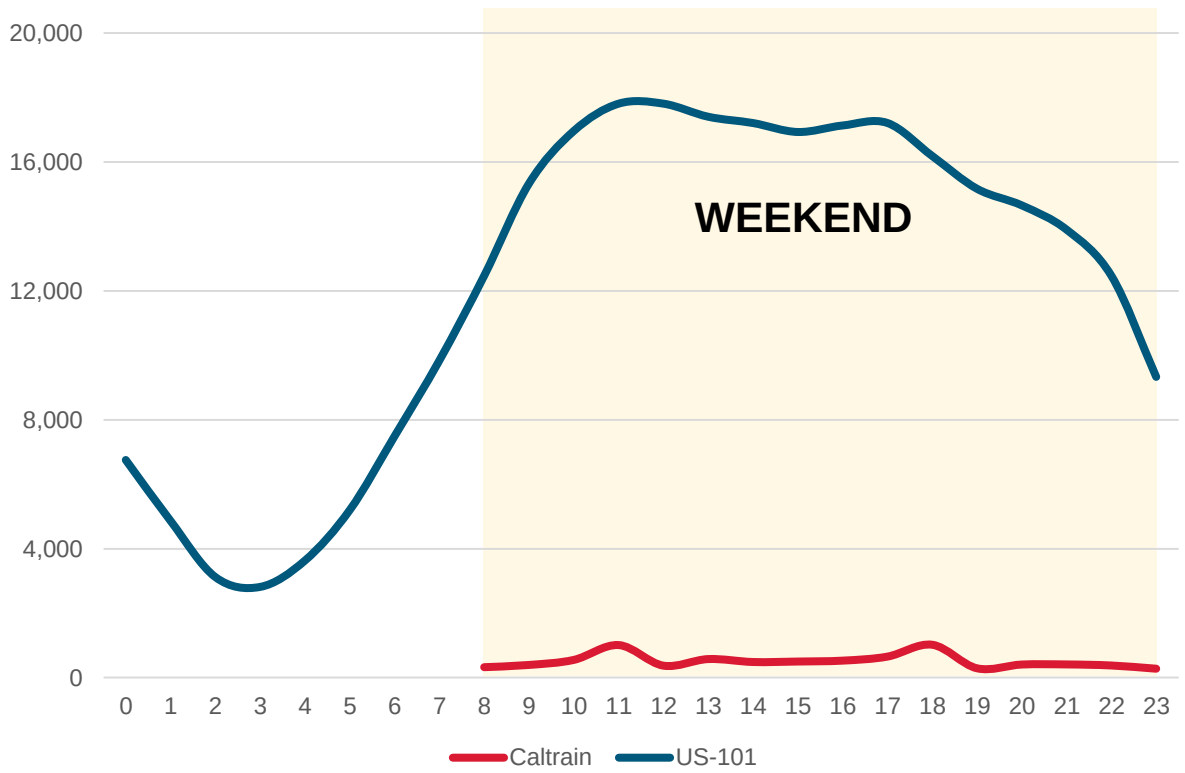
Existing Off-Peak Service

- 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



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

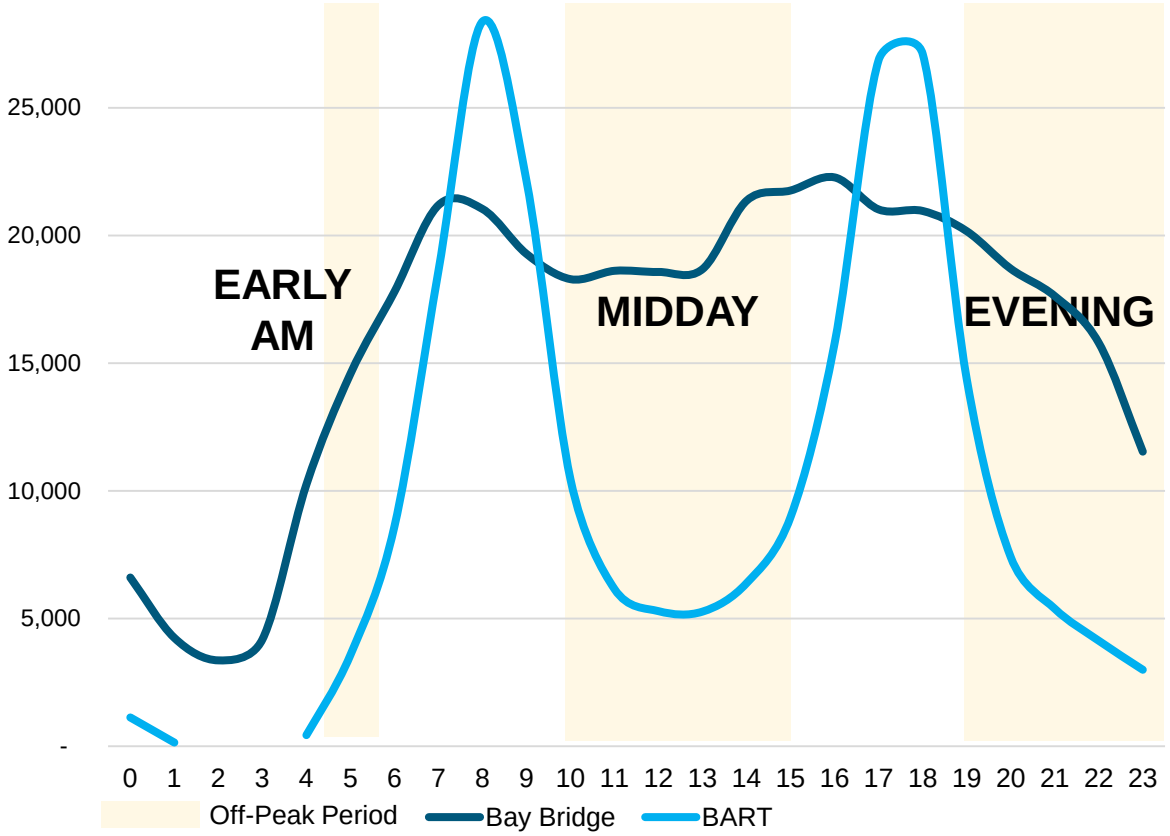


Based on US-101, BART, and Caltrain person trip volumes at San Francisco County line. Volumes are comparable along most of Caltrain corridor.

Off-Peak Demand: BART vs. Caltrain

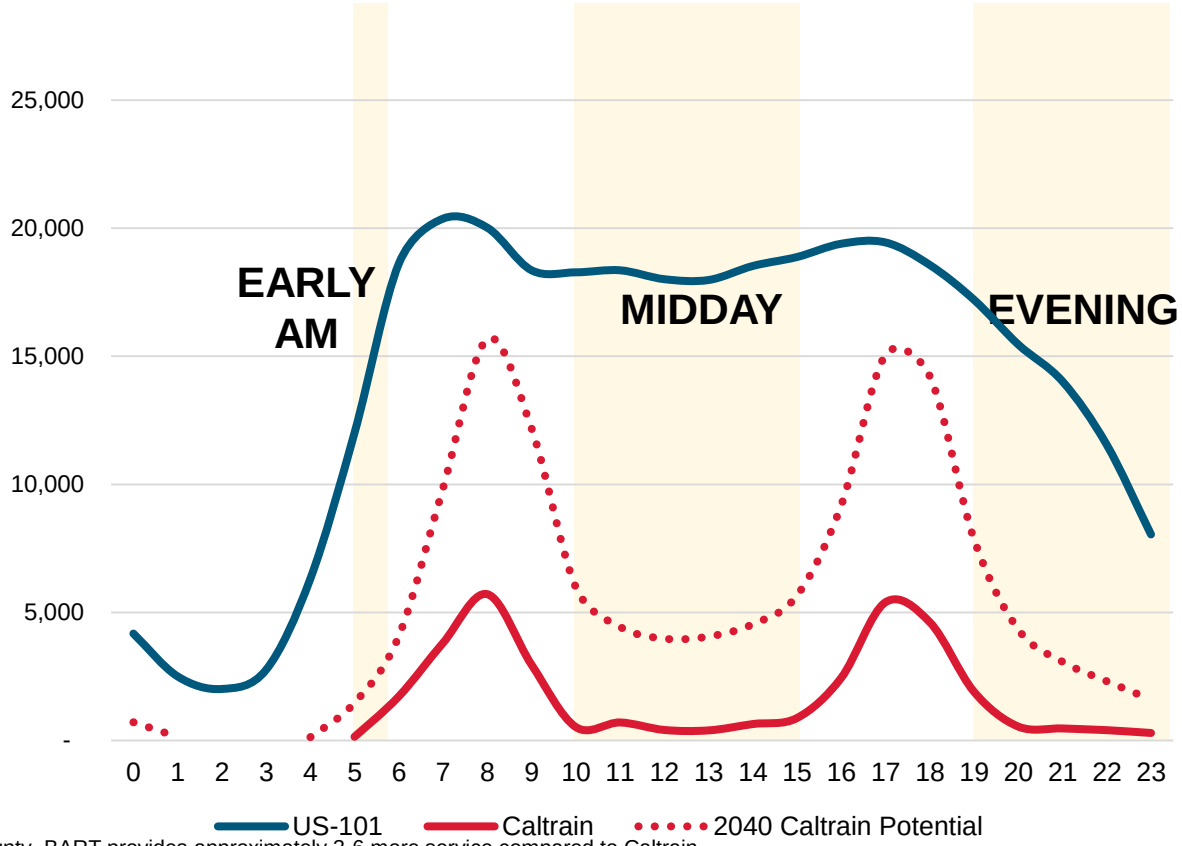
Transbay Corridor

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

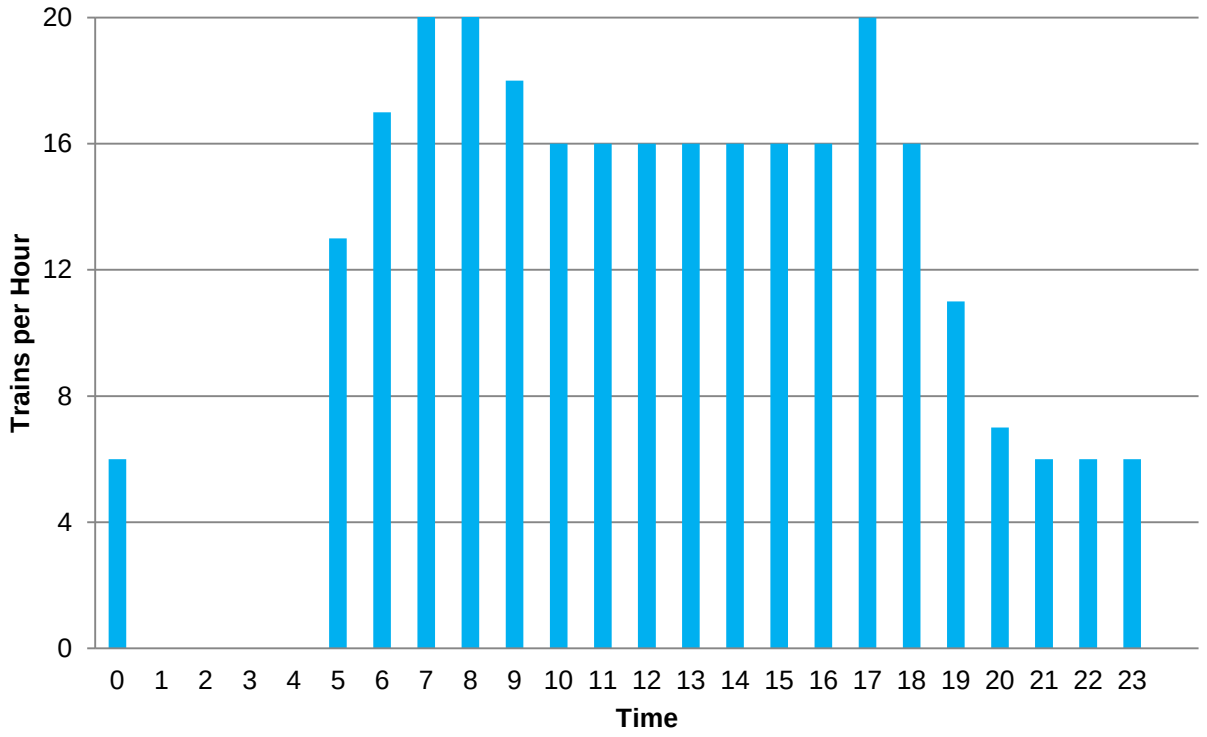


2040 potential based on unconstrained ridership forecast and assumed similar peaking patterns to BART service in San Mateo County. BART provides approximately 3-6 more service compared to Caltrain.

Off-Peak Service: BART vs. Caltrain

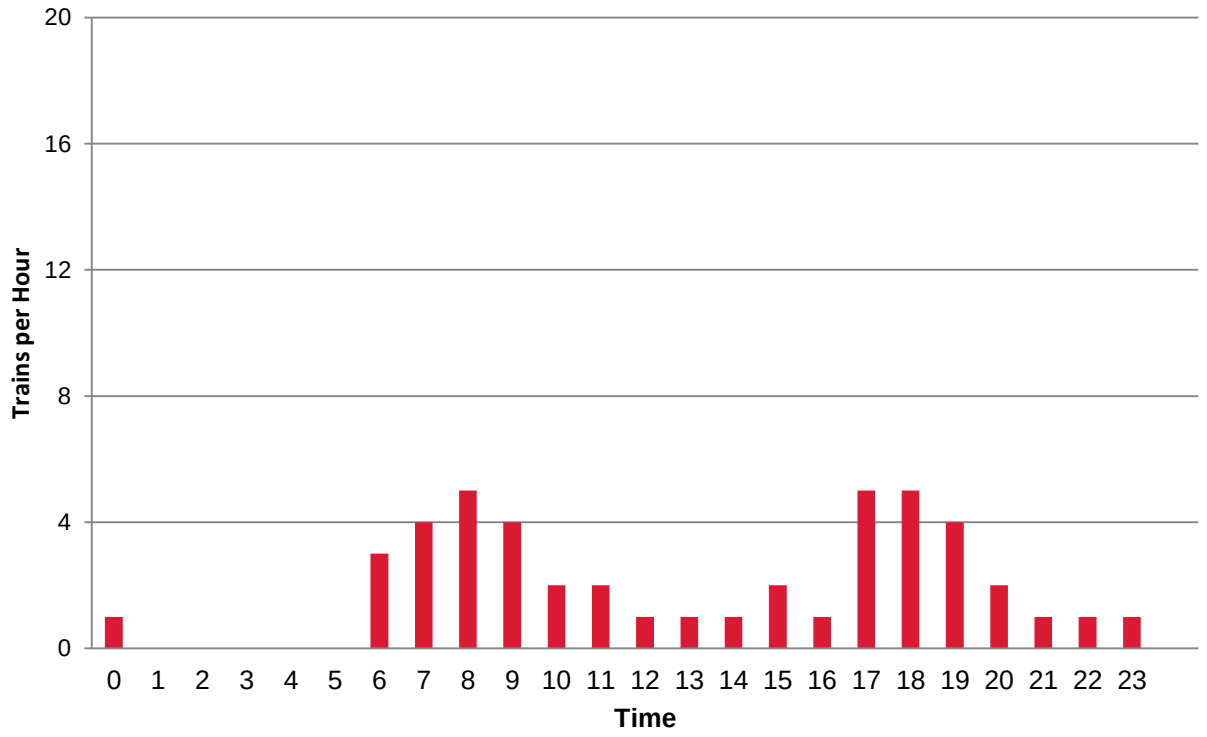
Transbay Corridor

BART operates up to 20 TPH during peak periods depending on direction. Service decreases to 16 TPH during midday period and 6 TPH during evening period (with variable train lengths).



Caltrain Corridor

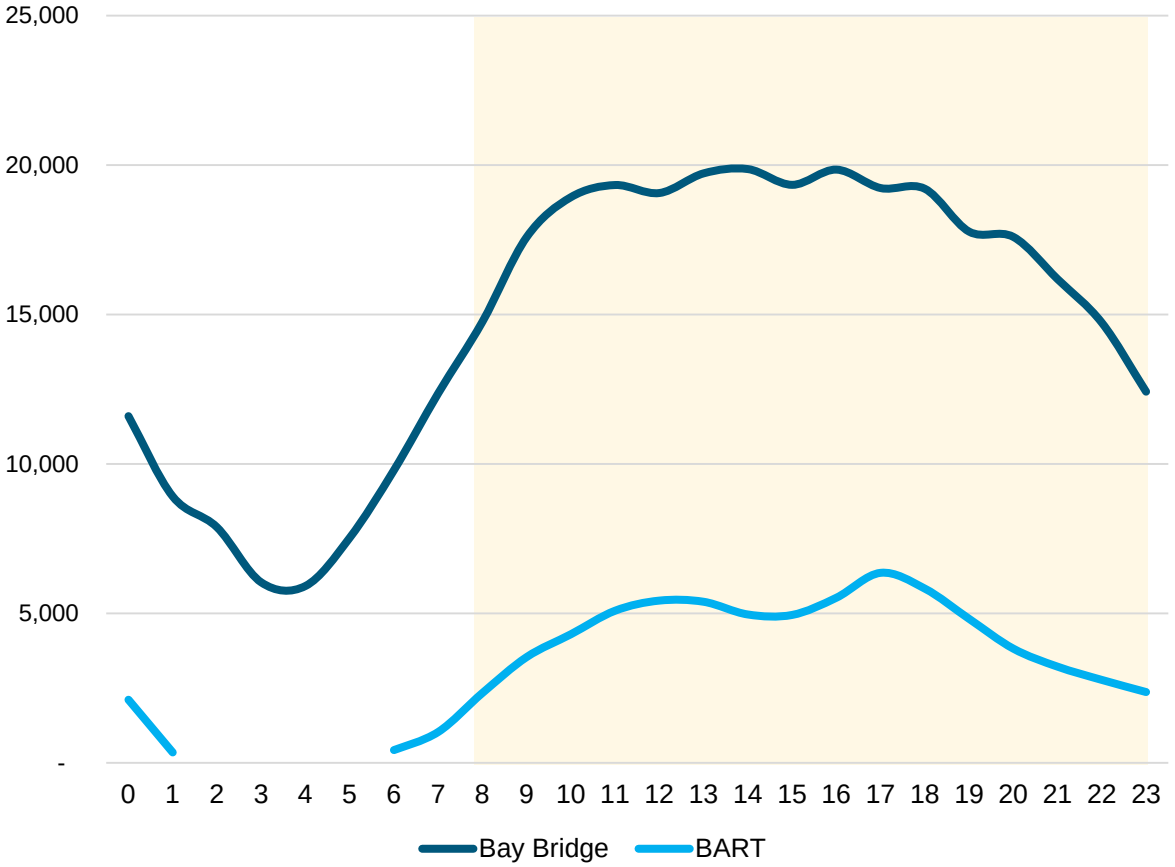
Caltrain operates up to 5 TPH during peak periods. Serivce decrease to 2 TPH during peak shoulder periods and 1 TPH during midday and evening periods.



Weekend Demand: BART vs. Caltrain

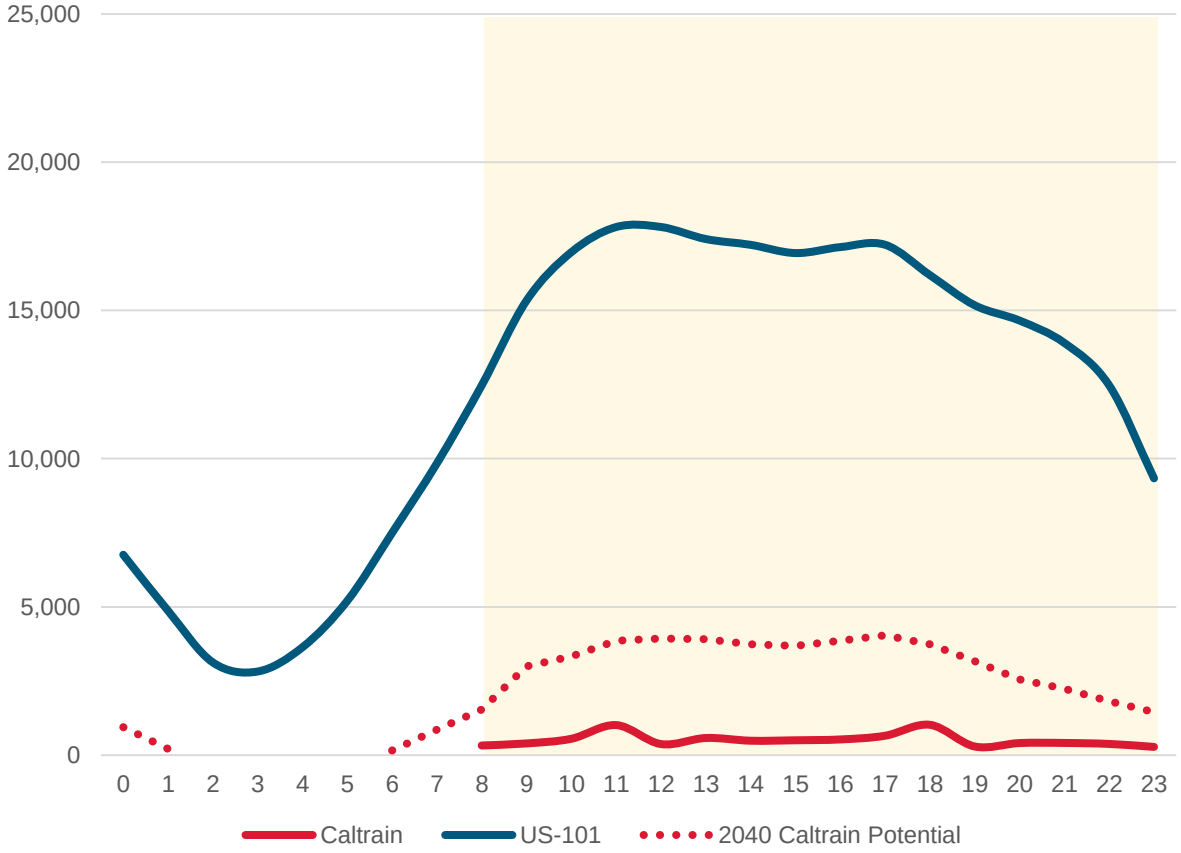
Transbay Corridor

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

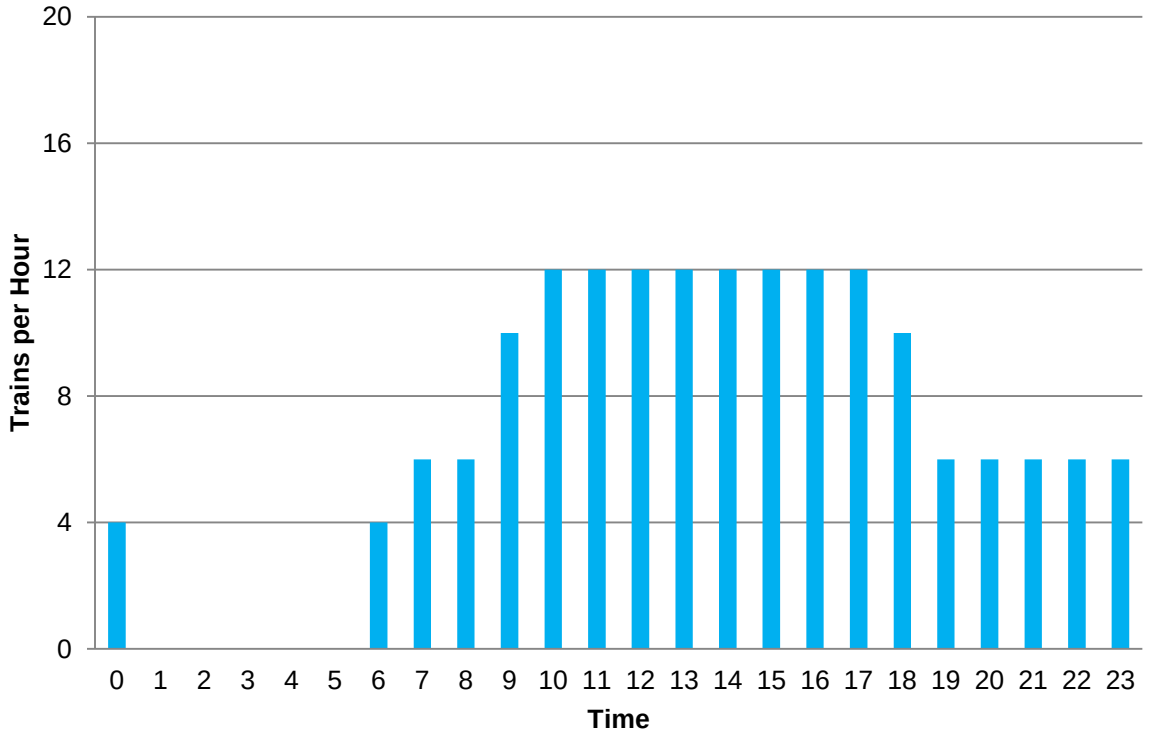
Assuming similar weekend service to BART, Caltrain may serve approximately 4,000-5,000 passengers per hour during most of the day on weekends



Weekend Service: BART vs. Caltrain

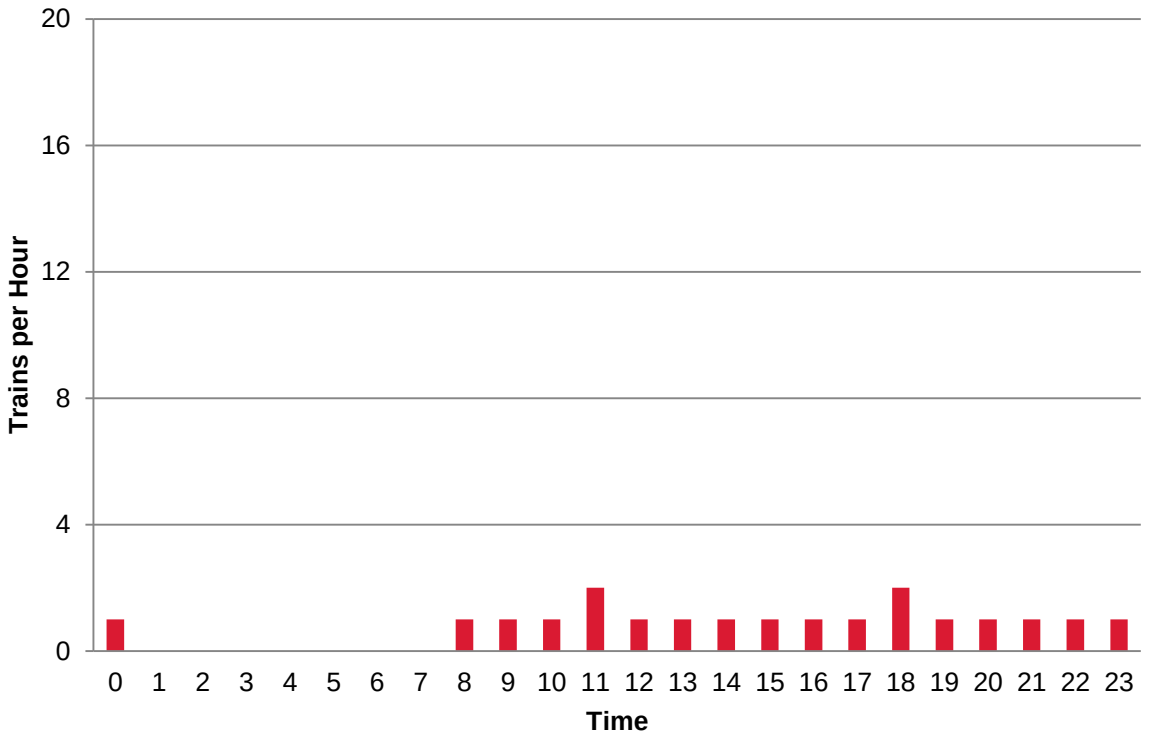
Transbay Corridor

BART operates 12 TPH during the late morning to late afternoon period. Mornings and evenings are served by 6 TPH.



Caltrain Corridor

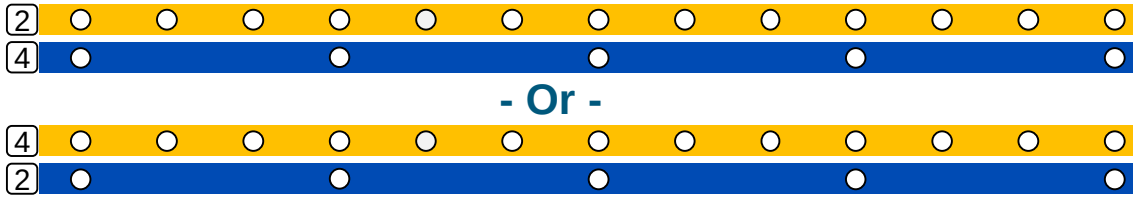
Caltrain operates 1 TPH throughout the day, with one additional Baby Bullet in the late morning and early evening.



Off-Peak & Weekend Service Options

8 TPHPD with Local and Express

6 TPHPD with Reduced Express or Reduced Local



4 TPHPD with Local Only

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

Infrastructure and fleet are sized for peak hour service – meaning that service levels during weekend and off-peak times can more easily be adjusted and adapted

2040 Service Scenarios

Service Planning Overview

Understanding the 2040 Baseline

The Growing Market for Rail

Developing “High Growth” Service Concepts

2040 Service Scenarios

Key Concept

Developing and Evaluating Growth Scenarios

Choosing a long range “Service Vision” is not just about picking which service pattern looks the best- it requires evaluating which package of service and investments will deliver the best value to the corridor and the region

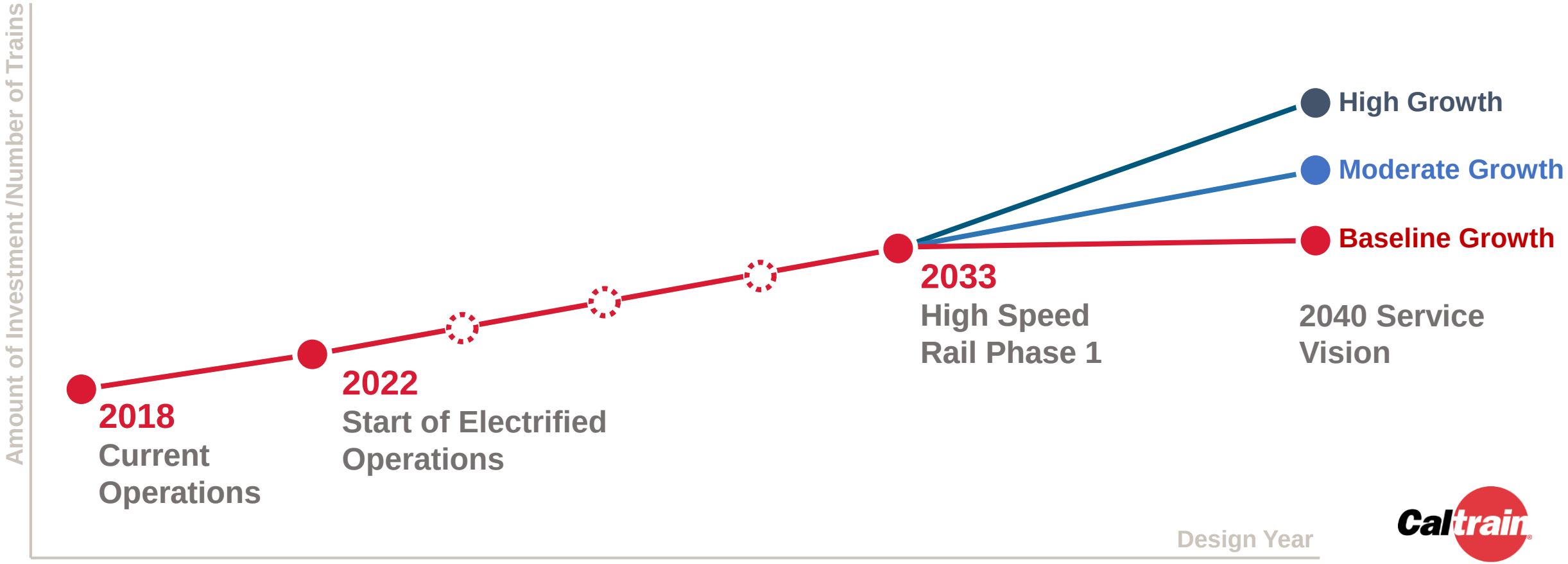
Service

This update describes the process used to develop different **illustrative** 2040 service concepts. The different concepts shown are not proposals or recommendations. They represent an indicative **range of options** for how Caltrain service could grow given different levels of investment in the corridor

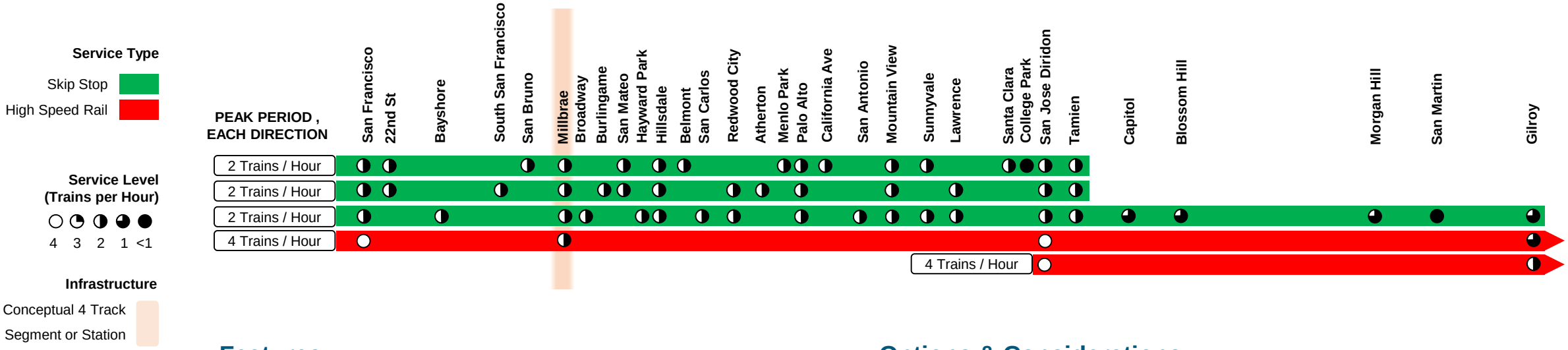
Business Case

During the spring of 2019 the Business Plan team will develop a detailed “Business Case” analysis for each of the different growth scenarios. The Business Case will quantify the financial implications and wider costs and benefits of each growth scenario

2040 Service Scenarios



2040 Baseline Growth Scenario (6+4 Trains)



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

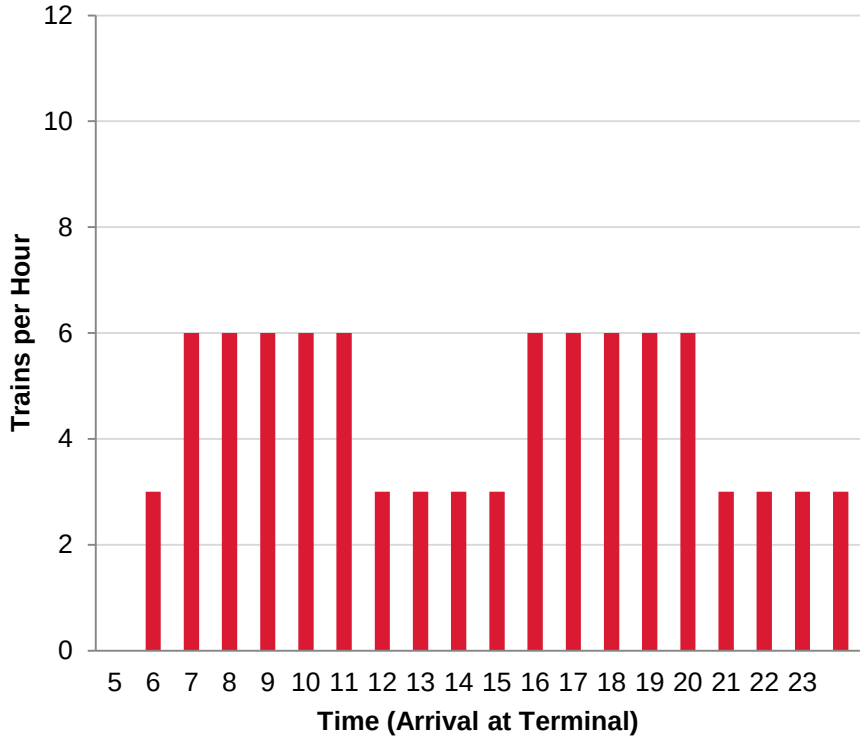
- Less than 1 mile of new passing tracks at Millbrae associated with HSR station plus use of existing passing tracks at Bayshore and Lawrence

Options & Considerations

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

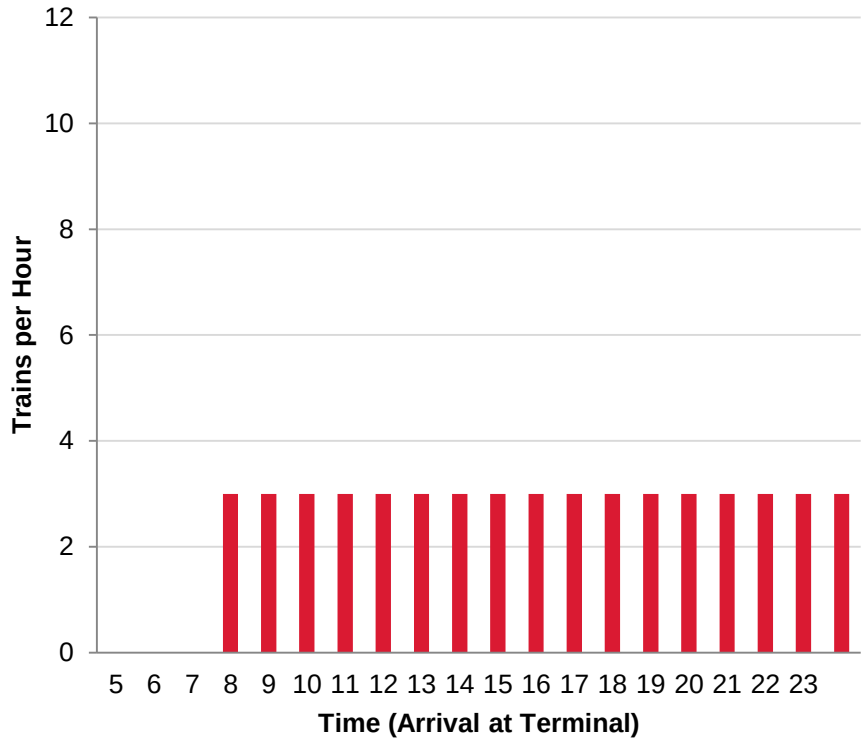
Baseline Growth Scenario – Full Day

Weekday Service



- 6 TPH during morning and evening peak periods (3 skip stop patterns at 2 TPH)
- 3 TPH during morning and evening off peak periods (3 skip stop patterns at 1 TPH)
- HSR operates 4 TPH during peak period and 3 TPH during off-peak periods

Weekend Service

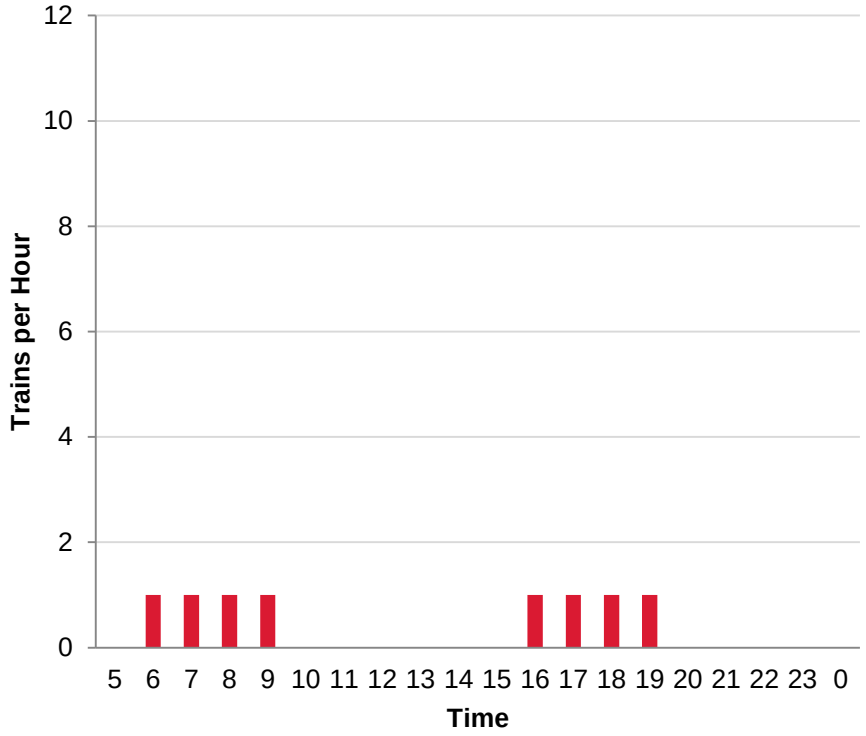


- 3 TPH during morning and evening peak periods (3 skip stop patterns at 1 TPH)
- HSR operates three trains per hour

Charts depict Caltrain arrivals only

Baseline Growth – South of Tamien

Weekday Service



- Caltrain: 4 TPH throughout the day
- HSR: 8 TPH during peak periods and 4 TPH during off-peak periods

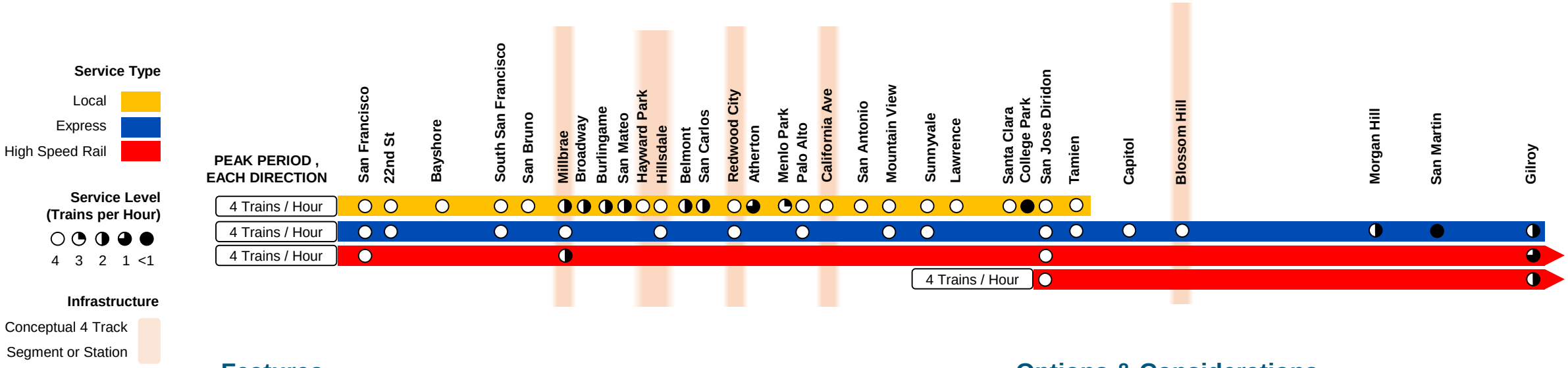
Weekend Service

NO WEEKEND CALTRAIN SERVICE

- HSR: 4 TPH throughout the day

Charts depict Caltrain arrivals only

Moderate Growth Scenario (8+4 Trains)



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

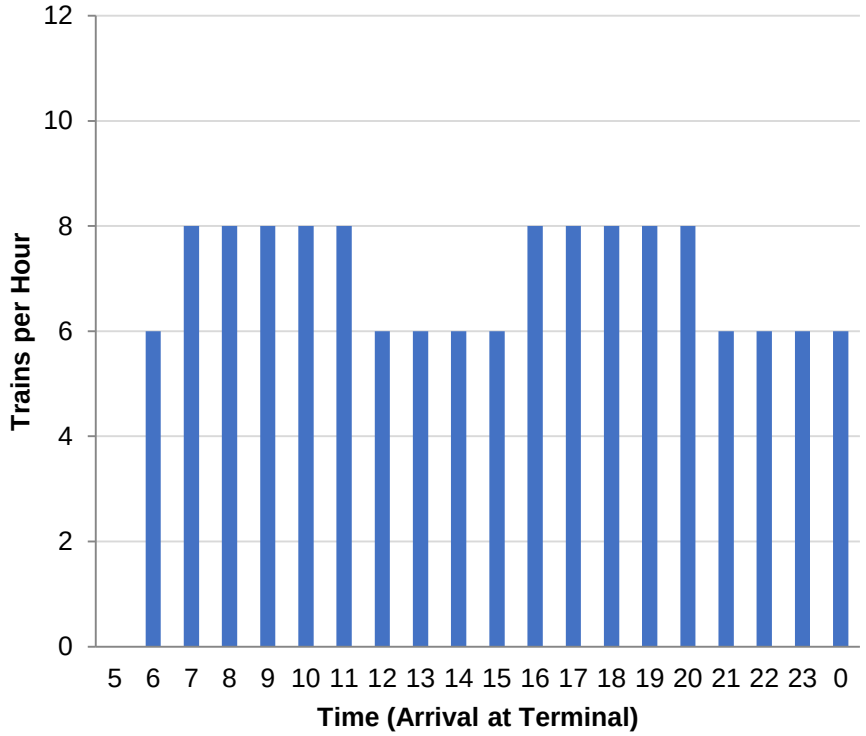
- Up to 4 miles of new 4-track segments and stations: Hayward Park to Hillsdale, at Redwood City, and a 4-track station in northern Santa Clara county (Palo Alto, California Ave, San Antonio or Mountain View. California Ave Shown)

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

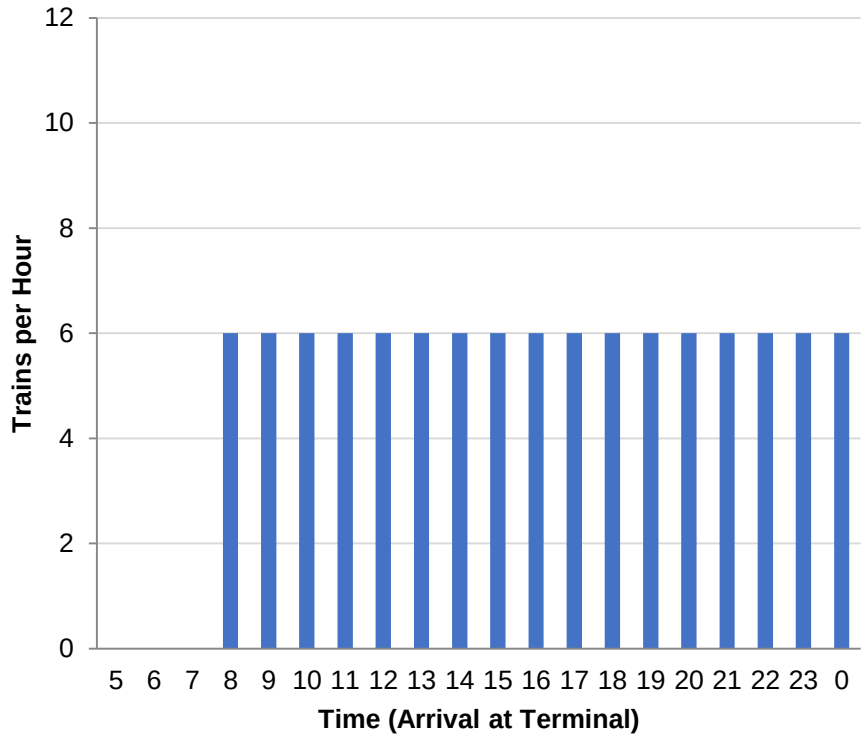
Moderate Growth Scenario – Full Day

Weekday Service



- 8 TPH during morning and evening peak periods (4 local and 4 express trains)
- 6 TPH during early AM, midday, and evenings (2 local and 4 express trains)
- HSR operates 4 TPH during peak period and 3 TPH during off-peak periods

Weekend Service

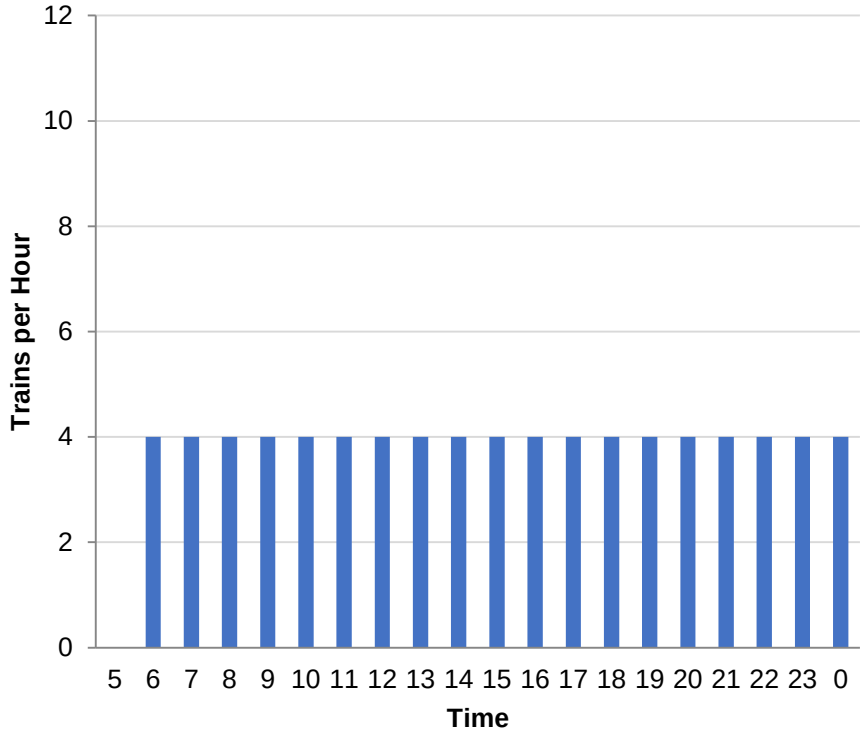


- 6 TPH during early AM, midday, and evenings (2 local and 4 express trains)
- HSR operates 3 TPH

Charts depict Caltrain arrivals only

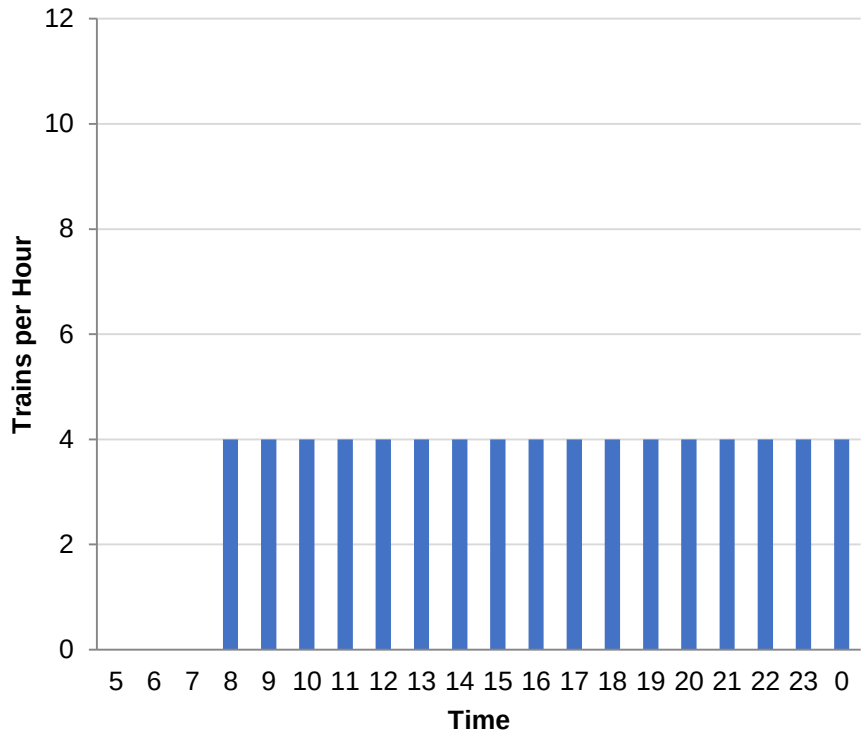
Moderate Growth – Capitol & Blossom Hill

Weekday Service



- Caltrain: 4 TPH throughout the day
- HSR: 8 TPH during peak periods and 4 TPH during off-peak periods

Weekend Service



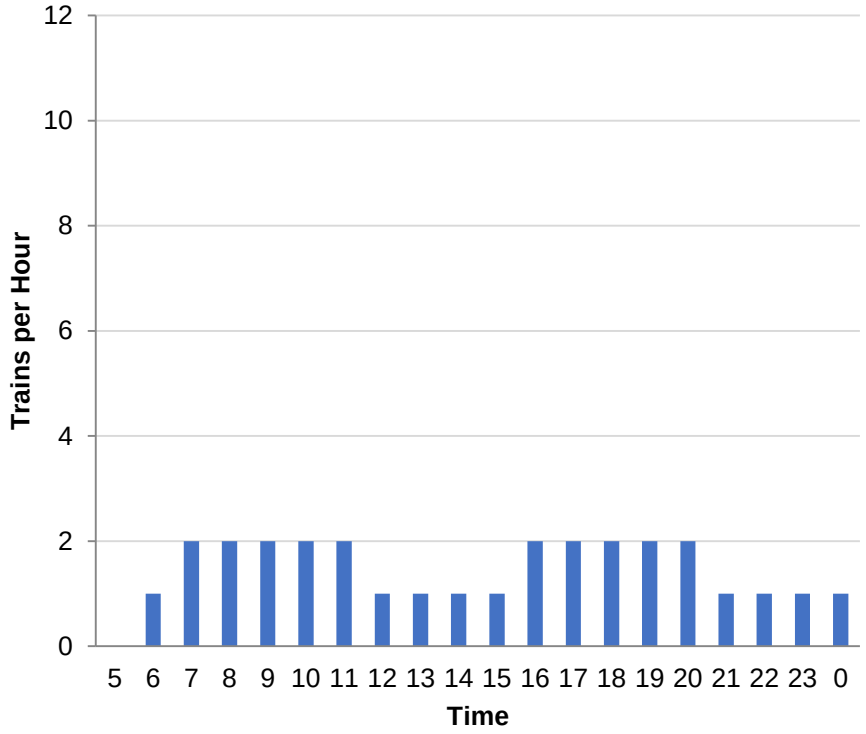
- Caltrain: 4 TPH throughout the day
- HSR: 4 TPH throughout the day

Assumes 4 track turnaround at Blossom Hill station

Charts depict Caltrain arrivals only

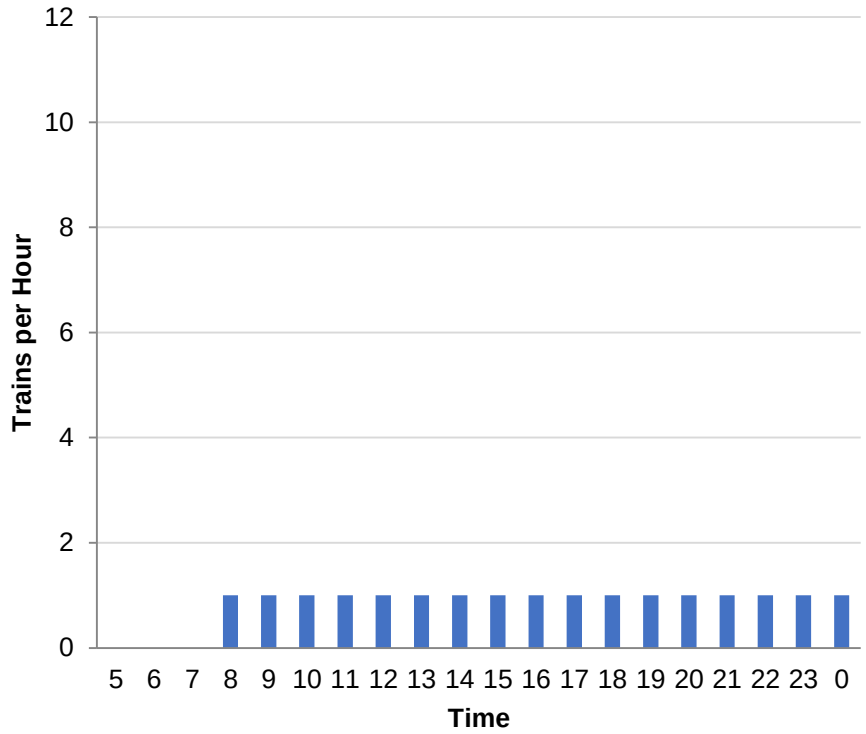
Moderate Growth – Morgan Hill & Gilroy

Weekday Service



- Caltrain: 2 TPH during peak periods and 1 TPH during off-peak periods
- HSR: 8 TPH during peak periods (3 stopping at Gilroy) and 4 TPH during off-peak periods (2 stopping at Gilroy)

Weekend Service

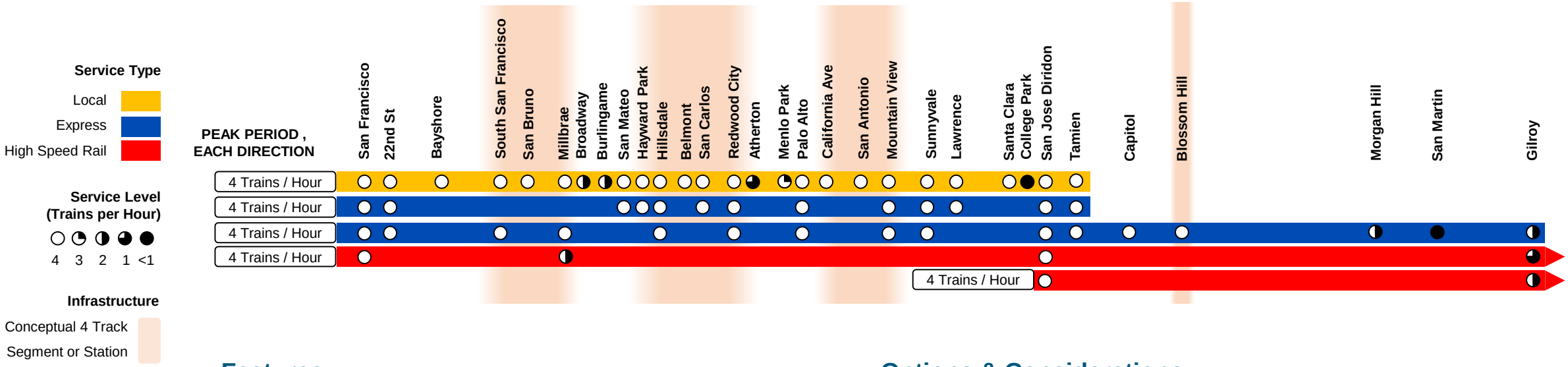


- Caltrain: 1 TPH throughout the day
- HSR: 4 TPH throughout the day (2 stopping at Gilroy)

Assumes 4 track turnaround at Blossom Hill station

Charts depict Caltrain arrivals only

High Growth Scenarios (12+4 Trains)



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

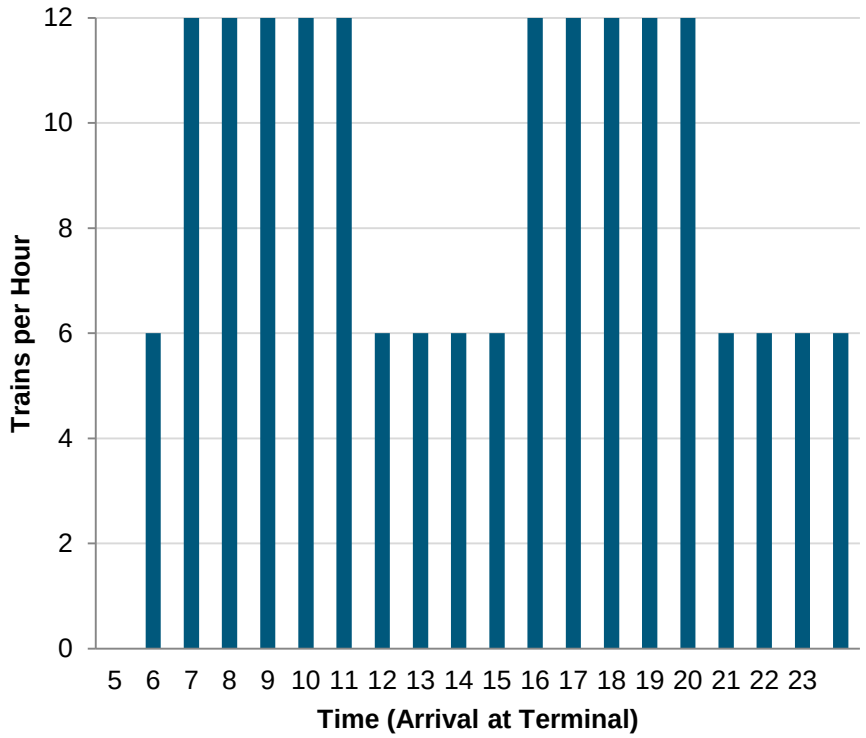
- Requires up to 15 miles of new 4 track segments: South San Francisco to Millbrae, Hayward Park to Redwood City, and northern Santa Clara County between Palo Alto and Mountain View stations (shown: California Avenue to north of Mountain View)

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

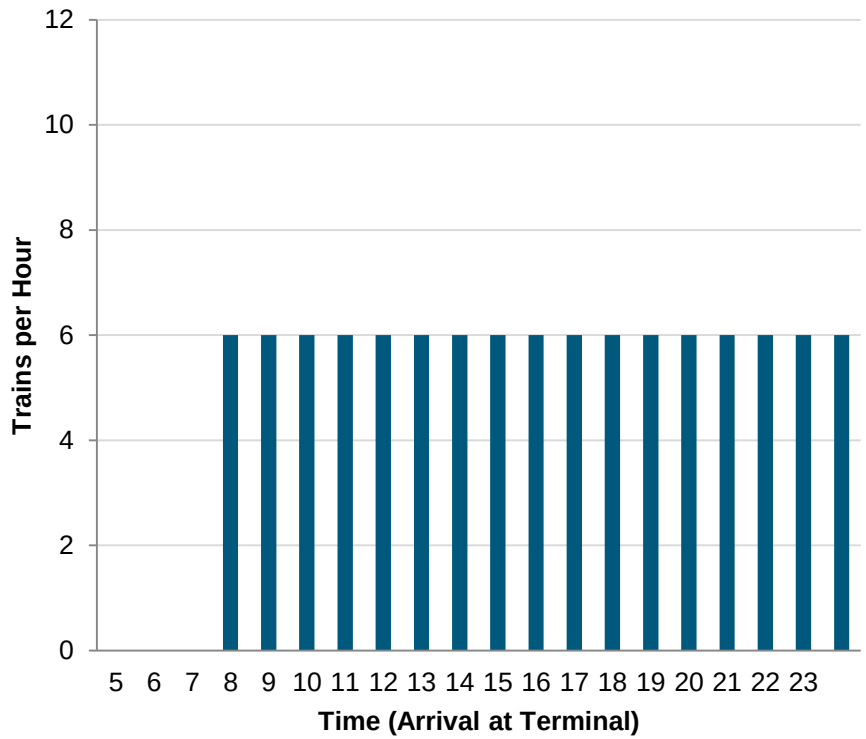
High Growth Scenario – Full Day

Weekday Service



- 12 TPH during morning and evening peak periods (4 local and 8 express trains)
- 6 TPH during early AM, midday, and evenings (2 local and 4 express trains)
- HSR operates 4 TPH during peak period and 3 TPH during off-peak periods

Weekend Service

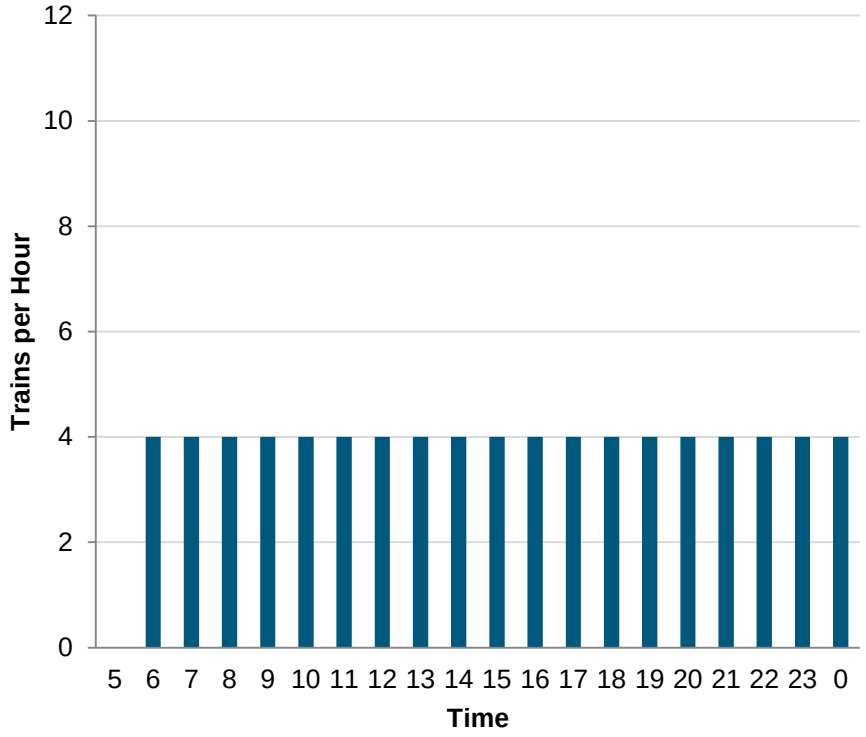


- 6 TPH during early AM, midday, and evenings (2 local and 4 express trains)
- HSR operates 3 TPH

Charts depict Caltrain arrivals only

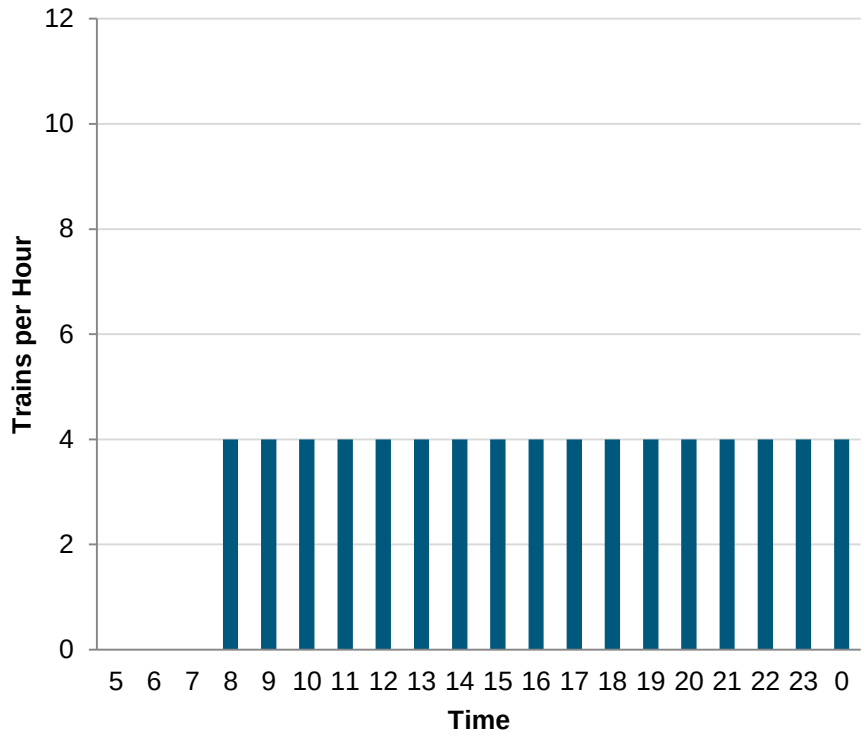
High Growth – Capitol & Blossom Hill

Weekday Service



- Caltrain: 4 TPH throughout the day
- HSR: 8 TPH during peak periods and 4 TPH during off-peak periods

Weekend Service



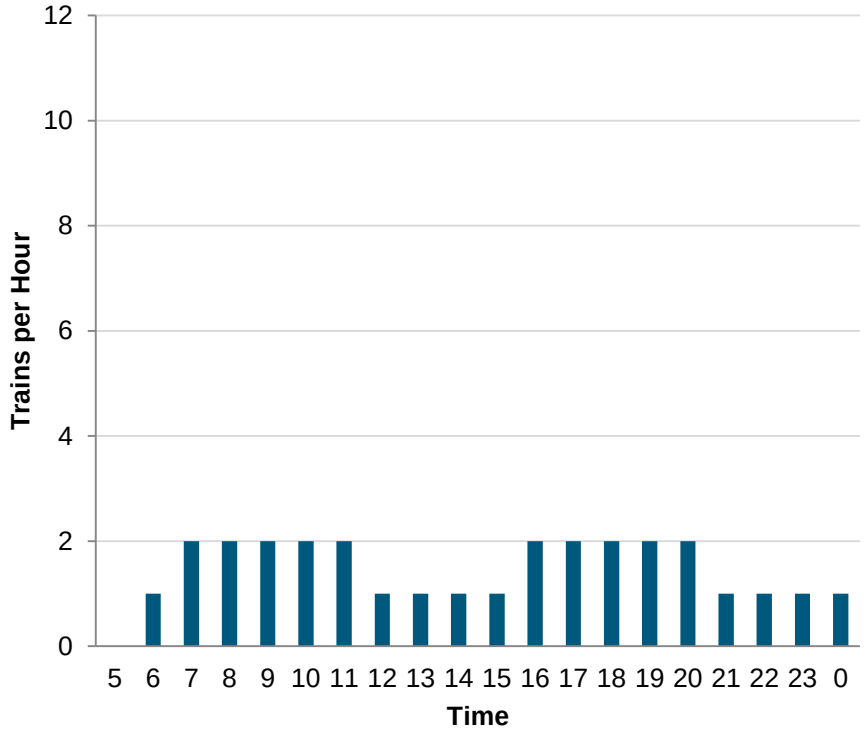
- Caltrain: 4 TPH throughout the day
- HSR: 4 TPH throughout the day

Assumes 4 track turnaround at Blossom Hill station

Charts depict Caltrain arrivals only

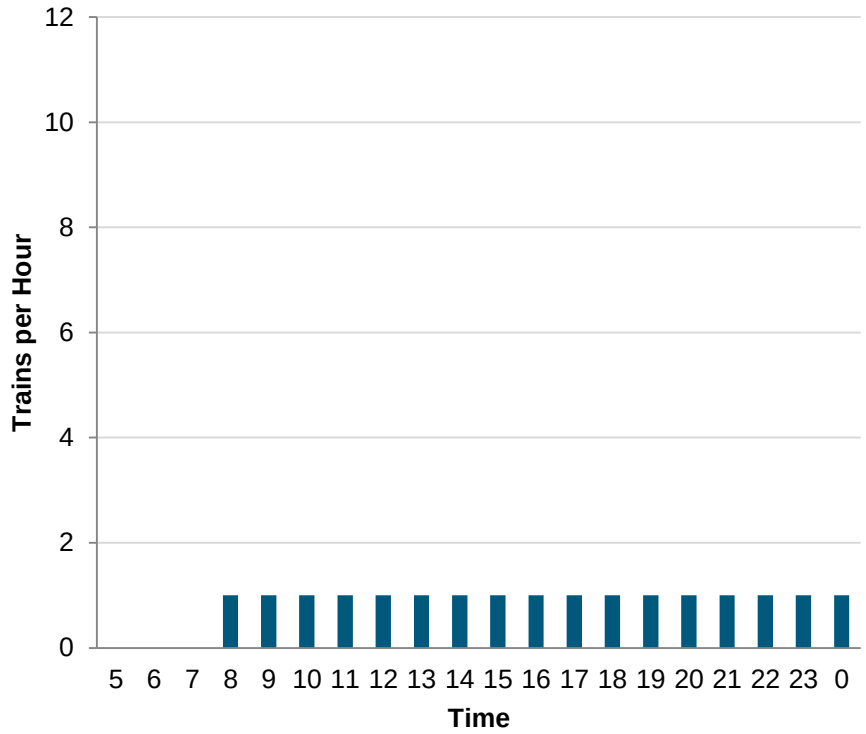
High Growth – Morgan Hill & Gilroy

Weekday Service



- Caltrain: 2 TPH during peak periods and 1 TPH during off-peak periods
- HSR: 8 TPH during peak periods (3 stopping at Gilroy) and 4 TPH during off-peak periods (2 stopping at Gilroy)

Weekend Service



- Caltrain: 1 TPH throughout the day
- HSR: 4 TPH throughout the day (2 stopping at Gilroy)

Assumes 4 track turnaround at Blossom Hill station

Charts depict Caltrain arrivals only

Next Steps in Developing the Service Vision

Upcoming Work

- Detailed terminal planning working sessions with Caltrain partners
- Continued exploration of service variations and options
- Simulation, confirmation and refinement of service concepts
- Capital costing, ridership projections and business model integration
- Ongoing discussions with local jurisdictions

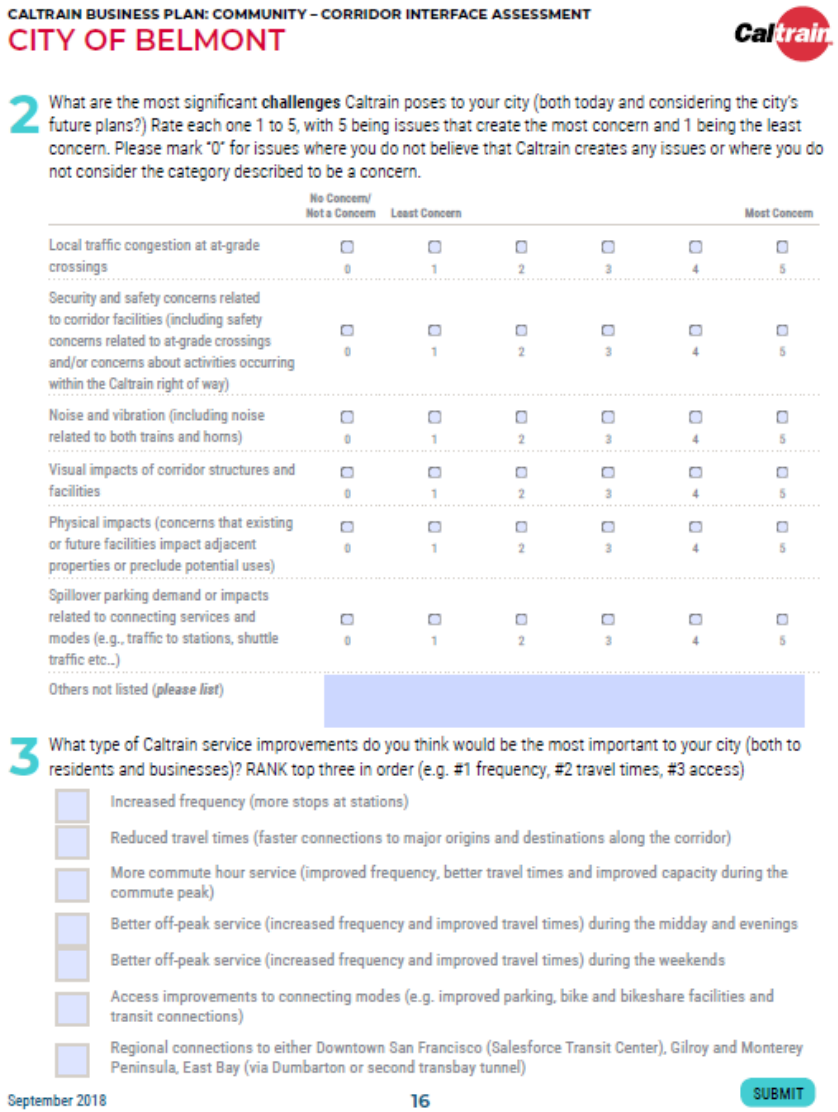
Community Interface & Outreach Update

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/ Not a Concern	Least Concern				Most Concern
Local traffic congestion at at-grade crossings	0	1	2	3	4	5
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)	0	1	2	3	4	5
Noise and vibration (including noise related to both trains and horns)	0	1	2	3	4	5
Visual impacts of corridor structures and facilities	0	1	2	3	4	5
Physical impacts (concerns that existing or future facilities impact adjacent properties or preclude potential uses)	0	1	2	3	4	5
Spillover parking demand or impacts related to connecting services and modes (e.g., traffic to stations, shuttle traffic etc..)	0	1	2	3	4	5
Others not listed (*please list*)						

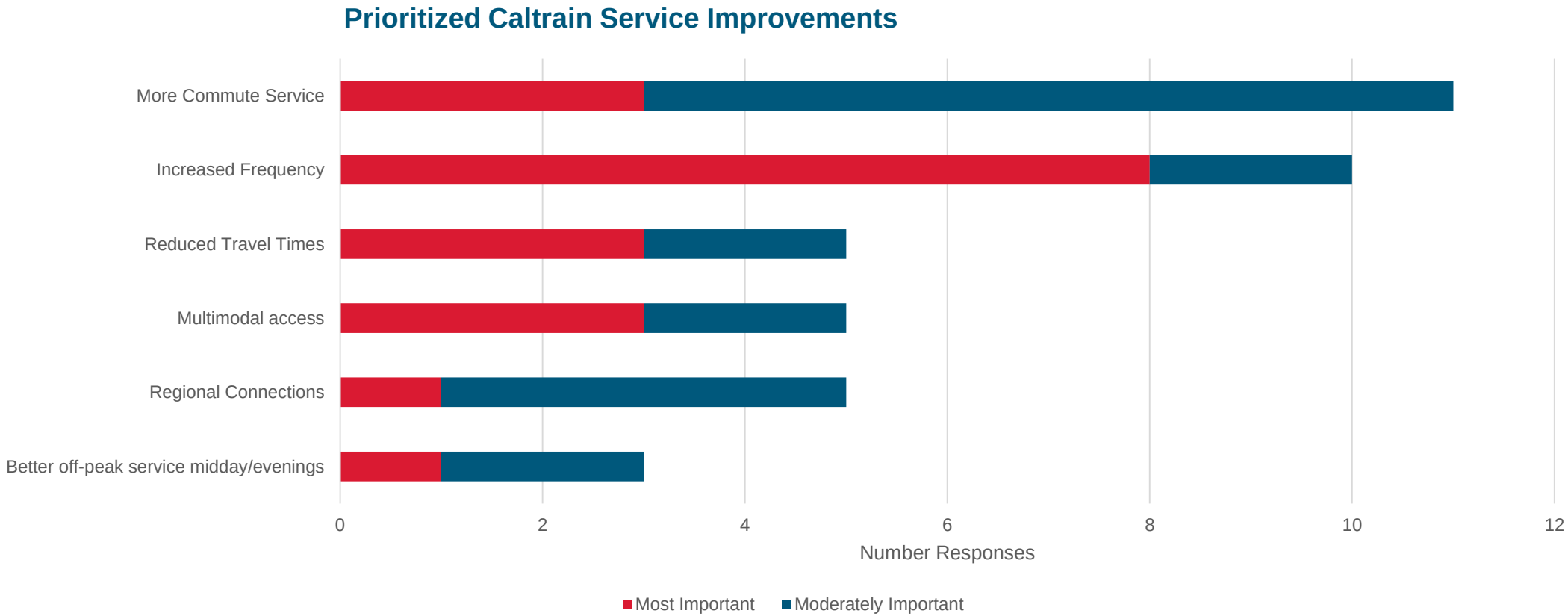
3 What type of Caltrain service improvements do you think would be the most important to your city (both to residents and businesses)? RANK top three in order (e.g. #1 frequency, #2 travel times, #3 access)

- 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

Service Priorities

Community Interface Meeting Results



Key Themes

Community Interface Meeting Results

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

Outreach Activities to Date

July – December Timeline

	July	August	September	October	November	December
Local Policy Maker Group	●	●	●		●	●
City/County Staff Coordinating Group	●	●	●		●	●
Project Partner Committee	●	●	●	●	●	●
Community Interface Meetings (One Per Jurisdiction)			●	●	●	
Stakeholder Advisory Group				●		
Partner General Manager				●		
Website & Survey Launch					●	
Community Meetings (One Per County)					●	
Sister Agency Presentations					●	●

Outreach Activities to Date

July – December by the Numbers

Stakeholders Engaged

21
Jurisdictions

26
Public Agencies

39
Stakeholder Group Meetings

93
Organizations in Stakeholder Advisory Group

Public Outreach

15
Public Meetings and Presentations

700+
Survey Responses

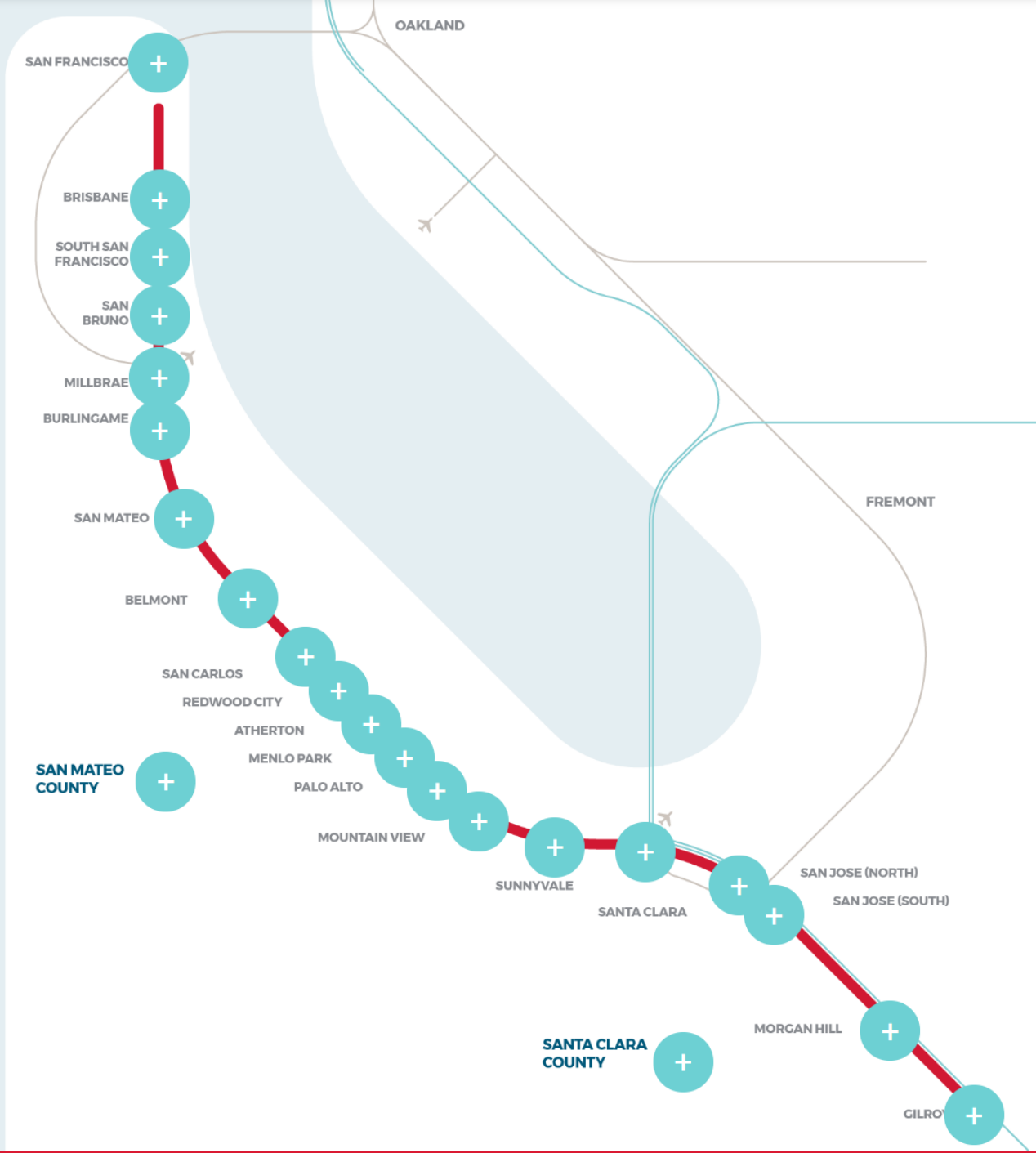
2,600
Website Hits

27,000
Social Media Engagements

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



Upcoming Outreach Activities

Planned for Winter and Spring of 2019

Project Stakeholders

Continued meetings and engagement

Community Interface

Second round of meetings with jurisdictions

Public Forums

At SPUR and online (Reddit)

Community Meetings

Second round of public meetings

Online Open House

Hosted on project website

FOR MORE INFORMATION

WWW.CALTRAIN.COM