Caltrain Business Plan

OCTOBER 2018

November 15, 2018

Bicycle Advisory Committee

How Should Caltrain Grow?

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Business Plan Overview

● **Business Plan Overview** ━━━ ○ A Vision for Growth ━━━ ○ Crafting the Vision ━━━ ○ Next Steps

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.

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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

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Where Are We in the Process?

2018

2019

2020

Board Adoption of Scope

Partnership with Stanford and Contracting with Technical Team

Board Adoption of 2040 Service Vision

Board Adoption of Final Business Plan

Initial Scoping and Stakeholder Outreach

Technical Approach Refinement, Partnering, and Contracting

Part 1: Service Vision Development

Part 2: Business Plan Completion

Implementation

We Are Here

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A Vision for Growth

Business Plan Overview · **A Vision for Growth** · Crafting the Vision · Next Steps

200 Years on the Caltrain Corridor

Yesterday

Today

Tomorrow

1863 Passenger service begins on the corridor

1870 Southern Pacific Railroads purchases the corridor

1940s – 1970s Passenger and freight traffic boom during WWII then begin steady decline

1977 Caltrans subsidizes Southern Pacific commuter service

1987 Caltrain Joint Powers Board service is formed

2004 Baby Bullet limited-stop service is introduced

2022 Corridor electrification is complete

2027 and Beyond Caltrain and High-Speed Rail operate on the Blended System

1860 1870 1880 1890 **1900** 1910 1920 1930 1940 **1950** 1960 1970 1980 1990 **2000** 2010 2020 2030 2040 **2050** 2060

Milestones that Shaped the Railroad's Future

2008 — CHSRA specifies its alignment

2011-2013 — "Blended System" introduced

CHSRA Business Plan confirms Blended System

Senate Bills 1029 and 557 provide Prop 1A funds and codify 2-track blended system

2013-2017 — Peninsula Corridor Electrification Program environmentally cleared

Receipt of Federal Full Funding Grant Agreement

Full Notice to Proceed issued

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# Electrification is the Foundation for Growth with Plans for More

Improving Caltrain is Vital to the Health of the Region's Economy

Jobs within 30 minutes of travel on transit (thousands)

| <50 | 50 | 100 | 150 | 225 | 300 | 450 | 600 | 600< |

— Existing rail   ○ Caltrain station
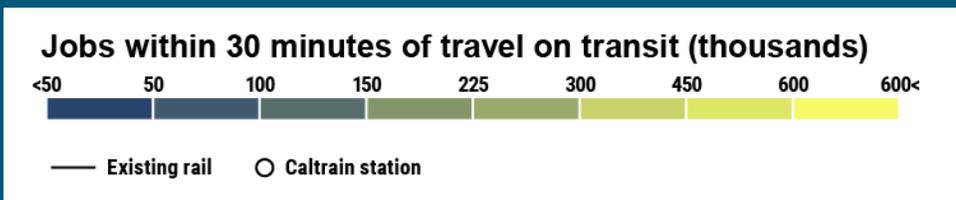
Choosing a Vision- How Will the Railroad Grow?

What In the Spring of 2019 the team will present two growth scenarios to the Board. One will generally reflect past and ongoing Blended System planning efforts while another will explore a higher level 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

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Crafting the Vision

Business Plan Overview ——— A Vision for Growth ——— **Crafting the Vision** ——— Next Steps

Focus on Service

Working Backwards from 2040
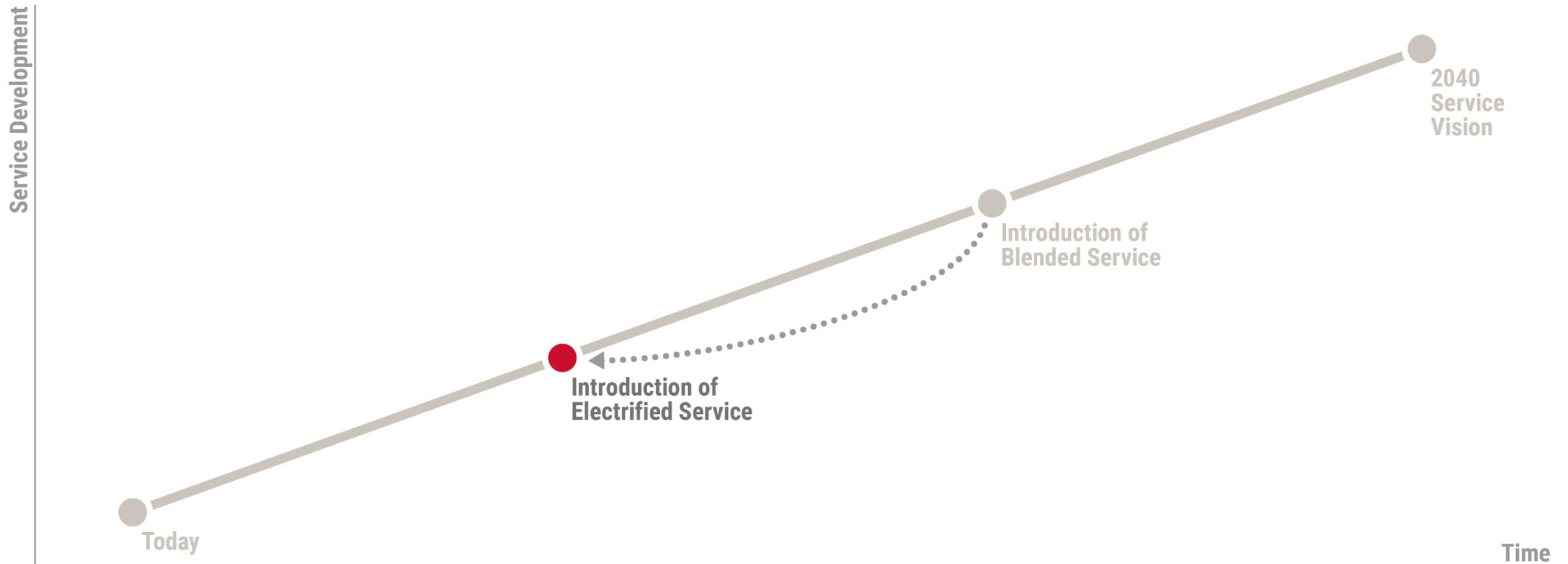
What is the Service Vision?

An Achievable End State for the Corridor in 2040

Train Service
- Frequencies
- Stopping patterns
- Service types
- Number of trains

Infrastructure Needs
- Fleet
- Systems
- Infrastructure
- Support facilities

Costs
- Operating
- Maintenance
- Capital

Outcomes
- Ridership
- Mobility benefits
- Revenues

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Where do We Start?

The Service Vision Exists within an Established Framework

Existing Policy Decisions
- Commitment to a Blended System
- Primarily a 2-track corridor

Planned Projects
- Stations
- Connecting services
- Grade separations

Community Acceptability
- Tangible benefits
- Mitigated or acceptable impacts

Market Responsiveness
- Origins and destinations
- Capacity
- Travel times
- Coverage

Fiscal Reality
- Realistic scale
- Value for money

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Building Blocks for a 2040 Service Vision

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Assumptions

- Fully electrified service between San Francisco and Tamien
- Additional electrified service from San Jose to Gilroy on a 2-track electrified system

Explorations

- Details of service, fleet and infrastructure
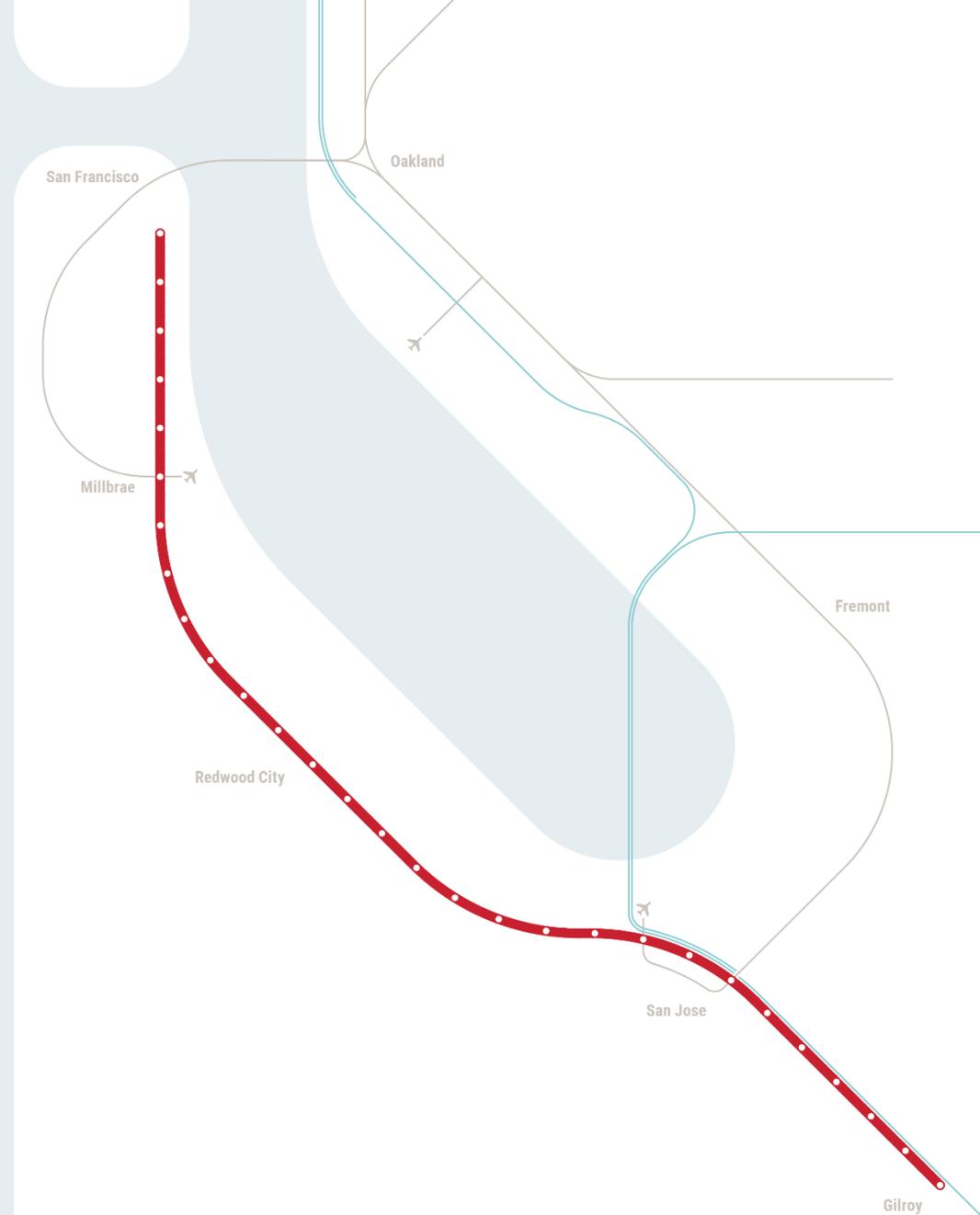
Building Blocks for a 2040 Service Vision

High Speed Rail

Assumptions

- Full HSR Service from Los Angeles to San Francisco (Phase 1)
- Related corridor and station upgrades consistent with a primarily 2-track Blended System (under study through HSR environmental)
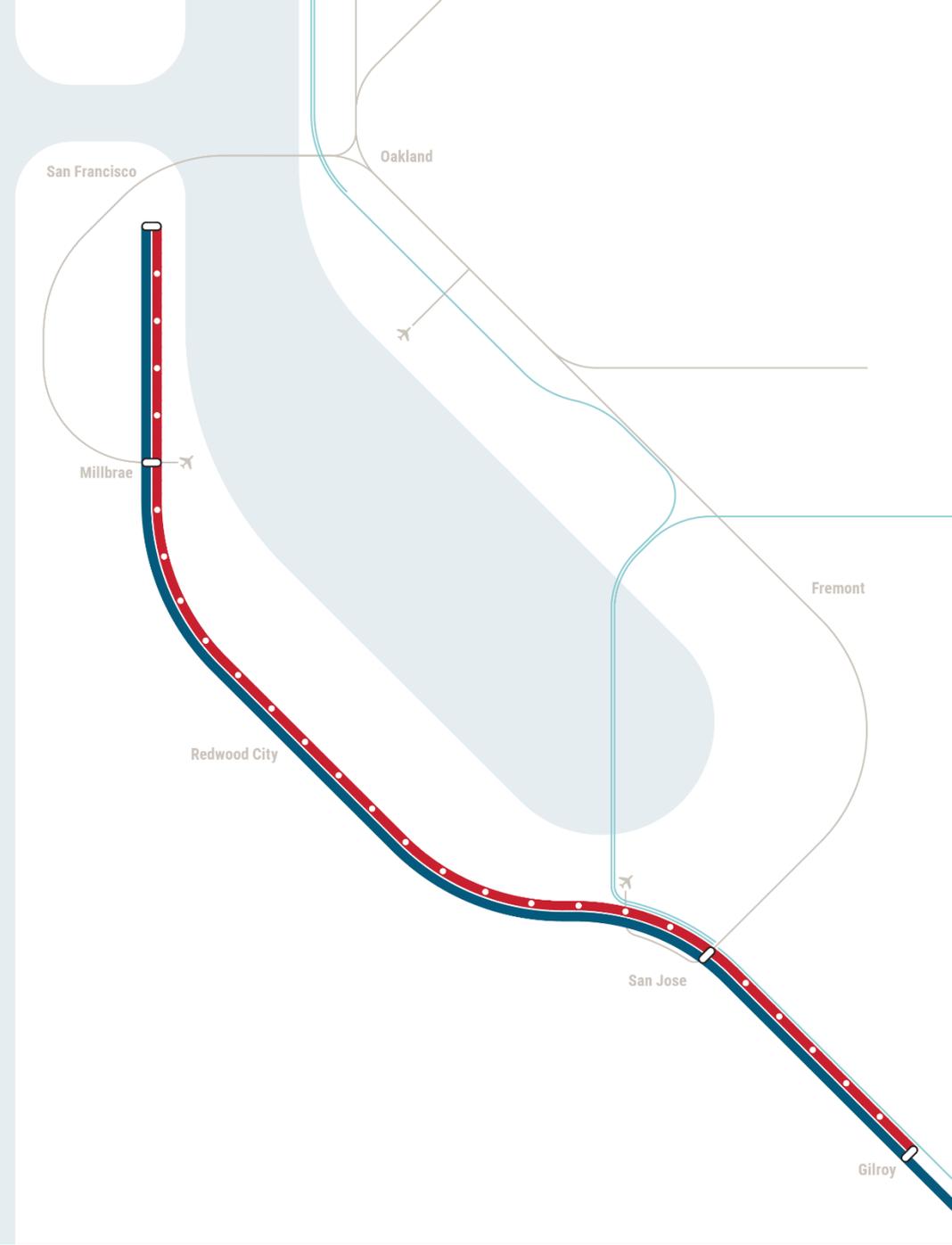
Building Blocks for a 2040 Service Vision

North Terminal

Assumptions

- Caltrain/HSR Downtown Extension to Salesforce Transit Center

Explorations

- 4th/King/Townsend reconfiguration
- Pennsylvania Ave alignment
- Potential reconfiguration or relocation of storage and maintenance facilities
- Potential interface with new transbay crossing
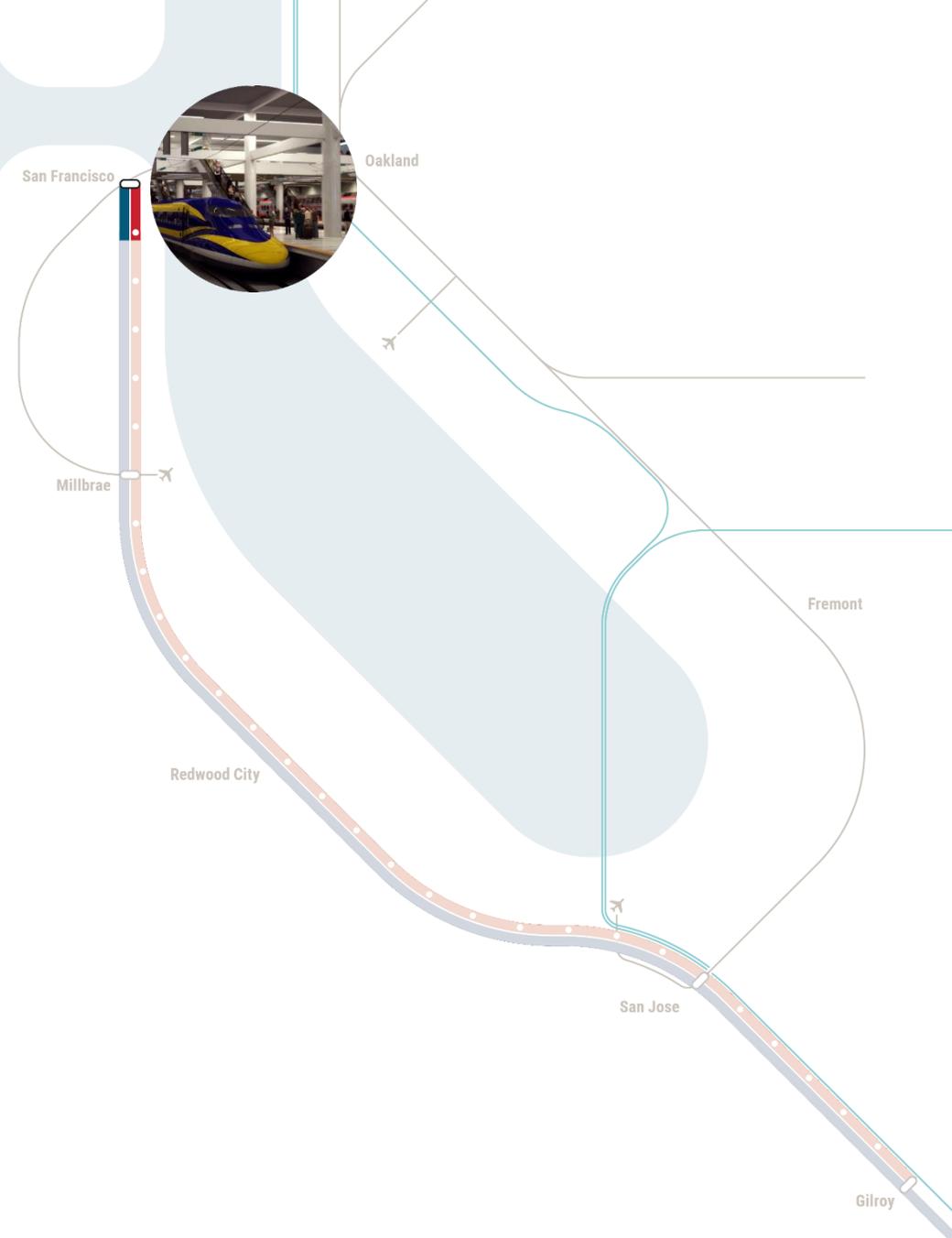
Building Blocks for a 2040 Service Vision

South Terminal

Explorations

- Reconstruction and reconfiguration of Diridon Station
- Additional potential modifications to surrounding rail facilities and potential relocation of CEMOF
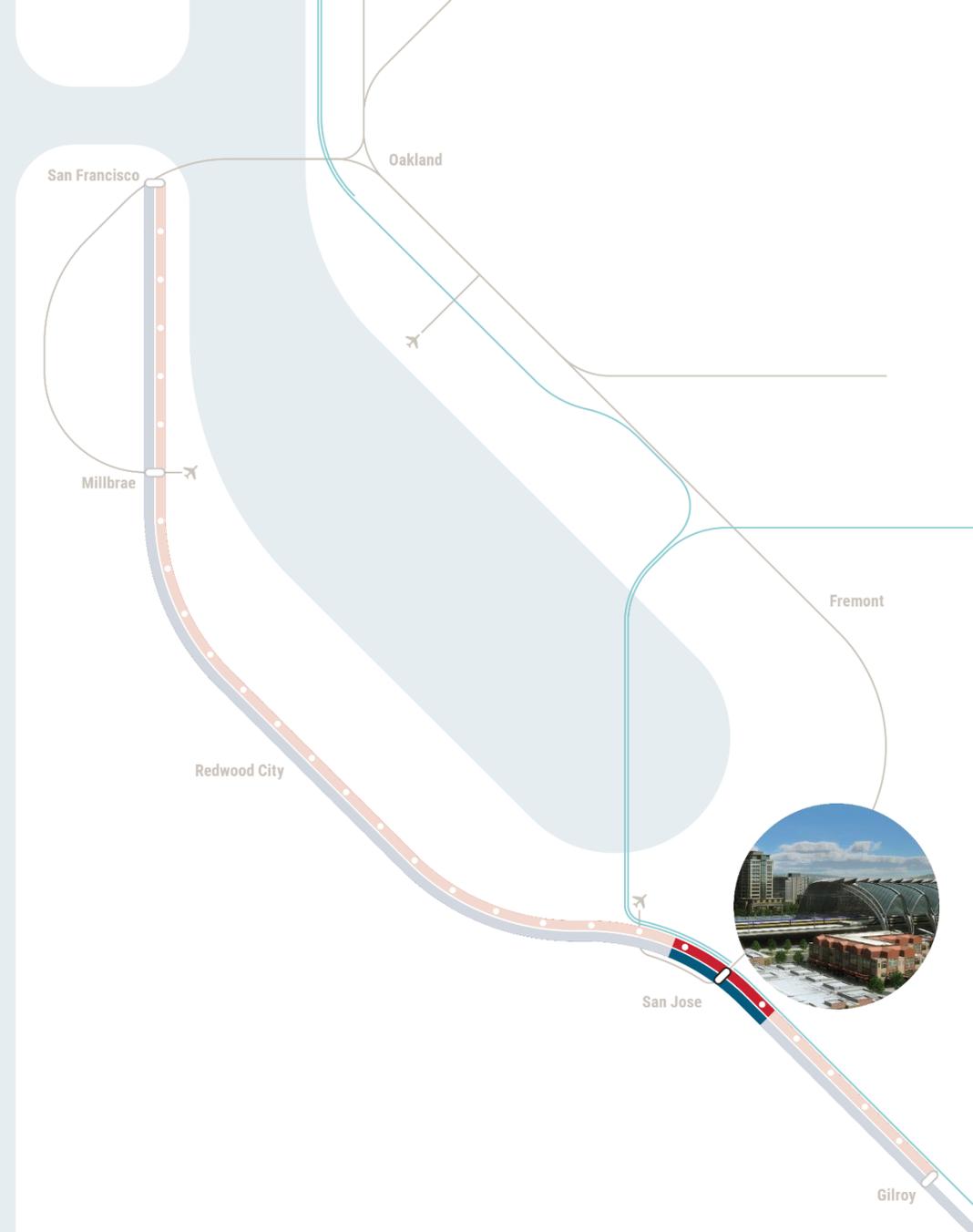
Building Blocks for a 2040 Service Vision

Connecting Services

Assumptions

- BART to Diridon and Santa Clara
- Expansion of ACE and Capitol Corridor service
- Continued use of corridor by freight

Explorations

- Dumbarton Rail Service
- Monterey County Rail Service
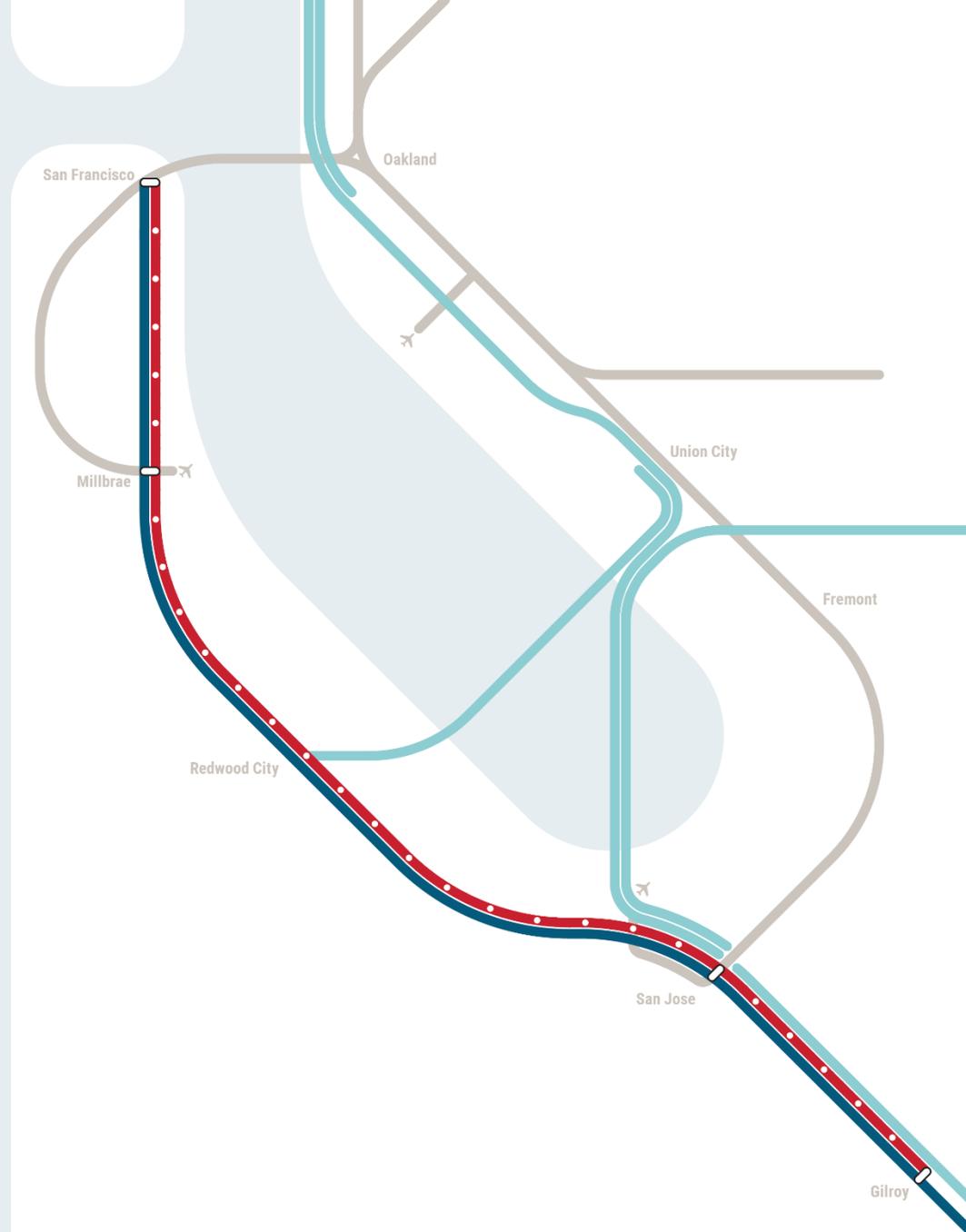
Planning within Constraints

Decisions and commitments that have already been made on the corridor bring three fundamental service planning questions into tension with one another:
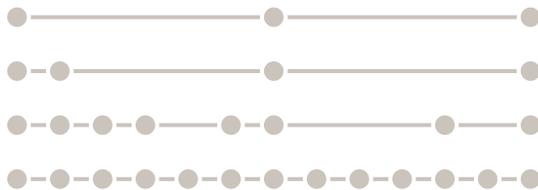
1. Service Differentiation

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?
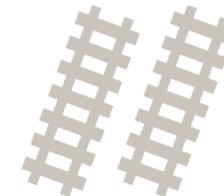
3. Service Investments

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

Planning for the Service we Want

Network Integration

Caltrain is part of a local, regional and statewide transportation network. Planning for enhanced connectivity and a seamless customer experience is a priority.
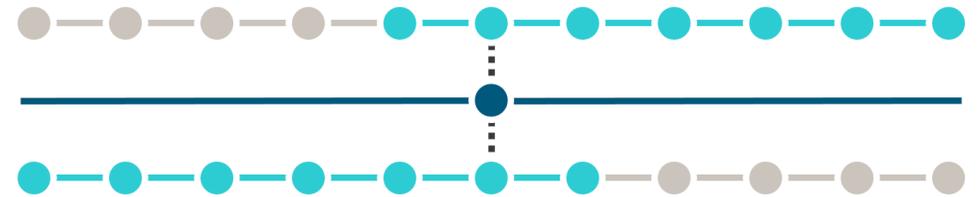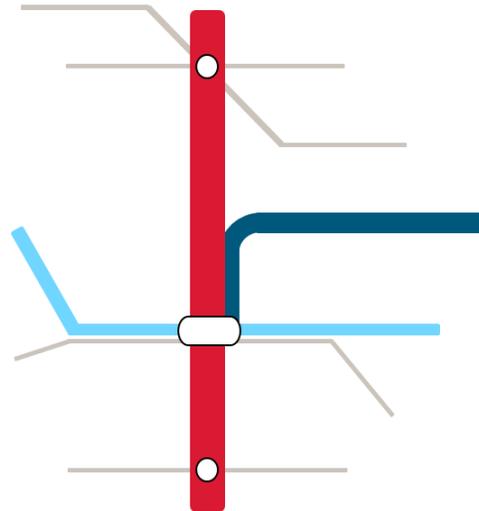
Coordinated Transfers

Timed, well-coordinated transfers increase the useability of the rail system and help provide high quality service to a larger range of travel markets.

Planning for the Service we Want

Clock-Face Scheduling
With clock-face scheduling, trains arrive and depart at consistent intervals, like every 10 minutes. This simplicity makes it easy for customers to remember train schedules, which cuts down on travel planning complexity.
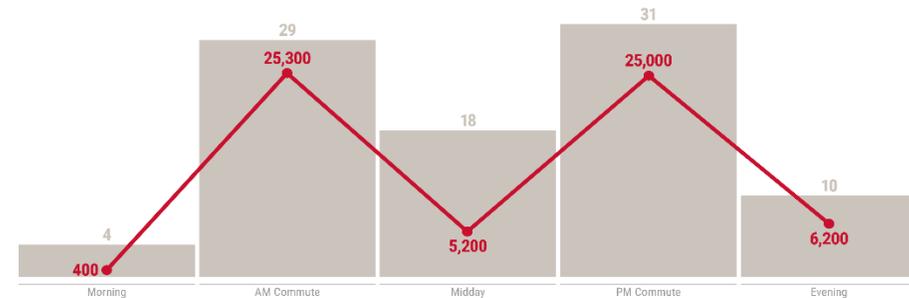
All-Day Service
Expanded all-day service makes the system more useful to a range of different customers and helps build new markets

	Morning	AM Commute	Midday	PM Commute	Evening
	4	29	18	31	10
	400	25,300	5,200	25,000	6,200

Balancing Priorities

Caltrain must also consider how to balance competing priorities as it plans its future service

Frequent Service to Many Stations
with slower travel time due to many stops

Fast Travel Time to Fewer Stations
with longer wait times at skipped stations

A Balance of Travel Time and Frequency
with transfers required

Market-Focused Service
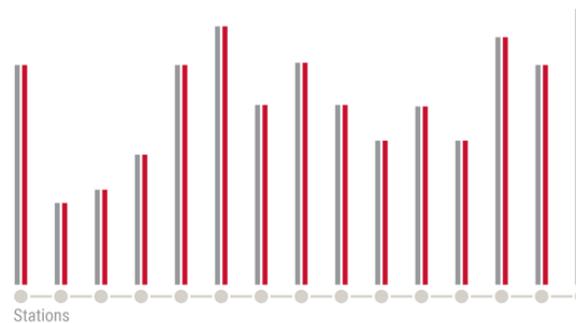
Coverage-Focused Service
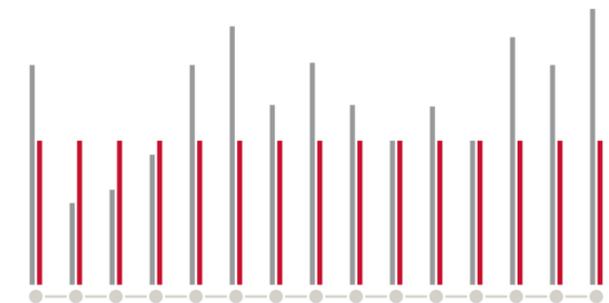
Stations

Today, Ridership is Highly Concentrated at a Few Stations

Change in Ridership (Thousands)
1998 – 2017

+30,000 Riders

+5,000 Riders

-400 Riders

-500 Riders

2001 Dot Com Bust

2004 Baby Bullets

2008 Great Recession

2010 Tech Boom
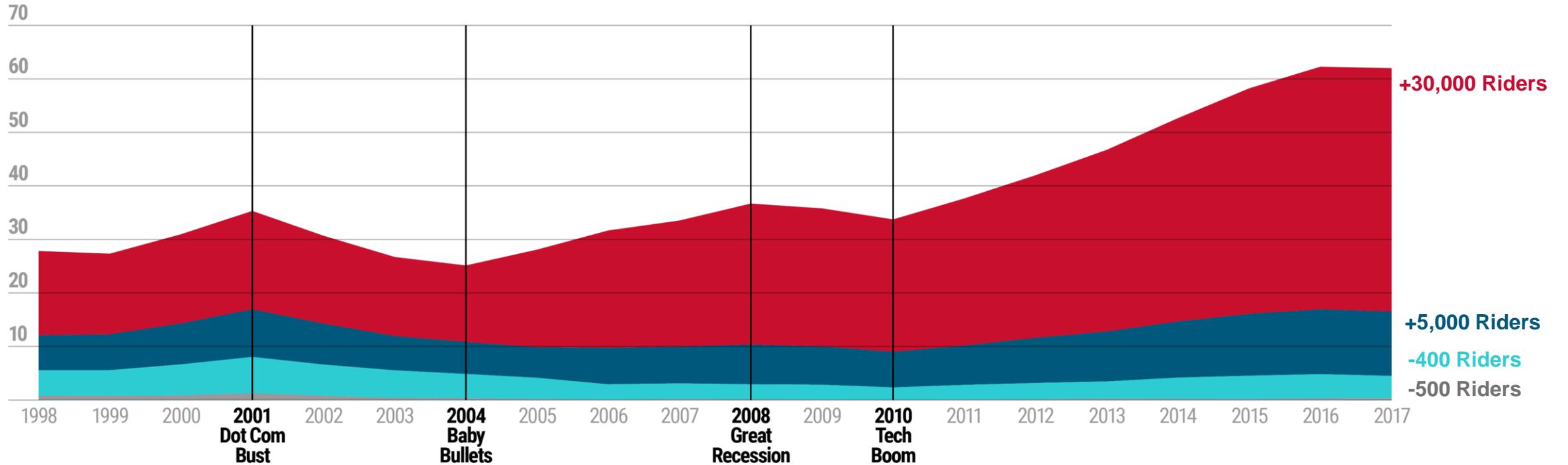
Top 8 Stations
4th & King, Millbrae, Hillsdale, Redwood City, Palo Alto, Mountain View, Sunnyvale, San Jose Diridon

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

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

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

Source: 1998-2017 Passenger Counts

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Today, Caltrain Serves Multiple Markets in Both Directions

Southbound demand is primarily driven by trips between San Francisco/BART and Silicon Valley, especially Palo Alto and Mountain View

Limited activity in Santa Clara County south of Mountain View

Weekday Morning Ridership by Direction

■ Boardings   ■ Alightings

16,100 Riders (64%)

9,200 Riders (36%)

SB   **NB**

Stations (top to bottom):
4th & King — 9,200
22nd Street
Bayshore
South San Francisco
San Bruno
Milbrae
Burlingame
San Mateo
Hayward Park
Hillsdale
Belmont
San Carlos
Redwood City
Menlo Park
Palo Alto
California Avenue
San Antonio
Mountain View
Sunnyvale
Lawrence
Santa Clara
College Park
San Jose Diridon
Tamien
Capitol
Blossom Hill
Morgan Hill
San Martin
Gilroy

Emerging employment hubs in northern San Mateo County have relatively low activity due to low service levels and access constraints

Northbound demand primarily driven by trips to Palo Alto, Redwood City, and San Francisco/BART

Limited travel within Santa Clara County besides Palo Alto. Diridon Station primarily serves as park-and-ride for areas farther south

SB axis: 3,000   2,000   1,000
NB axis: 1,000   2,000   3,000

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Today, Caltrain Captures a Modest Percentage of the Regional Travel Market

Peak Period Caltrain Mode Share: 8%
Off-Peak Caltrain Mode Share: 2%

Average Hourly Person-Trips Crossing San Mateo-San Francisco County Line

Legend: US-101 · I-280 · BART · Caltrain

X-axis categories: Early AM (NB, SB), AM Peak (NB, SB), Midday (NB, SB), PM Peak (NB, SB), Evening (NB, SB)

Y-axis: Average Hourly Person Trips (0 to 25,000)
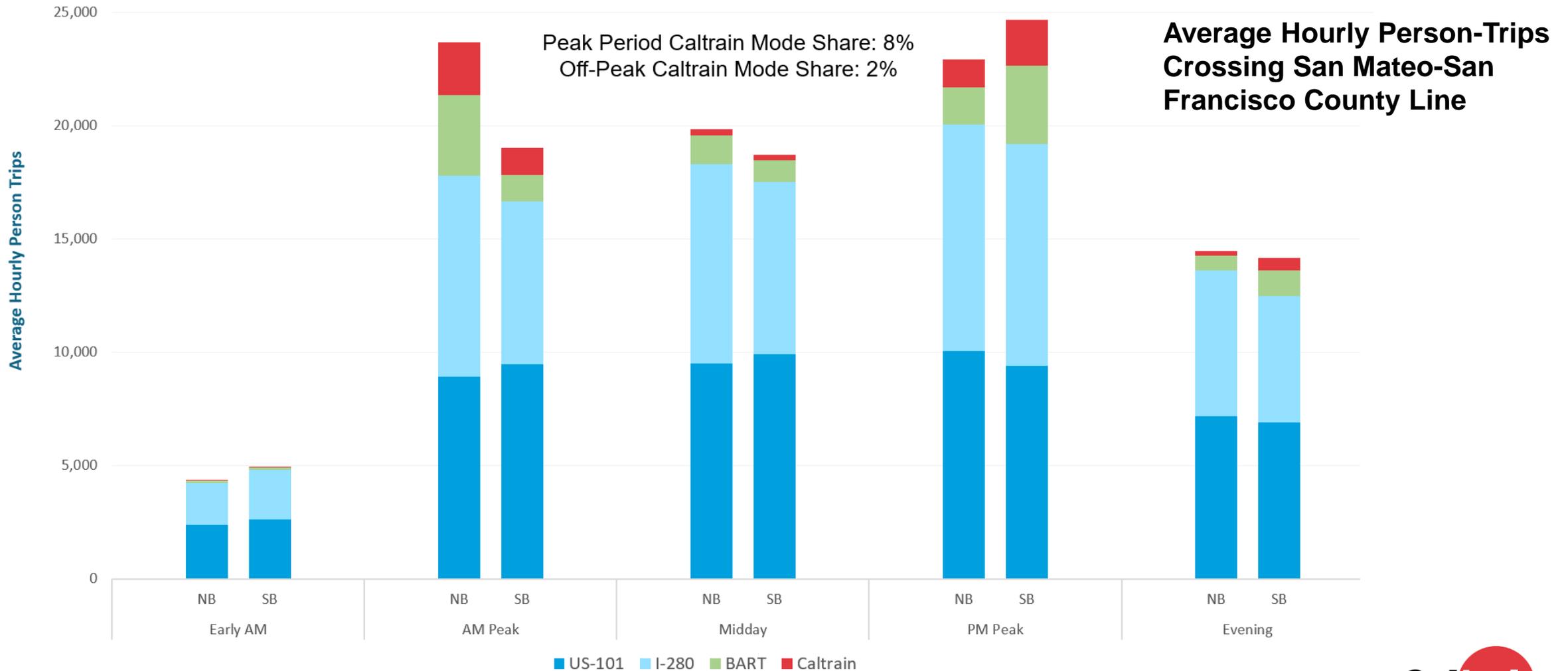
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What is the Potential, Long-Term Demand for Caltrain Service?

Purpose

- Understand the underlying long range, order-of-magnitude demand for rail service in the Caltrain corridor.

- Establishes a <u>rough</u>, quantified benchmark that informs how a long range service vision can be calibrated and scaled

Methodology

- Use VTA – C/CAG Model updated with latest Plan Bay Area land use forecasts

- Develop a <u>sensitivity test</u> using an <u>imaginary</u>, high frequency, unconstrained service plan that includes;
  - Realistic train times (60-80 minutes SF-SJ)
  - High level of sustained all-day service (8 to16 trains per hour per direction. These frequencies are comparable to many sections of the BART system)

Exploring the Potential Long Term Demand for Caltrain Service

This sensitivity test suggests that providing BART-like frequencies on the Caltrain Corridor has the potential to yield BART-like ridership. Today, Caltrain serves approximately 1,300 daily passengers per mile between San Francisco and Tamien Stations, while BART serves approximately 5,200 passengers per mile along its Richmond-Daly City and Fremont-Daly City trunk lines. The sensitivity test suggests Caltrain has a long term (2040) unconstrained demand of about 4,600 passengers per mile, comparable to BART's core service in San Francisco and the inner East Bay. However, demand per mile south of Tamien is approximately 1/10th demand north of Tamien.
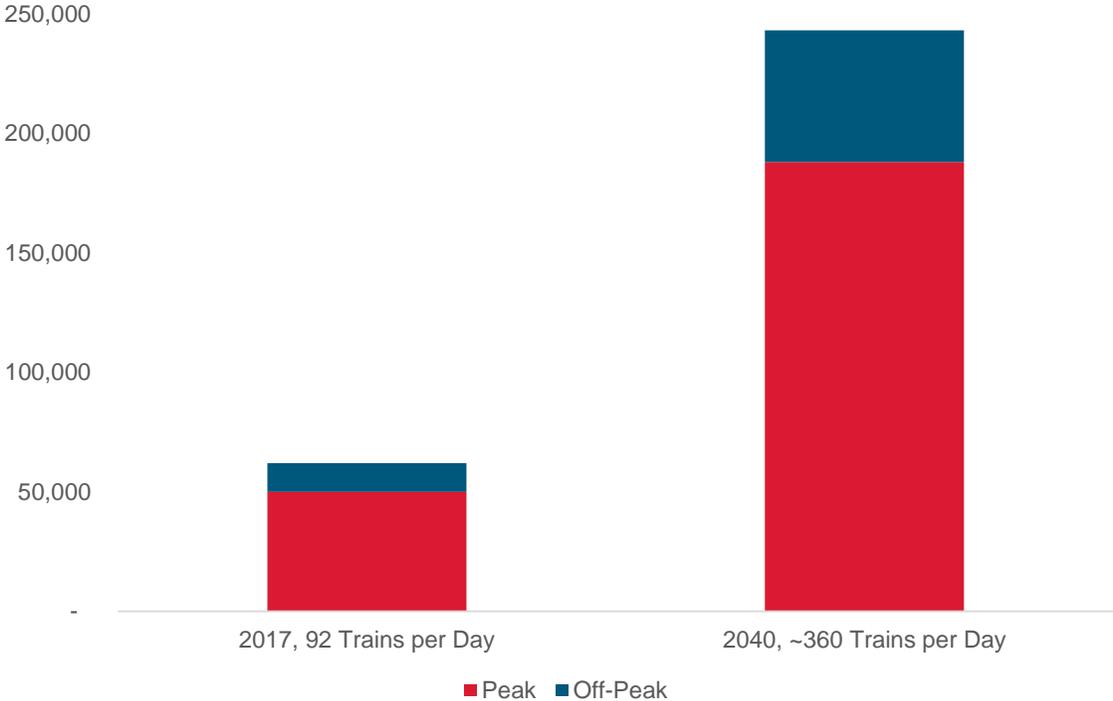
Description	2017, 92 Trains/Day	2040, ~360 Trains/Day
Daily	62,000	243,000
Peak	50,000	188,000
Off-Peak	12,000	55,000
Mainline (SF-SJ)	61,500	231,000
South of Tamien	500	12,000

Chart legend: Peak, Off-Peak. X-axis: 2017, 92 Trains per Day; 2040, ~360 Trains per Day. Y-axis values: 50,000; 100,000; 150,000; 200,000; 250,000.

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Focus on the Business Case

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Why Do We Need A Business Case?

A Business Case for The Service Vision

The project team will develop two "growth scenarios" or versions of a long range "Service Vision." Each version of the potential service vision will have a business case that lays out the cumulative costs and benefits associated with it.

A Framework for Decision-making

The business case helps the JPB Board select a 2040 Service Vision with a fully informed understanding of what their choice means for the long-term costs and benefits of the system. Once the Board has selected a long range Service Vision the business case can then be further optimized and detailed.

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Building an Integrated Business Model (IBM)

The IBM evaluates changes to the Caltrain System by integrating a broad range of data inputs and analysis. It is a tool that supports the active and informed management of Caltrain's business.

Major Inputs to the IBM Include

Railroad Network	Fleet	Current and Future Operations	Ridership and Travel Demand	Finances	Policy Assumptions	Infrastructure Investments
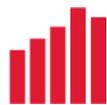
Wider Economic Benefits of Caltrain for Communities

Outside of the IBM, User Benefits and Regional Economic Benefits will be Calculated for the Following Major Categories:

Direct & Indirect Jobs

Economic impact model captures effects on regional employment

User Benefits

Benefits from travel time/cost savings as well as safety improvements

Societal Benefits

Societal benefits including public health and environmental benefits

Land Value

Influence of increased rail service on the value of land arounds stations

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Focus on the Corridor – Community Interface

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Caltrain's Corridor is Complex and Constrained

Mostly 2 Tracks
Some 4-Track Sections

Width Varies

Multiple Tenants

At-Grade Crossings

Bridges & Tunnels

Ownership Varies
Especially at Stations

San Francisco · 22nd Street · Bayshore · South SF · San Bruno · Millbrae · Burlingame · San Mateo · Hayward Park · Hillsdale · Belmont · San Carlos · Redwood City · Menlo Park · Palo Alto · California Ave · San Antonio · Mountain View · Sunnyvale · Lawrence · Santa Clara · College Park · San Jose Diridon · Tamien · Capitol · Blossom Hill · Morgan Hill · San Martin · Gilroy

Caltrain Owns Tracks

Union Pacific Railroad Owns Tracks. Caltrain Has Access Rights

The Interface Between the Corridor and the Community is Rooted in Physical Reality…

At Grade
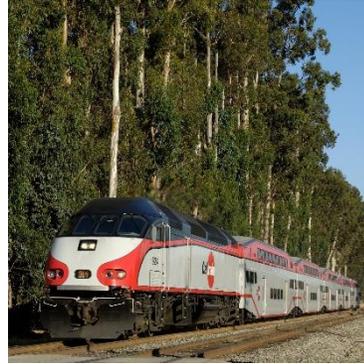
Crossings

Bridges & Berms

Tunnels

Stations

Connections

Support Facilities
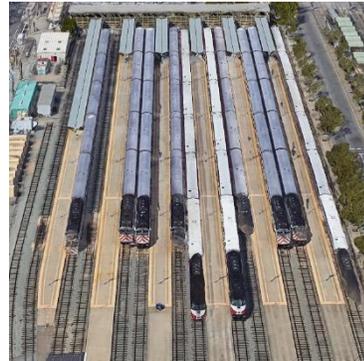
Construction

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...and Creates Both Opportunities and Challenges

Local/Regional Mobility

Place-Making

Noise/Vibration

Physical Structures

Land Use Opportunities


Economic Development

Visual Impact

Traffic/Safety

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At Grade Crossings are a Particularly Pressing and Difficult Issue within the Corridor – Community Interface

Grade Separation or Closure Projects in Planning or Construction

SAN FRANCISCO
Mission Bay Dr, 16th St

SOUTH SAN FRANCISCO/SAN BRUNO
Linden Ave, Scott St

BURLINGAME
Broadway

SAN MATEO: UNDER CONSTRUCTION
25th Ave, 28th Ave, 31st Ave

REDWOOD CITY
Whipple Ave

MENLO PARK
Ravenswood Ave

PALO ALTO
Alma St, Churchill Ave, Meadow Dr, Charleston Rd

MOUNTAIN VIEW
Rengstorff Ave, Castro St

SUNNYVALE
Mary Ave, Sunnyvale Ave

San Francisco
Millbrae
San Mateo
Redwood City
Palo Alto
San Jose
Morgan Hill
Gilroy

What will the Community Interface Include?

Analysis

- Document the interface between the railroad and its surroundings

- Understand how the interface could change as the railroad and its surrounding communities grow

- Describe how the corridor-community interface is "managed" today
    - Decision-making
    - Delivery of projects
    - Funding

- Compare with approaches used by national and international peer rail corridors

Outcomes

- Work with the communities to identify opportunities for how the corridor, not just individual projects, could be better managed to achieve both community and railroad goals. This includes considering both the appetite and need for a corridor-wide approach to address at-grade crossings.

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Direct Engagement with Local Jurisdictions is Central to this Effort

Focus on Organization

Organizational Assessment

How will the Caltrain Organization Support the Service Vision?

Key Concepts

Service Delivery

- How Caltrain operates and manages service (both on and off the corridor)

- Includes activities like train operations, maintenance, capital project delivery, joint development, planning, and budgeting

Governance

- The manner in which Caltrain is overseen by the Board

- Focus on the agency's decision making process and the Board's oversight of the Caltrain organization

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Organizational Assessment

How will the Caltrain Organization Support the Service Vision?

Analysis

- Initial organizational assessment and interviews with stakeholders

- Organizational "mapping" and analysis of current Caltrain structure

- Analysis of national and international peer railroads

Outcomes

- Understand the range of potential organizational structures for both service delivery and governance and evaluate at a high level

- Work with JPB and JPA members to determine strategy and next steps

- Identify near term priorities related to Business Plan implementation

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Next Steps

Business Plan Overview — A Vision for Growth — Crafting the Vision — **Next Steps**

Project Schedule - Overview

2018   2019   2020

Board Adoption of Scope

Partnership with Stanford and Contracting with Technical Team

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Project Schedule - Detail

Communication is a Key Success Factor

Stakeholder Meeting Schedule

Monthly: Board
- JPB Ad Hoc Committee
- Peninsula Corridor Joint Powers Board (JPB) (monthly memos, quarterly presentations)

Monthly: Stakeholder
- Project Partner Committee (PPC)
- Local Policymaker Group (LPMG)
- City/County Staff Coordinating Group (CSCG)

Quarterly: Stakeholder
- Partner General Managers (PGM)
- Citizen Advisory Committee (CAC)
- Stakeholder Advisory Group (SAG)
- State and Federal Elected Officials (SFO)
- Caltrain Commuter Coalition (C3)

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FOR MORE INFORMATION

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