Business Plan Overview

A Vision for Growth

Crafting Scenarios

Looking Beyond the Tracks

Outreach & 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.
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?

We Are Here
A Vision for Growth

- Business Plan Overview
- A Vision for Growth
- Crafting Scenarios
- Looking Beyond the Tracks
- Outreach & Next Steps
200 Years on the Caltrain Corridor

Yesterday

1863
Southern Pacific Railroad purchases the corridor

1870
Passenger service begins on the corridor

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

1977
Caltrans subsidizes Southern Pacific commute service

1987
Caltrain and Joint Powers Board are formed

2004
Baby Bullet service is introduced

2022
Corridor electrification is completed

2027 and Beyond
Caltrain and High-Speed Rail operate using Blended System

Today

1977
Caltrain and Baby Bullet service is commerically introduced

2004

2007

2027 and Beyond

Tomorrow

2027 and Beyond

Caltrain and High-Speed Rail operate using Blended System
Electrification is the Foundation for Growth with Plans for More
2040 Demand

The Caltrain corridor is growing
- By 2040 the 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

1/2 Mile Station Area

1 million people and jobs within 1/2 mile of Caltrain stations

2 Mile Station Area

4.2 million people and jobs within 2 miles of Caltrain stations

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

Business Plan Overview  A Vision for Growth  Crafting Scenarios  Looking Beyond the Tracks  Outreach & Next Steps
Where do We Start?

The Caltrain corridor is not a blank slate

**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
Planning within Constraints – Key Choices and Tradeoffs

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?
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 Scenario (6C+4HSR Trains)

#### Service Type
- **Skip Stop**
- **High Speed Rail**

#### Service Level (Trains per Hour)
- 4
- 3
- 2
- 1
- <1

#### Infrastructure
- Conceptual 4 Track
- Segment or Station

#### 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

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

#### 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
Higher Growth Scenarios

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

Growth Scenarios:
- Baseline Growth
- Moderate Growth
- High Growth
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

<table>
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<tr>
<th></th>
<th>2017: 92 Trains/Day</th>
<th>2040: ~360 Trains/Day</th>
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<tr>
<td>Daily</td>
<td>62,000</td>
<td>240,000</td>
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<tr>
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<td>Off-Peak</td>
<td>12,000</td>
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</table>
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.

### Passenger Demand

**Peak-Hour Ridership at Peak Load Point (Millbrae-Santana)**

<table>
<thead>
<tr>
<th>Demand</th>
<th>5,000-7,000</th>
<th>8,000-10,000</th>
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<tbody>
<tr>
<td>2040</td>
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### Caltrain Seated Capacity

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

<table>
<thead>
<tr>
<th>Seated Capacity</th>
<th>4,500</th>
<th>6,200</th>
<th>7,800</th>
<th>8,800</th>
<th>9,300</th>
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<tbody>
<tr>
<td>6 Car Trains</td>
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<tr>
<td>8 Car Trains</td>
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<tr>
<td>10 Car Trains</td>
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</table>

8 Trains Per Hour Per Direction

12 Trains Per Hour Per Direction

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

#### Zone Express
- A - 12 Trains
- B - 16 Trains

#### Local/Express (Minimal Passing Tracks)
- C - 12 Trains
- D - 16 Trains

#### Local/Express (Expanded Passing Tracks)
- E - 12 Trains
- F - 16 Trains

#### Skip Stop
- G - 16 Trains

**San Francisco**
- 22nd St

**South San Francisco**
- San Bruno
- Millbrae
- Broadway
- Burlingame
- San Mateo
- Hayward Park
- Hillsdale
- Belmont
- San Carlos
- Redwood City
- Atherton
- Menlo Park
- Palo Alto
- California Ave
- San Antonio
- Mountain View
- Sunnyvale
- Lawrence
- Santa Clara
- College Park
- San Jose Diridon

**Removed through Screening & Evaluation Process**

Assumes standardized HSR service; the 2018 HSR Business Plan expects 2 trains per hour, per direction at Millbrae.
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
### Features
- A majority of stations served by 4 TPH local stop line, but Mid-Peninsula stations are serviced with 2 TPH skip stop pattern.
- Express line serving major markets – some stations receive 8 TPH
- Timed local/express transfer at Redwood City

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

### Options & Considerations
- To minimize passing track requirements, each local pattern can only stop twice between San Bruno and Hillsdale - in particular, San Mateo is underserved and lacks direct connection to Millbrae.
- Each local pattern can only stop once between Hillsdale and Redwood City.
- Atherton, College Park, and San Martin served on an hourly or exception basis.
High Growth Scenarios (12C +4HSR 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
Developing 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
How do we Choose a Service Vision?

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 different illustrative 2040 service concepts that underlie each Growth Scenario. 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.
Planning to Deliver
How will the Caltrain Organization Support the Service Vision?

Key Concept- 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

Key Concept - 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

Analysis and Outcomes
• Interviews with stakeholders, organizational “mapping” and analysis of current Caltrain structure
• Comparison with national and international peer railroads
• 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
Looking Beyond the Tracks

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Outreach and Looking Beyond the Tracks
Direct Engagement with Local Jurisdictions is Central to this Effort
Key Themes From Discussions with City Staff

**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
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.
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
## Outreach Activities to Date

### July – December Timeline

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<th>Activity</th>
<th>July</th>
<th>August</th>
<th>September</th>
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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

18 Public Meetings and Presentations
700+ Survey Responses
2,600 Website Hits
27,000 Social Media Engagements
Next Steps

- **2018**
  - Initial Scoping and Stakeholder Outreach
  - Technical Approach Refinement, Partnering, and Contracting
- **2019**
  - Partnership with Stanford and Contracting with Technical Team
  - Part 1: Service Vision Development
- **2020**
  - Board Adoption of 2040 Service Vision
  - Part 2: Business Plan Completion
  - Board Adoption of Final Business Plan
  - Implementation

We Are Here