How Should Caltrain Grow?
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.
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
200 Years on the Caltrain Corridor

**Yesterday**
- 1863: Passenger service begins on the corridor
- 1870: Southern Pacific Railroad purchases the corridor
- 1940s – 1970s: Passenger and freight traffic boom during WWII then begin steady decline

**Today**
- 1977: Caltrans subsidizes Southern Pacific commute service
- 1987: Caltrain and Joint Powers Board are formed
- 2004: Baby Bullet service is introduced

**Tomorrow**
- 2027 and Beyond: Caltrain and High-speed rail operate using Blended System

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**SOUTHERN PACIFIC**

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**Today**
- Caltrain and Baby Bullet service is commenced

**Tomorrow**
- Caltrain and High-speed rail operate using Blended System
Milestones that Shaped the Railroad’s Future

- **2008**: CHSRA specifies its alignment
- **2011-2013**: “Blended System” introduced
- **2013-2017**: CHSRA Business Plan confirms Blended System
  - Senate Bills 1029 and 557 provide Prop 1A funds and codify 2-track blended system
  - Peninsula Corridor Electrification Program environmentally cleared
  - Receipt of Federal Full Funding Grant Agreement
  - Full Notice to Proceed issued
Electrification is the Foundation for Growth with Plans for More
Improving Caltrain is Vital to the Health of the Region’s Economy
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.
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
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
Building Blocks for a 2040 Service Vision

Caltrain

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
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.
Balancing Priorities

Caltrain must also consider how to balance competing priorities as it plans its future service.
Understanding the Market for Caltrain Today

Existing Ridership

Caltrain Average Weekday Ridership (Thousands)
1997 – 2017
Today, Ridership is Highly Concentrated at a Few Stations

Change in Ridership (Thousands)
1998 – 2017

- 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
Today, Caltrain Serves Multiple Markets in Both Directions

**Weekday Morning Ridership by Direction**

- **Boardings**
- **Alightings**

- **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.**

- **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.**

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

**16,100 Riders (64%)**

**9,200 Riders (36%)**
Today, Caltrain Captures a Modest Percentage of the Regional Travel Market

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

Peak Period Caltrain Mode Share: 8%
Off-Peak Caltrain Mode Share: 2%
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 rough, 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 sensitivity test using an imaginary, high frequency, unconstrained service plan that includes:
  - Realistic train times (60-80 minutes SF-SJ)
  - High level of sustained all-day service (8 to 16 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.

<table>
<thead>
<tr>
<th>Description</th>
<th>2017, 92 Trains/Day</th>
<th>2040, ~360 Trains/Day</th>
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<tbody>
<tr>
<td>Daily</td>
<td>62,000</td>
<td>243,000</td>
</tr>
<tr>
<td>Peak</td>
<td>50,000</td>
<td>188,000</td>
</tr>
<tr>
<td>Off-Peak</td>
<td>12,000</td>
<td>55,000</td>
</tr>
<tr>
<td>Mainline (SF-SJ)</td>
<td>61,500</td>
<td>231,000</td>
</tr>
<tr>
<td>South of Tamien</td>
<td>500</td>
<td>12,000</td>
</tr>
</tbody>
</table>
Focus on the Business Case
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.
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
Focus on the Corridor – Community Interface
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

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…
...and Creates Both Opportunities and Challenges

- Local/Regional Mobility
- Place-Making
- Noise/Vibration
- Physical Structures
- Land Use Opportunities
- Economic Development
- Visual Impact
- Traffic/Safety
At Grade Crossings are a Particularly Pressing and Difficult Issue within the Corridor – Community Interface
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.
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
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
Next Steps

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Crafting the Vision

Next Steps
Project Schedule - Overview

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

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
Project Schedule - Detail

Part 1: Service Vision Development

- **Service Planning**
  - Jul: Priorities, Constraints, and Concepts
  - Aug: Service Planning
  - Dec: Refinement and Business Case Integration

- **Business Case**
  - Aug: Data Gathering
  - Sep: Modeling and Calibration
  - Oct: Service Vision Analysis and Evaluation

- **Community Interface Assessment**
  - Sep: Interface Documentation and Initial City Interviews
  - Dec: Peer Corridor Review
  - Jan: City Interviews
  - Feb: Recommendations & Next Steps

- **Organizational Assessment**
  - Sep: Initial Assessment and Interviews
  - Oct: Organizational Mapping
  - Nov: Peer Railroad Review
  - Dec: Recommendations & Next Steps

- **Stakeholder Engagement**

- **General Public Outreach**

- **Board Meetings**
  - Dec: Board Meeting
  - Feb: Board Meeting
## Communication is a Key Success Factor

### Stakeholder Meeting Schedule

<table>
<thead>
<tr>
<th>Monthly: Board</th>
<th>Monthly: Stakeholder</th>
<th>Quarterly: Stakeholder</th>
</tr>
</thead>
<tbody>
<tr>
<td>• JPB Ad Hoc Committee</td>
<td>• Project Partner Committee (PPC)</td>
<td>• Partner General Managers (PGM)</td>
</tr>
<tr>
<td>• Peninsula Corridor Joint Powers Board (JPB)</td>
<td>• Local Policymaker Group (LPMG)</td>
<td>• Citizen Advisory Committee (CAC)</td>
</tr>
<tr>
<td>(monthly memos, quarterly presentations)</td>
<td>• City/County Staff Coordinating Group (CSCG)</td>
<td>• Stakeholder Advisory Group (SAG)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• State and Federal Elected Officials (SFO)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Caltrain Commuter Coalition (C3)</td>
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</tbody>
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