Looking Forward to a 2040 Vision
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
Developing a Service Vision
Corridor History & Future

Corridor History and Future

Grounding the 2040 Service Vision

Service Planning Approach
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
- 1877: Caltrain and Joint Powers Board are formed
- 1987: Caltrain subsidizes Southern Pacific commute service
- 1997: Baby Bullet service is introduced
- 2004: Corridor electrification is completed

Tomorrow
- 2027 and Beyond: Caltrain and High-Speed Rail operate using Blended System
Grounding the 2040 Service Vision
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
Do the projects listed make sense as a starting point? Are there other projects related to rail service that should be considered?
Service Planning Approach

Corridor History and Future

Grounding the 2040 Service Vision

Service Planning Approach
Planning within Constraints

The Caltrain corridor is not a blank slate. Over the past decade, the JPB and its partners have made major policy decisions that inform and bound how the railroad will grow and evolve in the 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
Planning within Constraints

The 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 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?
Different Markets and Services

Service diagrams shown are illustrative examples of existing Caltrain service as well as planned HSR services.
Key Concept

Peak Service Volumes

Determining the total number of trains that could use the corridor during the peak is a critical planning question:

Why would we want more trains?

• Adding trains may eventually be necessary to satisfy long term demand in the corridor and support local and regional land use objectives
• Additional trains may also be needed to achieve the mix and frequencies of service needed to satisfy market demand

Why think about it now?

• Increased train volumes significantly impact at-grade crossings and terminal facilities. The possibility of growth in total train volumes must be considered as far in advance as possible so that impacts can be addressed and infrastructure can be designed efficiently
Improving Service Requires Investment

There are many different ways to invest in a railroad.

Caltrain can improve its service by investing in improved operations, new systems and expanded infrastructure.

Careful planning allows for investments to be made in a way that is cost effective and minimizes community impacts.

Key Concept

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

Working Backwards

- Introduction of Electrified Service
- Introduction of Blended Service
- 2040 Service Vision

Service Development vs. Time
Railroads are complex systems. Their successful operation is the result of many interconnected pieces and process working together to achieve a desired set of outputs.

Major changes to service or infrastructure impact all parts of the railroad and need to be considered holistically on a system wide basis.
SHARING SESSION

Do you have any questions about the key service concepts and trade-offs?
The Service Planning Process

1. Establish Parameters and Priorities
2. Sketch Plan Peak-Hour Service Concepts
3. Refine Concepts into 2040 Service Vision
4. Evaluate Terminal Requirements
5. Expand to Gilroy Corridor
6. Develop All-Day Service Plan
7. Phasing and Working Back to 2018
8. Evaluate and Present
The Service Planning Process

1. Establish Parameters and Priorities
   - Set policy guidelines and assumptions about operating parameters
   - Identify goals for service

2. Sketch Plan Peak-Hour Service Concepts
   - Test large set of service patterns/train volumes for their ability to meet service goals and scalability

3. Refine Concepts into 2040 Service Vision
   - Fine-tune concepts with highest quality service and scalability
   - Confirm infrastructure needs

4. Evaluate Terminal Requirements
   - Determine terminal infrastructure required to support service vision

5. Expand to Gilroy Corridor
   - Evaluate potential for service expansion to Gilroy and other connecting corridors

6. Develop All-Day Service Plan
   - Develop more detailed, all-day service plan from peak-hour vision

7. Phasing and Working Back to 2018
   - Work backwards from service vision to develop phasing plan

8. Evaluate and Present
   - Simulate full 2040 service plan to assess outcomes (ridership, economics, mobility)
What parts of the service planning process are you most interested in?
Exploring the Corridor – Community Interface
What is the Corridor – Community Interface?

A Framework for Describing how the Railroad Interacts with Its Surroundings

Physical Spaces  Operational Impacts  Land Use Influence  Mobility Outcomes  Economic Interactions

At the Community and Corridor Scale

Individual  Community  Corridor  Region  State  Country  Globe
What Are the Opportunities and Challenges of a Rail Corridor?

Local/Regional Mobility
Place-Making
Noise/Vibration
Physical Structures

Land Use Opportunities
Economic Development
Visual Impact
Traffic/Safety
The Corridor-Community Interface is Rooted in Physical Reality
At Grade Crossings are a Particularly Pressing and Difficult Issue within the Corridor – Community Interface
What will the Community Interface Assessment Do?

Analysis

- Document 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.
What elements of the corridor-community interface are most important to your jurisdiction?

Are there any important elements of the community corridor interface we’ve missed?

What can Caltrain do to help your community?