Caltrain Business Plan

Spring Update

March, 2020
Agenda for Today

Process Overview

1. Priorities for CalMod – Better Service in the 2020s
2. Taking the Next Big Step
3. Investing in Improvement – Costs and Funding

Rounding out the Long Range Vision

1. Station Access and Connectivity
2. Existing Opportunities & Challenges

Making it Happen - Delivering Improved Caltrain Service Before 2040

1. Priorities for CalMod – Better Service in the 2020s
2. Taking the Next Big Step
3. Investing in Improvement – Costs and Funding
Process Overview
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
Timeline

July 2018 – July 2019
Development and Evaluation of Growth Scenarios

October 2019
Adoption of Long-Range Service Vision

Fall 2019
Rounding Out the Vision and Implementation Planning

Winter 2019-2020

Spring 2020
Completion of Business Plan
Caltrain’s 2040 Service Vision
Illustrative Service Details

| Trains per Hour, per Direction | Peak: 8 Caltrain + 4 HSR
Off-Peak: Up to 6 Caltrain + 3 HSR |
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Stopping Pattern</td>
<td>Local / Express with timed transfer in Mid Peninsula</td>
</tr>
<tr>
<td>Travel Time, STC-Diridon</td>
<td>61 Min (Express) 85 Min (Local)</td>
</tr>
<tr>
<td>New Passing Tracks</td>
<td>Millbrae, Hayward Park-Hillsdale, Redwood City area, Northern Santa Clara County, Blossom Hill</td>
</tr>
<tr>
<td>Service Plan Description</td>
<td>• Local and Express trains each operating at 15-minute frequencies with timed cross-platform transfer at Redwood City • All trains serve Salesforce Transit Center • Trains serve Capitol and Blossom Hill every 15 minutes and Morgan Hill and Gilroy every 30 minutes • Skip stop pattern for some mid-Peninsula stations</td>
</tr>
</tbody>
</table>
Caltrain’s 2040 Service Vision - Investments

CAPITAL COSTS

$23 BILLION TOTAL CAPITAL COSTS

- $9.4B GRADE SEPARATIONS
- $7.8B TERMINAL IMPROVEMENTS
- $3.3B RAIL INFRASTRUCTURE AND SYSTEMS
- $1.4B STATION IMPROVEMENTS
- $1.1B FLEET UPGRADES

Capital costs include all projects from SF to Gilroy, knitting together a connected corridor with greatly improved service.

OPERATING COSTS

$370 MILLION 2040 ANNUAL OPERATING COSTS

Caltrain is one of the leanest, most efficient transit services in the country. Today’s annual operating and maintenance costs are $135 million, and 73% is covered by fares. The vision would benefit from a similarly high farebox recovery ratio.

$266M OPERATING COSTS COVERED BY FAREBOX (72%)

$104M ANNUAL OPERATING INVESTMENT NEEDED (28%)
Rounding Out the Vision
Remaining Technical Analysis

Rounding Out the Vision

With a 2040 Service Vision adopted, how can Caltrain “Round Out” its vision for the future?

Additional technical and policy analysis are underway with a focus on areas that were highlighted as important through stakeholder outreach and help complete the picture of the railroad Caltrain hopes to become.

- Analysis of connections to other systems & station access options
- Equity analysis & focus on making Caltrain accessible to all
- Review of funding options and revenue generation opportunities to support the overall 2040 Vision (will be presented in April)
Connecting to Caltrain
Getting to Caltrain

The Service Vision plans for ridership to triple over the next two decades.

Achieving this kind growth will mean big changes for how riders connect to and access the Caltrain system.

As it plans for the future, Caltrain must decide how to invest in first- and last- mile programs and prioritize the use of resources to improve access and connectivity to the system.

This assessment considers how station access needs may change over time, and potential paths forward to realizing the service vision.
Caltrain’s Roles in Station Access

Today Caltrain plays a limited and uneven institutional role in providing and coordinating access to the system. Access and connectivity functions not provided or coordinated through Caltrain are undertaken by Caltrain’s partners (MUNI, SamTrans and VTA), by cities and local jurisdictions, and at times by the private sector.

Current Roles

- Partially funds some first/last mile shuttle operations
- Provides and manages parking at some stations
- Provides on-board and wayside bike parking; responsible for onsite pedestrian circulation on JPB-owned station facilities
How do Weekday Passengers Travel to and from Caltrain?

Data from Caltrain’s Triennial Surveys - 2007 through 2019
Station Access by Household Income

- **High income riders rely more on driving and biking**
- **Low income riders rely more on transit**

Data from Caltrain’s 2019 Triennial Survey
Caltrain Manages 7,600 Parking Spaces for Low or No Fees

Parking Rates

<table>
<thead>
<tr>
<th>Location</th>
<th>JPB-Managed Spaces</th>
<th>VTA-Managed Spaces</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bayshore – Diridon</td>
<td>5,400</td>
<td></td>
</tr>
<tr>
<td>Tamien – Gilroy</td>
<td></td>
<td>2,200</td>
</tr>
</tbody>
</table>

Parking Rates

- Weekday: $5.50 daily flat fee
  $82.50 monthly flat fee
- Weekend: Free
Parking is Undersubscribed at Some Stations and Oversubscribed at Others

Parking Occupancy

**Demand**

7
Mainline stations with <60% parking occupancy, where parking is potentially overpriced relative to demand & service levels

10
Mainline stations with >90% parking occupancy, where parking is underpriced compared to nearby public and private lots
Revenue and Pricing

$5.6M
Annual Caltrain Parking Revenues
Including daily rates of $5.50 per day or $82.50 per month

1.5-5X
Price of Nearby Public & Private Parking Lots
Daily Rate Examples at public lots:
• Downtown San Mateo: $7.50/day
• Menlo Park: $10/day
• Downtown Palo Alto: $25/day

Free
Parking at stations south of Diridon (owned by VTA)
Free lots may be used by non-Caltrain passengers
Managing and Pricing Parking Are Key Opportunities

**Current Operations**

**Caltrain Subsidizes Parking at Some Stations Relative to Market Rates**

By charging a uniform rate across the system, Caltrain underprices parking at 10 high-demand stations relative to nearby public and private lots, which charge two to three times Caltrain’s price.

The benefits of this underpriced parking tend to accrue to high-income riders who are more likely to park at stations.

This trend is likely to continue over time, although some spreading may occur as service improves across all stations.

**Future Operations**

**Active Parking Management Will Become More Important as Caltrain Increases Service**

Caltrain may consider market-based pricing to better manage supply and demand during weekdays and weekends, similar to BART’s proposed program.

A market-based program could increase prices at some stations and decrease prices at other stations in order to reach a target weekday occupancy of around 90 percent.

Pricing could be tied to occupancy surveys and service frequency.
10% of Caltrain Riders Connect to Other Transit Services

Percent of Caltrain transfers to other operators:

- MUNI: 36%
- VTA: 32%
- BART: 22%
- SamTrans: 6%
- Other: 3%
Caltrain's Complex Service Pattern Limits Schedule Coordination

Today, Caltrain’s highly customized schedule prevents regular coordinated transfers (~5 Minutes) with bus and rail services at most stations.

Example: Southbound AM BART-Caltrain Connection at Millbrae

<table>
<thead>
<tr>
<th>BART Arrival</th>
<th>Caltrain Departure</th>
<th>Wait Time</th>
</tr>
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<tbody>
<tr>
<td>7:21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:36</td>
<td></td>
<td>3 Mins</td>
</tr>
<tr>
<td>7:51</td>
<td></td>
<td>1 Min</td>
</tr>
<tr>
<td>8:06</td>
<td></td>
<td>10 Mins</td>
</tr>
<tr>
<td>7:39</td>
<td>8:04</td>
<td>18 Mins</td>
</tr>
</tbody>
</table>

*(12 min wait until next train)*
Bus Operators Provide Discounted Transfers for Some Caltrain Fares

VTA and SamTrans offer transfer discounts to most Caltrain Monthly Pass holders, while Muni provides a discount for all Caltrain riders using a Clipper Card. Fare savings tend to accrue to higher income passengers, who represent a disproportionate share of Monthly Pass users.

- **Muni**:
  - 50 cent fare discount to all riders using a Clipper Card
  - No discount on paper tickets

- **SamTrans**:
  - Free local rides for two-zone or greater Monthly Pass holders
  - No discount for one-way fares and other products

- **VTA**:
  - Free local rides for two-zone or greater Monthly Pass holders
  - No discount for one-way fares and other products

- **BART**:
  - No discounts
Standardizing Caltrain Service Allows Improved Schedule Coordination

**Coordinating Schedules**

Shifting to standardized clockface schedules with electrification will help Caltrain better coordinate transit connections.

A Distributed Skip Stop pattern could offer timed connections to high and low frequency buses, BART, and VTA Light Rail.

A Two Zone with Express pattern could offer timed connections to BART and low frequency buses but would some connections would remain challenging.

**Coordinating Fares**

Further fare coordination presents an opportunity to increase ridership for Caltrain and partner agencies.

Improved fare coordination could make transfers more seamless and convenient for all riders and could help Caltrain provide more equitable access for low- and middle-income riders who are more likely to connect via transit.
Shuttles Fill Gaps in the Transit Network

Public and Private Shuttles Fill Gaps in Schedules and Service Areas

- Service to areas where buses do not operate
- Timed connections when buses can’t coordinate with Caltrain’s schedule
- Augmented capacity where buses cannot handle peak-period demand
Many Types of Shuttles Operate on the Caltrain Corridor

Publicly Managed
Caltrain and the SMCTA manage 33 shuttles in San Mateo and Santa Clara Counties connecting to Caltrain
- 31 are free to the public
- 26 are co-funded by employers
- 4 are community shuttles oriented toward local travel needs

Privately Managed
Major employers like Stanford and Genentech operate first/last mile shuttles free to the public
Dozens of other employers offer private shuttles for employees only
Shuttle Funding Structure

The current system of shuttle funding and operations is extremely varied and complex. Funding comes from many different sources and varies significantly from route to route.

Funding Sources
- JPB
- State Grants
- SamTrans
- SMCTA
- C/CAG
- Cities
- Employers

Counties
- Santa Clara County Caltrain Shuttles
- San Mateo County Caltrain Shuttles

Managers and Operators
- Caltrain
- Commute.org
- Cities
- Employers
Ridership on Publicly Managed Shuttles is Declining

Ridership Comparison: Caltrain vs. Publicly-Managed Shuttles

**Shuttle Ridership is Declining as Caltrain Ridership Grows**

Shuttle ridership on publicly managed shuttles has declined by 25% since 2014 while Caltrain ridership increased by 17%.

Three quarters of routes have lost ridership over the past five years, with 14 routes experiencing losses greater than 40%.

**Publicly Managed Shuttles Struggle to Match SamTrans/VTA Productivity Goals**

6 of 33 routes meet SamTrans fixed route performance criteria for passengers per revenue hour.

**Shuttles Lack Reliability and Time-Competitiveness**

Limited funding, organizational capacity, and administrative complexity have contributed to ridership loss, including:

- Driver shortages
- Circuitous routes
- Inadequate stop infrastructure
- Competition from private services
Privately Managed Shuttles Continue to Grow

**Stanford Marguerite**
Stanford’s shuttle ridership has increased 16% since 2014. About 20% of all their employees commute via Caltrain. Stanford’s TDM program offers Caltrain Go Passes and financial incentives to employees to discourage driving to work.

**Genentech**
Genentech and other South San Francisco employers operate two shuttle routes to connect to Caltrain at Millbrae Station. The shuttle is open to the public.
Caltrain's Role in Shuttle Operations

The current publicly-managed system is under-resourced to meet the changing needs of the Caltrain corridor.

Demand for first/last mile services will increase substantially as land use intensifies and Caltrain service increases over time.

The current system lacks the financial resources and operational capacity to efficiently handle increased demand over time.

Caltrain and its partners will need to evolve the shuttle program to better leverage public buses and private partnerships.

Caltrain and SamTrans are jointly funding a comprehensive study of the shuttle program.

Additional work will be needed to further coordination around shuttles with all of Caltrain’s member agencies, local jurisdictions and large employers.
Pickup & Dropoff Activity is Increasing, but Facilities are Lacking

Pickup & drop-off activity is increasing at most Caltrain stations
Result of both limited parking as well as Uber/Lyft growth

Half of Caltrain stations lack dedicated passenger loading zones
Most passenger loading activity occurs in existing surface parking lots and nearby streets

Caltrain must think holistically about onsite circulation
Station circulation and curb programming are critical to handling increased pickup & dropoff activity while minimizing conflicts
Walking & Bicycling Conditions

There is substantial need to invest in offsite and onsite bicycle and pedestrian access to stations. However, offsite improvements are outside of Caltrain’s jurisdiction and rely on City-led decisions and processes.

This section will focus on onsite improvements to bike parking and pedestrian circulation.
Wayside Bike Parking and Bike Sharing are Critical to Expanding Bike Access

Onboard bike demand will exceed capacity in the short- and long-term

Caltrain has provided significant on-board capacity within its system, but expanding onboard bike capacity beyond the commitments already made by the JPB will limit overall passenger capacity, exacerbating crowding issues.

Improvements to wayside bike parking and shared bikes/scooters show promise to scale access

A $4M investment in bike parking is underway and will be used to fund improved bike parking, including e-lockers.

4% of San Francisco and San Jose passengers use shared bikes or scooters to access Caltrain – a total expected to grow with the recent reintroduction of shared e-bikes.

Investing in shared bike stations present an opportunity to scale capacity over time.
Pedestrian Facilities Need Improvement

Caltrain stations need to prioritize pedestrians to handle expanded passenger volumes at stations.

Most stations will need programmatic investments to accommodate increased ridership, improve onsite circulation, and reduce conflicts between modes.

Major stations may need focused design efforts to handle increased volumes, particularly in the context of grade separations and joint development projects.
Station Upgrades Needed to Accommodate Increased Ridership

Examples of upgrades needed to accommodate increased ridership

- Expanded Shelters to offer shade and weather protection
- Strategically located Clipper readers at station entrances and along platforms
- Clipper-integrated ticket machines (coming soon to most stations)
- Level boarding
- Improved Wayfinding and Signage
- More Pedestrian-scale lighting
Strong Growth Predicted in Ridership and Station Use by 2040

Under the Long Range Service Vision adopted by the Caltrain Board, ridership is projected to triple from today’s levels. This will mean significant changes to the way that people access the Caltrain system.

+120,000
Passengers Traveling to and from Caltrain

10X
Growth in use for some stations compared to today
Making improvements to enhance walking, biking, and passenger loading are the least costly access investments.
Walking and biking are also the most scalable/sustainable access modes
Caltrain Station Management Toolbox

Caltrain received a grant from the Federal Transit Administration to develop a tool to analyze the effects of access investments and joint development for Caltrain. Based on this analysis, Caltrain developed a Station Management Toolbox for staff use to evaluate individual and system-wide changes – this tool has been updated to support the Business Plan analysis.
Three Alternative Access Improvement Scenarios Explored

1: Ad-Hoc Approach
- Investments and programs occur as funding becomes available - similar to today
- Investments and programs are mostly led by entities other than Caltrain
- Caltrain is mostly agnostic to the types of investments than occur

2: Expand Parking Supply
- Investments and programs focus on growing parking supply in proportion to ridership
- Caltrain organization becomes more proactive in building new parking garages including land acquisition as needed

3: Prioritize Non-Auto Access and Joint Development
- Investments and programs emphasize modes other than park-and-ride
- Caltrain organization becomes more proactive in shuttles, service integration, pedestrian/bicycle infrastructure, and TOD
The Following Assumptions Were Used in This Scenario Analysis:

1: Ad-Hoc Approach
- 1.5x increase in parking supply
- No change to shuttle services
- Moderate improvement to bike/ped access
- Moderate development intensity at feasible sites with all parking replaced
- New parking assumed to cost $75,000 per space due to garage and parking replacement costs

2: Expand Parking Supply
- 3x increase in parking supply
- No change to shuttle services
- Minimal improvement to bike/ped access
- No new joint development
- New parking assumed to cost $100,000 per space due to garage, parking replacement, and land acquisition costs

3: Prioritize Non-Auto Access and Joint Development
- No new parking supply
- 3x increase in shuttles service
- Substantial improvement to bike/ped access
- High intensity development at all sites without replacement parking
Change in Ridership & Mode of Access through 2040

Prioritizing park-and-ride access shifts more passengers to driving but results in lower ridership than investing in other modes.

Maximizing joint development, active transportation, and transit access results in higher ridership and less driving.
Tripling parking supply could cost double that of investing in non-auto modes.

Expanding access for non-auto modes more than triples the revenue generated by expanded parking supply.
Station Access Results Present a Variety of Policy Questions

Is More Parking Worth the Investment?
- Parking garages are costly (analysis assumed $100,000 per new space including replacement parking and land acquisition)
- Building new garages may come at the expense of housing and office TOD
- Increasing parking supply is less effective in supporting ridership growth than investments in other modes

How Should Caltrain Address Shuttle and Bus Connections?
- There is substantial demand to scale shuttle/bus service to match growth of Caltrain service and development
- However, organizational and operational challenges may limit the potential for expansion
- Ongoing operational subsidies are high

What is Caltrain’s Role in Bike/Ped Access?
- Improving bicycle parking and shared use at stations represents a key opportunity to accommodate long-term ridership growth
- Addressing offsite barriers to pedestrian and bicycle access are necessary to accommodate ridership growth, but these areas are typically outside Caltrain’s jurisdiction
Equity Assessment
Why Focus on Equity?

The equity assessment is intended to help Caltrain understand how it can improve equity within its system—both in the near term and as the Service Vision is implemented over time.

Caltrain is Focusing on Equity for Multiple Reasons

- Stakeholder and Policy maker feedback through the Business Plan and other Caltrain undertakings have made it clear that equity is an important priority for the system.

- Caltrain is planning to grow. The Long Range Service Vision calls for tripling the system’s ridership. To do this, we want our service to be an accessible, useful and attractive choice for all members of our community.

- Caltrain will need public investment to achieve its vision. Focusing on equity helps ensure that we deliver benefits and value to all members of the public.
Equity Assessment Work Plan

The equity assessment is intended to help Caltrain understand how the Service Vision could improve equitable access to Caltrain and develop a series of policy interventions that would improve equitable access over time.

Opportunities & Challenges
- Review of existing plans
- Stakeholder interviews
- Market assessment

Analysis of the Service Vision
- Qualitative & quantitative evaluation of the Service Vision (will be presented in April)

Recommendations
- Context-specific recommendations developed from the analysis of the Service Vision and opportunities and challenges (will be presented in April)
Existing Plans Review

1. Bayview Community Based Transportation Plan (2019)
2. Redwood City Citywide Transportation Plan (2018)
4. San Bruno/South San Francisco Community-Based Transportation Plan (2012)
7. Community-Based Transportation Plan for East San Jose (2009)
Stakeholder Engagement

To better understand existing barriers for disadvantaged riders and residents in the corridor, surveys were sent to community-based organizations along the corridor. Representatives who wanted to provide more feedback were interviewed in person or over the phone.
Feedback From Stakeholders
Service & Stations

Better Service For Nontraditional Work Schedules And Non-work Trips
Currently, Caltrain is focused on traditional commute hours, whereas low-income and vulnerable populations are more likely to have commutes that fall outside of these times.

Recommendations
• More mid-day, late evening, and early morning service
• Connecting services during non-typical commute times need to be coordinated

More Frequent Service
Upgraded service would offer more flexibility and choice to access the corridor and better connections to partner transit, making travel easier for those who need it

Open Stations In Communities Of Concern
The Bayview neighborhood of San Francisco would like to see the Oakdale station built to replace the Paul Ave station closed in 1999. North Fair Oaks would like to see a local station on either the Caltrain or Dumbarton rail corridor.
Better Connecting Bus Service
Currently, existing and potential Caltrain riders are poorly served by connecting bus services in San Mateo and Santa Clara Counties

Recommendations
• Better scheduling coordination with SamTrans and VTA to reduce the number of bus connections that result in long waits or insufficient (<5 minutes) transfer times
• More frequent connecting bus services to Caltrain stations

Better Bike & Pedestrian Connections
Biking and walking are low-cost modes that, if enhanced, could expand access to Caltrain services.

Recommendations
• Better bike facilities such as lockers and racks at stations
• Build separated grade crossings at tracks
• Facilitate and encourage bike sharing at stations
Better Rider Information
The fragmented nature of public transit service in the Bay Area makes it difficult for riders, especially those from marginalized and limited English-proficient backgrounds, to navigate myriad systems and agencies.

Recommendations
• Area-based maps and schedules that show services from all agencies, ideally in multiple languages
• Conduct outreach to teach people how to ride, perhaps with “captive audiences” such as ESL or citizenship classes
• Better utilize social media to advertise Caltrain service and connect with potential riders, especially youth

Accessible Station Design
Some Caltrain stations are poorly lit, provide limited access to ADA riders, and feel uninviting to riders

Recommendations
• Provide amenities at stations that improve rider experience, such as more lighting, shelter from the elements, and seating
• Implement level boarding at all stations
Discounted Fares For Low-income Riders
Currently, Caltrain does not offer discounts for low-income riders and has a significantly lower share of low-income riders compared with other agencies along the corridor (Muni, VTA, and SamTrans).

Recommendations
- Offer a reduced fare or subsidy program for low-income riders
- Revisit the zone fare structure to make sure that it is not disincentivizing the use of any connecting bus service

More Affordable Housing Near Stations
Housing along the Peninsula is becoming increasingly expensive and inaccessible to low-income and transit-dependent households.

Recommendation
- Partner with jurisdictions along the corridor to prioritize developing affordable housing and implement anti-displacement or local preference policies near stations

Feedback From Stakeholders
Fares & TOD
Equity Assessment

Key Questions

The equity assessment will help us to understand how the Service Vision affects equitable access to Caltrain and will identify a series of potential policy interventions that could improve equitable access further.

1. Does Caltrain ridership reflect corridor communities?
   Tool: census and on-board survey data

2. Do the travel patterns of lower income and minority communities reduce their likelihood of using Caltrain?
   Tool: Census Transportation Planning Products data

3. What policy levers could Caltrain shift to increase ridership from low income and minority communities?
   Tool: Review of fare structure and service plans, stakeholder interviews, plan review
The Corridor is Diverse

Within a two-mile station area:

20% of households are located within an MTC-designated Community of Concern

29% of households are low income (annual income less than $50,000)

63% of residents identify as a person of color
Residents within 2 Miles

Source: U.S. Census, American Community Survey 2017. Low-income defined by MTC as <$50,000 or <200% of the Federal poverty level; high-income defined as >$100,000.

Household Income
- High Income (> $100K), 49%
- Middle Income ($50K - $100K), 22%
- Low Income (< $50K), 29%

Race
- White, 37%
- Person of Color, 63%
Caltrain Rider Income does not Match that of Corridor Residents

Very-low, low, and middle-income brackets are underrepresented in Caltrain ridership relative to the surrounding corridor.

Source: U.S. Census, American Community Survey 2017. 2019 Triennial Caltrain Survey
Caltrain Rider Race/Ethnicity does not Match that of Corridor Residents

White and Asian neighbors are overrepresented in Caltrain ridership and Latinx neighbors are significantly underrepresented relative to the surrounding corridor.

Source: U.S. Census, American Community Survey 2017, 2019 Triennial Caltrain Survey
Do the Travel Patterns of Lower Income and Minority Communities Reduce their Likelihood of Using Caltrain?

This question is answered by exploring:

- **Commute Trips vs. Non-Commute Trips**: Does trip-making by Caltrain riders and other commuters within the Caltrain corridor vary by income? Do commute travel patterns vary by income?

- **Parallel Transit Routes**: Is there a difference in the way low-income and minority riders travel along parallel transit routes?
Commuting in the Corridor

Any work trip that has the work, home, or both trip-ends within 2-miles of a Caltrain station is considered a “corridor commute trip”

Trips that start and end in the same city are excluded
Caltrain Rider Income Closely Matches Income of Commuters within 2 Miles of the Corridor

Low Income Commuters Have Similar Corridor Travel Patterns as Other Income Brackets

Home-based work trips with at least one end within 2-miles of a station

<table>
<thead>
<tr>
<th>Income Bracket</th>
<th>Both live and work along the corridor</th>
<th>Live along the corridor, but work elsewhere</th>
<th>Work along the corridor, but live elsewhere</th>
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</thead>
<tbody>
<tr>
<td>Total</td>
<td>40%</td>
<td>19%</td>
<td>41%</td>
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<tr>
<td>$100K+</td>
<td>40%</td>
<td>18%</td>
<td>42%</td>
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<tr>
<td>$50k-$100k</td>
<td>39%</td>
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<td>40%</td>
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<tr>
<td>$25k-$50k</td>
<td>41%</td>
<td>21%</td>
<td>37%</td>
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<tr>
<td>&lt; $25k</td>
<td>37%</td>
<td>25%</td>
<td>38%</td>
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</table>

Source: Census Transportation Planning Products (CTPP).
*Analysis excludes trips that start and end in the same city.
Only 10% of Corridor Commuters Are Low Income Despite Being 29% of Residents

Caltrain is underserving non-work trips. This has the greatest impact on low-income populations.

Source: Census Transportation Planning Products (CTPP).
*Analysis excludes trips that start and end in the same city.
Parallel Transit Service

Several alternative transit lines run parallel to the Caltrain corridor. Although service is geographically similar to portions of the Caltrain route, ridership on these routes looks very different than on Caltrain.

- 8, 8AX, 8BX
- 9, 9R
- T-Third Light Rail
- ECR, ECR Rapid
- 292
- 398
- 397 (OWL)
- 22
- 66
- 68
- 102
- 103
- 121
- 122
- 168
- 182
- 185
- 304
- 522
Parallel Routes Proportionally Serve More Low-Income Riders and People of Color than Caltrain


<table>
<thead>
<tr>
<th>Corridor Residents</th>
<th>Caltrain</th>
<th>SamTrans</th>
<th>SFMTA</th>
<th>VTA</th>
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<tr>
<td>Household Income</td>
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<td>&lt;$25,000</td>
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<tr>
<td>Corridor Residents</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>5%</td>
<td>10%</td>
<td>9%</td>
<td>7%</td>
</tr>
<tr>
<td>Asian</td>
<td>27%</td>
<td>27%</td>
<td>36%</td>
<td>28%</td>
</tr>
<tr>
<td>Latinx</td>
<td>28%</td>
<td>28%</td>
<td>28%</td>
<td>24%</td>
</tr>
<tr>
<td>Black</td>
<td>37%</td>
<td>42%</td>
<td>28%</td>
<td>24%</td>
</tr>
<tr>
<td>Other</td>
<td>37%</td>
<td>42%</td>
<td>28%</td>
<td>24%</td>
</tr>
</tbody>
</table>

Parallel Transit Has More Frequent All-Day Service & Serves More Midday Riders
• Caltrain service is concentrated in the peaks with very little service during the early morning, midday, and evening hours
• Parallel transit service runs consistent headways through the peak and midday hours
• Parallel transit service operates in the corridor 24/7
• As a result, off-peak demand is largely served by parallel transit service
Comparisons: Travel Time & Cost

- Caltrain is generally faster but more expensive
- Caltrain has a zone-based fare structure: costs increase with distance travelled
- Parallel systems use flat rates with higher fares for express bus services

*Adult fares are higher on all VTA express buses and on SamTrans express buses leaving SF.*
• Within the corridor, SFMTA currently provides a low-income discount fare option

• Caltrain will begin participating in a means-based fare option through MTC’s Clipper START Program (20% discount)

• Caltrain’s need to maintain an overall high farebox recovery is driven by its underlying funding constraints

<table>
<thead>
<tr>
<th>Transit Agency</th>
<th>Discount Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youth</td>
</tr>
<tr>
<td>Caltrain</td>
<td>✓</td>
</tr>
<tr>
<td>BART</td>
<td>✓</td>
</tr>
<tr>
<td>SFMTA</td>
<td>✓</td>
</tr>
<tr>
<td>SamTrans</td>
<td>✓</td>
</tr>
<tr>
<td>VTA</td>
<td>✓</td>
</tr>
</tbody>
</table>
Discount Pass Programs are More Heavily Used By Middle- and High-Income Riders

Caltrain’s most discounted pass is the GoPass. In October 2016, the average GoPass customer paid $2.89, versus the non-GoPass customer average of $5.96.

The GoPass and Monthly Pass are the fare payment options with the least use by very-low and low-income riders.

Source: Caltrain 2019 Triennial Survey.
Equity

Station Access by Household Income

Data from Caltrain’s 2019 Triennial Survey

High income riders rely more on driving and biking

Low income riders rely more on transit
A higher share (25%) of Very Low-Income riders take transit to access the Caltrain system – more than any other income group

- Bus to Caltrain fare transfers are not offered
- Some Caltrain Monthly Pass holders receive a discounted bus fare when transferring from Caltrain*

Very-low income riders are the least likely of all income groups to use a Monthly Pass.

* Muni provides a 50-cent discount to all Caltrain transfers who use Clipper.
Access

- Buses and light rail provide more frequent stop spacing, which means easier access to destinations and transfers.
- Because Caltrain is unable to easily add more stations, Caltrain can utilize station access policy and time transfers with other transit services to facilitate ease of access.
What Policy Considerations Can Caltrain Explore to Increase Ridership from Low-Income Communities?

Caltrain could attract more low-income riders by:

• Expanding service during off-peak hours and non-traditional commute times
• Offering low-income fare products. Caltrain has committed to piloting low-income fare products starting this year as part of the regional MTC SMART program launch
• Evolving and simplifying fare structure so that discounts and transfer benefits accrue equitably to all types of riders
• Expanding and investing in first- and last-mile access that benefits all types of trips and people with a focus on Communities of Concern that have expressed a desire for better station access such as Bayview in SF and North Fair Oaks in San Mateo County
Analysis of the Long Range Service Vision

This analysis of the Long Range Service Vision will include qualitative and quantitative factors – it will focus on illuminating how Caltrain’s achievement of the Vision can help equity and will highlight areas where extra focus or reinforcing policies may be needed.

Themes in blue are the focus for the evaluation of the service vision. Themes in gray may arise during conversations with stakeholders and will potentially be used to guide policy recommendations.

<table>
<thead>
<tr>
<th>Evaluation Framework</th>
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<tbody>
<tr>
<td>Key Questions</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>How does Caltrain provide service?</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Who benefits or is burdened from those services?</td>
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<td></td>
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<td></td>
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<tr>
<td>How does Caltrain impact surrounding land use?</td>
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<td></td>
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<td></td>
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<tr>
<td>How are decisions made?</td>
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</tbody>
</table>

(MTC Equity Focus Area)*; (Title VI Equity Focus Area) *
Making it Happen: Delivering Improved Caltrain Service Before 2040
Remaining Technical Analysis
Making it Happen

With a 2040 Service Vision adopted, what will the next 10 years look like for Caltrain? What are the key actions and steps we need to focus on next?

Additional technical and policy analysis is underway to focus on what Caltrain can achieve over the next decade and the key near term steps and work that will be needed to make it happen.

Building towards the Vision with service concepts for initial electrification and options for growth and investment through 2020s

Accompanying financial projections and funding plan

Identification of a program of key planning, policy and organizational next steps
Getting to the 2040 Service Vision

CalMod will provide tremendous near-term service benefits to the corridor. However, regional growth projections suggest that there is medium-term demand for even more service.

Working backwards from the 2040 Service Vision, Caltrain can explore how to deliver key service benefits to the corridor sooner.
Key Questions for the Next Decade

1. What is the potential market demand for Caltrain service over the next 10 years?

2. Which benefits of the 2040 Service Vision could Caltrain deliver before 2030?
   - How can we use the initial electrified system (CalMod) to deliver near-term service benefits and best meet market demand?
   - How could we improve service further through subsequent incremental investments?

3. What will it cost to provide the service the corridor needs over the next decade? What sources of revenue and funding should we plan for?
Daily ridership demand for Caltrain service will likely exceed 90,000 passengers per weekday within the next decade. This growth is driven by several factors:

- **Latent Demand**: Improving Caltrain service and increasing capacity will make Caltrain more appealing for a wider range of trips.

- **Population and Employment Growth**: Station areas will add over 100,000 new residents and employees within ½ mile of Caltrain stations, a ~30% increase over existing.

- **Improved Connectivity**: New connections like the Central Subway will extend Caltrain’s reach.
## Existing Ridership by Station

<table>
<thead>
<tr>
<th>Station</th>
<th>Ridership</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th &amp; King</td>
<td>Highest</td>
</tr>
<tr>
<td>Redwood City</td>
<td>&gt;4,000</td>
</tr>
<tr>
<td>Palo Alto</td>
<td></td>
</tr>
<tr>
<td>Mountain View</td>
<td></td>
</tr>
<tr>
<td>San Jose Diridon</td>
<td></td>
</tr>
<tr>
<td>Millbrae</td>
<td>Moderate</td>
</tr>
<tr>
<td>San Mateo</td>
<td>2,000 – 4,000</td>
</tr>
<tr>
<td>Hillsdale</td>
<td></td>
</tr>
<tr>
<td>Sunnyvale</td>
<td></td>
</tr>
<tr>
<td>San Jose Diridon</td>
<td></td>
</tr>
<tr>
<td>22nd Street</td>
<td>Lower</td>
</tr>
<tr>
<td>Bayshore</td>
<td>&lt;2,000</td>
</tr>
<tr>
<td>South San Francisco</td>
<td></td>
</tr>
<tr>
<td>San Bruno</td>
<td></td>
</tr>
<tr>
<td>Broadway</td>
<td></td>
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<tr>
<td>Burlingame</td>
<td></td>
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<tr>
<td>Hayward Park</td>
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<tr>
<td>Belmont</td>
<td></td>
</tr>
<tr>
<td>San Carlos</td>
<td></td>
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<tr>
<td>Atherton</td>
<td></td>
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<tr>
<td>Menlo Park</td>
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<tr>
<td>California Ave</td>
<td></td>
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<tr>
<td>San Antonio</td>
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<tr>
<td>Lawrence</td>
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<tr>
<td>Santa Clara</td>
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<tr>
<td>Tamien</td>
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<tr>
<td>Capitol</td>
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<tr>
<td>Blossom Hill</td>
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<tr>
<td>Morgan Hill</td>
<td></td>
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<tr>
<td>San Martin</td>
<td></td>
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<tr>
<td>Gilroy</td>
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</table>
Potential 2020s Demand by Station

<table>
<thead>
<tr>
<th>Highest Ridership Potential</th>
<th>Moderate Ridership Potential</th>
<th>Lower Ridership Potential</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;4,000 Daily Riders</td>
<td>2,000 – 4,000 Daily Riders</td>
<td>&lt;2,000 Daily Riders</td>
</tr>
</tbody>
</table>

- 4th & King
- 22nd Street
- Millbrae
- Redwood City
- Palo Alto
- Mountain View
- Sunnyvale
- San Jose Diridon
- San Bruno
- Broadway
- Burlingame
- Hayward Park
- Belmont
- San Carlos
- Atherton
- Tamien
- Capitol
- Blossom Hill
- Morgan Hill
- San Martin
- Gilroy
### Potential 2020s Demand by Station

**Highest Ridership Potential**
- >4,000 Daily Riders

**Moderate Ridership Potential**
- 2,000 – 4,000 Daily Riders

**Lower Ridership Potential**
- <2,000 Daily Riders

#### Stations experiencing significant changes

<table>
<thead>
<tr>
<th>Highest</th>
<th>Moderate</th>
<th>Lower</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th &amp; King</td>
<td>South San Francisco</td>
<td>San Bruno</td>
</tr>
<tr>
<td>22nd Street</td>
<td>San Mateo</td>
<td>Broadway</td>
</tr>
<tr>
<td>Millbrae</td>
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<td>California Ave</td>
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<td>Capitol</td>
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<td></td>
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<td>Blossom Hill</td>
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<td>Morgan Hill</td>
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<td></td>
<td></td>
<td>San Martin</td>
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<tr>
<td></td>
<td></td>
<td>Gilroy</td>
</tr>
</tbody>
</table>
Priorities for CalMod

The ongoing electrification of the Caltrain service between San Francisco and San Jose provides a transformative, near-term opportunity to improve service.

With this investment, Caltrain can begin delivering many, but not all, of the service improvements described 2040 Service Vision while also attempting to keep pace with growing market demand.

Staff has developed two illustrative service options that are responsive to the opportunities and priorities identified to the right.

Opportunities and Recommended Priorities

- Increasing service at stations
- Standardizing schedules and enhancing connectivity
- Expanding off-peak service
- Balancing capacity
Caltrain has prepared two sets of illustrative service plans to carry forward for further analysis.

**Two Zone with Express** – two zone patterns (north and south of Redwood City) with a regional express pattern offering different travel times and wait times.

**Distributed Skip Stop** – three skip stop patterns offering similar travel times and regular wait times at major stations.

The diagram illustrates two illustrative service plans for Caltrain, with details on travel times and stop patterns. The plans are labeled as "Two Zone with Express" and "Distributed Skip Stop." Each plan is further divided into "PEAK PERIOD" and specifies the number of trains per hour. Travel times and wait times are highlighted for various stations, with expected travel times ranging from 67 to 71 minutes. The diagrams also indicate future Atherton services and levels under discussion.
Service Frequency Improvements

Because of the growth in demand throughout the corridor, staff recommends prioritizing increased service levels at stations throughout the system (while maintaining competitive travel times).

While specific stopping patterns shown are illustrative, all service concepts considered *double* the number of stations that receive at least four trains per hour, per direction.

All service concepts provide *at least* two trains per hour, per direction to all mainline, regularly served stations.
South of Tamien Service Improvements

Caltrain would increase service south of Tamien from three to four trains per day with CalMod.

Under the current agreement with Union Pacific, Caltrain can add up to two additional roundtrips to Gilroy to reach five trips per day. Caltrain has committed to adding one additional roundtrip in FY2021. There are some constraints as to when these trips can be added without affecting mainline service.

In the future, two of these roundtrips could be extended south to Salinas subject to further planning and agreement by both the Caltrain Board and Union Pacific.
Standardizing the Schedule and Enhancing Connectivity

**Standardized Schedule**
Staff recommends creating a more user-friendly, intuitive service by standardizing the Caltrain service to a repeating, clockface pattern including symmetrical services in both NB and SB directions.

**Enhancing Connectivity**
Increased frequency and standardized schedules allow for improved connections with the rest of the region’s rail and transit network. This creates the opportunity to specifically “design” service around key high volume transfers (eg BART connection at Millbrae) and creates new opportunities for better bus and shuttle integration throughout the system.

Example- Each Line 2x per Hour

<table>
<thead>
<tr>
<th>Line A</th>
<th>Line B</th>
<th>Line C</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="Image" alt="Example Chart" /></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Photo credit SPUR
Improving Off-Peak and Weekend Service

With electrification, Caltrain has the opportunity to stretch the peaks and increase off-peak and weekend service levels to better meet corridor demand.

However, operational and financial constraints may affect Caltrain’s ability to fully serve off-peak demand.

Goals

• Increase Caltrain’s market share during off-peak and weekend periods
• Offer competitive travel times between major stations
• Maintain flexibility to accommodate construction and maintenance windows
Balancing Capacity

An Ongoing Challenge

• Strong corridor demand means that peak-hour capacity is likely to be an ongoing challenge for Caltrain— even as service improvements and expansion are implemented.

• Caltrain can design its service to better balance demand across all of its trains— but doing so could require eliminating popular peak-hour express service and instead making all trains run at roughly the same speed.

• The two service options developed by Caltrain present both sides.

• Looking forward, Caltrain’s best option to prepare for increased demand will be to take the next incremental step beyond CalMod.
Taking The Next Big Step
Toward the end of the 2020s, Caltrain is expected to reach capacity during peak hours.

Caltrain will not be able to accommodate additional ridership growth in the 2030s without adding capacity. This poses a challenge for accommodating ongoing land use growth as well as demand that will be induced by DTX, Dumbarton rail, and other potential changes on the corridor.

While smaller, interim improvements may ease capacity, the most significant improvement to service and capacity involves expanding service to eight trains per hour, per direction.
Getting to 8 Trains Per Hour

The following parallel and programmatic investments will be an ongoing focus for Caltrain throughout the 2020’s - they are needed to support the overall success of the system and the full implementation of the 2040 Service Vision.

**Grade Separations**
Planning and construction of grade separations and grade crossing improvements

**Station Improvements**
Programmatic improvements to Caltrain stations and investments in station access and connectivity

**Major Investments**
Work on major terminal projects (including Diridon and DTX), major station investments, and partner projects including HSR
Getting to 8 Trains Per Hour

The following key investments would specifically be needed to implement an interim 8-tph service. These investments are consistent with the overall program assumed in the 2040 Service Vision.

- Expanded EMU Fleet
- More Train Storage
- Holdout Rule Elimination
- Level Boarding
- Minor Track Work
8 Train Illustrative Service Plan

- An 8-train Caltrain service would likely look like a hybrid of the zone express and skip stop patterns with 8 trains per hour, per direction.
- There is limited flexibility in the service structure due to lack of new passing tracks and the constraints of Caltrain's existing signal system.
- An 8-train per hour service requires the mainline to be a fully electrified operation. Diesel service would remain for stations south of Tamien with a timed transfer at Diridon Station; however, service would increase to a minimum of 5 trains per day and the schedule could be fully customized to local travel needs.
Increasing service from six to eight trains per hour, per direction enables more frequent service to more stations.

With an interim 8 tph service, 20 of 24 mainline stations would receive at least four trains per hour, per direction, and nearly half of stations would receive eight trains per hour, per direction.
Change in Weekday Ridership Over Time

- Service improvements from electrification adds 21,000 riders over three years.
- Increasing service to 8 trains adds 20,000 riders over three years.
- Caltrain is near-capacity today, which limits ridership growth.
Investing In Improvement
Caltrain Today
Operating Costs & Revenues

Caltrain had a total budgeted Operating Expense of $156 million in FY2020. Of this total, $91 million (58%) were direct TASI O&M costs, $38 million (24%) were for other (non-TASI) operating expenses, $24 million (16%) were for Administrative Expenses, and $3 million (2%) was for Long-term Debt.

On the revenue side, Caltrain budgeted for a total of $156 million during FY2020, of which $114 million (73%) was Self-Generated Revenue, $11 million (7%) was in Other Revenues and Funding, and $30 million (19%) was Local Member Contributions. The remaining $1 million was budgeted to be paid out of the revenue stabilization fund.
During FY2020, Caltrain budgeted $47 million for capital expenses related to State of Good Repair, minor system enhancements and legal requirements, and contingency, administration and planning. These expenditures reflect the categories of capital investment that Caltrain must consider and plan for on a recurring annual basis.

These capital expenses were funded through a combination of Federal and State formula funds, a collection of smaller individual sources, and annual JPB member agency capital contributions.
Major capital projects often span multiple budget years and rely on individualized funding plans. These are developed independently on a project-by-project basis.

Member agencies may contribute additional funds to support large projects - either directly or through county specific grant sources. These local funds are often used to match qualifying regional, state and federal sources.

Member agencies typically contribute equally to large system wide projects (like electrification). The development of funding plans for more localized projects - like grade separations or the improvement of a specific station - are typically undertaken directly by the specific county where the project resides.
Investing in Service

Over the next decade Caltrain has the opportunity to make substantial improvements to service.

Service enhancements require investment - both to sustain operations and to implement and maintain the capital infrastructure needed to grow the system.

The following slides provide a financial analysis that considers the costs and potential funding needs associated with two options for growth.

Baseline CalMod

This option includes provision of the “baseline” level of electrified service envisioned in PCEP grant applications and funding documents.

Includes six peak hour trains throughout the decade with modest improvements to off-peak service levels (approx. 116 trains per day).

Enhanced Growth

This option considers enhanced service levels that maximize the use of available infrastructure and more fully serve expected demand.

Includes six peak hour trains growing to eight by the end of the decade.

Peak periods are expanded, and off-peak service is significantly enhanced (approx. 168 trains per day growing to 204).
## Scenario Details

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Service Description</th>
<th>Capital Investments</th>
<th>Major Operating Cost Drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline CalMod</strong></td>
<td>• 6 tphpd during peak hours (4 hours per day)</td>
<td>• PCEP completed in early 2020s (already funded)</td>
<td>• TASI costs related to increased service hours</td>
</tr>
<tr>
<td></td>
<td>• Modest off-peak service increases</td>
<td>• Ongoing investment in State of Good Repair.</td>
<td>• Maintenance of new systems and expanded fleet</td>
</tr>
<tr>
<td></td>
<td>• Approx 116 trains per day throughout the decade.</td>
<td></td>
<td>• Electricity for Traction</td>
</tr>
<tr>
<td></td>
<td>• Increase to 4 round trips per day to Gilroy.</td>
<td></td>
<td>• Reduced fuel consumptions</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Reduced diesel fleet maintenance</td>
</tr>
<tr>
<td><strong>Enhanced Growth</strong></td>
<td>• 6 tphpd during peak hours (7-8 hours per day) increasing to 8 tphpd by late 2020s.</td>
<td>• PCEP completed in early 2020s.</td>
<td>Same as above, plus:</td>
</tr>
<tr>
<td></td>
<td>• Expanded peak periods and off-peak service</td>
<td>• Ongoing investment in State of Good Repair.</td>
<td>• Additional TASI costs related to further expanded service</td>
</tr>
<tr>
<td></td>
<td>• 168 trains per day increasing to 204 trains by the end of the decade.</td>
<td>• Direct investments required to support 8 tphd service</td>
<td>• Additional electricity for traction</td>
</tr>
<tr>
<td></td>
<td>• Increase to at least 5 round trips per day to Gilroy</td>
<td></td>
<td>• Additional maintenance related to expanded fleet</td>
</tr>
</tbody>
</table>
Two “Scenarios” for Growth

<table>
<thead>
<tr>
<th>Year</th>
<th>Enhanced Growth</th>
<th>Service Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>Diesel Fleet 5 trains/peak hour 92 trains/day</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>Baseline CalMod 6 trains/peak hour 116 trains/day</td>
<td>8 trains/peak hour 204 trains/day 2027</td>
</tr>
<tr>
<td>2022</td>
<td>Baseline CalMod 6 trains/peak hour 116 trains/day</td>
<td></td>
</tr>
<tr>
<td>2040</td>
<td>Service Vision 268 Caltrains/day 134 CAHSR trains/day</td>
<td></td>
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</table>
10-Year Total Capital Expenses by Scenario

Caltrain projects a cumulative $600 million in ongoing general capital needs (including SOGR as well as minor enhancements, planning and administration) to deliver the Baseline CalMod service.

Delivering the Enhanced Growth level of service will require approximately $1.2 billion of additional capital investments, of which $570 million are to acquire additional fleet to achieve the intended service frequency. The total 10-year capital expenses for this scenario are around $1.8 billion.

All costs shown in US$ 2018
10-Year Capital Funding Gap

Baseline CalMod

While the Peninsula Corridor Electrification Project is fully funded, the ongoing general capital needs of the system require funding of $600 million total over the next 10 years (approx. $60 million a year in 2018 dollars).

This projected need will not be fully covered with existing and anticipated Regional, State and Federal funding sources.

All costs shown in US$ 2018
10-Year Capital Funding Gap

Baseline CalMod

While the Peninsula Corridor Electrification Project is fully funded the ongoing capital needs of the system require funding of $600 million total over the next 10 years (approx. $60 million a year in 2018 dollars).

This projected need will not be fully covered with existing and anticipated State and Federal funding sources.

If member agency capital contributions were to continue at their current rate (approximately $22.5 million per year, divided evenly among counties) the gap would shrink to $110 million.
Enhanced Growth

Achieving the levels of service envisioned in the “Enhanced Growth” option will require investment in both the basic, ongoing capital needs of the system as well as new improvements to enable an 8 train per hour service. This scenario requires a total capital investment of $1.8 billion, an additional $1.2 billion over the Baseline CalMod scenario.

There will be a need of approximately $1.6 billion of new funding above anticipated state, regional and federal formula sources to cover this capital need over the next decade.

Enhanced Growth 10-year Capital Gap – No JPB Contribution

All costs shown in US$ 2018
Enhanced Growth

Achieving the levels of service envisioned in the “Enhanced Growth” option will require investment in both the basic, ongoing capital needs of the system as well as new improvements to enable an 8 train per hour service. This scenario requires a total capital investment of $1.8 billion, an additional $1.2 billion over the Baseline CalMod scenario.

If member agency capital contributions were to continue at their current rate (approximately $22.5 million per year, divided evenly among counties) the gap would shrink to $1.4 billion.
10-Year O&M Expenses: Methodology & Assumptions

Staff has developed projections of anticipated operating expenses and revenues over the next decade for both the Baseline CalMod and Enhanced Growth Scenarios.

Projections are developed through a unit-based integrated business model and then further refined for typical escalation rates by cost category.

Assumptions and Caveats

- 10 Year O&M projections are shown in year of expenditure dollars
- The projections represent Caltrain’s best available information on likely costs and revenues, but several areas of significant uncertainty remain:
  - TASI costs and operational parameters play a significant role in determining overall operating costs and may be influenced by ongoing contract negotiations
  - Costs of maintaining new systems and equipment (overhead catenary system, EMUs) have been estimated but are not yet fully known
  - Timing and speed of ridership growth in response to new service has been estimated but is not yet fully known
  - Many cost categories are inherently volatile and may vary (e.g. fuel, insurance)
O&M Expenses 2020-2030

Both scenarios assume the commencement of electrified service in 2022 (FY2023).

The Baseline CalMod path assumes the operation of 116 trains per day starting in FY2023 and through the end of the 10-year period.

The Enhanced Growth path will have 168 trains per day from FY2023 through FY2027, then increasing to 204 in FY2028 through the end of the 10-year period.
O&M Expenses and Revenues 2020-2030

Baseline CalMod

Self Generated Revenues include fares, parking and projections of existing rental and advertising income.

All other revenue includes other minor funding and revenue sources that Caltrain receives on a predictable and recurring basis.

From FY2023 through 2030, the average annual gap is $59 million if Member Contributions are excluded.
O&M Expenses and Revenues 2020 - 2030

Baseline CalMod

Caltrain’s member agencies contributed a combined $29.9 million to the system’s annual operating budget in FY20.

If these contributions were to continue at the same level, the average annual gap between FY2023 and 2030 would fall to approximately $29 million.
O&M Expenses and Revenues 2020-2030

Enhanced Growth

Self-generated revenues grow in the enhanced growth scenario but are not sufficient to offset increased operating costs.

The average annual gap between FY2023 and 2030 is $80 million if no Member Contributions are considered.

Enhanced Growth O&M Revenues Versus Expenses

No JPB Contribution

All costs shown in YOE $
O&M Expenses and Revenues 2020-2030

Enhanced Growth

Caltrain’s member agencies contributed a combined $29.9 million to the system’s annual operating budget in FY20.

If these contributions were to continue at the same level, the average annual gap between FY2023 and 2030 would fall to approximately $50 million.

Enhanced Growth O&M Revenues Versus Expenses With JPB Contribution

All costs shown in YOE $
Options to Fill the Funding Gap

The following categories define four overarching “strategies” that Caltrain and the region could use to fund both Caltrain’s near- and medium-term improvements as well as the long range Service Vision.

Cost Sharing
Establish a fair distribution of costs between Caltrain and other users of the corridor.

Self-Generated Revenue
Revenues from farebox, parking, advertising, and other self-generated sources.

Value Capture
Mechanisms to capture and remit new economic value generated by the railroad.

Public Investment
Direct public investment into the railroad including member contributions as well as new federal, state, regional, and local funding streams.
Options to Fill the Funding Gap

Examples of specific funding strategies within each category are shown below.

Cost Sharing
- Capital cost allocation for projects with multiple beneficiaries
- Track access fees

Self-Generated Revenue
- Farebox
- Parking
- Advertising
- Naming rights
- Low Carbon Fuel Credits
- Utilities and digital Services

Value Capture
- Special assessment and taxes
- Tax increment financing
- Joint development
- Other developer Contributions

Public Investment
- Member contributions
- Existing county funding sources
- Regional measures
- Local sales taxes
- Public grants
Filling the Gap

The various funding mechanisms shown vary widely – and many may not be ready for near-term implementation or may not have the potential to generate large-scale revenues.

In contemplating options to fill Caltrain’s anticipated funding gap over the next 10 years, potential sources have been analyzed by two factors:

- Magnitude of potential dollar amount (Y axis)
- Time, complexity and risk associated with securing this funding (X axis)
Filling the Gap

The upper quadrants are significant revenue sources, with increasing implementation complexity, time and/or risk to the right.

The lower quadrants are less significant revenue opportunities, with increasing implementation complexity, time and/or risk to the right.

Examples of potential funding sources and revenues have been conceptually mapped to the four quadrants.
Developing a near- and mid-Term Strategy

Many different funding opportunities and strategies will need to be realized to achieve the 2040 Service Vision.

In the near- and medium term, however, the conceptual mapping of sources is helpful in developing a plan of action as to where Caltrain should focus its immediate efforts and what sources can reasonably be assumed as part of a 10-year funding plan (where funding will need to be secured within a few years).
Based on this analysis, the following strategies are recommended for consideration and inclusion as part of Caltrain’s 10-year funding plan.

**Cost Sharing**
- Capital cost allocation
- Track access fees

**Self-Generated Revenue**
- Farebox
- Parking
- Advertising
- Naming rights
- Carbon credits
- Utilities and digital services

**Value Capture**
- Special assessment and taxes
- Tax increment financing
- Joint development
- Other developer Contributions

**Public Investment**
- Member contributions
- Regional measures
- Local sales taxes
- Public grants
Filling the Capital Gap -

To achieve the level of service contemplated in the “Enhanced Growth” path, up to $1.6 billion in capex is needed from new funding sources over the next 10 years.

Existing grant sources are one potential source of funding for these enhancements.
Filling the Capital Gap -

To achieve the level of service contemplated in the “Enhanced Growth” path, up to $1.6 billion in capex is needed from new funding sources over the next 10 years.

Existing grant sources are one potential source of funding for these enhancements.

### Known and Existing Sources

<table>
<thead>
<tr>
<th>Known and Existing Sources</th>
<th>Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Federal Programs (FTA and FRA)</td>
<td>Size of source and amount available</td>
</tr>
<tr>
<td>State Programs (Transit and Intercity Rail Capital Program, Solutions for Congested Corridors)</td>
<td>Individual grant eligibility and criteria</td>
</tr>
<tr>
<td>Regional Programs (Carl Moyer)</td>
<td>Competing with other, worthy projects</td>
</tr>
<tr>
<td>Local Measures (Measures K, A, W, B)</td>
<td></td>
</tr>
</tbody>
</table>

For planning purposes Caltrain has conservatively assumed a 10-year total of $200 million could be captured from existing grant sources. The remaining CapEx gap for the “Enhanced Growth” scenario would be:

- $1.4 billion (without Member Contributions)
- $1.2 billion (with annual capital budget Member Contributions held constant at FY2020 levels)
Filling the O&M Gap -

To achieve the level of service contemplated in the “Enhanced Growth” path, an average of as much as $80M a year in funding will be needed to support rail operations after 2023.

Over the next 10 years, Caltrain has several potential opportunities to increase operating revenues.
Filling the O&M Gap -

To achieve the level of service contemplated in the “Enhanced Growth” path, an average of as much as $80M a year in funding will be needed to support rail operations after 2023.

Over the next 10 years, Caltrain has several potential opportunities to increase operating revenues.

Potential Near- and Mid-term Opportunities to increase annual operating revenue:

- Advertising $1-$2 million/year
- Parking $3-6 million/year
- Carbon Credits $10-$30 million/year

For planning purposes Caltrain has assumed that an average of $22 million a year can be generated by these sources. The remaining OpEx gap for the “Enhanced Growth” scenario would be:

- $58 million gap a year (without Member Contributions)
- $28 million gap a year (with Member Contributions held constant at FY2020 levels)
New Public Investment Required

Even after pursuing readily available sources of funding and revenue, Caltrain will need ongoing and new public investment to achieve the “enhanced growth” scenario and deliver its full potential over the next 10 years and beyond.

<table>
<thead>
<tr>
<th>Projected Expense – Enhanced Growth</th>
<th>Funding Gap (No JPB Member Contributions Included)</th>
<th>Funding Gap (JPB Member Contributions Maintained at FY20 Levels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing OpEX</td>
<td>$58 million annually (average)</td>
<td>$28 million annually (average)</td>
</tr>
<tr>
<td>Ongoing Annual Capital Needs</td>
<td>$40 million annually (average)</td>
<td>$20 million annually (average)</td>
</tr>
<tr>
<td>New Capital Investment</td>
<td>$1 billion</td>
<td>$1 billion</td>
</tr>
</tbody>
</table>
If Caltrain were to only deliver the “Baseline CalMod” level of service the gap would be lower but a substantial unmet annual need for funding would still exist (even after pursuing readily available sources of funding and revenue)

<table>
<thead>
<tr>
<th>Projected Expense – Baseline CalMod</th>
<th>Funding Gap (No JPB Member Contributions Included)</th>
<th>Funding Gap (JPB Member Contributions Maintained at FY20 Levels)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ongoing OpEX</td>
<td>$37 million annually (average)</td>
<td>$7 million annually (average)</td>
</tr>
<tr>
<td>Ongoing Annual Capital Needs</td>
<td>$40 million annually (average)</td>
<td>$20 million annually (average)</td>
</tr>
<tr>
<td>New Capital Investment</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
New Public Investment Required

Caltrain needs new public funding.

Realizing the full benefits of electrification and continue to grow the system to meet market demand will require investment from a source such as FASTER or SB 797.

Without this funding, Caltrain will not be able to provide the level of service the corridor needs and will face significant added demands on JPB member funding.