

# Caltrain Business Plan

Spring Update

March, 2020



# Agenda for Today



## Process Overview

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## Rounding out the Long Range Vision

- Station Access and Connectivity



- Existing Opportunities & Challenges
- 



## Making it Happen- Delivering Improved Caltrain Service Before 2040

- Priorities for CalMod – Better Service in the 2020s
- Taking the Next Big Step
- 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

Winter 2019-2020



Rounding Out the Vision  
and Implementation  
Planning

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

### Stopping Pattern

Local / Express with timed transfer in Mid Peninsula

### Travel Time, STC-Diridon

61 Min (Express)  
85 Min (Local)

### New Passing Tracks

Millbrae, Hayward Park-Hillsdale, Redwood City area, Northern Santa Clara County, Blossom Hill

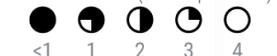
### Service Plan Description

- 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

Service Type

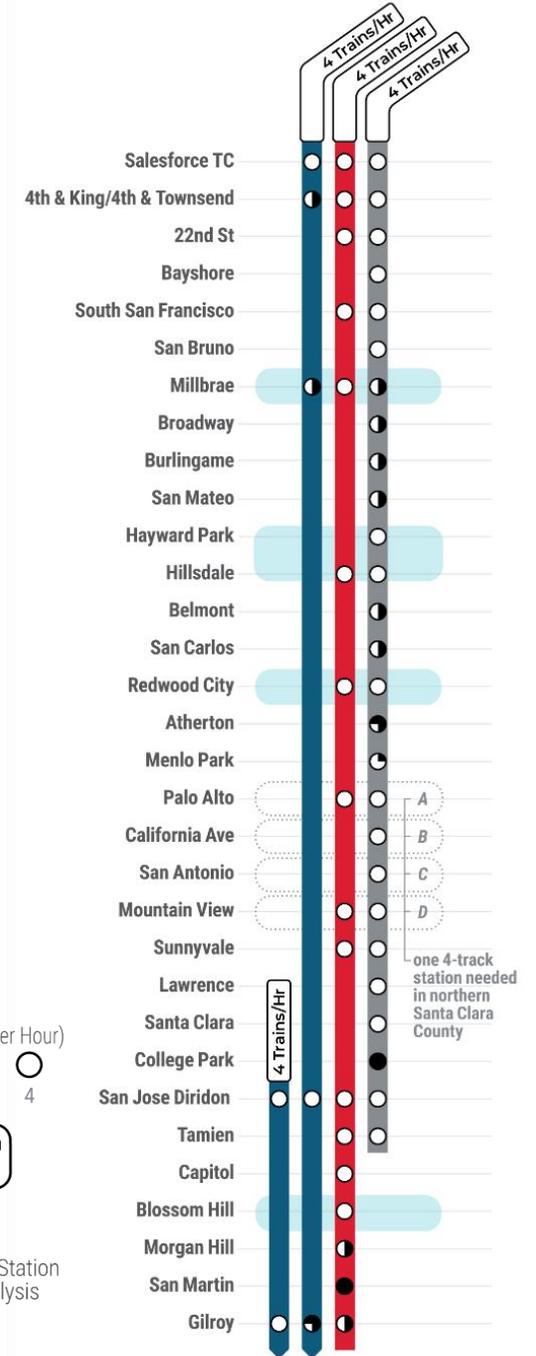


Service Level (Trains per Hour)



Peak Direction Trains/Hour

Conceptual 4 Track Segment or Station to be refined through further analysis and community engagement.



# Caltrain's 2040 Service Vision - Investments

## CAPITAL COSTS



**\$23 BILLION**  
TOTAL CAPITAL COSTS\*

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



**\$9.4B**  
GRADE  
SEPARATIONS



**\$7.8B**  
TERMINAL  
IMPROVEMENTS



**\$3.3B**  
RAIL INFRASTRUCTURE  
AND SYSTEMS



**\$1.4B**  
STATION  
IMPROVEMENTS



**\$1.1B**  
FLEET  
UPGRADES

## 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 of 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.

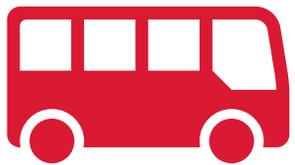
This assessment considers how station access needs may change over time, and potential paths forward to realizing the service vision.



# 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



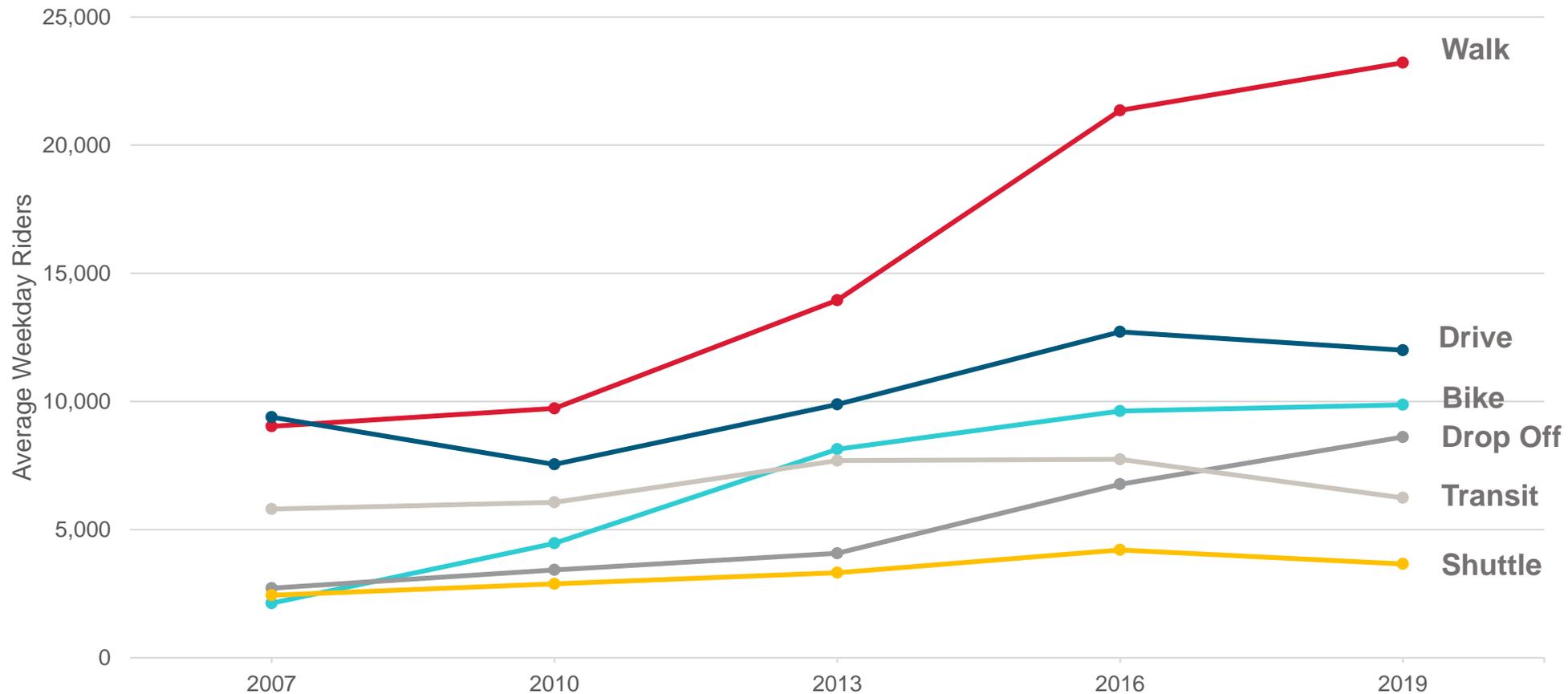
Provides and manages parking at some stations



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?

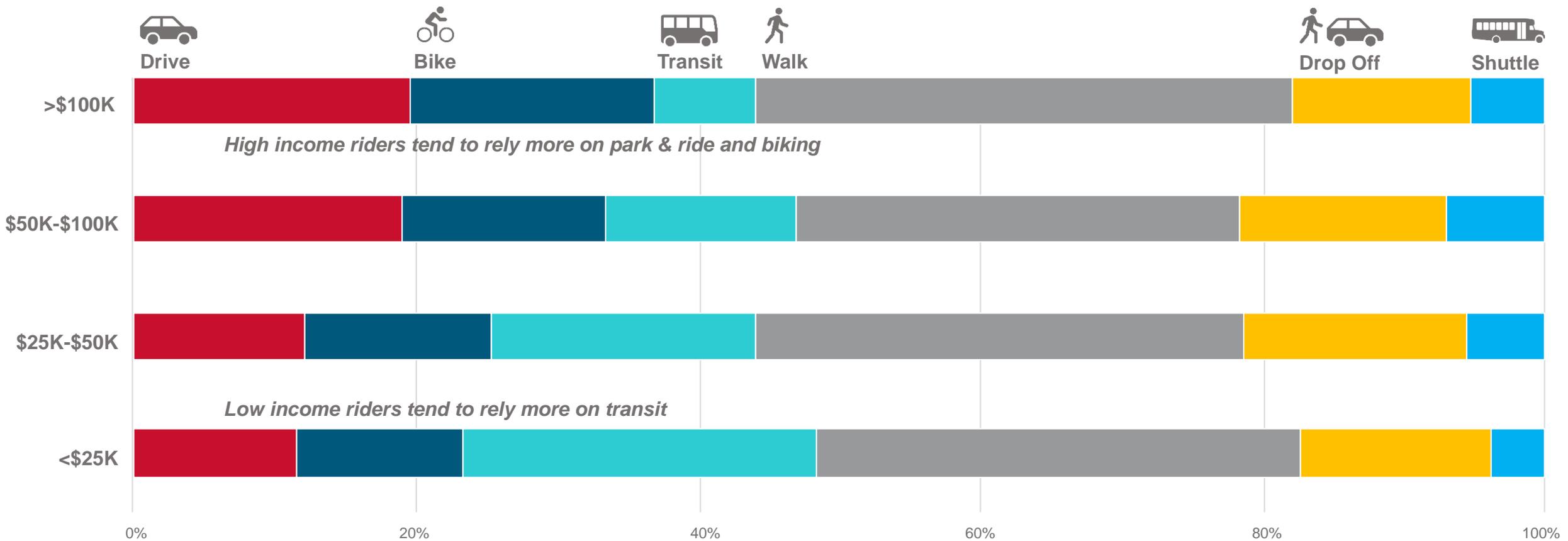
Data from Caltrain's Triennial Surveys- 2007 through 2019



# Equity

# Station Access by Household Income

Data from Caltrain's 2019 Triennial Survey



# Caltrain Manages 7,600 Parking Spaces for Low or No Fees



SF Bayshore – Diridon

**0**  
**5,400**

JPB-Managed Spaces  
JPB-Managed Spaces

**Parking Rates**

Weekday \$5.50 daily flat fee  
\$82.50 monthly flat fee  
Weekend Free

Tamien – Gilroy

**2,200**

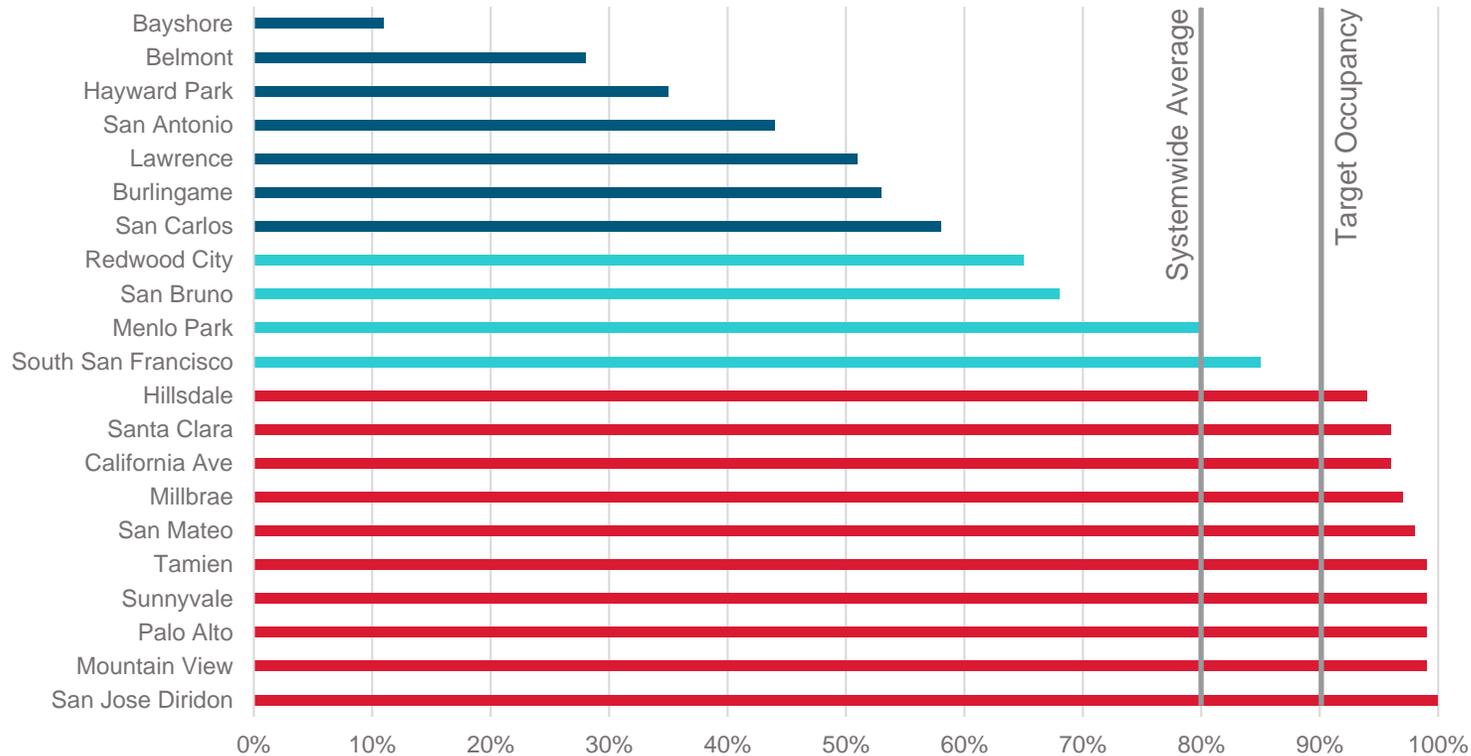
VTA-Managed Spaces

**Parking Rates**

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

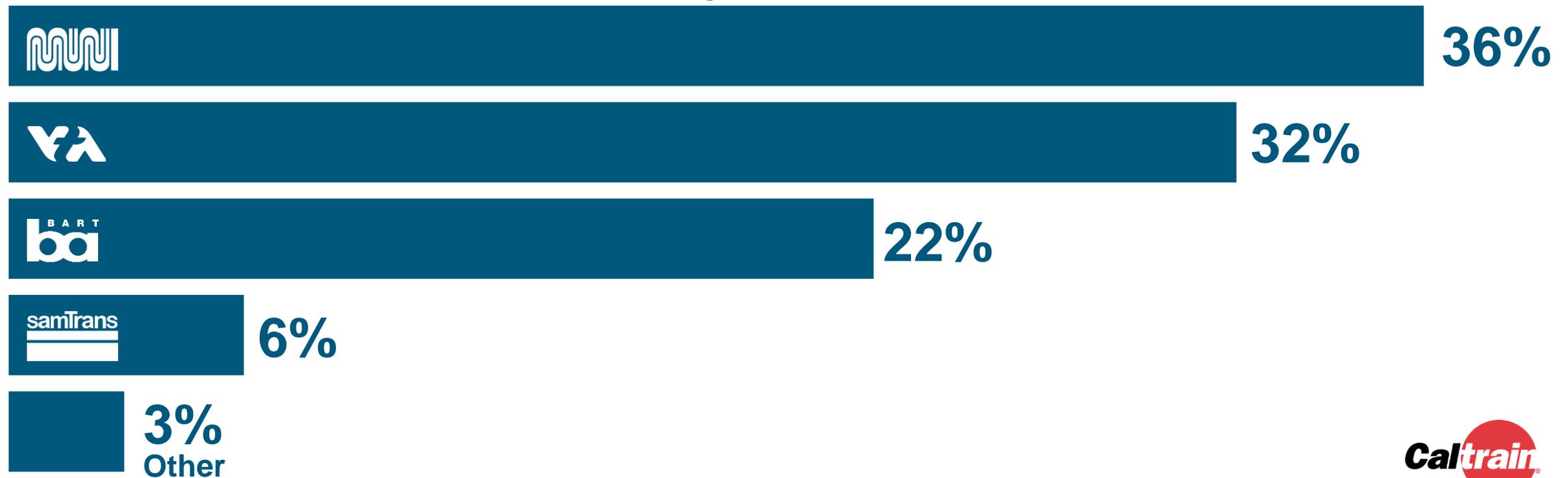
Caltrain may consider market-based pricing to better manage supply and demand during weekdays and weekends, similar to BART's proposed program

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

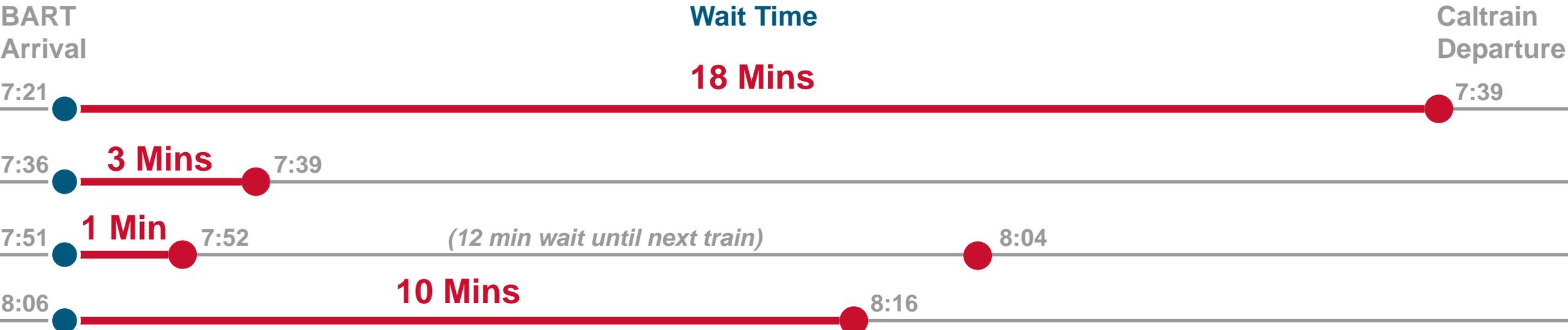
Percent of Caltrain transfers to other operators



# 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



# 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



- ✓ 50 cent fare discount to all riders using a Clipper Card
- ❑ No discount on paper tickets



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



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



- ❑ 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

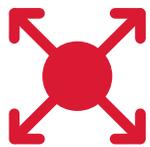
Improved fare coordination could make transfers more seamless and convenient for all riders and could help Caltrain provide more equitable access for low- and middle-income riders who are more likely to connect via transit



# 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



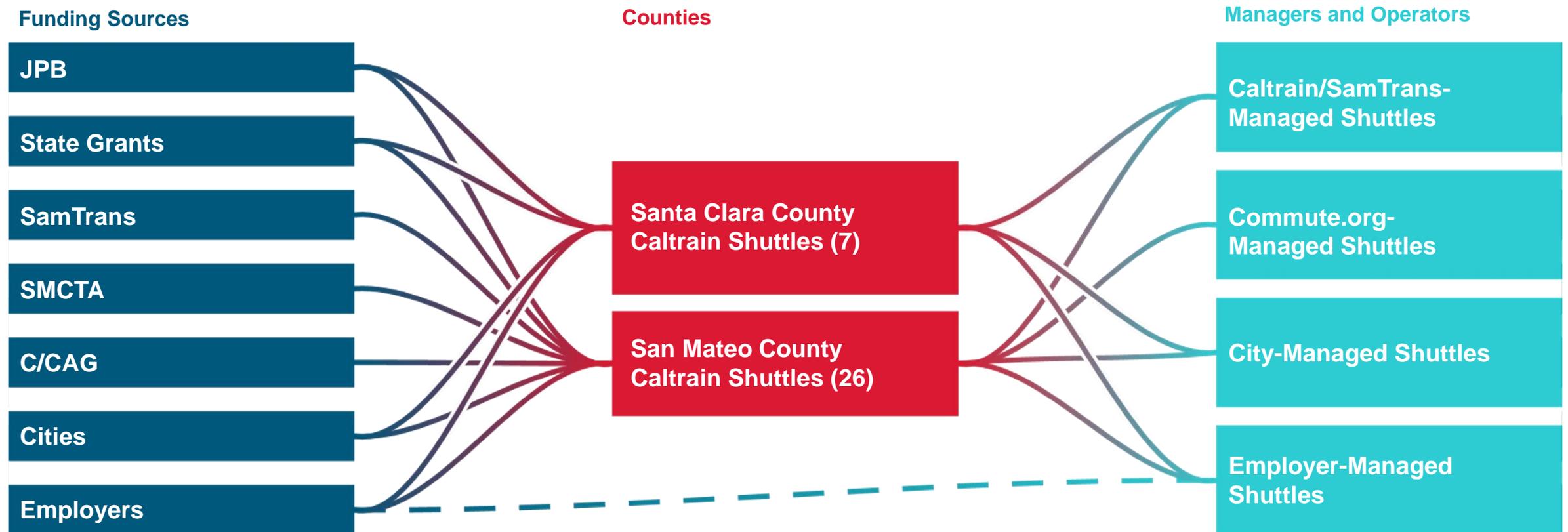
## Privately Managed

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

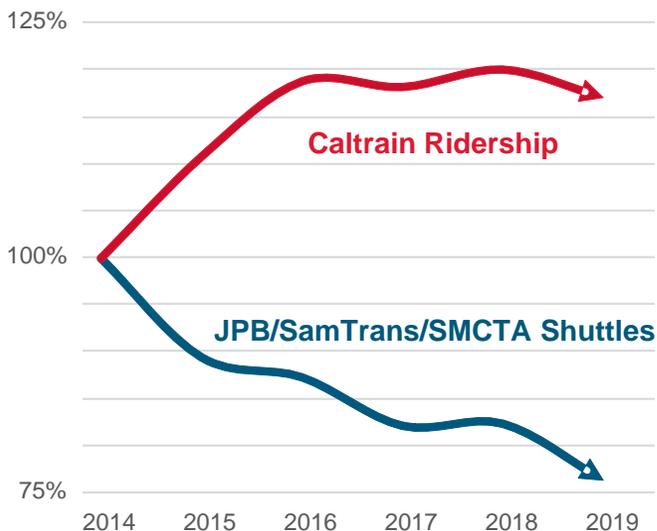
# Shuttle Funding Structure

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.



# 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

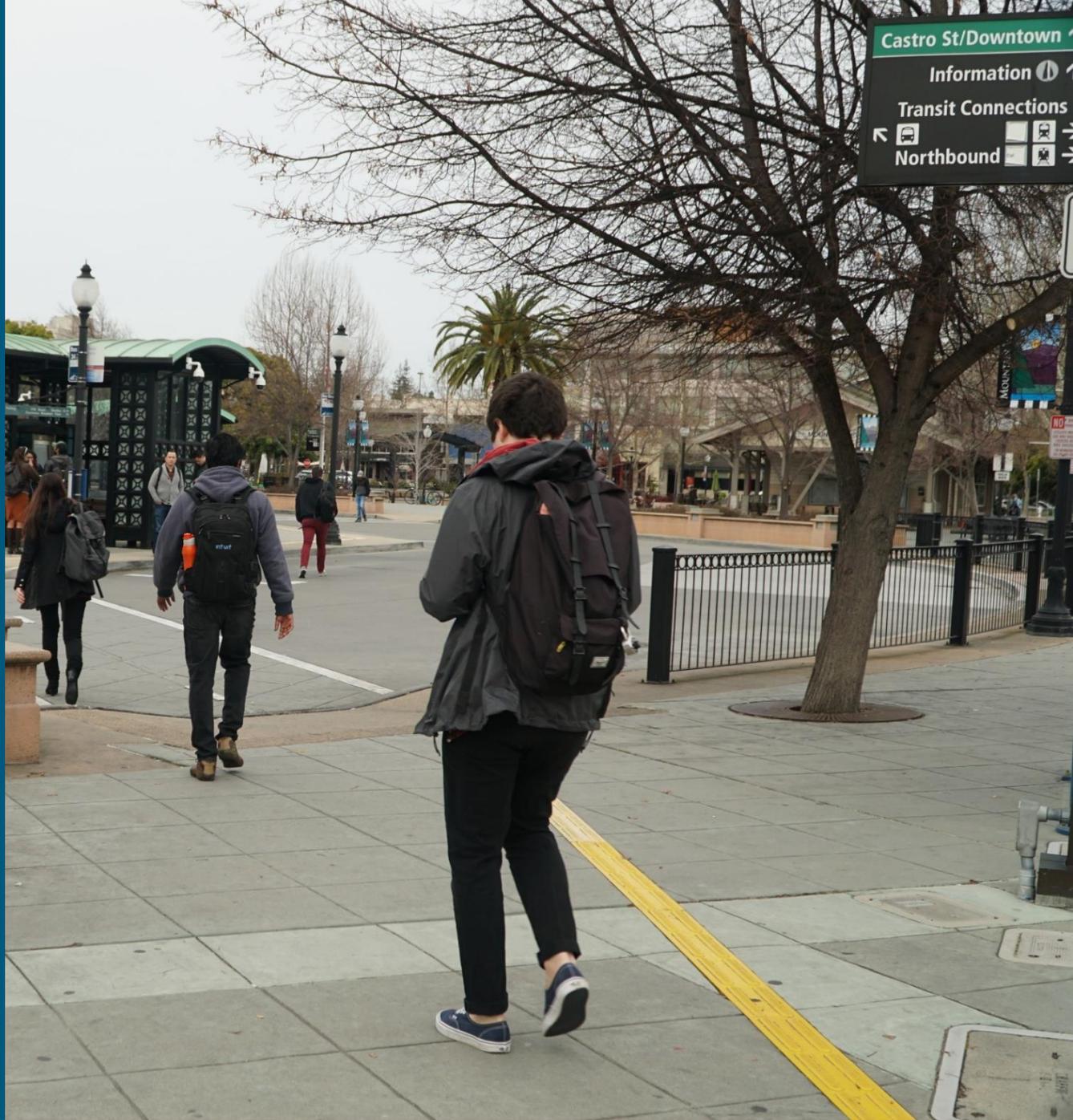
Station circulation and curb programming are critical to handling increased pickup & dropoff activity while minimizing conflicts



# 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

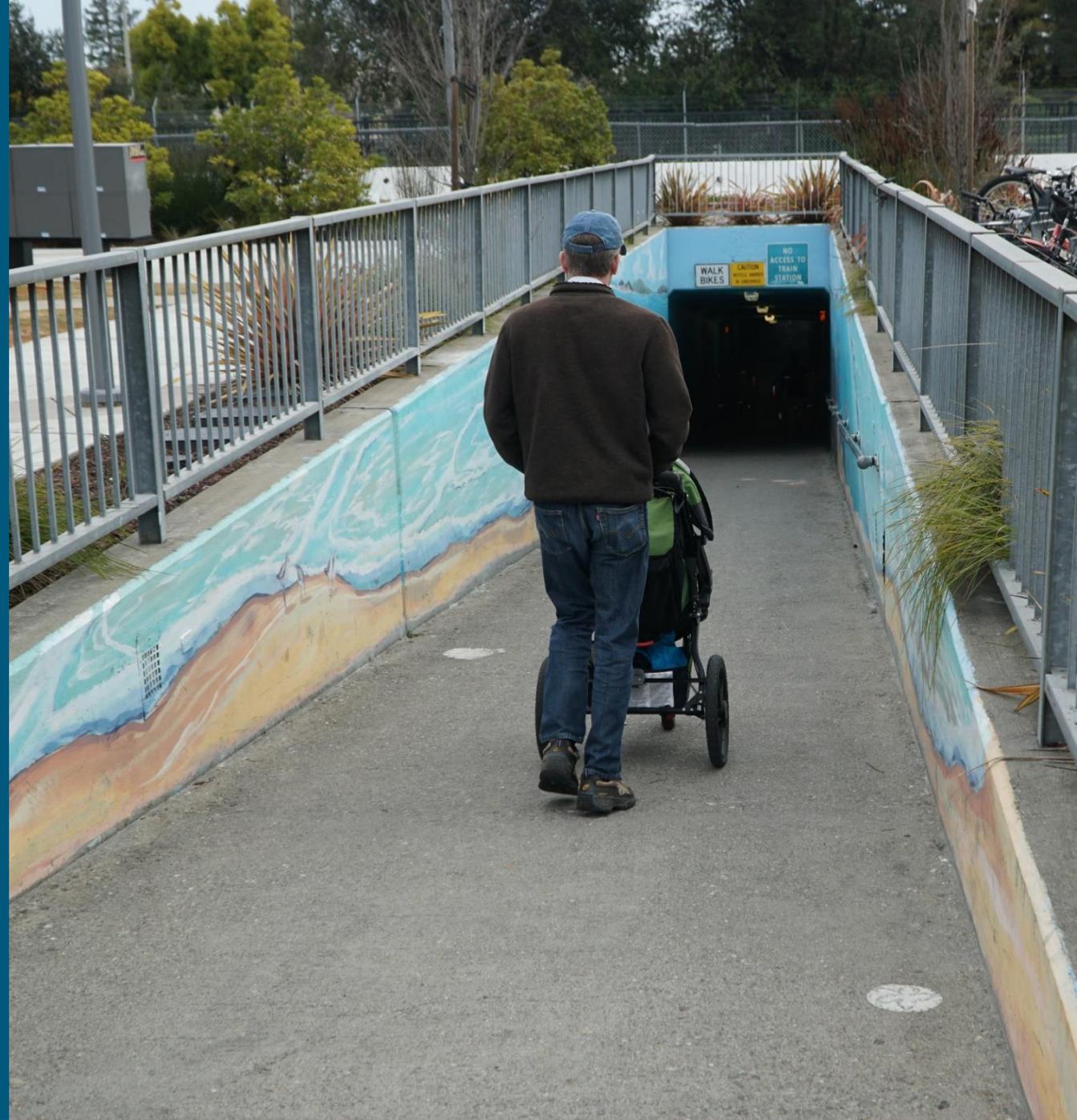
Investing in shared bike stations present an opportunity to scale capacity over time

# 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



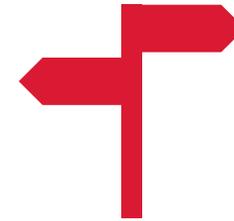
Strategically located Clipper readers at station entrances and along platforms



Clipper-integrated ticket machines (coming soon to most stations)



Level boarding



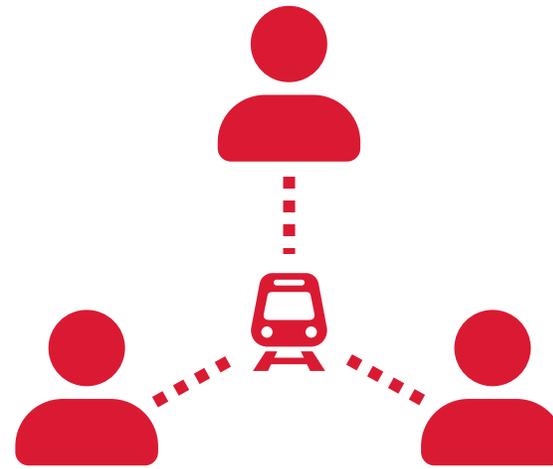
Improved Wayfinding and Signage



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

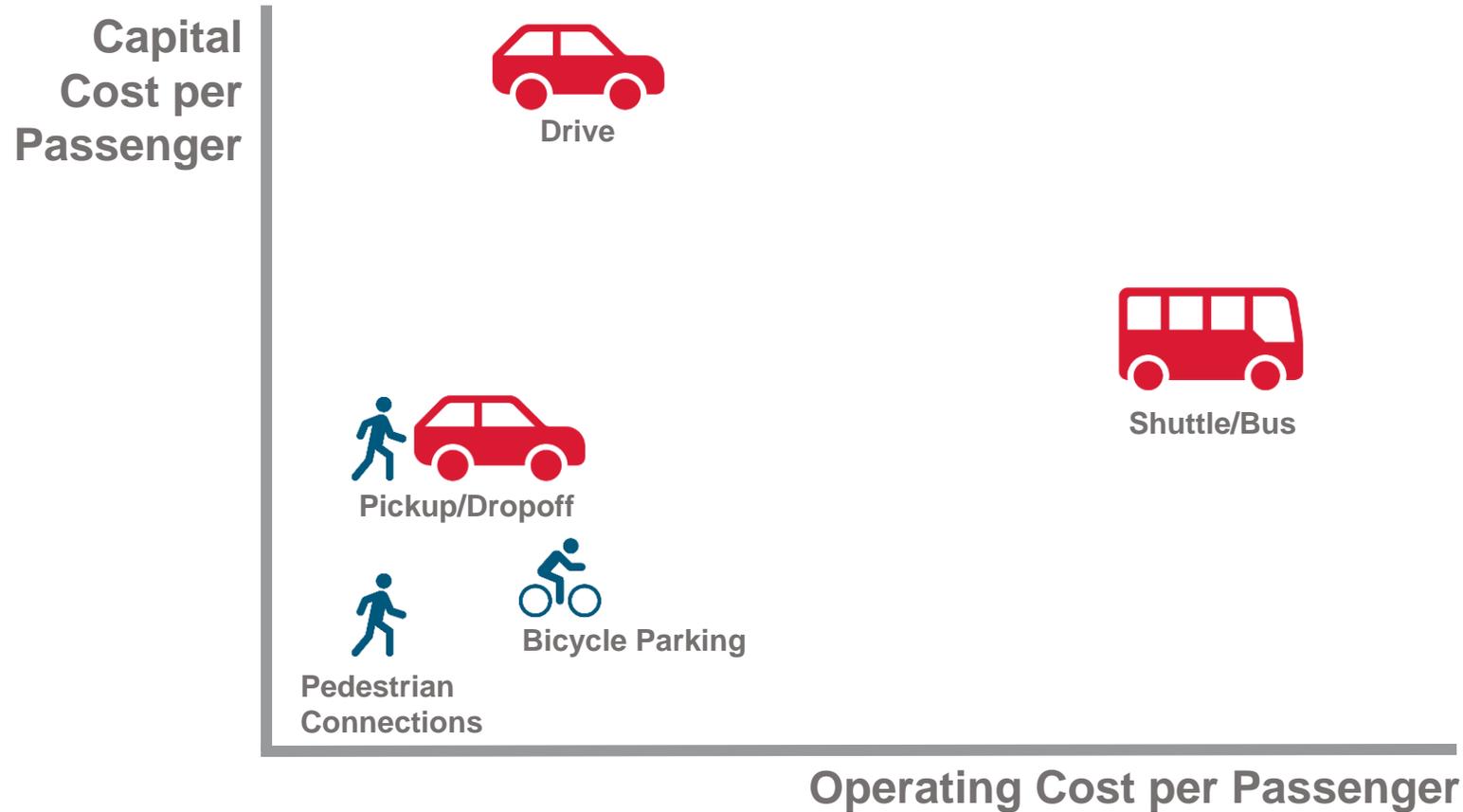


**+120,000**  
Passengers Traveling to and from Caltrain



**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

Scalability to  
Accommodate  
Demand



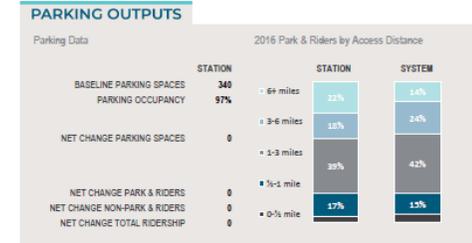
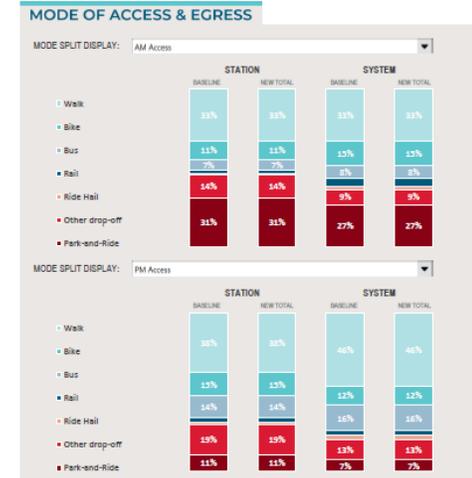
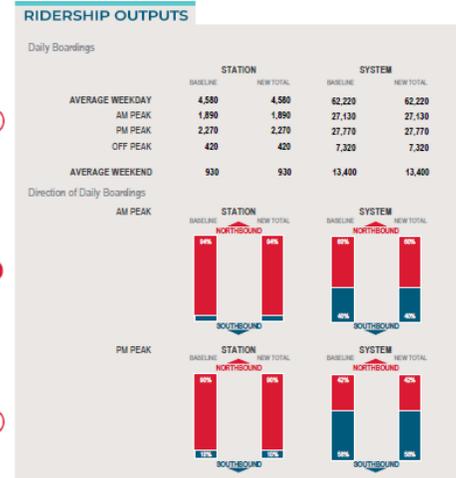
Sustainability

# 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

## Caltrain STATION MANAGEMENT TOOLBOX OUTPUTS



# 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 that 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

# Analysis Assumptions Drive Results

## 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

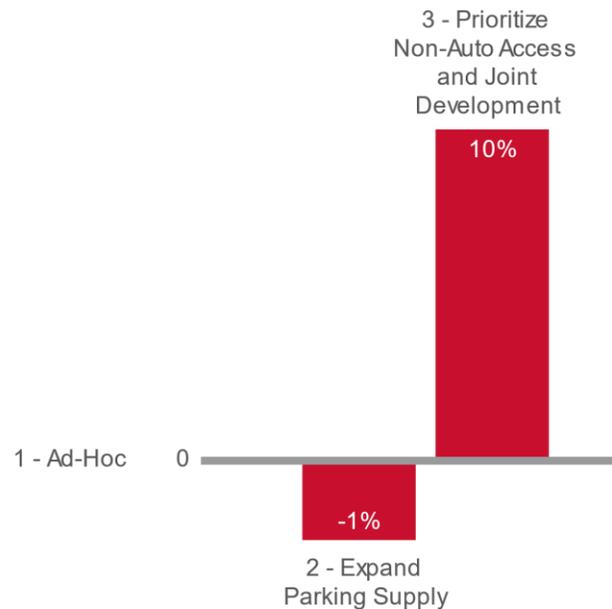
- No new parking supply
- 3x increase in shuttles service
- Substantial improvement to bike/ped access
- High intensity development at all sites without replacement parking

# Change in Ridership & Mode of Access through 2040

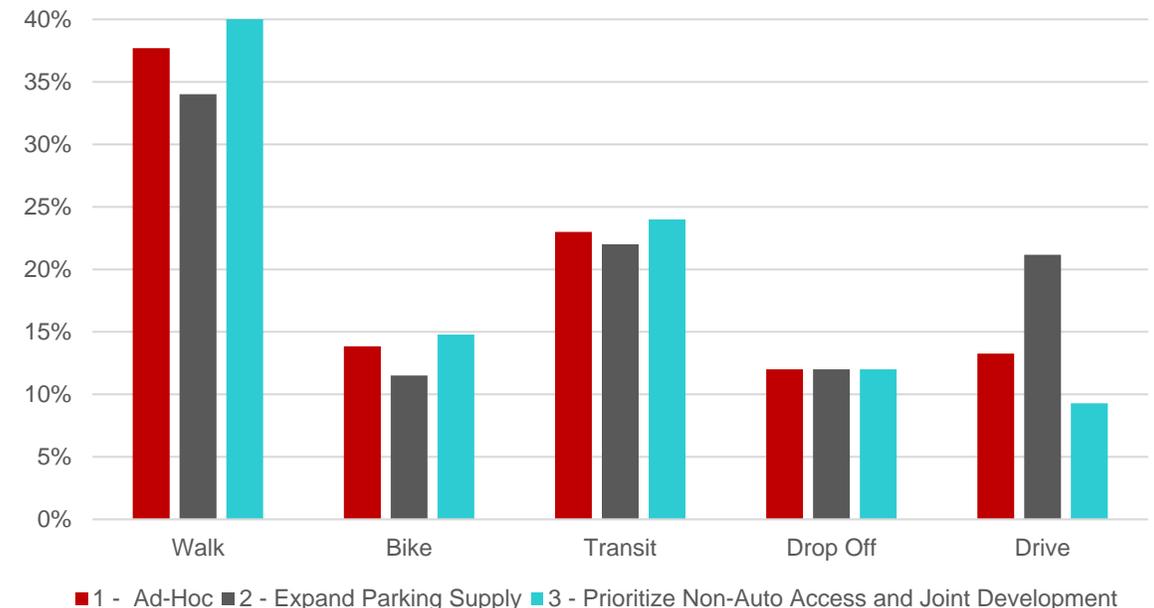
Prioritizing park-and-ride access shifts more passengers to driving but results in *lower* ridership than investing in other modes.

Maximizing joint development, active transportation, and transit access results in *higher* ridership and less driving.

### Change in Ridership



### Change in Mode of Access

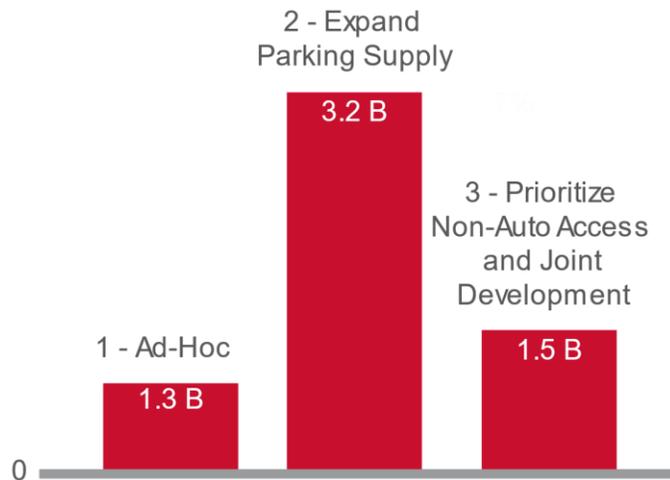


# Change in Costs & Revenues

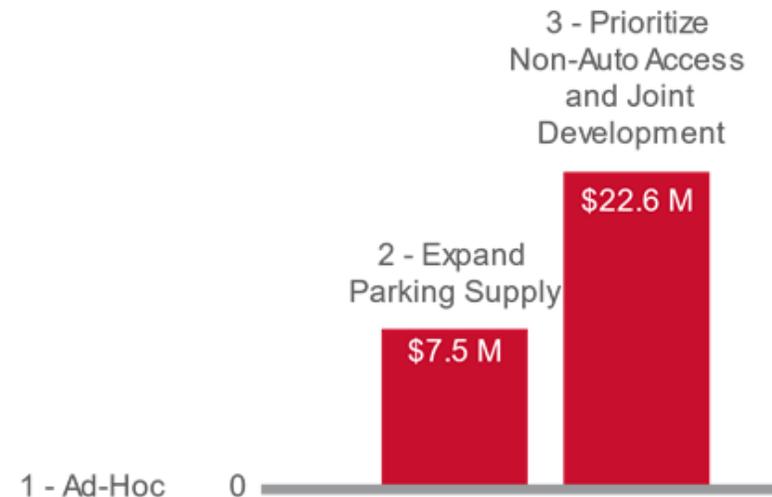
Tripling parking supply could cost double that of investing in non-auto modes.

Expanding access for non-auto modes more than triples the revenue generated by expanded parking supply.

**Approximate Cost over 50 Years**



**Approximate Additional Annual Revenue**



# 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)
3. Moving San Mateo County Forward: Housing and Transit at a Crossroads (2018)
4. San Bruno/South San Francisco Community-Based Transportation Plan (2012)
5. San Mateo County Transportation Plan for Low-Income Populations (2012)
6. East Palo Alto Community-Based Transportation Plan (2004)
7. Community-Based Transportation Plan for East San Jose (2009)
8. Community-Based Transportation Plan for Gilroy (2006)
9. Equitable Access to Caltrain: Mapping and Scheduling Analysis (2019)

# 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.



11

Community Stakeholder Survey Responses



6

In-Person Community Stakeholder Interviews - 2 in each Caltrain county



6

Community Stakeholder Phone Interviews

# 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

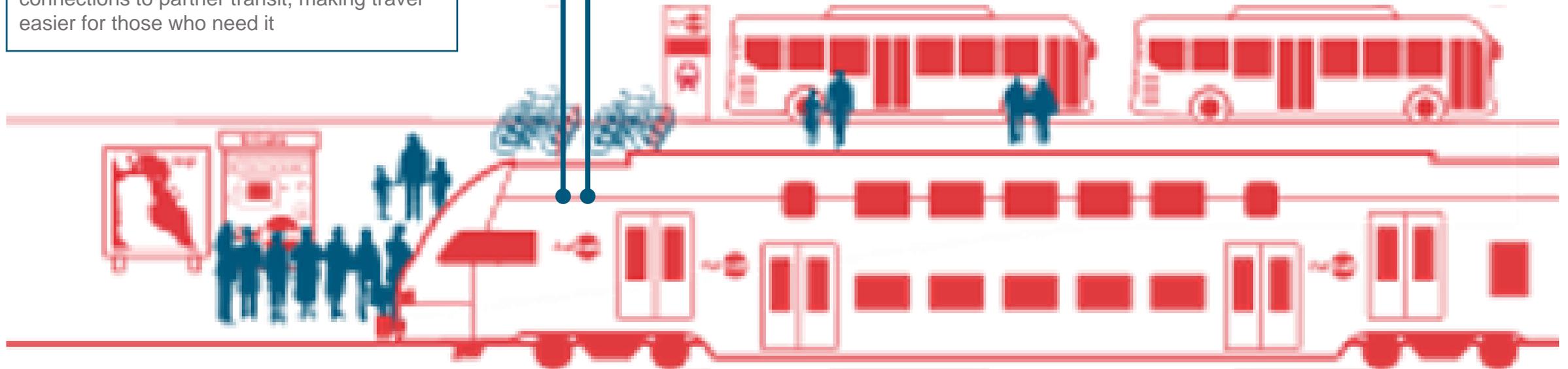
- More mid-day, late evening, and early morning service
- Connecting services during non-typical commute times need to be coordinated

### 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

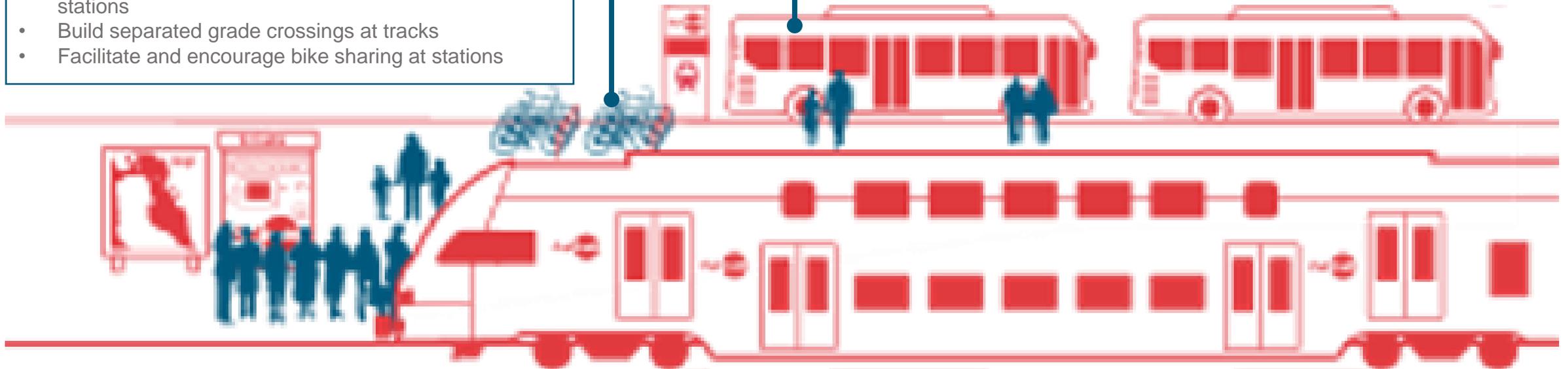
Biking and walking are low-cost modes that, if enhanced, could expand access to Caltrain services.

### Recommendations

- Better bike facilities such as lockers and racks at stations
- Build separated grade crossings at tracks
- Facilitate and encourage bike sharing at stations

# Feedback From Stakeholders

## Station Connections



# Feedback From Stakeholders

## System Accessibility



### 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

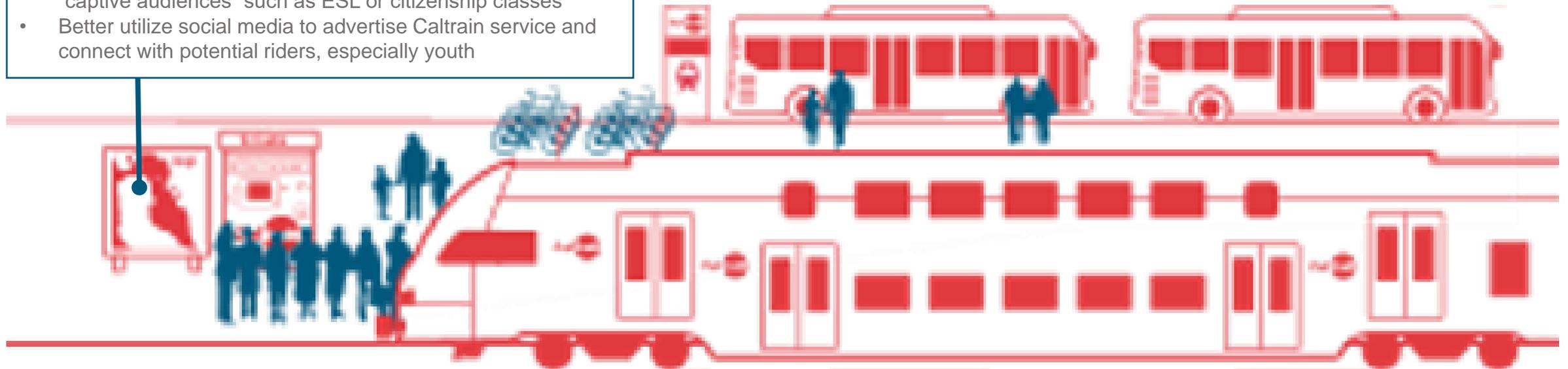
- Area-based maps and schedules that show services from all agencies, ideally in multiple languages
- Conduct outreach to teach people how to ride, perhaps with “captive audiences” such as ESL or citizenship classes
- Better utilize social media to advertise Caltrain service and connect with potential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



# Feedback From Stakeholders



## Fares & TOD

### 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

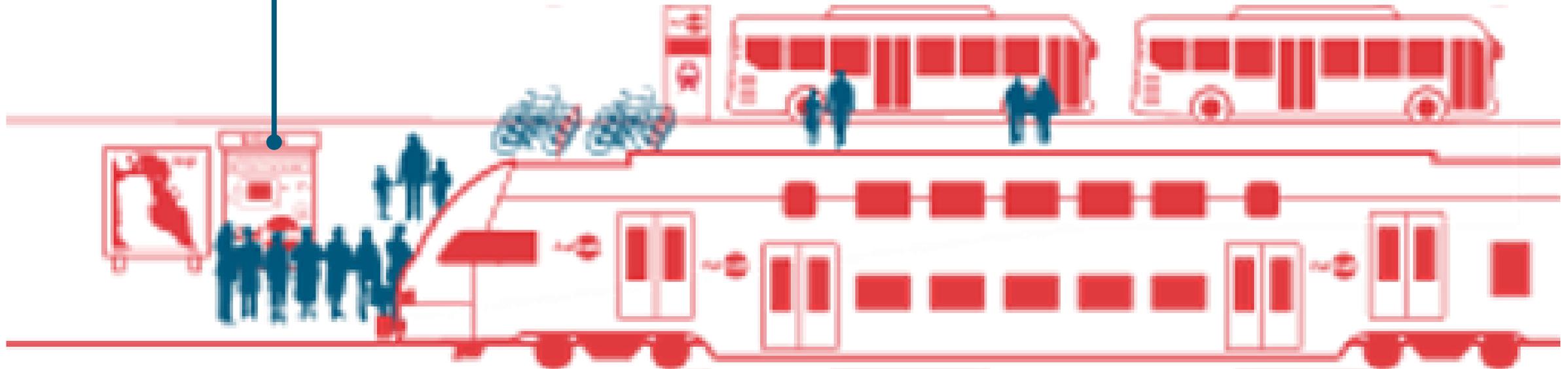
- Offer a reduced fare or subsidy program for low-income riders
- Revisit the zone fare structure to make sure that it is not disincentivizing the use of any connecting bus service

### 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



# 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

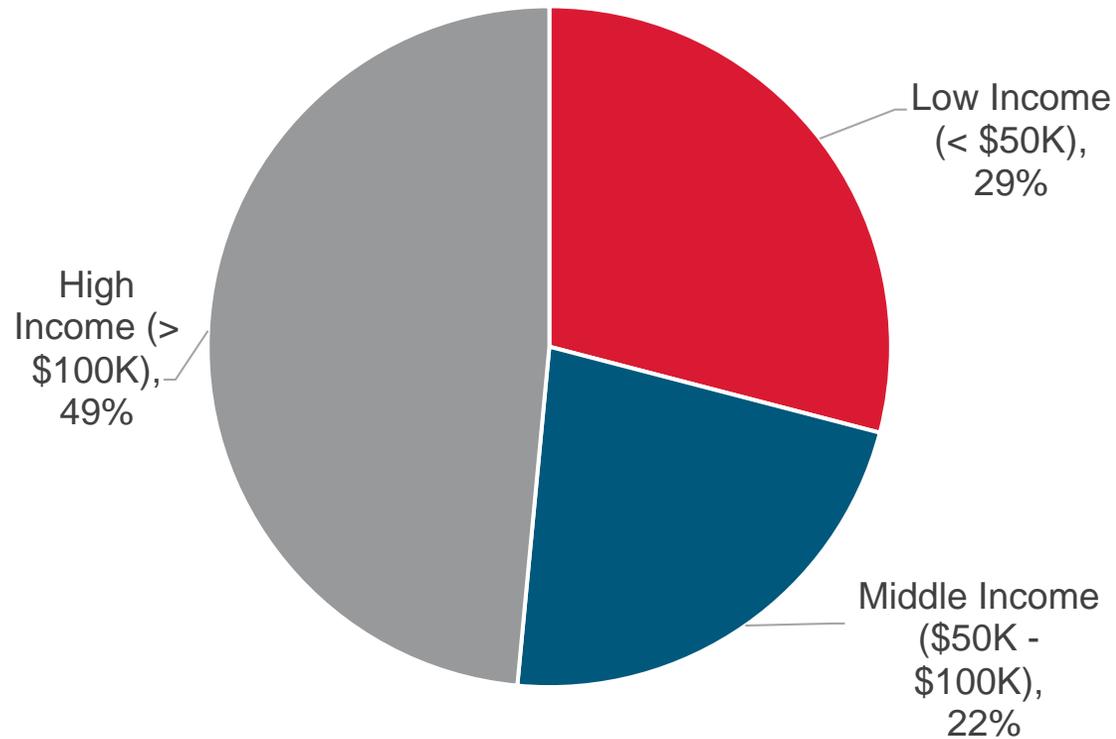
**29%** of households are low income (annual income less than \$50,000)

**63%** of residents identify as a person of color

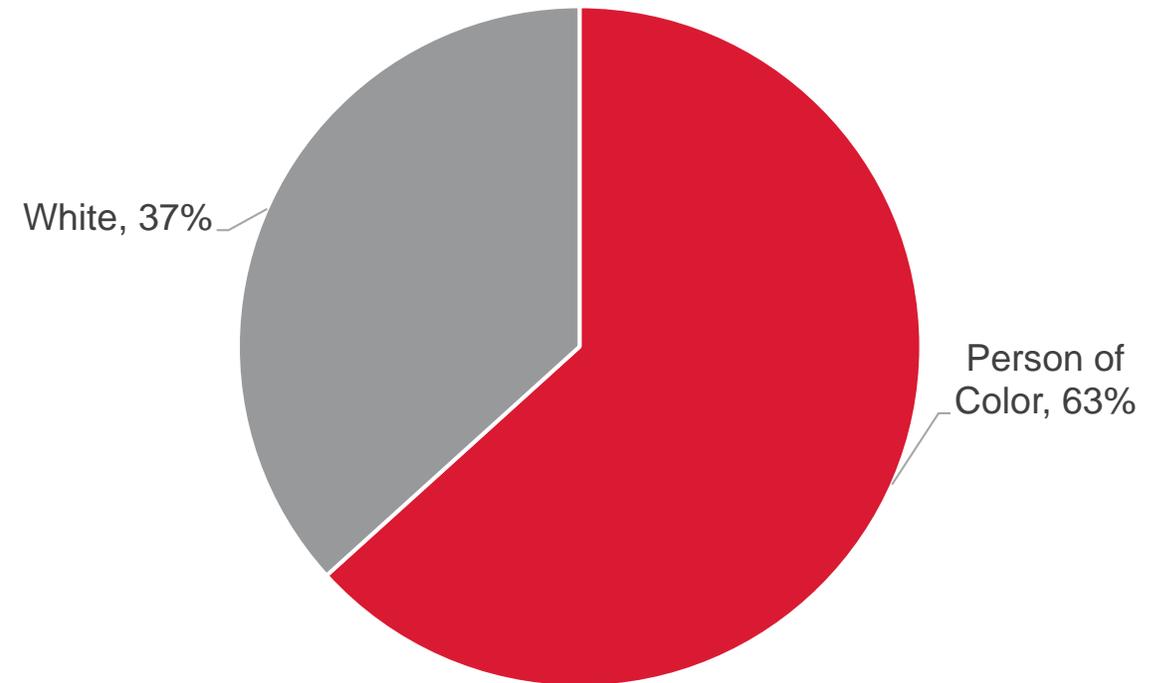


# Residents within 2 Miles

## Household Income

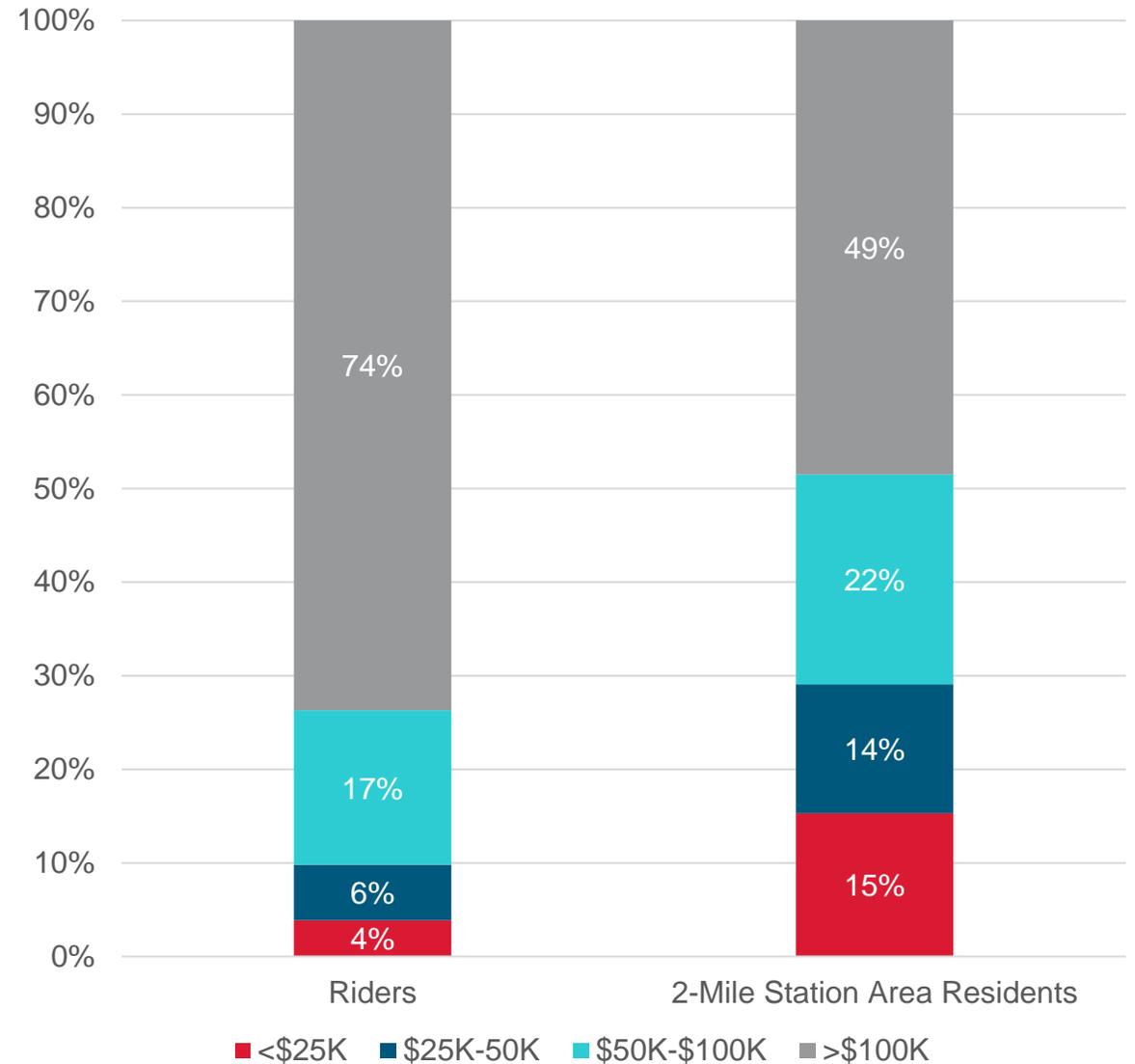


## Race



# 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

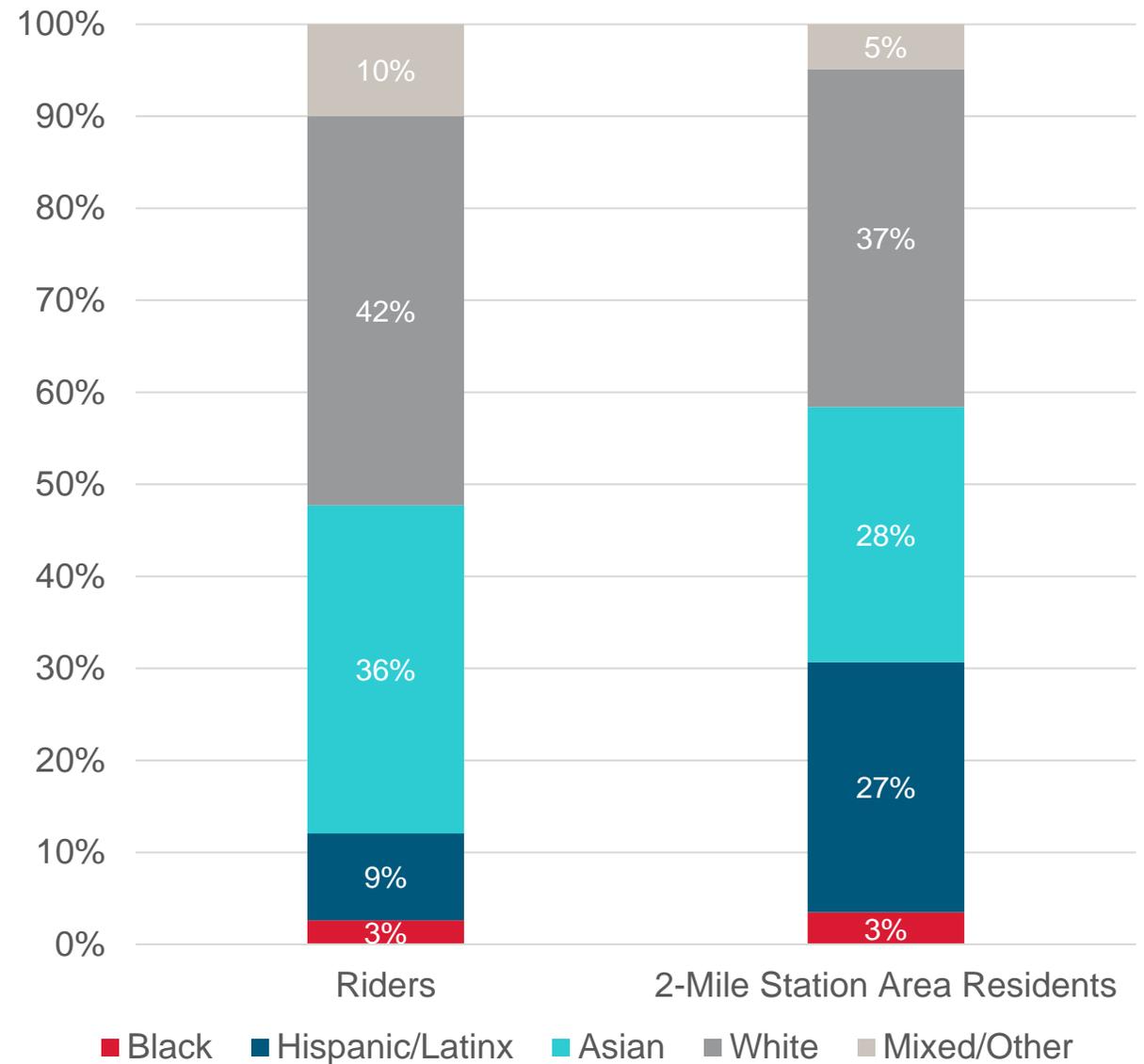


Source: U.S. Census, American Community Survey 2017. 2019 Triennial Caltrain Survey



# 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:

- **Commuter Trips vs. Non-Commuter 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?

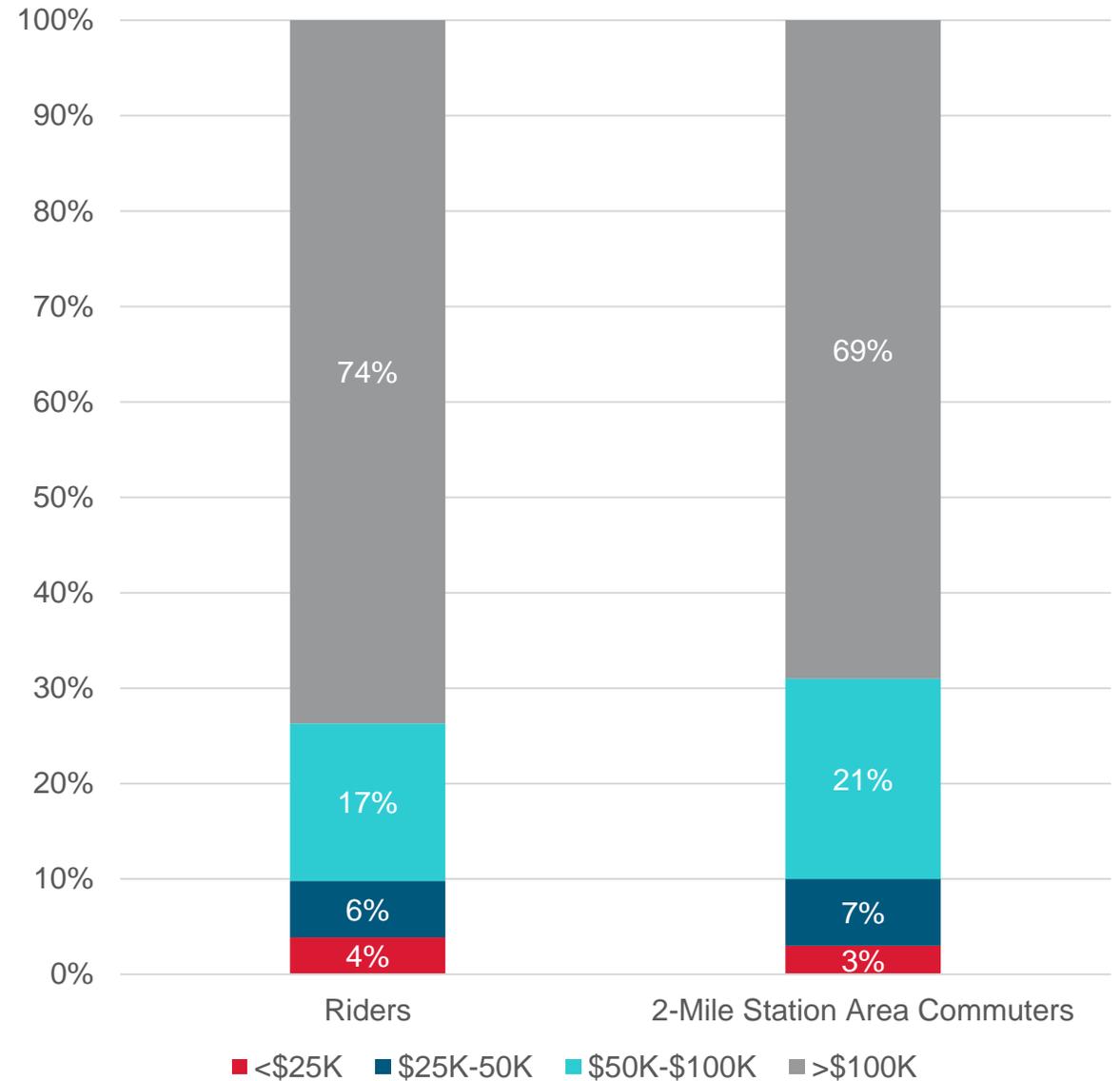
# Commuting in the Corridor

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

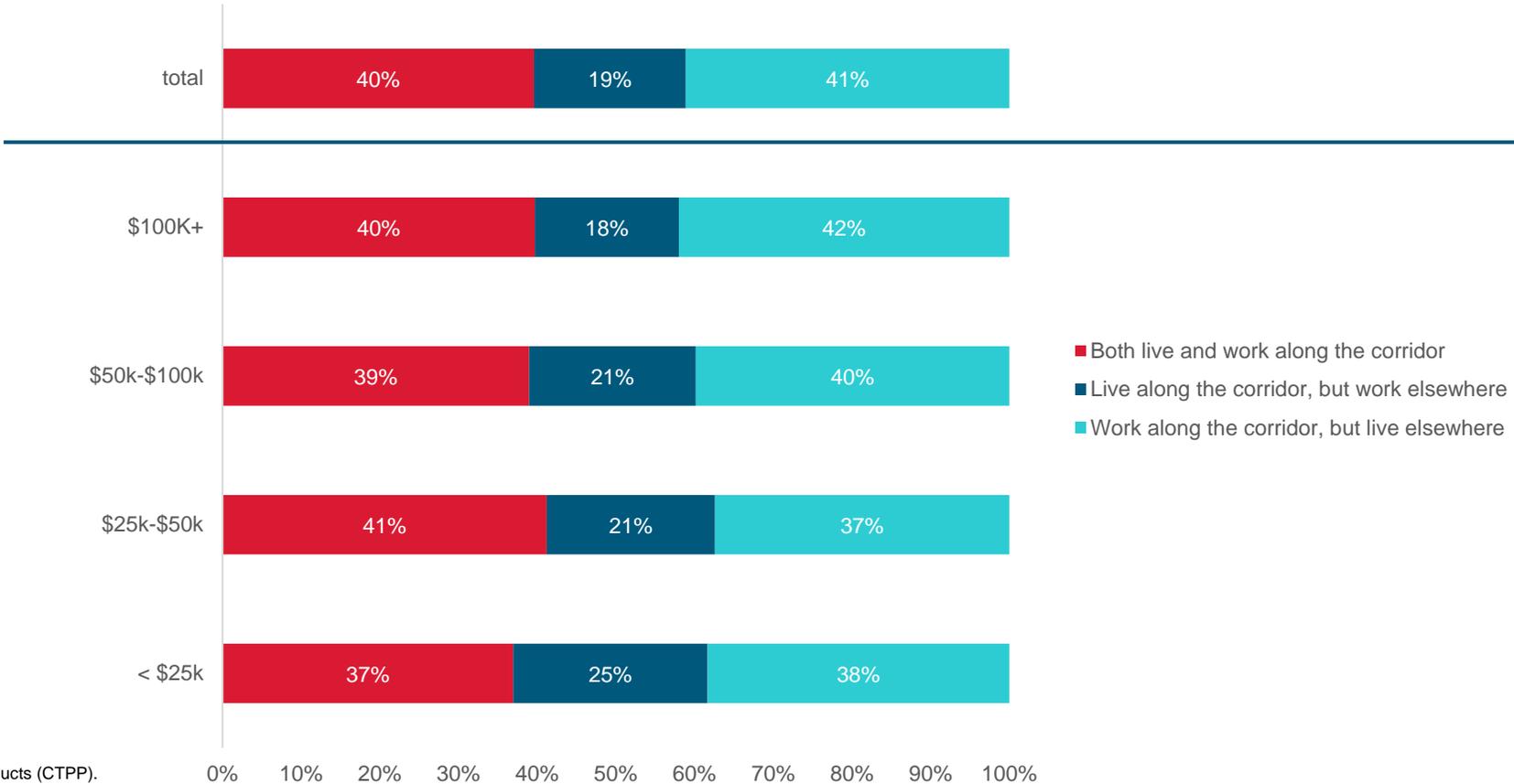


Source: U.S. Census, American Community Survey 2017. 2019 Triennial Caltrain Survey, Census Transportation Planning Products (CTPP). \*Analysis excludes trips that start and end in the same city.



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

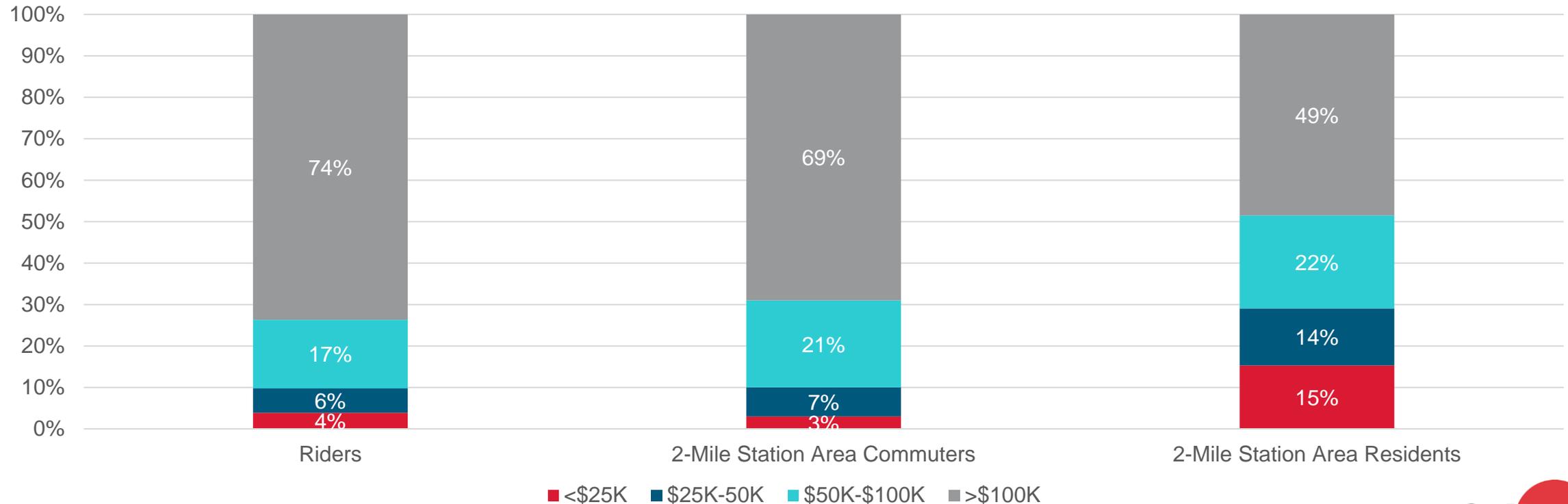
Home-based work trips with at least one end within 2-miles of a station



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)

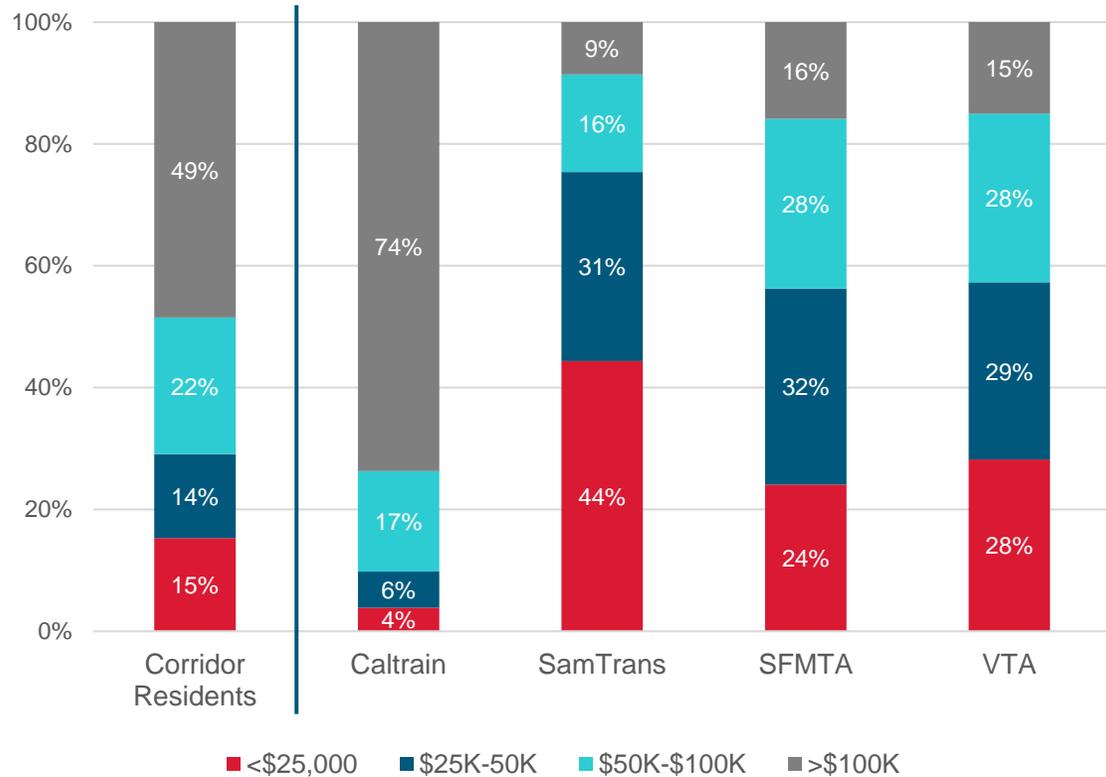


- 22
- 66
- 68
- 102
- 103
- 121
- 122
- 168
- 182
- 185
- 304
- 522

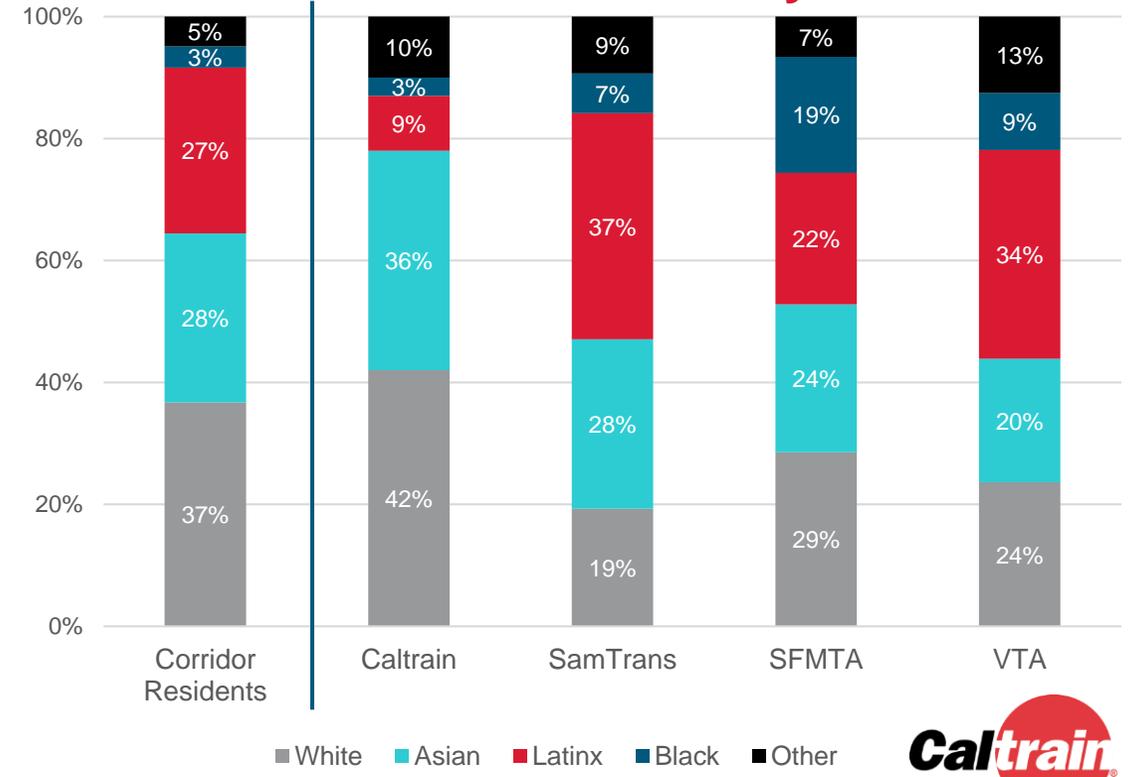


# Parallel Routes Proportionally Serve More Low-Income Riders and People of Color than Caltrain

## Household Income



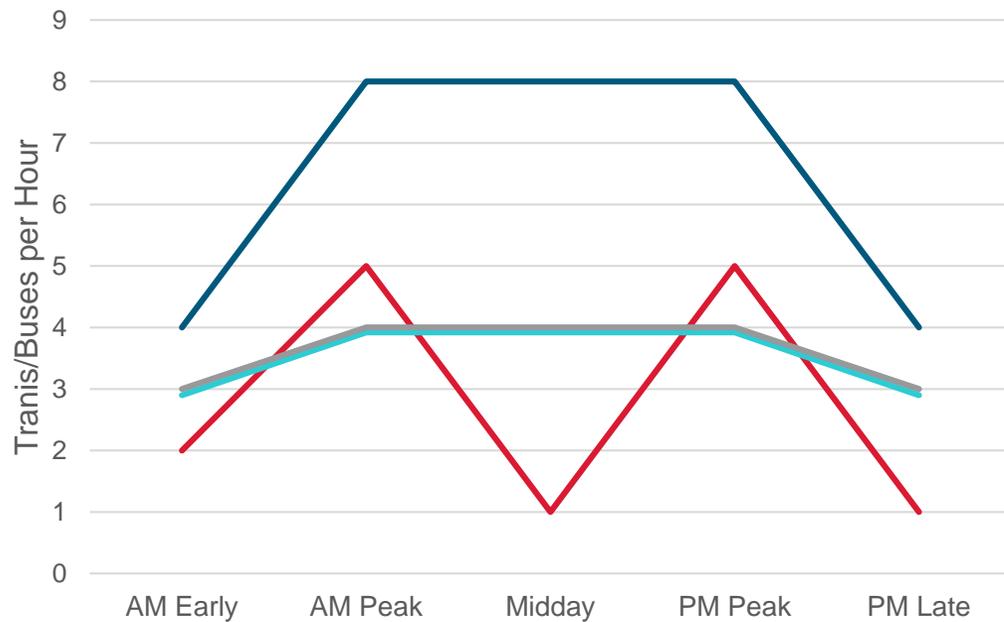
## Race/Ethnicity



Source: U.S. Census, American Community Survey 2017, Caltrain 2019 Triennial Survey, SamTrans, SFMTA, and VTA on-board surveys.

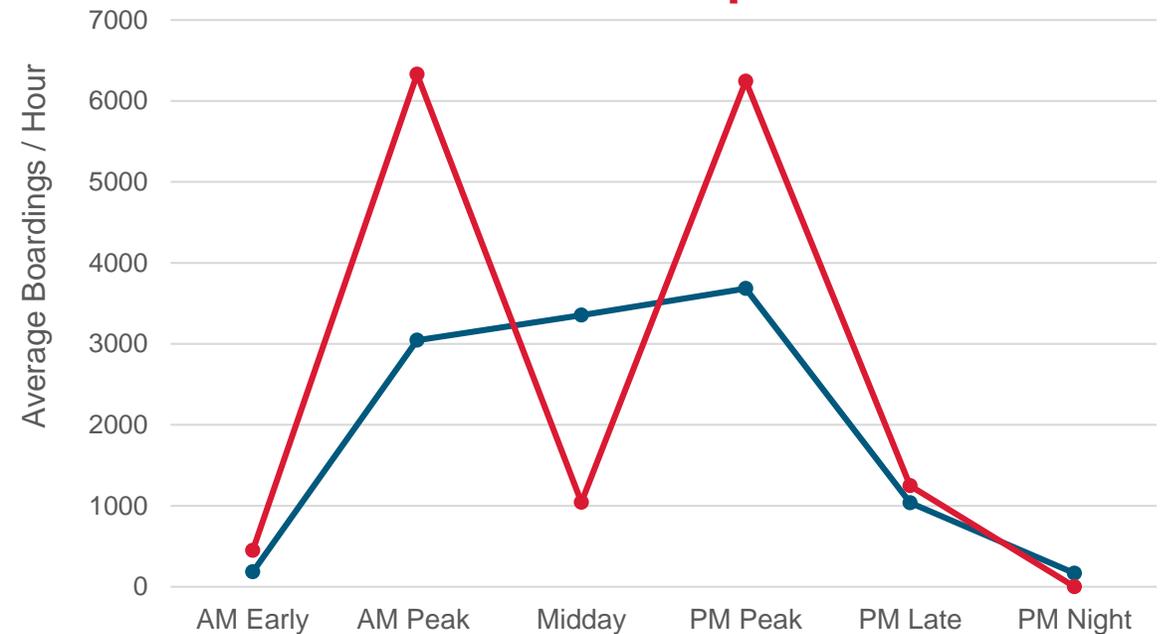
# Parallel Transit Has More Frequent All-Day Service & Serves More Midday Riders

## Frequency



—● Caltrain (5AM-12AM)      —● SFMTA -T-Third (5AM-12AM)  
—● SamTrans - ECR (4AM-2AM)      —● VTA - 522 (5AM-12AM)

## Ridership



—● Parallel Transit      —● Caltrain





## Schedule & Frequency

- 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

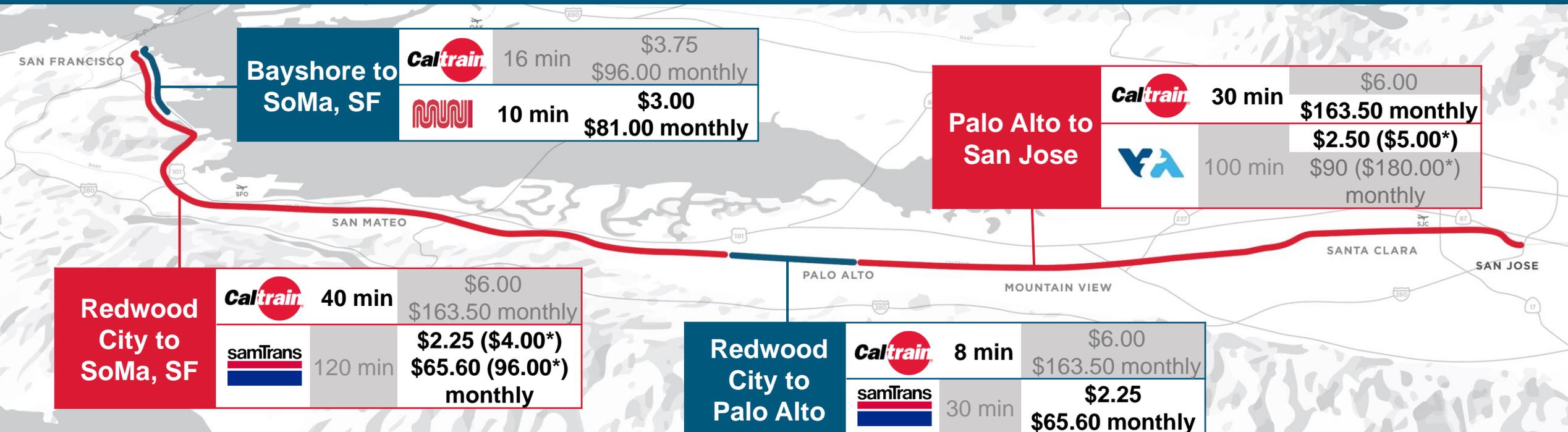


# Comparisons: Travel Time & Cost



Travel Time

- 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.



## Cost & Fare Structure

- 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

Transit Agency	Discount Programs				
	Youth	Senior	Disabled	Low-Income	Approx. Farebox Recovery
Caltrain	✓	✓	✓	20% discount starting in 2020	70%
BART	✓	✓	✓		70%
SFMTA	✓	✓	✓	50% discount	25%
SamTrans	✓	✓	✓		15%
VTA	✓	✓	✓		11%

# Discount Pass Programs are More Heavily Used By Middle- and High-Income Riders

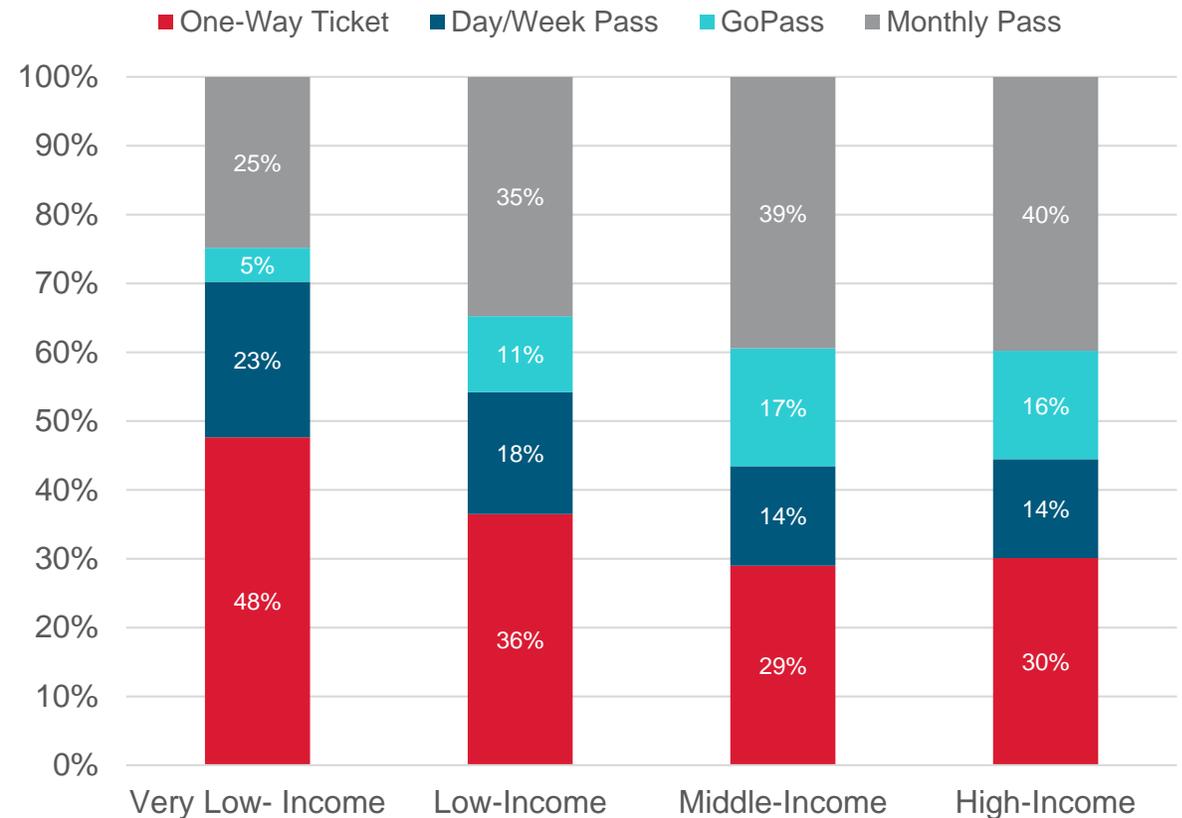
Caltrain's most discounted pass is the GoPass. In October 2016, the average GoPass customer paid \$2.89, versus the non-GoPass customer average of \$5.96.\*

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

## Household Income and Fare Method



Cost & Fare Structure

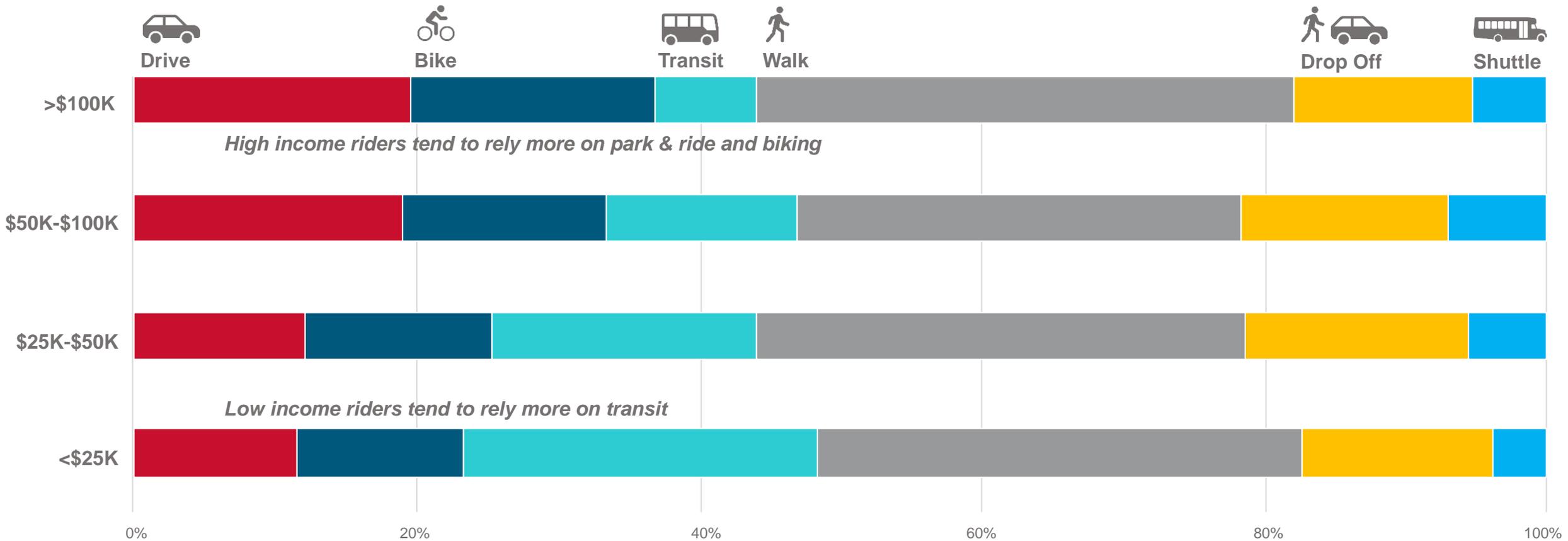


Source: Caltrain 2019 Triennial Survey.

# Station Access by Household Income



Access



# Fares & Station Access



Access

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.

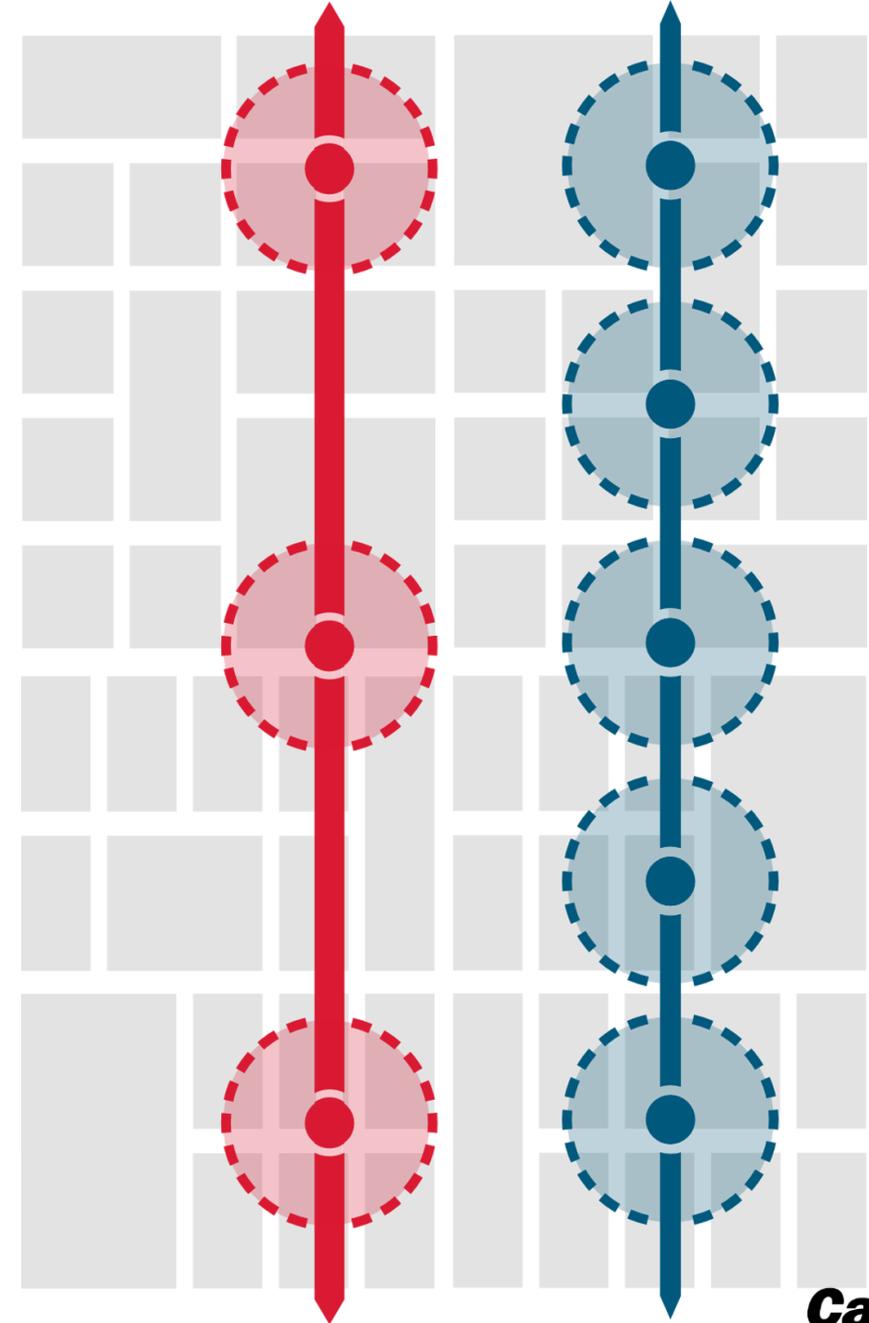
\* Muni provides a 50-cent discount to all Caltrain transfers who use Clipper.





## 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.*

Evaluation Framework	
Key Questions	Measure Themes
<b>How does Caltrain provide service?</b>	Infrastructure Quality
	Fare Structure+
	Transit service (service planning)+
	Network Completeness
<b>Who benefits or is burdened from those services?</b>	Station Access
	Affordability*
	Safety
	User Perceptions
	Distribution of Construction/Supportive Infrastructure
<b>How does Caltrain impact surrounding land use?</b>	Displacement Risk*
	Equitable TOD
	Environmental Impacts*
	Accessibility of Destinations*
<b>How are decisions made?</b>	Stakeholder Representation
	Distribution of Funding
	Quality of Engagement

(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**

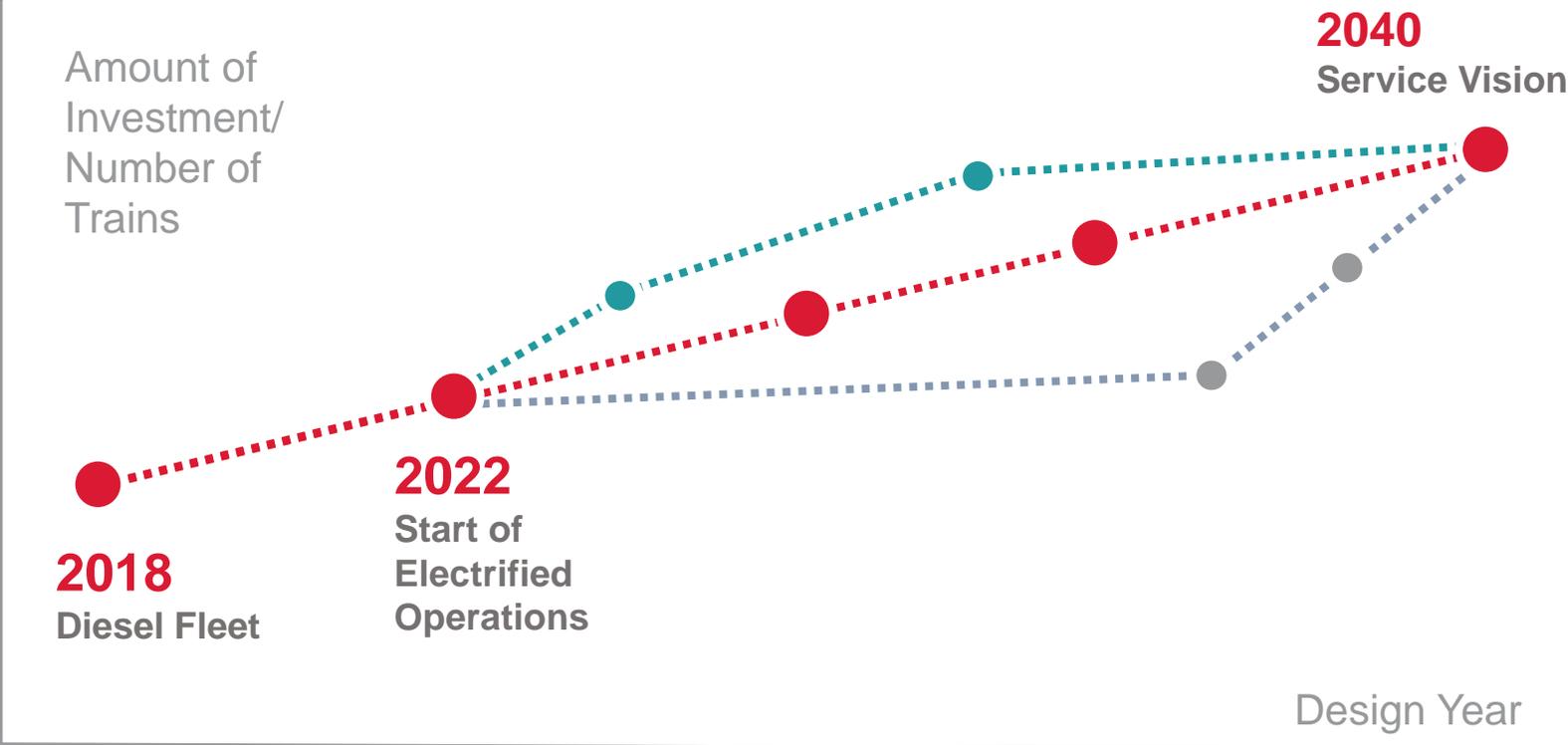


Identification of a program of key planning, policy and organizational next steps

# 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?



# Understanding Demand

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

5

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

- 4th & King
- Redwood City
- Palo Alto
- Mountain View
- San Jose Diridon

4

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

- Millbrae
- San Mateo
- Hillsdale
- Sunnyvale

20

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

- 22nd Street
- Bayshore
- South San Francisco
- San Bruno
- Broadway
- Burlingame
- Hayward Park
- Belmont
- San Carlos
- Atherton
- Menlo Park
- California Ave
- San Antonio
- Lawrence
- Santa Clara
- Tamien
- Capitol
- Blossom Hill
- Morgan Hill
- San Martin
- Gilroy

# Potential 2020s Demand by Station

8

**Highest Ridership  
Potential**

>4,000  
Daily Riders

- 4th & King
- 22nd Street
- Millbrae
- Redwood City
- Palo Alto
- Mountain View
- Sunnyvale
- San Jose Diridon

9

**Moderate  
Ridership Potential**

2,000 – 4,000  
Daily Riders

- Bayshore
- South San Francisco
- San Mateo
- Hillsdale
- Menlo Park
- California Ave
- San Antonio
- Lawrence
- Santa Clara

13

**Lower Ridership  
Potential**

<2,000  
Daily Riders

- San Bruno
- Broadway
- Burlingame
- Hayward Park
- Belmont
- San Carlos
- Atherton
- Tamien
- Capitol
- Blossom Hill
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- Gilroy

# Potential 2020s Demand by Station

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- Atherton
- Tamien
- Capitol
- Blossom Hill
- Morgan Hill
- San Martin
- Gilroy

Stations experiencing significant changes

# 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

# Two Illustrative Service Plans

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

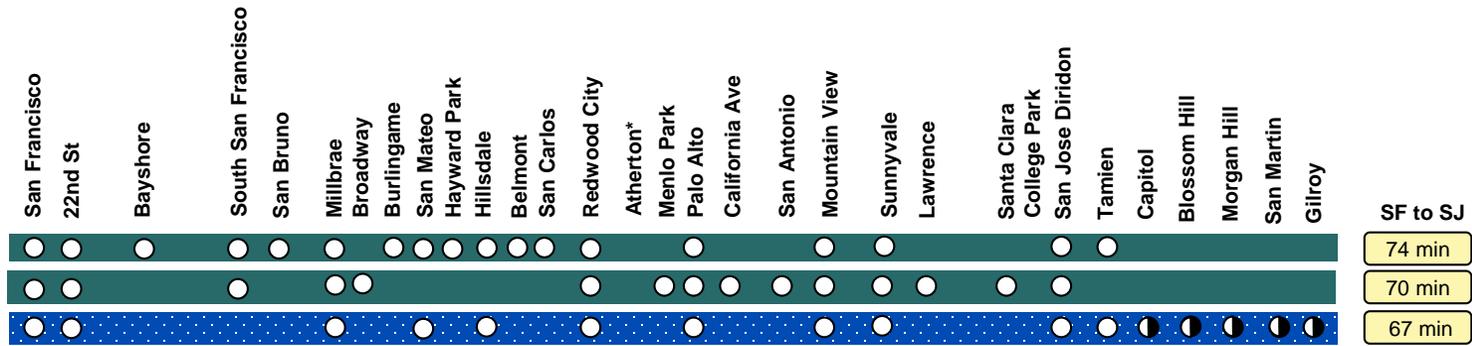
## Two Zone with Express

PEAK PERIOD

2 Trains / Hour

2 Trains / Hour

2 Trains / Hour



\*Future Atherton service levels under discussion

Gilroy Service - 4 round trips per day

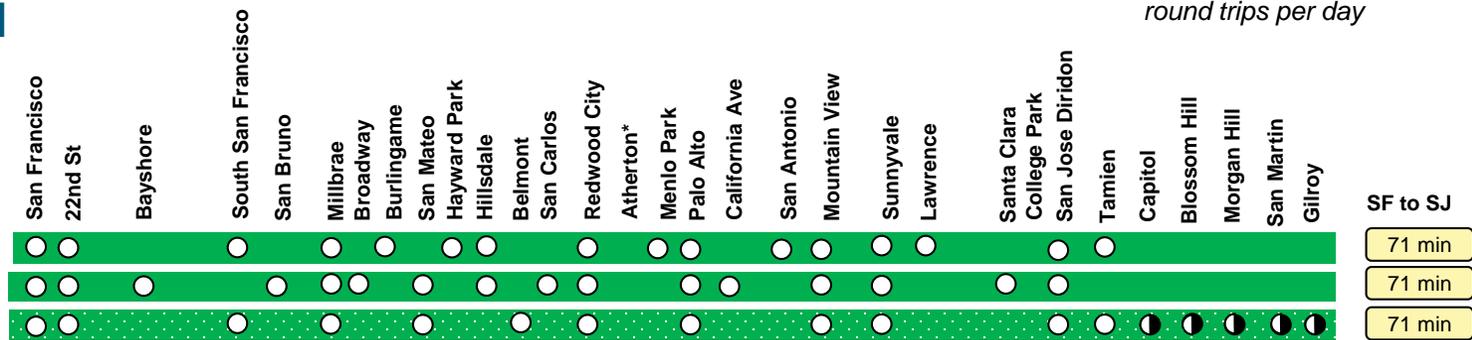
## Distributed Skip Stop

PEAK PERIOD

2 Trains / Hour

2 Trains / Hour

2 Trains / Hour



\*Future Atherton service levels under discussion

Gilroy Service - 4 round trips per day

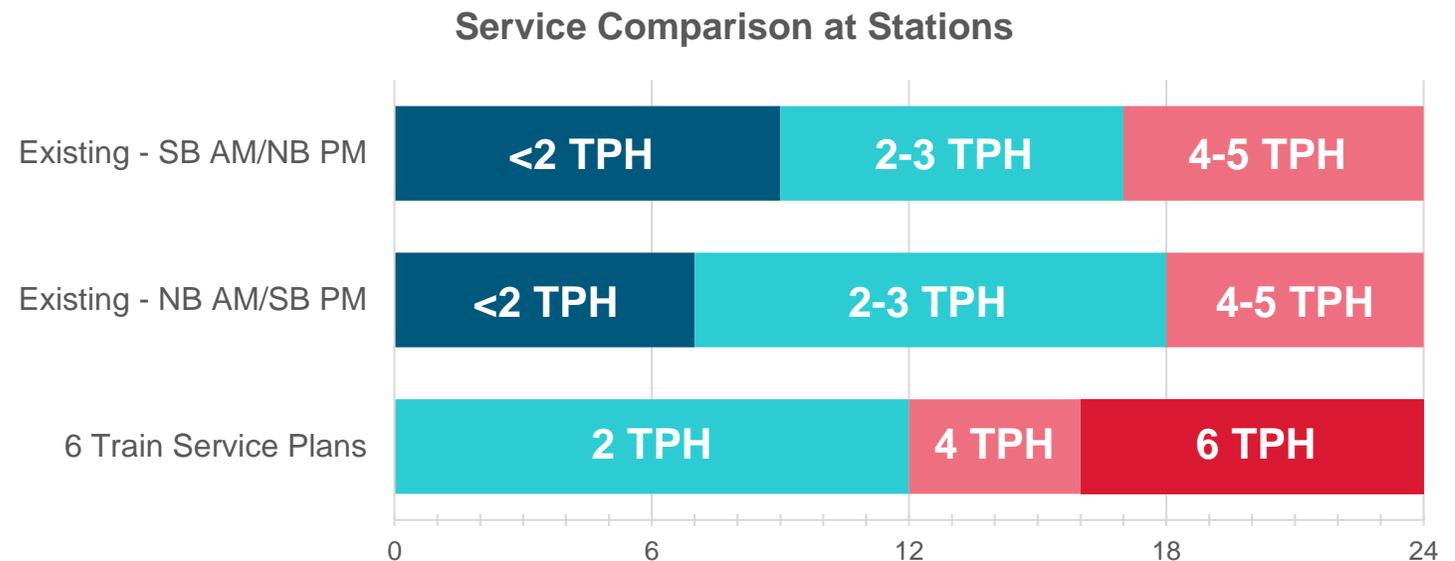
	Diesel	EMU	● Hourly stop
Express			○ Half-hourly stop
Zone Express			
Skip - Stop			

# 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.

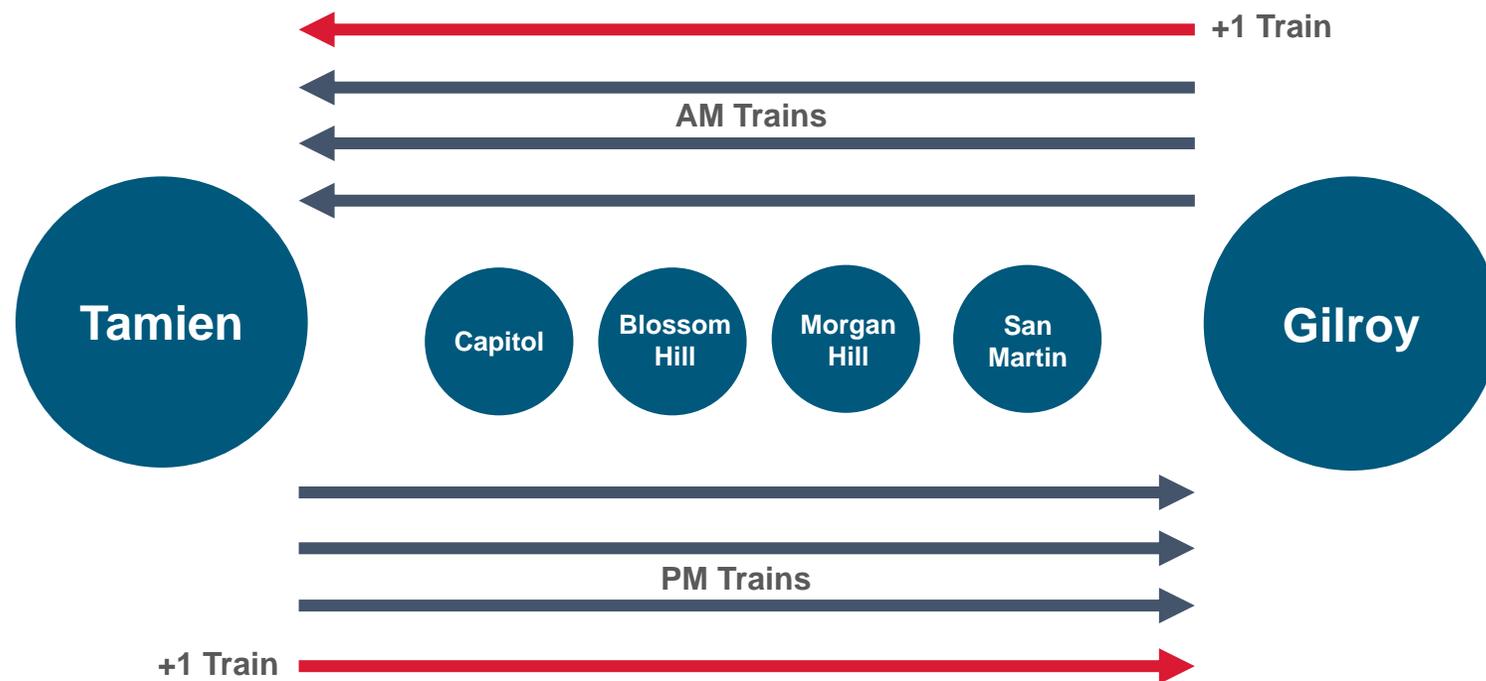


# South of Tamien Service Improvements

## 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

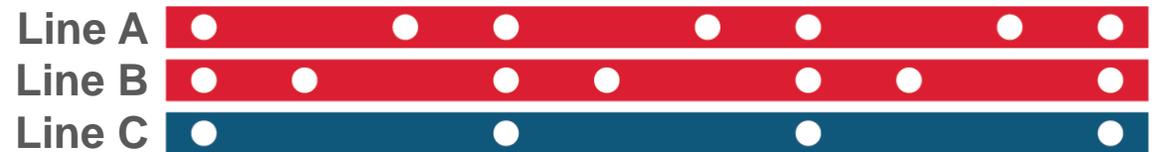


Photo credit SPUR

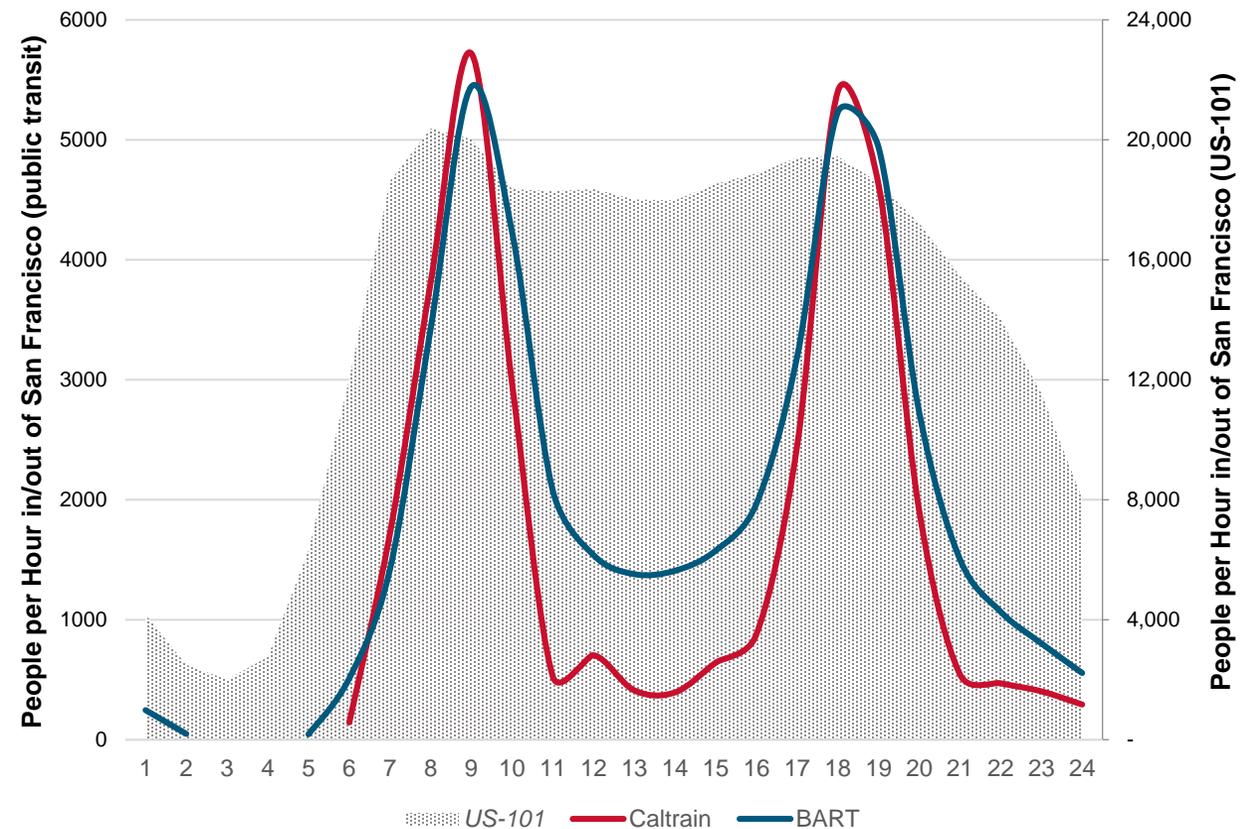
# Improving Off-Peak and Weekend Service

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

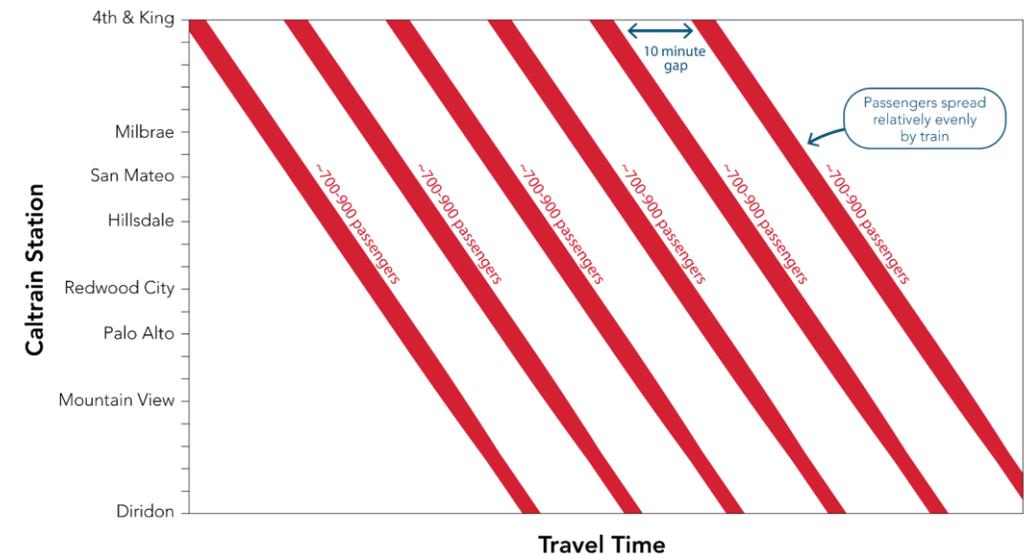
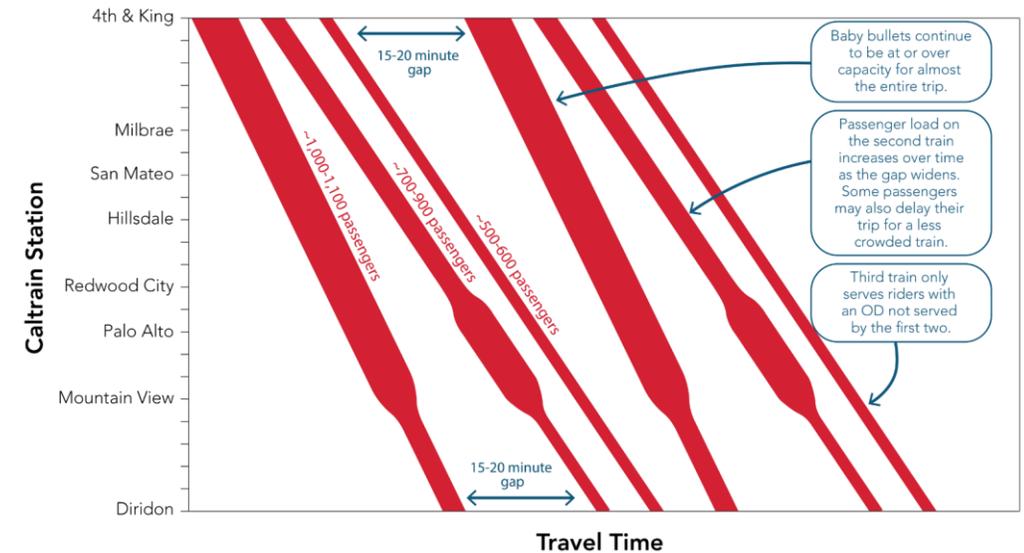


# Balancing Capacity

## 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

## How Service Patterns Affect Crowding



# Taking The Next Big Step

# Taking the Next Step: Adding Capacity and Increasing Service to Grow Ridership

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



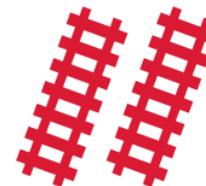
More Train Storage



Holdout Rule Elimination

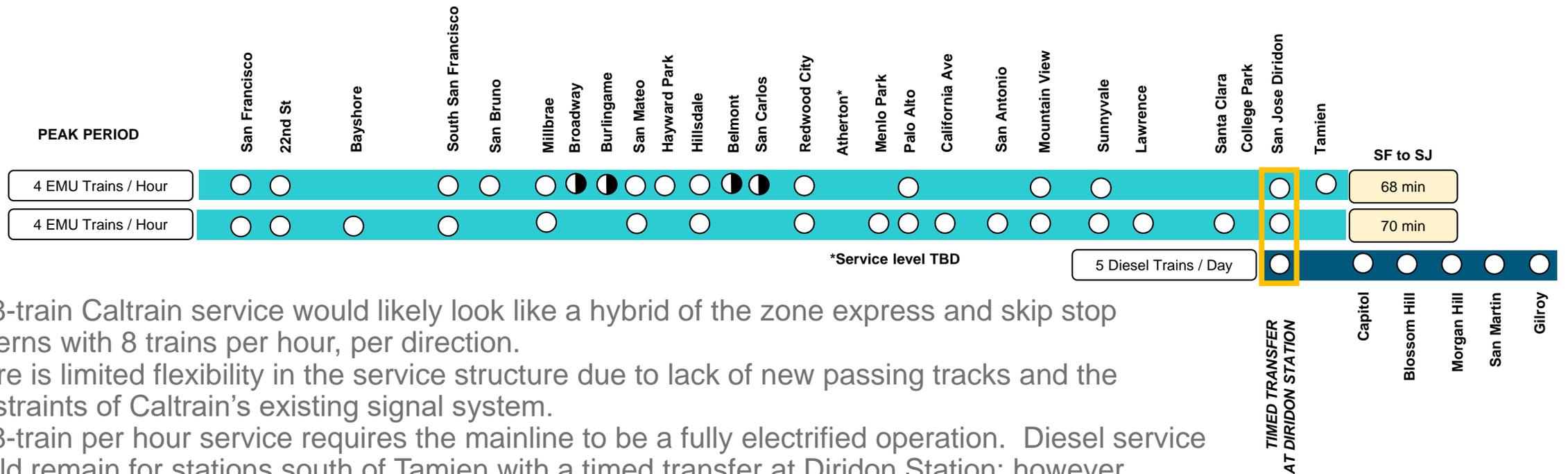


Level Boarding



Minor Track Work

# 8 Train Illustrative Service Plan

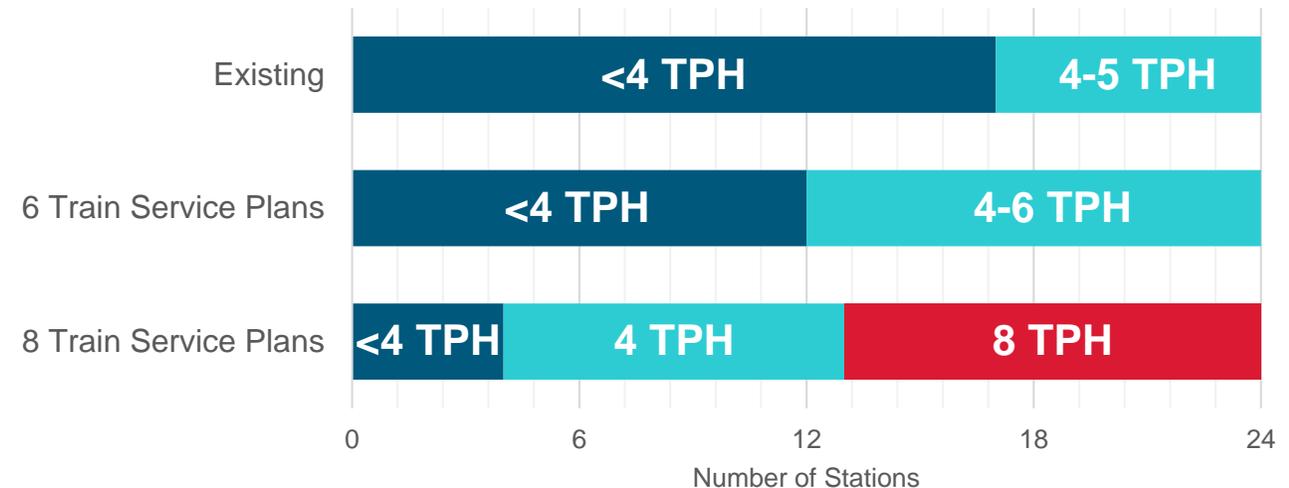


- An 8-train Caltrain service would likely look like a hybrid of the zone express and skip stop patterns with 8 trains per hour, per direction.
- There is limited flexibility in the service structure due to lack of new passing tracks and the constraints of Caltrain's existing signal system.
- An 8-train 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.

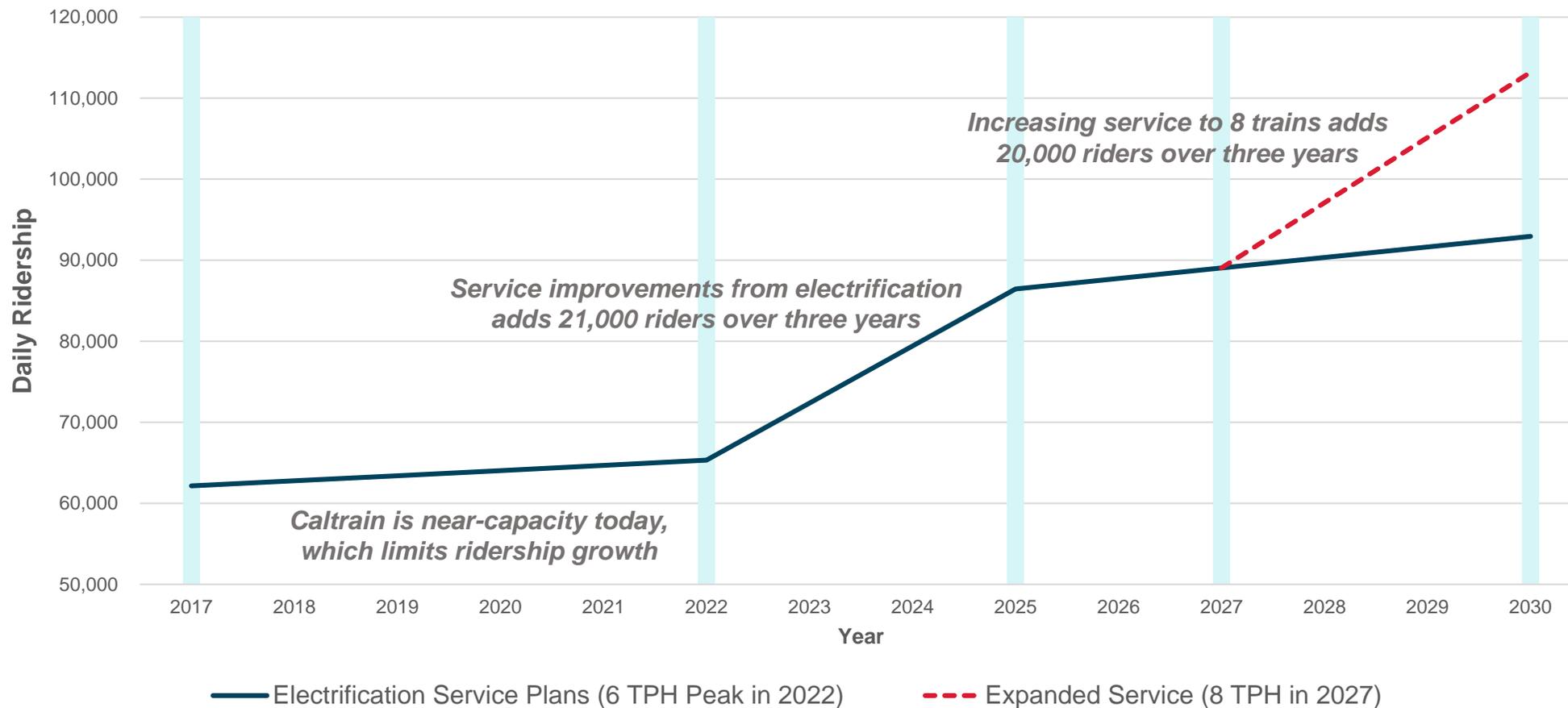
# Increasing Service at Stations

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



# Investing In Improvement

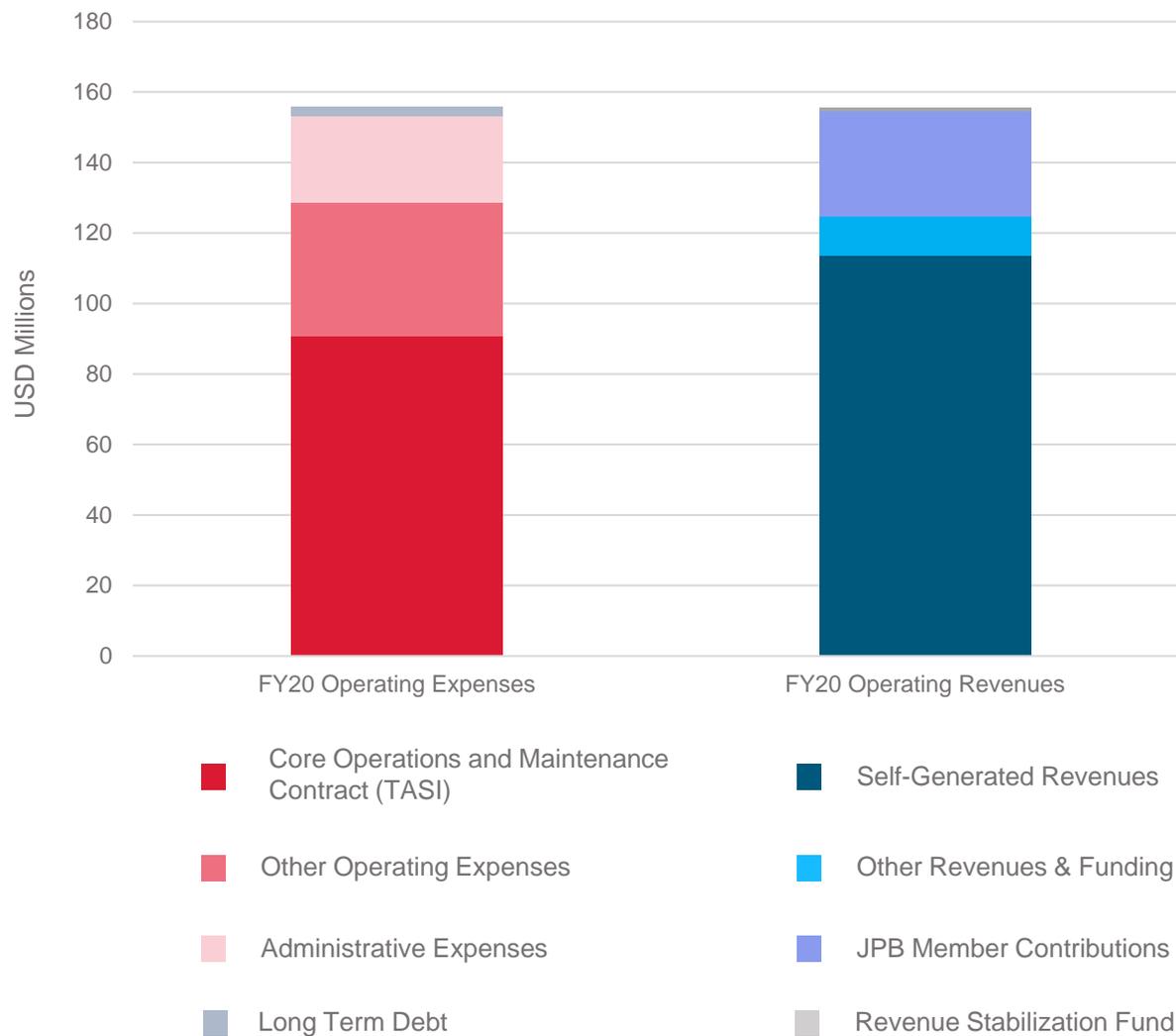
# Caltrain Today

## 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.

### Budgeted Operating Expenses and Revenue FY 2020



All costs shown in YOE \$



# Caltrain Today

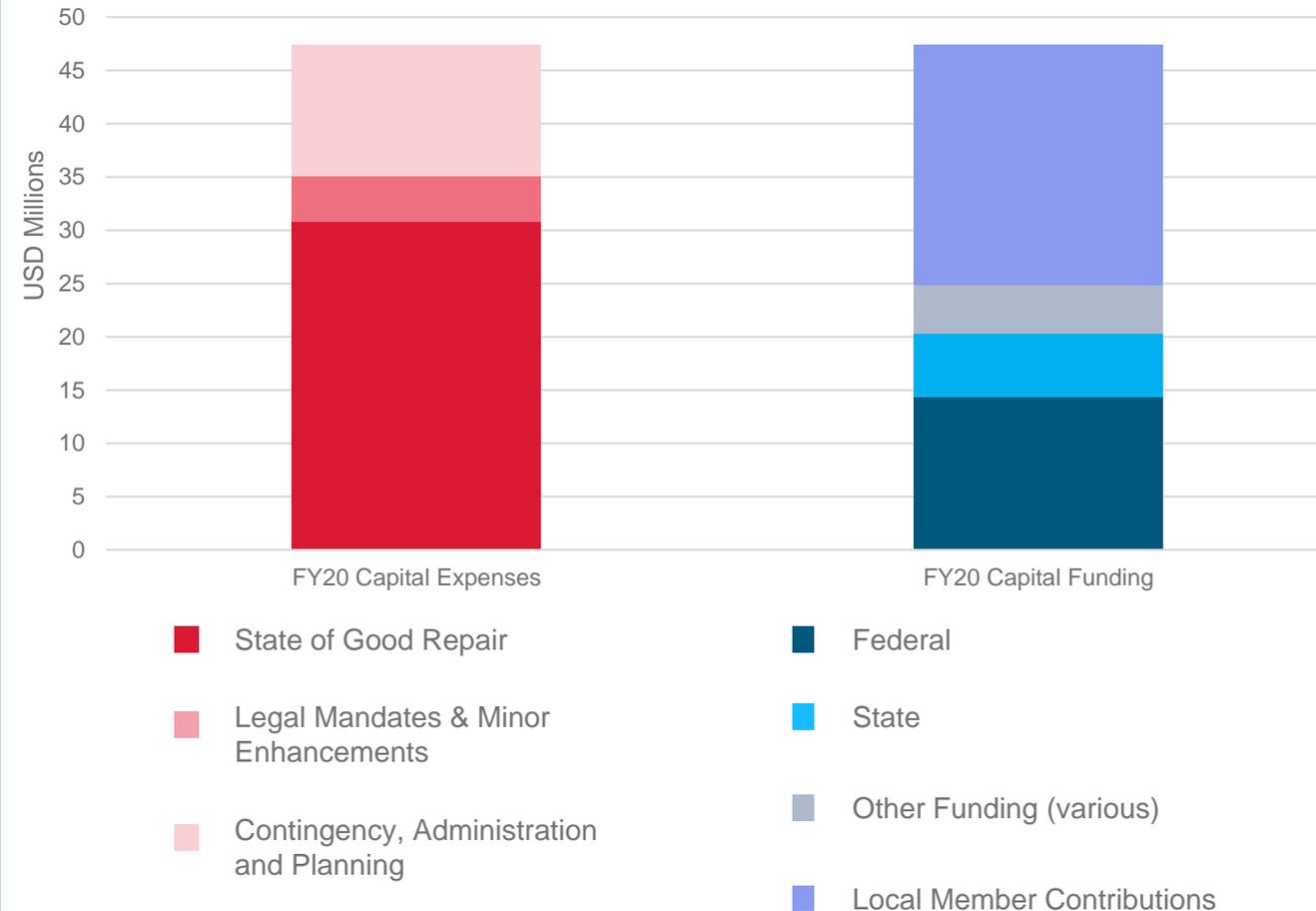
# Annual Capital Costs & Funding

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.

## Budgeted Capital Expenses and Funding

### FY 2020



# Caltrain Today Major Capital Projects

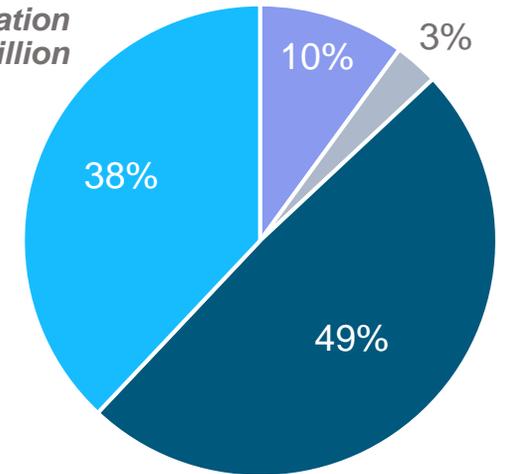
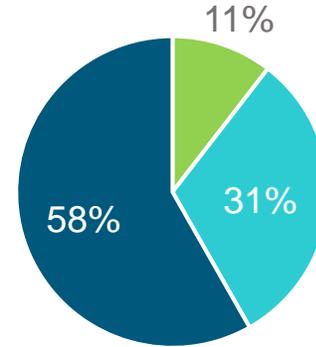
Major capital projects often span multiple budget years and rely on individualized funding plans. These are developed independently on a project-by-project basis.

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.

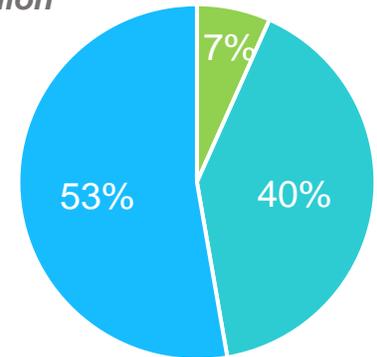
## Example Funding Plans For Recent Projects

*Peninsula Corridor Electrification Project - \$1.98 Billion*



*South San Francisco Station Improvement Project - \$67 Million*

*25th Avenue Grade Separation - \$165 Million*



- Federal Sources (competitive & formula)
- State Sources (including HSR)
- Regional Sources
- Member Agency & County Sources (Shared Equally)
- Individual Member Agency Source (San Mateo County TA in these examples)
- Local Jurisdiction (City of San Mateo and City of SSF in these examples)



# 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

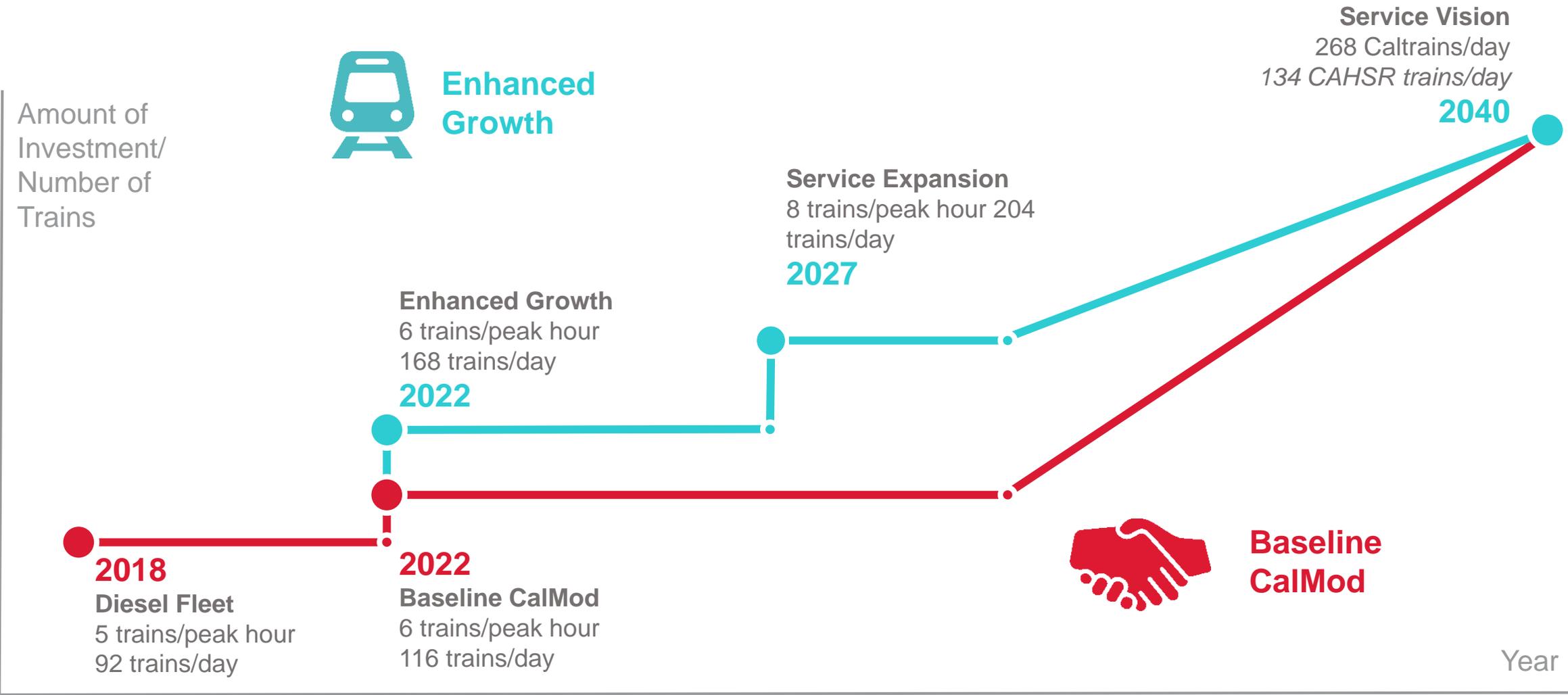
Includes six peak hour trains growing to eight by the end of the decade

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

# Scenario Details

Scenario	Service Description	Capital Investments	Major Operating Cost Drivers
<b>Baseline CalMod</b>	<ul style="list-style-type: none"> <li>6 tphpd during peak hours (4 hours per day)</li> <li>Modest off-peak service increases</li> <li>Approx 116 trains per day throughout the decade.</li> <li>Increase to 4 round trips per day to Gilroy.</li> </ul>	<ul style="list-style-type: none"> <li>PCEP completed in early 2020s (already funded)</li> <li>Ongoing investment in State of Good Repair.</li> </ul>	<ul style="list-style-type: none"> <li>TASI costs related to increased service hours</li> <li>Maintenance of new systems and expanded fleet</li> <li>Electricity for Traction</li> <li>Reduced fuel consumptions</li> <li>Reduced diesel fleet maintenance</li> </ul>
<b>Enhanced Growth</b>	<ul style="list-style-type: none"> <li>6 tphpd during peak hours (7-8 hours per day) increasing to 8 tphpd by late 2020s.</li> <li>Expanded peak periods and off-peak service</li> <li>168 trains per day increasing to 204 trains by the end of the decade.</li> <li>Increase to at least 5 round trips per day to Gilroy</li> </ul>	<ul style="list-style-type: none"> <li>PCEP completed in early 2020s.</li> <li>Ongoing investment in State of Good Repair.</li> <li>Direct investments required to support 8 tphpd service</li> </ul>	<p>Same as above, plus:</p> <ul style="list-style-type: none"> <li>Additional TASI costs related to further expanded service</li> <li>Additional electricity for traction</li> <li>Additional maintenance related to expanded fleet</li> </ul>

# Two “Scenarios” for Growth

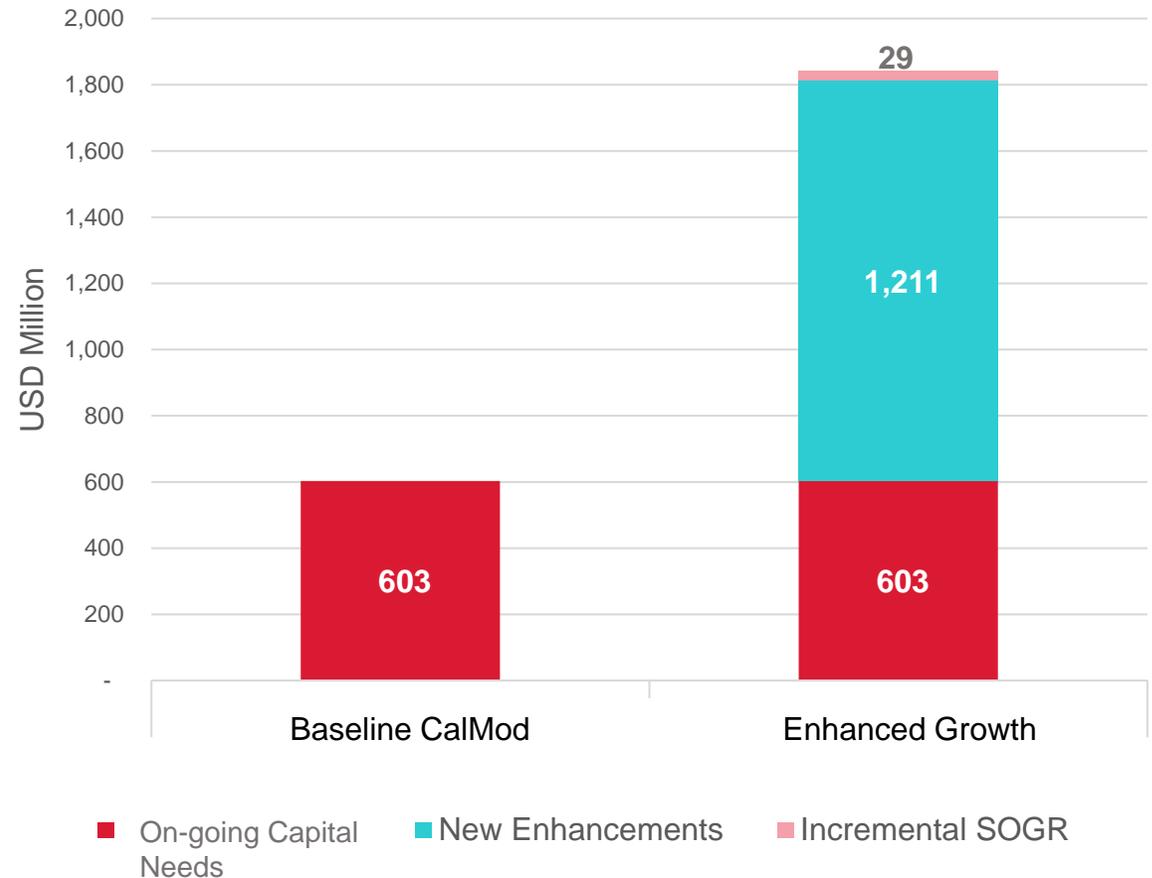


# 10-Year Total Capital Expenses by Scenario

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.

## Total 10-year Capital Expenses by Scenario



All costs shown in US\$ 2018



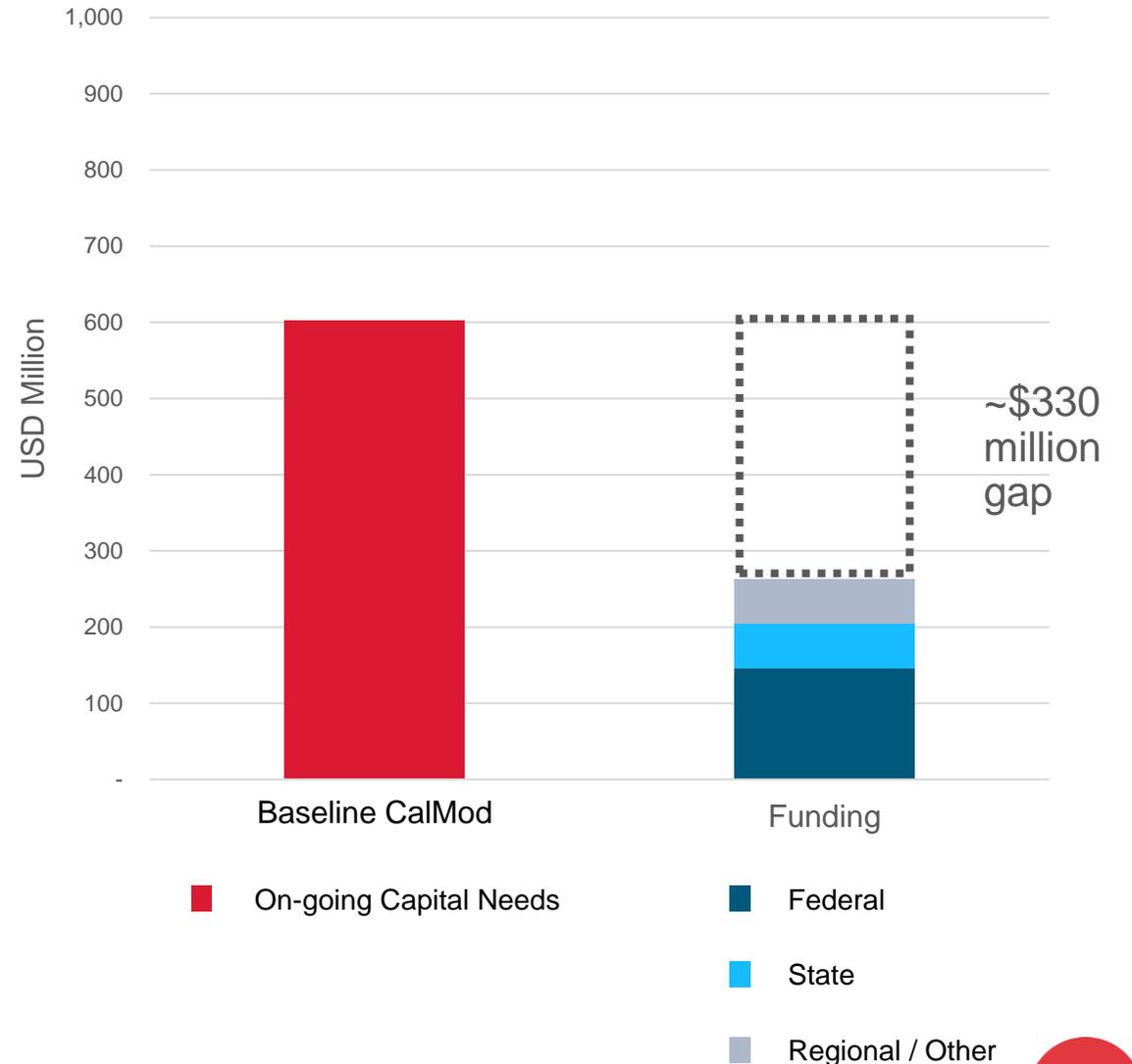
# 10-Year Capital Funding Gap

## 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.

## Baseline CalMod 10-year Capital Gap – No JPB Contribution



All costs shown in US\$ 2018



# 10-Year Capital Funding Gap

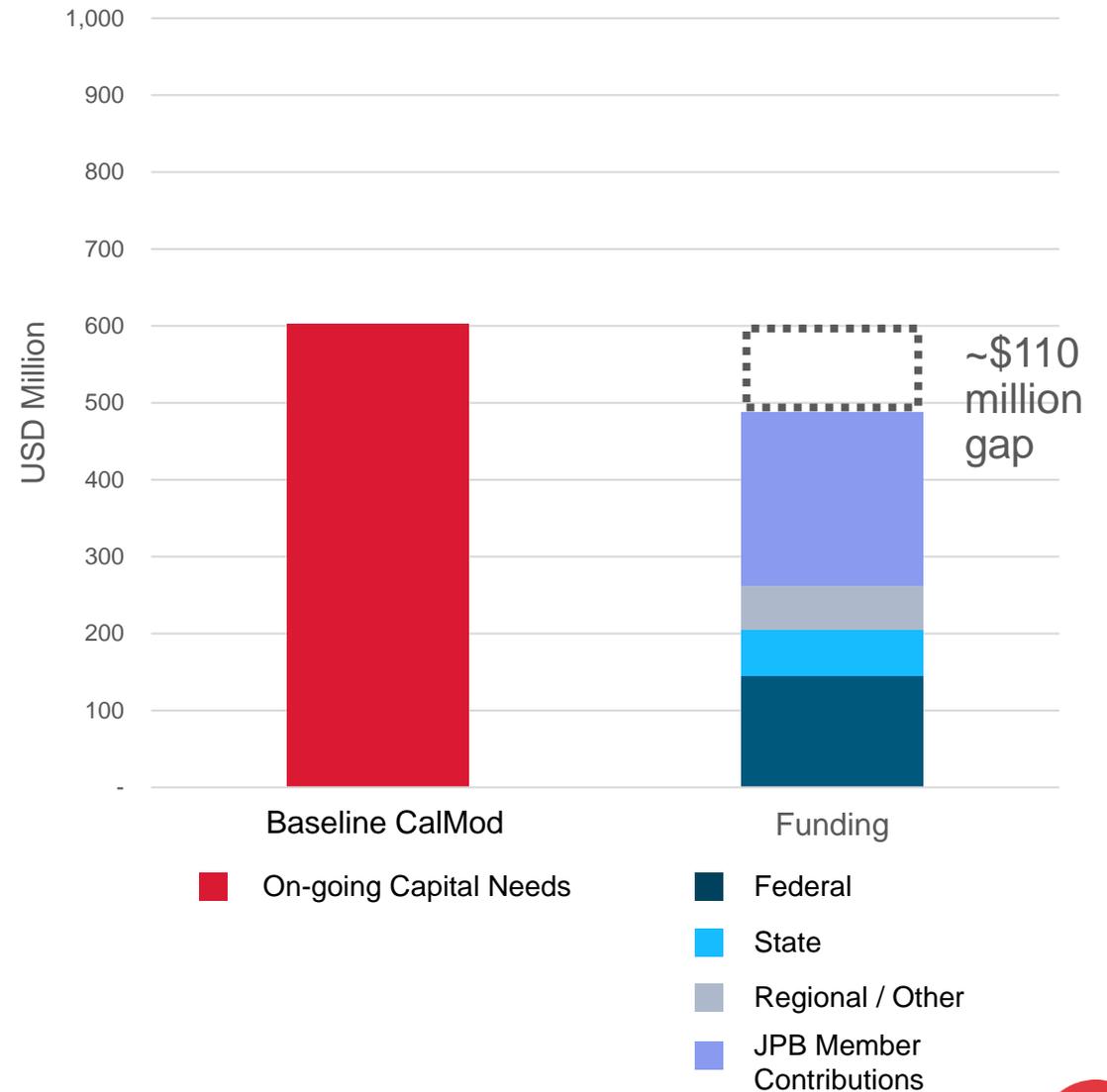
## Baseline CalMod

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.

## Baseline CalMod 10-year Capital Gap – With JPB Contribution



All costs shown in US\$ 2018



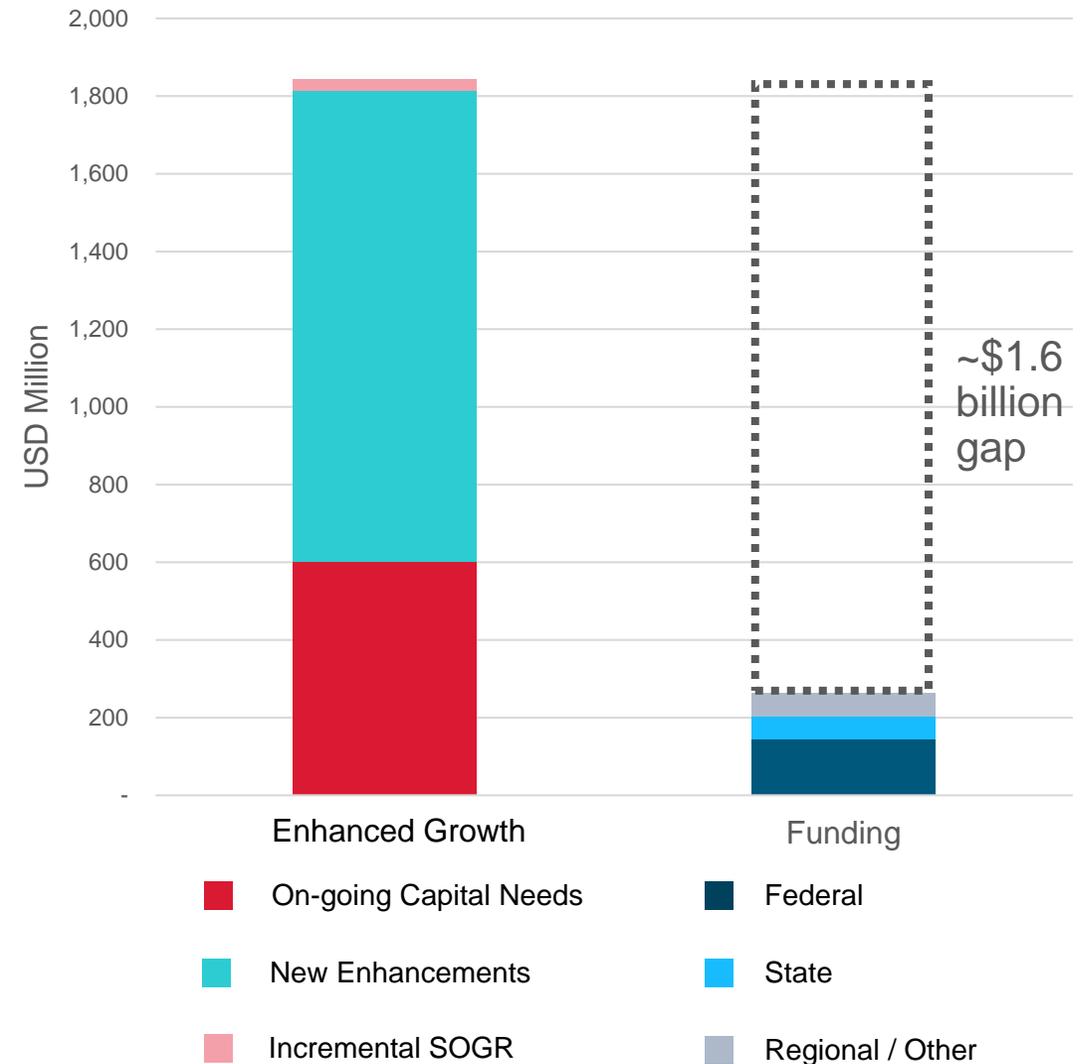
# 10-Year Capital Funding Gap

## 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



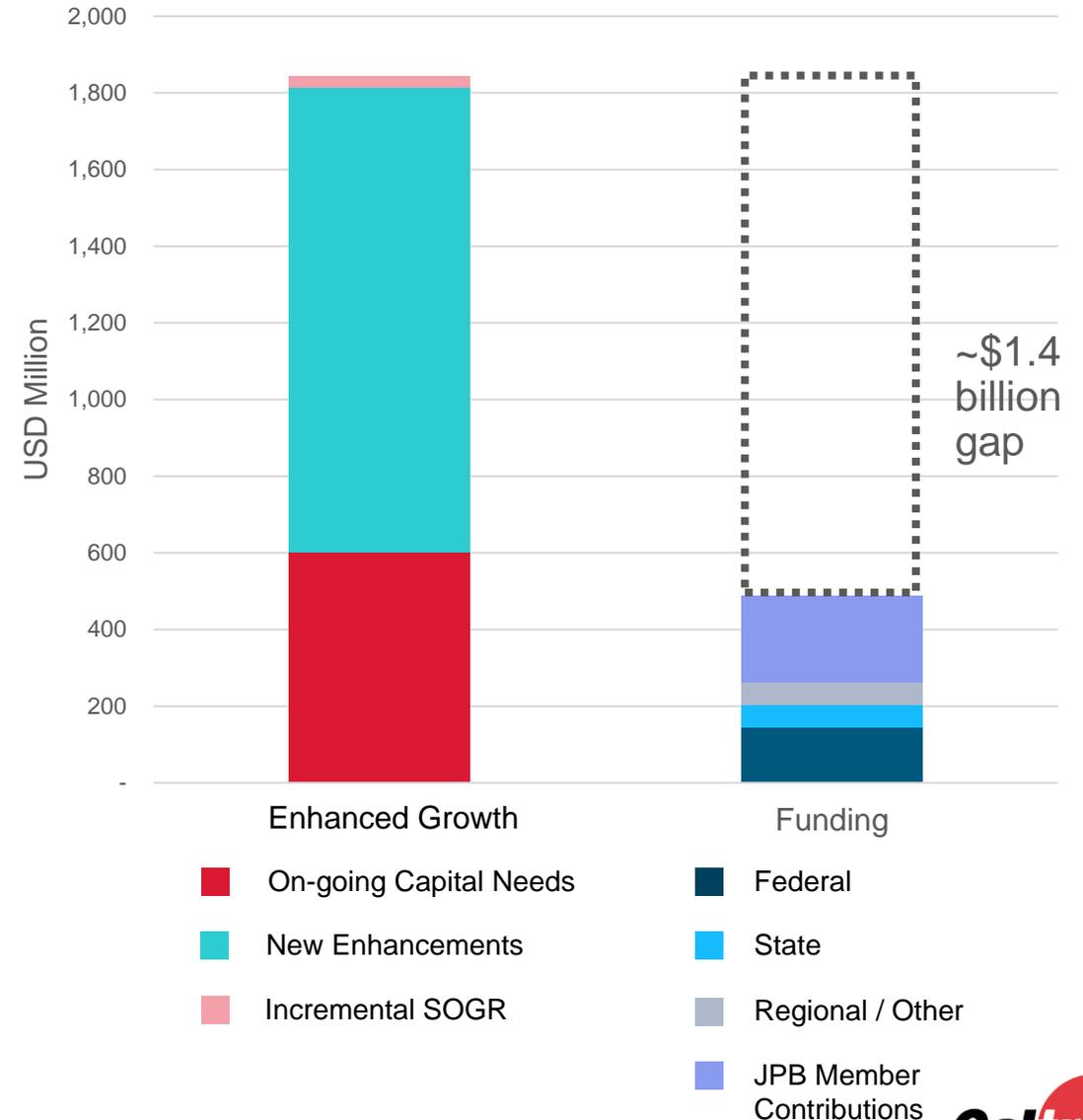
# 10-Year Capital Funding Gap

## 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.

## Enhanced Growth 10-year Capital Gap – With JPB Contribution



All costs shown in US\$ 2018



# 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

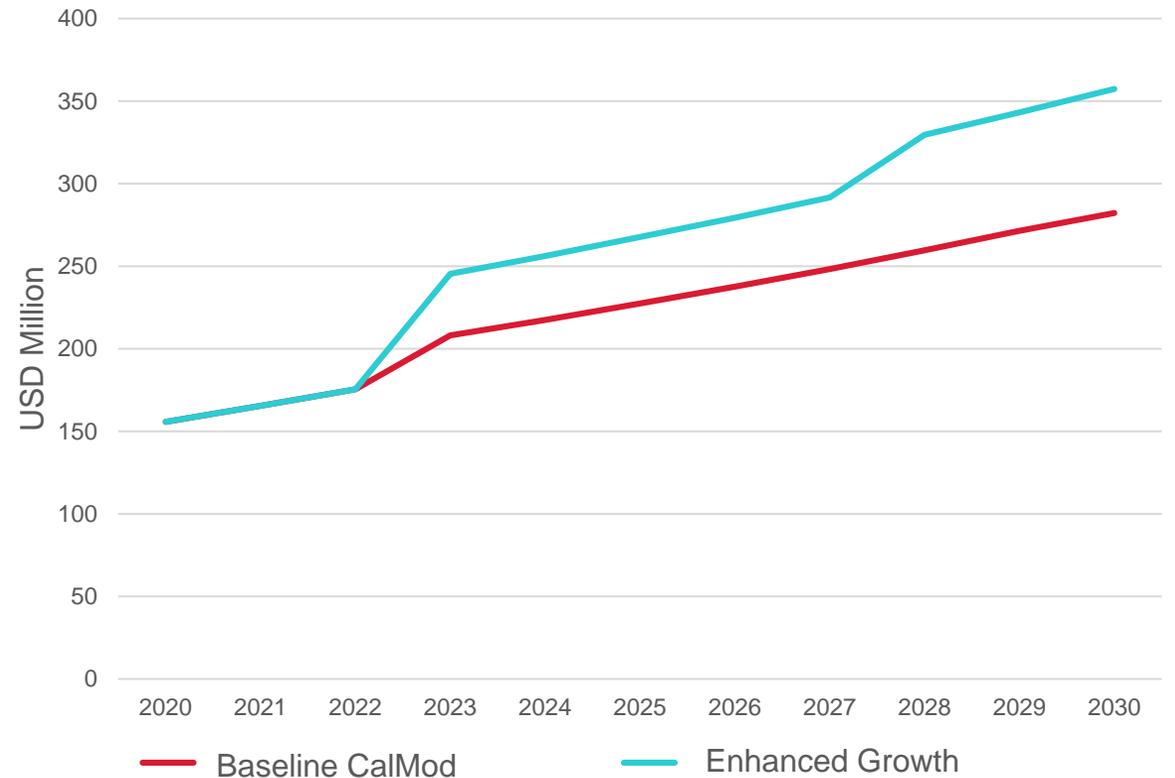
- 10 Year O&M projections are shown in year of expenditure dollars
- The projections represent Caltrain's best available information on likely costs and revenues, but several areas of significant uncertainty remain:
  - TASI costs and operational parameters play a significant role in determining overall 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.



All costs shown in YOE \$



# O&M Expenses and Revenues 2020-2030

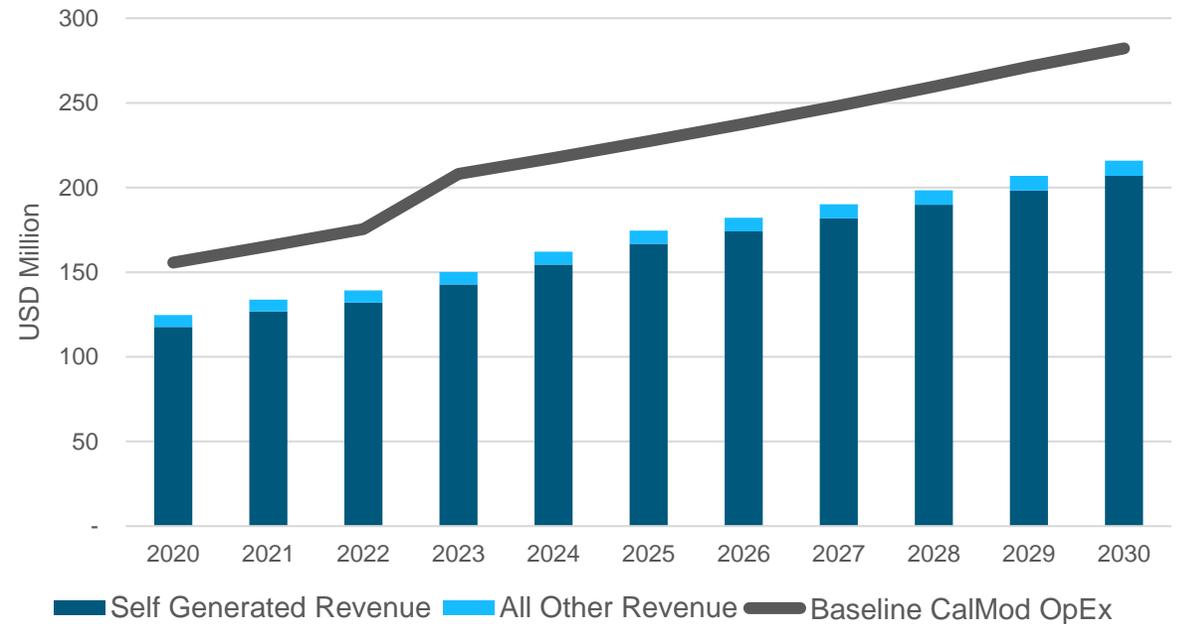
## Baseline CalMod

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.

Baseline CalMod  
O&M Revenues Versus Expenses  
No JPB Contribution



All costs shown in YOE \$



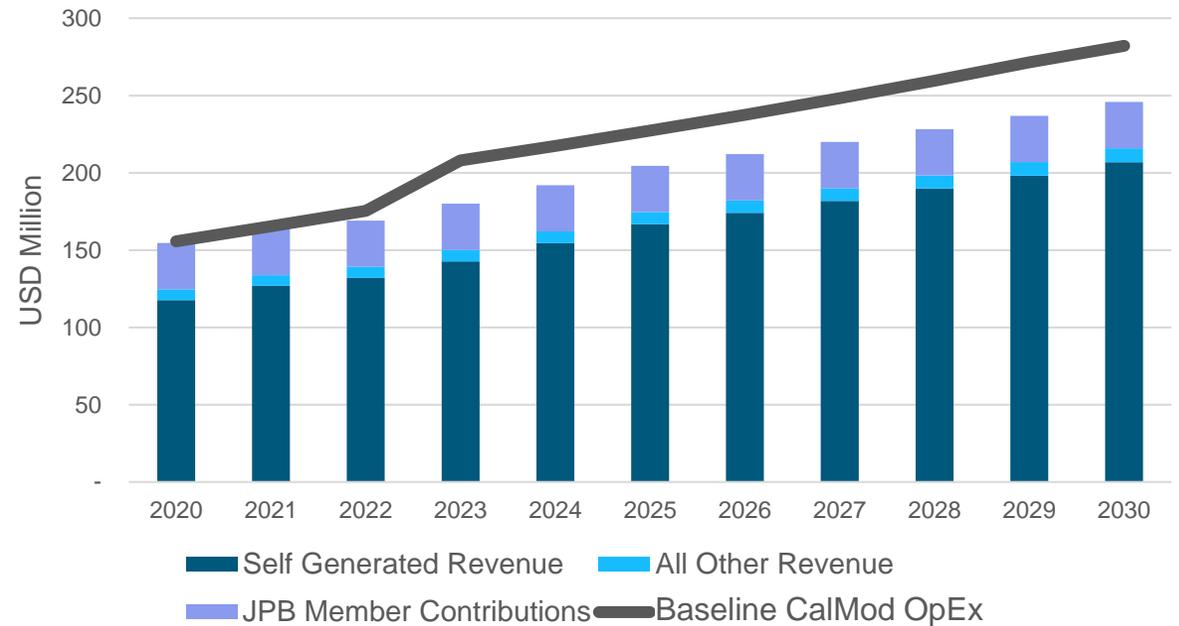
# O&M Expenses and Revenues 2020 - 2030

## 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.

Baseline CalMod  
O&M Revenues Versus Expenses  
With JPB Contribution



All costs shown in YOY \$



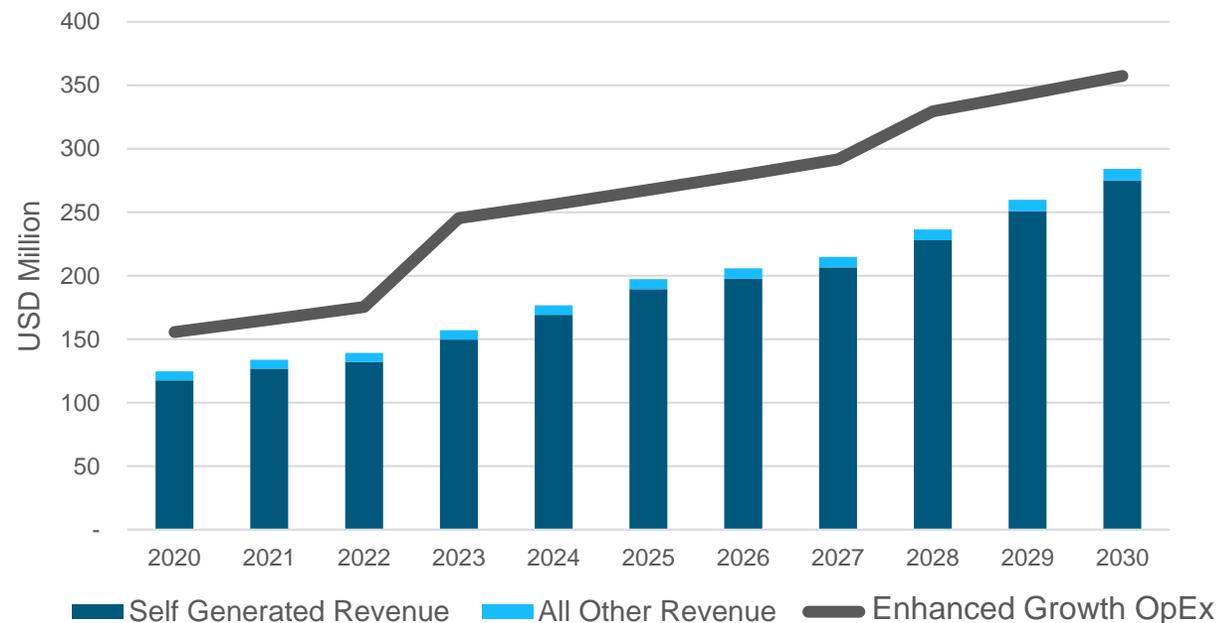
# O&M Expenses and Revenues 2020-2030

## 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 YOY \$



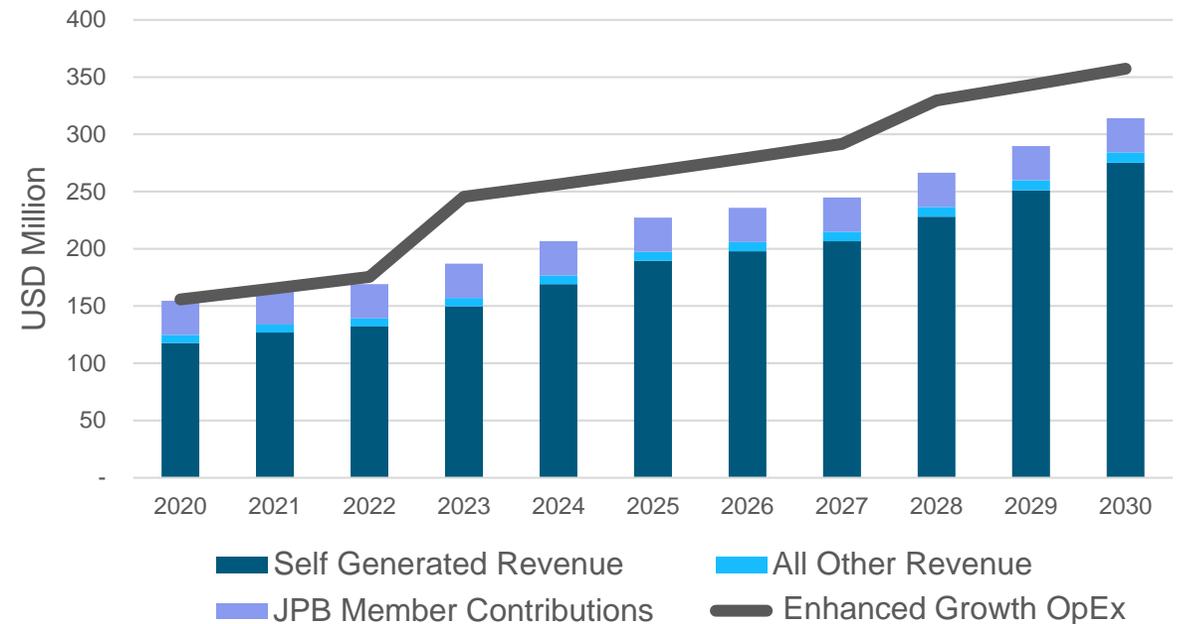
# O&M Expenses and Revenues 2020-2030

## 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 YOY \$



# 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

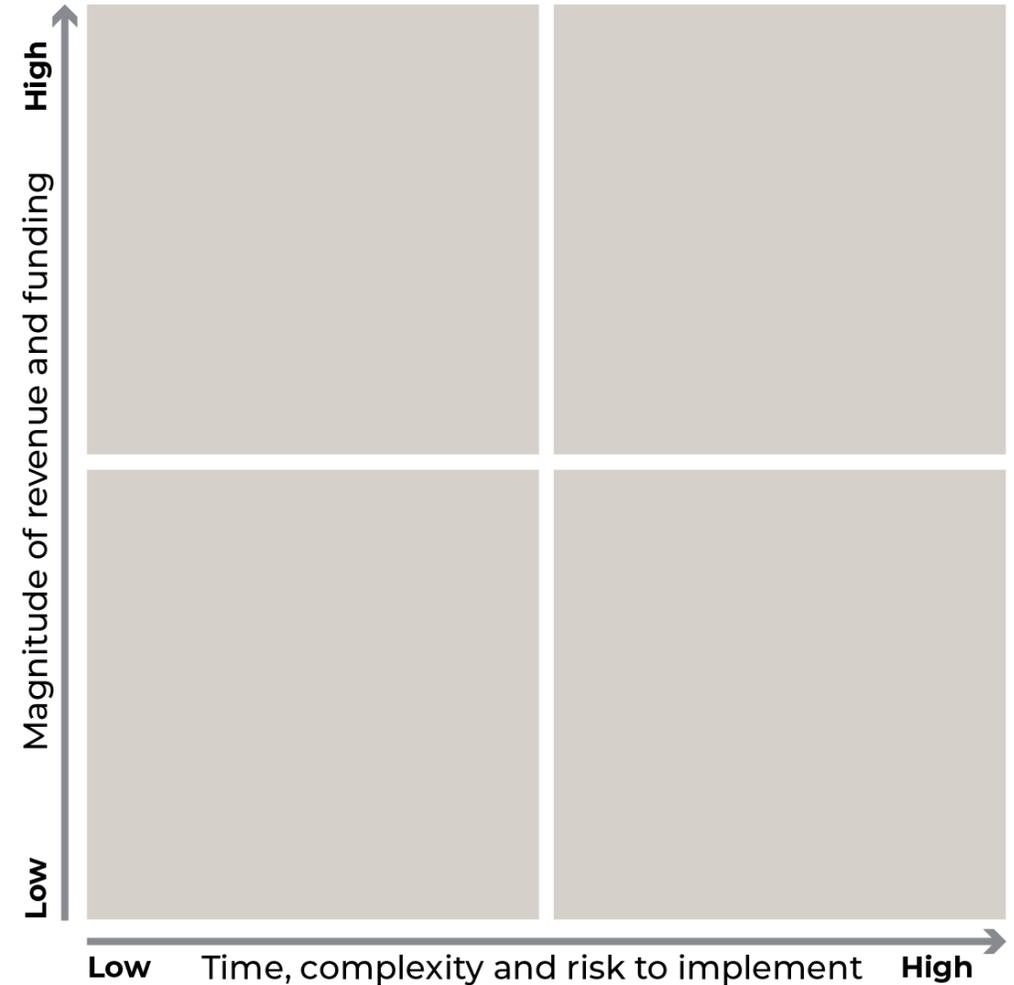
- Member contributions
- Existing county funding sources
- Regional measures
- Local sales taxes
- Public grants

# 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)

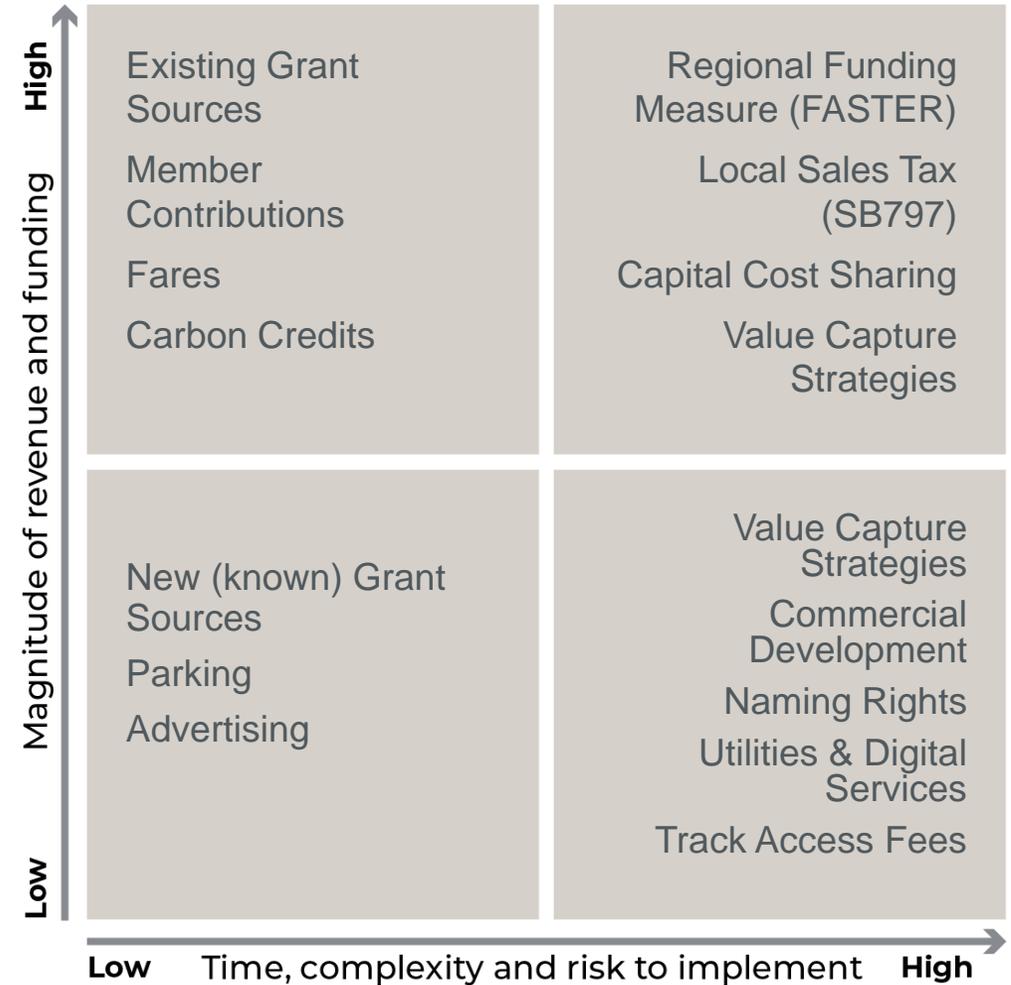


# Filling the Gap

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.

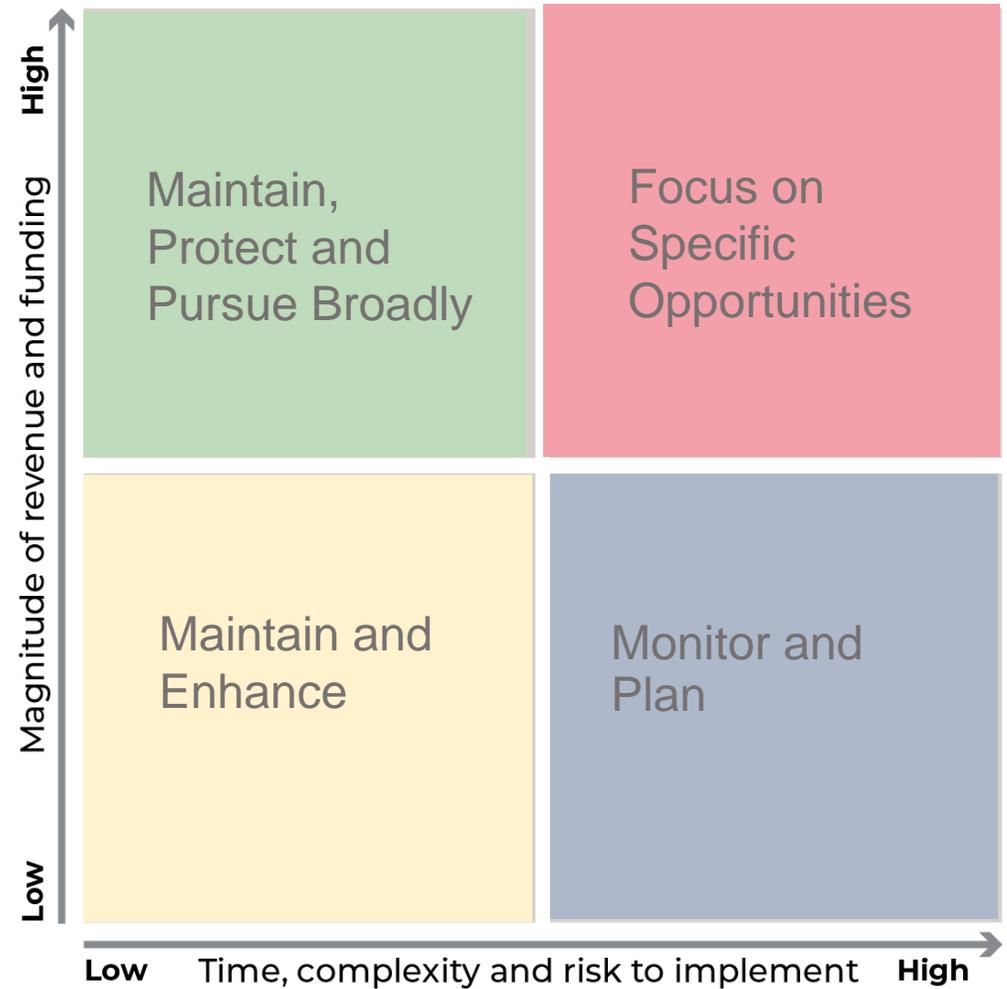
Examples of potential funding sources and revenues have been conceptually mapped to the four quadrants.



# 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 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).



# Near Term Options to Fill Funding Gap

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



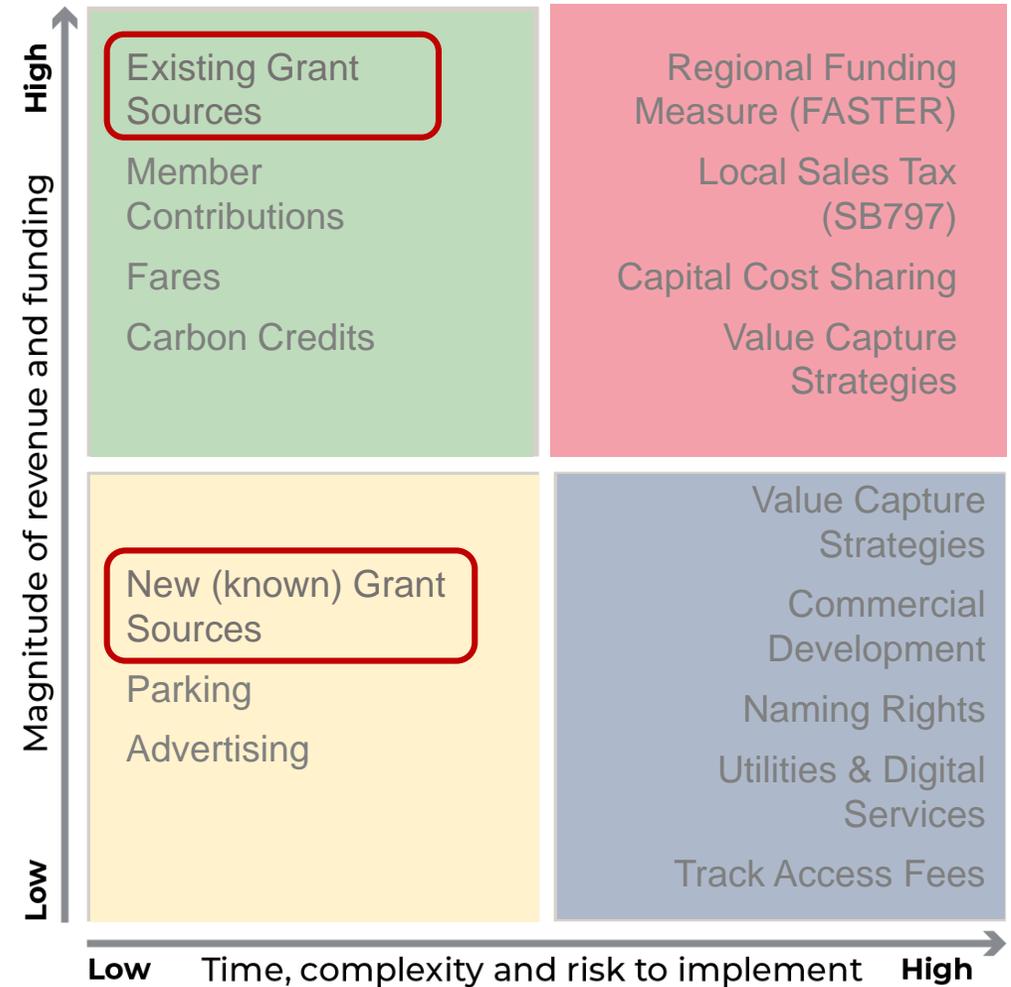
## Public Investment

- 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	Considerations
Federal Programs (FTA and FRA)	Size of source and amount available
State Programs (Transit and Intercity Rail Capital Program, Solutions for Congested Corridors)	
Regional Programs (Carl Moyer)	Individual grant eligibility and criteria
Local Measures (Measures K, A, W, B)	Competing with other, worthy projects

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:

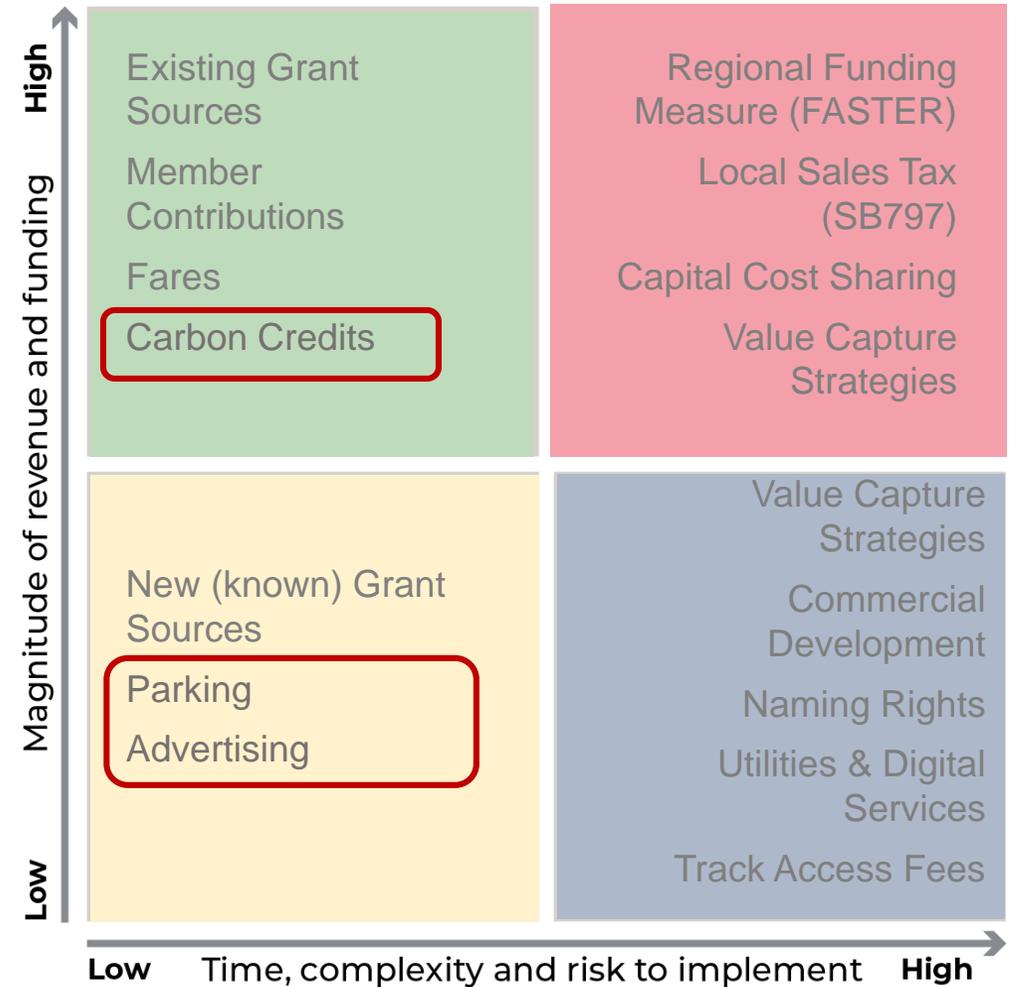
- \$1.4 billion (without Member Contributions)
- \$1.2 billion (with annual capital budget Member Contributions held constant at FY2020 levels)



# 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.

Projected Expense – Enhanced Growth	Funding Gap (No JPB Member Contributions Included)	Funding Gap (JPB Member Contributions Maintained at FY20 Levels)
Ongoing OpEX	\$58 million annually (average)	\$28 million annually (average)
Ongoing Annual Capital Needs	\$40 million annually (average)	\$20 million annually (average)
New Capital Investment	\$1 billion	\$1 billion



# New Public Investment Required

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)

Projected Expense – Baseline CalMod	Funding Gap (No JPB Member Contributions Included)	Funding Gap (JPB Member Contributions Maintained at FY20 Levels)
Ongoing OpEX	\$37 million annually (average)	\$7 million annually (average)
Ongoing Annual Capital Needs	\$40 million annually (average)	\$20 million annually (average)
New Capital Investment	N/A	N/A

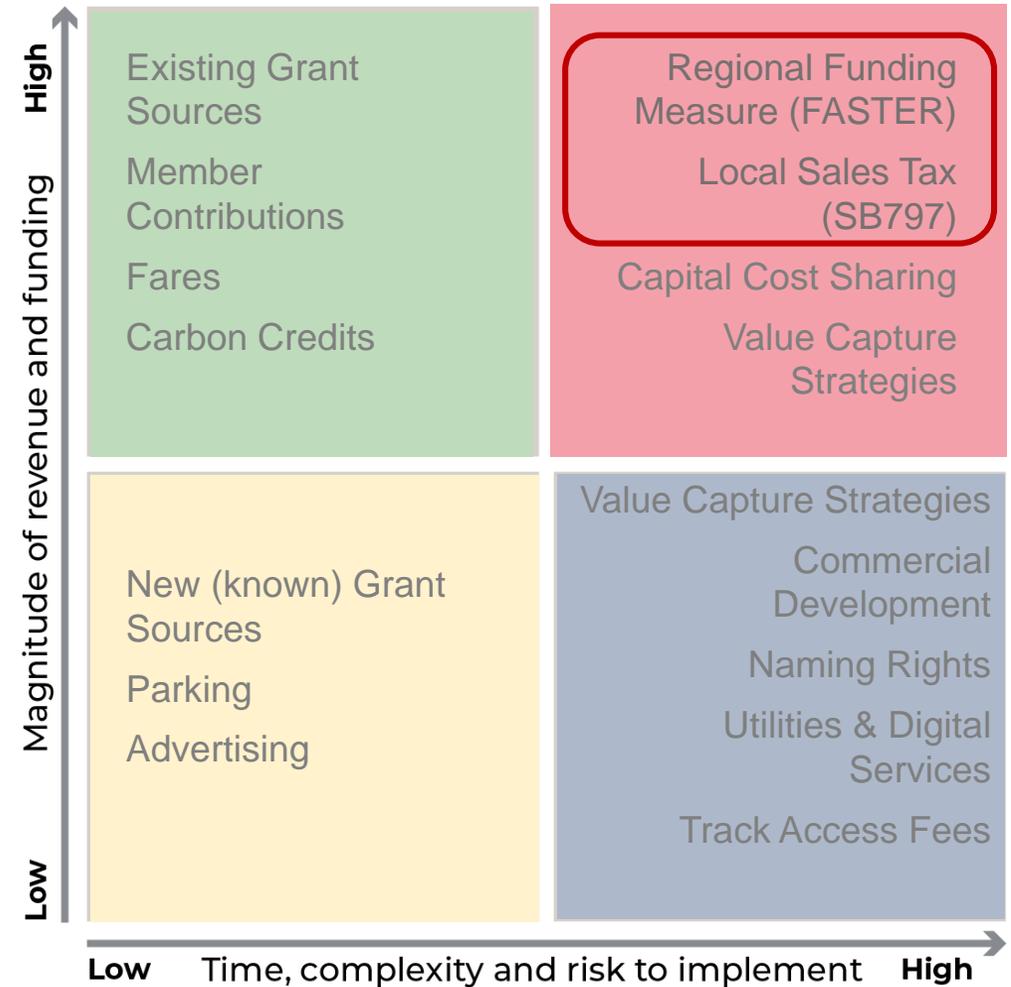


# New Public Investment Required

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.



**FOR MORE INFORMATION**

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