

# Caltrain Electrification

FINAL SERVICE PLAN  
FOR FALL 2024

Caltrain Bicycle and Active Transportation  
Advisory Committee

November 16, 2023



# Agenda

## Today's Meeting

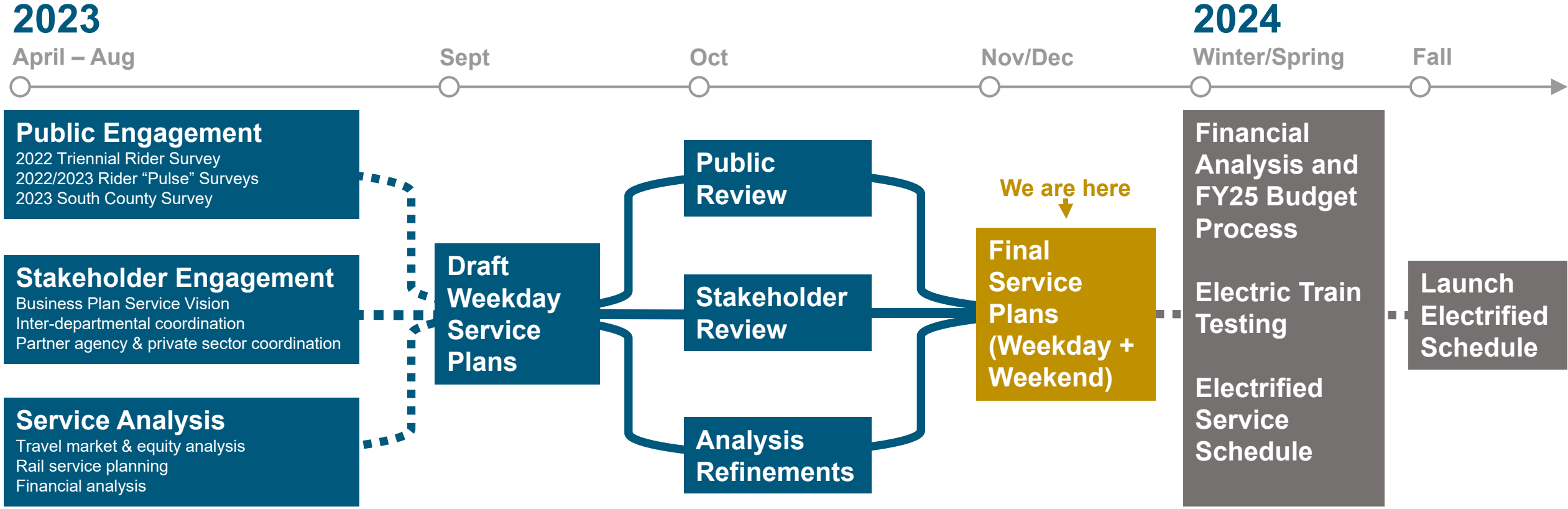
1. **Electrification Update and Service Planning Process**
2. **Findings from Outreach**
3. **Final Electrified Service Plan**
4. **Service Expansion Possibilities**
5. **Next Steps**

# About Electrification

- Caltrain has been working diligently with its partners and the local communities to complete the Electrification Project.
- 51 miles from San Francisco to San Jose (Tamien Station) along JPB-owned right-of-way
- Electrification has three components:
  - Overhead contact system
  - Traction power facilities
  - Electric trains (19 trainsets by end of 2024; 23 trainsets by 2027)
- First new electric trains have arrived & testing is underway through next year
- **Caltrain's new electrified service will launch in September 2024 with a completely new schedule!**



# Electrified Service Planning Process



# Electrified Service: Goals & Outcomes

Vision

**Long-Range  
Service Vision**  
(Caltrain Business Plan)

Goals

**Equity**

**Connectivity**

**Recovery &  
Growth**

Outcomes

**More Frequent  
Service**

Tailor station frequency  
to market demand and  
equity goals

**Competitive  
Travel Times**

Offer competitive travel  
times for major  
markets compared to  
autos

**Enhanced Off-  
Peak Service**

Build ridership markets  
outside of typical  
commute trips

**Coordinated  
Transfers**

Coordinate  
connections with other  
transit operators

**Simplicity &  
Legibility**

Provide a schedule  
that is easy to  
understand

# What Constraints Remain?



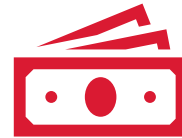
## Infrastructure

Caltrain serves a mostly two track corridor with constrained terminal operations, which limits how it can provide service.



## Fleet

Caltrain's mixed fleet of diesel and electric trains constrains what kinds of train service can be offered on the entire corridor.



## Operating Budget

Consistent with the FY24-25 budget, Caltrain will provide 104 trains per day. With lower ridership and farebox revenue, Caltrain will delay further service expansion until ridership recovers or the fiscal situation improves.



## Service Coordination

Timing transfers with all connecting transit agencies poses challenges.

# Outreach Activities to Date

Soliciting Feedback on Proposed Electrified Service Plan  
September – November 2023



**20**  
**Community, Business and Advisory Group Presentations**

Including Joint Powers Board; Local Policy Maker Group; Caltrain Citizens Advisory Committee; Transit Partners; Key Employers; etc.



**21**  
**Jurisdictions**

**1,500+**  
**Table Visitors**



**10**  
**Community and Station Events**

**5,000+**  
**Website views**



**9**  
**TASI Unions**

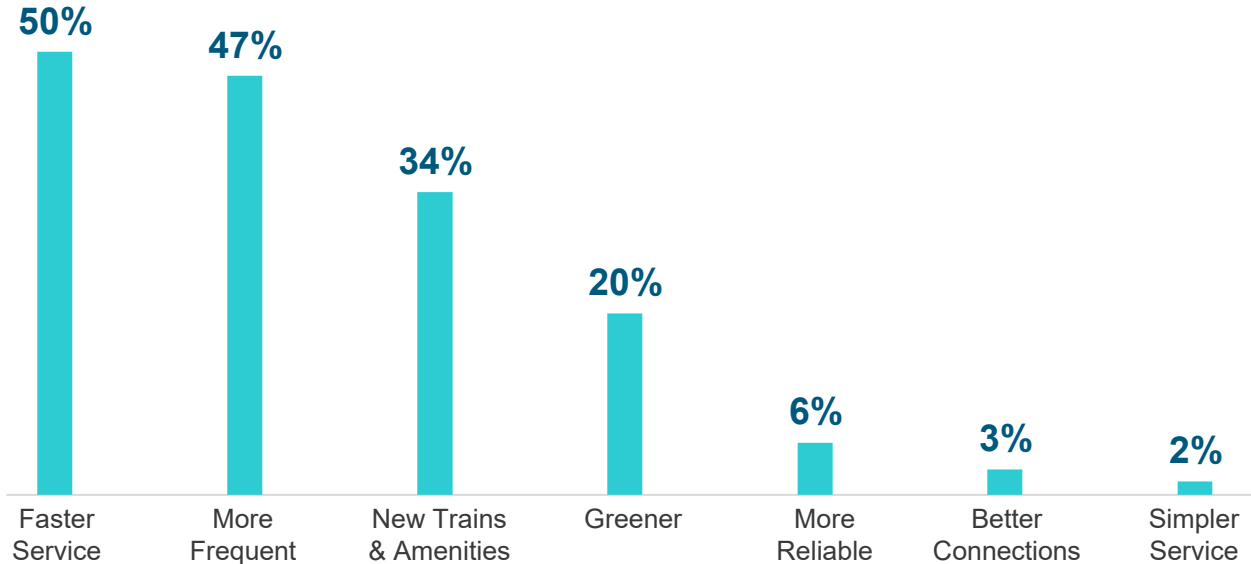
**1,650+**  
**Public Survey Responses**



# Customers are most excited about...

- **Faster service**
- **Increased frequencies**
- **New train amenities**

## What Most Excites You about Electrified Service?\*



### More Trains at All Hours

Desire for better frequency at all hours, on weekdays, and on weekends

### Green and New

Support for green, sustainable service and new trains

### Reliable Service

Optimism for more reliable service after years of construction

### Transit Connections

Easy transfers and integration with other transit lines are important for some

\*Respondents could select more than one option



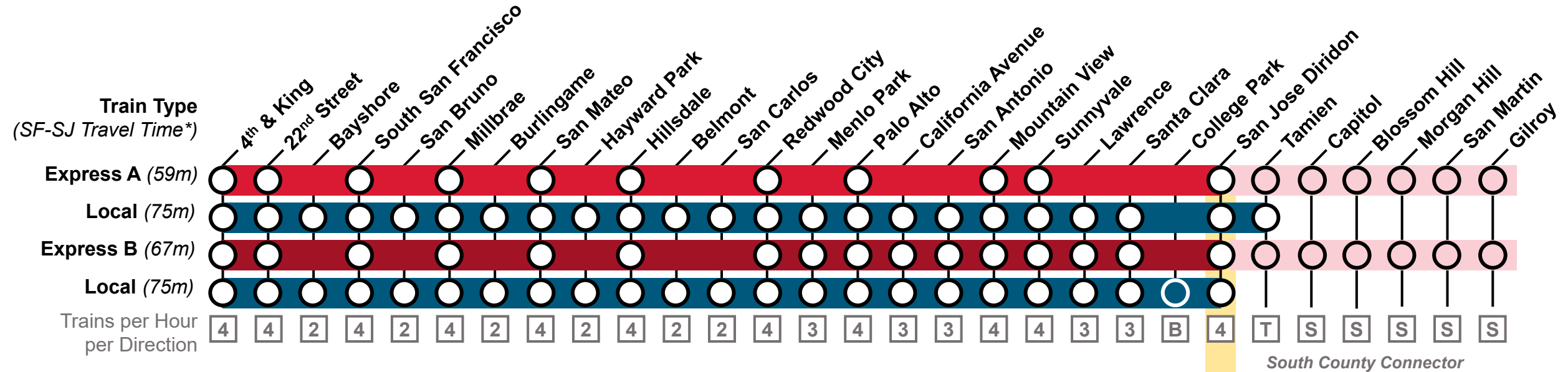
# Finalizing Electrified Service Plans

- Caltrain considered fall 2023 feedback, planning-level financial analysis, and operational needs.
- Caltrain saw strong support for the proposed weekday stopping patterns, including for both weekday express service patterns.
  - **The final electrified service plan is the same as the proposed weekday service plan (no changes).**
- Caltrain also heard consistent calls to increase weekend service, beyond today's hourly weekend service, between San Francisco and San Jose.
  - **The final electrified service plan increases weekend service to 2 trains per hour per direction – one train every 30 minutes at every station between San Francisco and San Jose.**

# Weekday Peak Period Final Station Service Levels

Note: No Change from Proposed Electrified Service Schedule that was shared for public review in fall 2023

Peak periods vary by station, generally covering 6:30AM-9:30AM and 3PM-7PM



## LEGEND

○ Stop (one per hour per direction)

# Stops per hour per direction

T Tamien Service  
2 to 3 stops per hour in peak direction, 1 stop per hour in reverse-peak direction

B Bellarmine Service  
2 stops per day per direction

S South County Connector Service  
4 stops per day per direction with 1-2 trains per hour in the peak direction



**Timed Cross-Platform Connection**  
Between South County Connector trains and Express trains in both directions

Diesel Service (4 Daily Roundtrips)  
South County Connector between Gilroy and Diridon

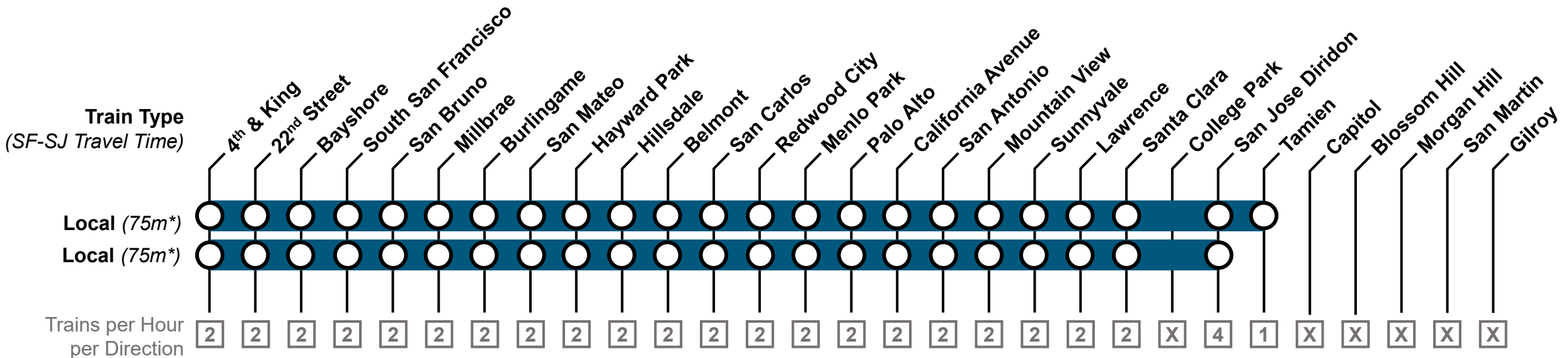


\*SF-SJ travel time refers to 4th & King to Diridon Station. Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.

# Weekday Off-Peak Final Station Service Levels

Note: No Change from Proposed Electrified Service Schedule that was shared for public review in fall 2023

Off-peak periods vary by station, generally covering 5-6:30AM, 9:30AM-3PM, and 7PM-1AM



## LEGEND

- Stop (one per hour per direction)
- # Stops per hour per direction
- X No Service  
Peak Period service only

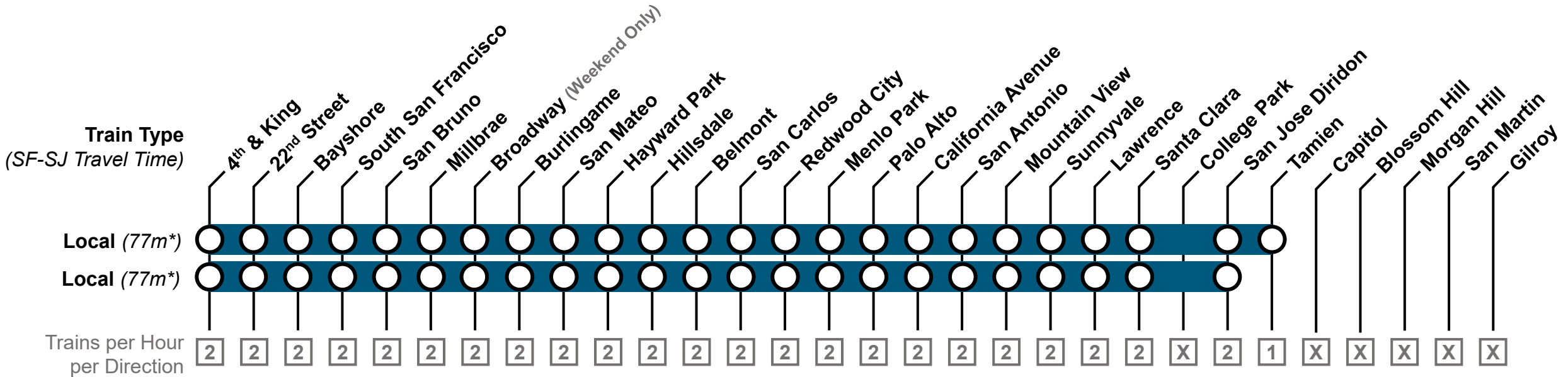
\*Travel times for SF-SJ refers to 4th and King to Diridon Station.

\*\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.



# Weekend Final Station Service Levels

Weekend service hours vary by station, generally covering 7AM-1AM



## LEGEND

- Stop (one per hour per direction)
- # Stops per hour per direction
- X No Service  
Weekday service only

\*Travel times for SF-SJ refers to 4th and King to Diridon Station. Weekend travel times approximately 77 minutes due to Broadway Station service; weekday off-peak service is 75 minutes without Broadway service.

\*\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.



# Electrified Service Plan Benefits

Improved service for all riders



## Get There Faster

Express from SF to SJ in under an hour

Quicker local service, 75 minutes instead of 100

Save up to 28 minutes on trips from Southern Santa Clara County to SF



## Ride More, Wait Less

20% more train service

26% more train service at equity priority stations

Half-hourly service during weekends and off-peak



## First Class for Everyone

Free Wi-Fi

Smoother, quieter experience

Outlets at every seat

Digital trip information onboard

Spacious, accessible bathrooms



## Clean and Green

GHG emissions reduced by 250K MTCO2 annually – equivalent to taking 55,000 cars off the road each year

Improves local air quality

Quieter trains, both onboard and off

# Financial Forecast

- Caltrain is facing an operating deficit beginning in FY26, exceeding \$500M over the next ten years.
- At 5.1M riders in FY23, Caltrain is at about 28% of pre-COVID levels, but recent trends have been closer to 33%.
- Half-hourly weekend service adds an estimated annual operating cost of \$3M to \$4M.
- Caltrain hopes to offset partially these costs by \$1M to \$2M with increased weekend ridership/revenue, reduced special event service, and optimized crew schedules.
- Actual net costs will not be known until Caltrain is in electrified service

# Weekday Service Expansion Possibilities in the Future

## Weekday Service Expansion

- Not budgeted for FY25.
- Ridership and financial conditions will need to improve to consider expansion in FY26 and beyond.

## Peak Period Service Expansion

- With ridership still recovering from the effects of the pandemic, Caltrain is requesting a waiver from the Federal Transit Administration (FTA) to delay further service expansion until ridership returns.

## Ongoing Monitoring

- As ridership grows and financial conditions improve, Caltrain will continue to assess service expansion opportunities.
- Caltrain will return to the Board and the public in the future.

# Service Plan Next Steps

## 2023

**Fall/Winter**

- Final service plan shared with the public

## 2024

**Winter/Spring**

- Detailed financial analysis for FY25 budget
- Electric train testing
- Timetable development
- Title VI analysis and approval

**Summer**

- Preparation for launch of new timetable

**Fall**

- Launch of electrified service
- New timetable implemented with final electrified service plan



# Appendix

## Weekday & Weekend Service Comparisons

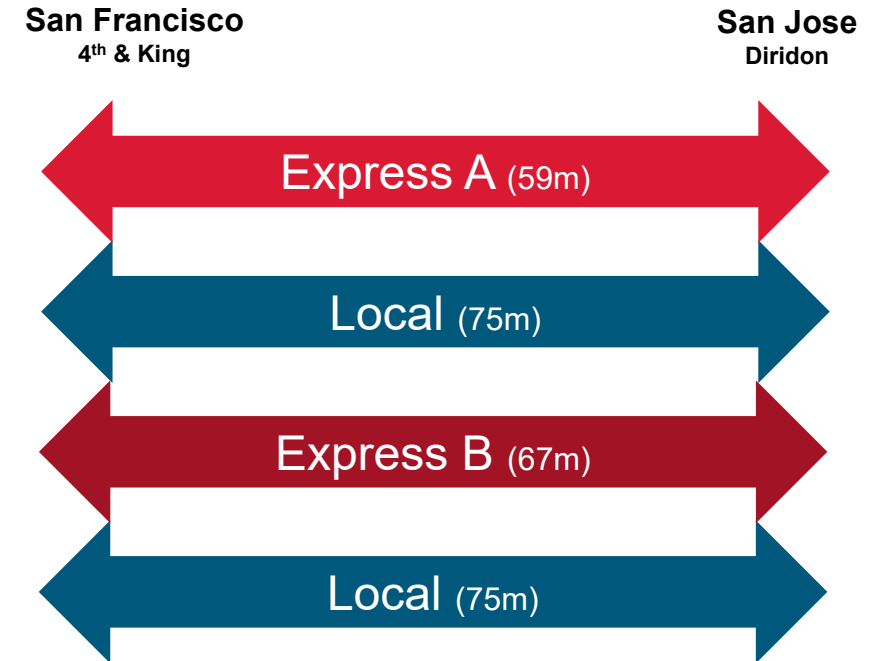
# Final Weekday Peak Period Service

(San Francisco to San Jose)

**Faster service *and* more stops with all-electric trains**

- 4 trains per hour per direction
- Alternating express and local trains
- SF-SJ travel times of 59 to 75 minutes\*
- 20% increase in stops at stations

## Weekday Peak Service Plan



Weekday peak periods approximately  
6:30AM-9:30AM and 3PM-7PM  
(Consistent with existing condition)

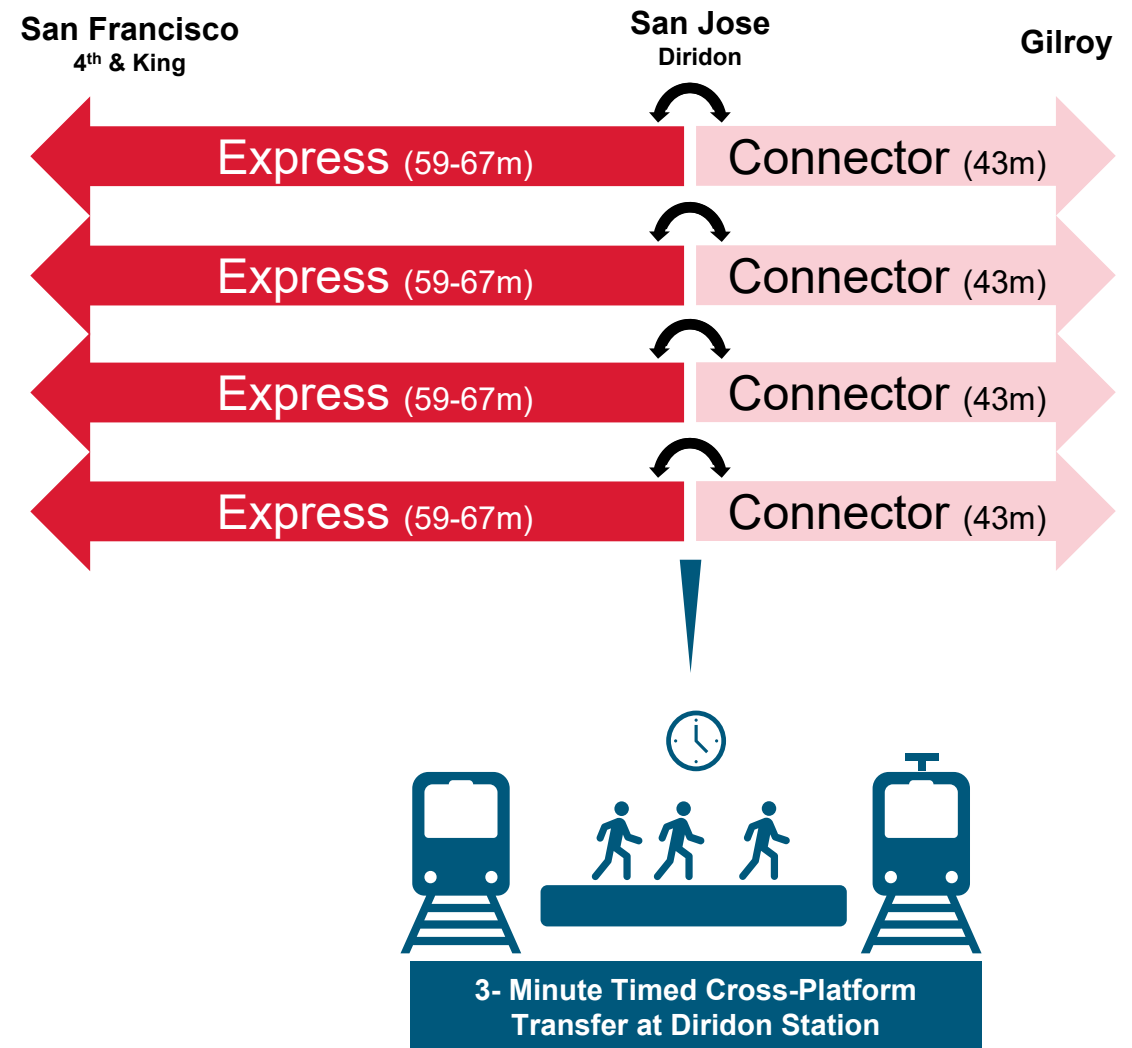
\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.

# Final South County Connector Service Plan

## Service Tailored to Community Needs

- 4 daily roundtrips (schedules tailored to survey feedback from South County residents in June 2023)
- Timed cross-platform transfer to Express Trains (3-minute connection) at Diridon Station
- Fastest SF-Gilroy travel time of 106 minutes, a reduction of up to 28 minutes compared to existing service
- Maximizes flexibility within constraints imposed by agreement with Union Pacific

## 4 Daily Roundtrips with Timed Cross-Platform Connection



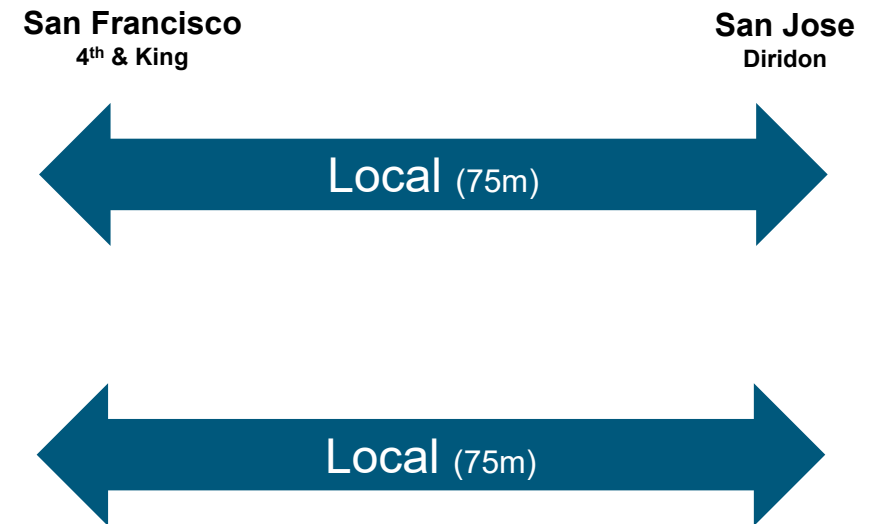
# Final Weekday Off-Peak

(San Francisco to San Jose)

## Half-Hourly Off-Peak Service at All Stations

- All stations receive half-hourly local service throughout the day
- SF-SJ travel times of 75 minutes
- Fully electrified service – all electric trains

## Weekday Off Peak Service Plan



Weekday off-peak periods approximately  
5AM-6:30AM, 9:30AM-3PM, and 7PM-1AM  
(Consistent with existing service)

\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.

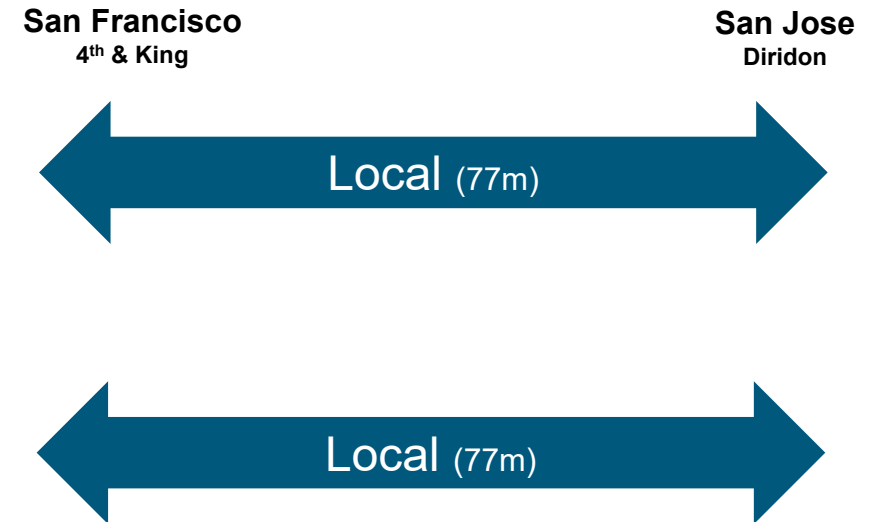
# Final Weekend Service Plan

## San Francisco to San Jose

### Half-Hourly Service at All Stations between San Francisco and San Jose

- All stations receive half-hourly local service throughout the day
- SF-SJ travel times of 77 minutes (including weekend-only service at Broadway)
- Fully electrified service – all electric trains

### Weekend Service Plan



Weekend service hours approximately 7AM-1AM  
(Consistent with existing service)

\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.

# Weekday Comparison

Diesel Service in Fall 2023 compared to Electrified Service in Fall 2024

Between San Francisco and San Jose, electrified weekday service will provide:

- ~25 minutes of savings for Local service (compared to today's service)
- ~7 minutes of savings for Express A service, even with 3 extra station stops (compared to today's service)

| Topic                         | Fall 2023 Service | Fall 2024 Electrified Service |
|-------------------------------|-------------------|-------------------------------|
| Trains per Day                | 104               | 104                           |
| Approximate Span of Service   | 5am-1am           | 5am-1am                       |
| Daily Roundtrips to Gilroy    | 4                 | 4                             |
| Local Travel Time (SF-SJ)     | 97-101 mins       | 75 mins                       |
| Express Travel Time (SF-SJ)   | 65 or 66 mins     | 59 mins                       |
| Stations with Express Service | 8                 | 11                            |
| Number of Service Patterns    | 5                 | 3                             |

\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.



# Weekend Comparison

Diesel Service in Fall 2023 compared to Electrified Service in Fall 2024

Between San Francisco and San Jose, electrified weekend service will provide:

- Over double the number of weekend trains (compared to today's service), with half hourly service at all stations between San Francisco and San Jose
- ~25 minutes of savings for Local service (compared to today's service)

| Topic                       | Fall 2023 Service | Fall 2024 Electrified Service |
|-----------------------------|-------------------|-------------------------------|
| Trains per Day              | 32                | 66                            |
| Approximate Span of Service | 7am-1am           | 7am-1am                       |
| Local Travel Time (SF-SJ)   | 100-102 mins      | 77 mins                       |

\*Travel times subject to change pending further testing as new electric trains arrive and are prepared for revenue service.

