

# Caltrain Electrification Project Update

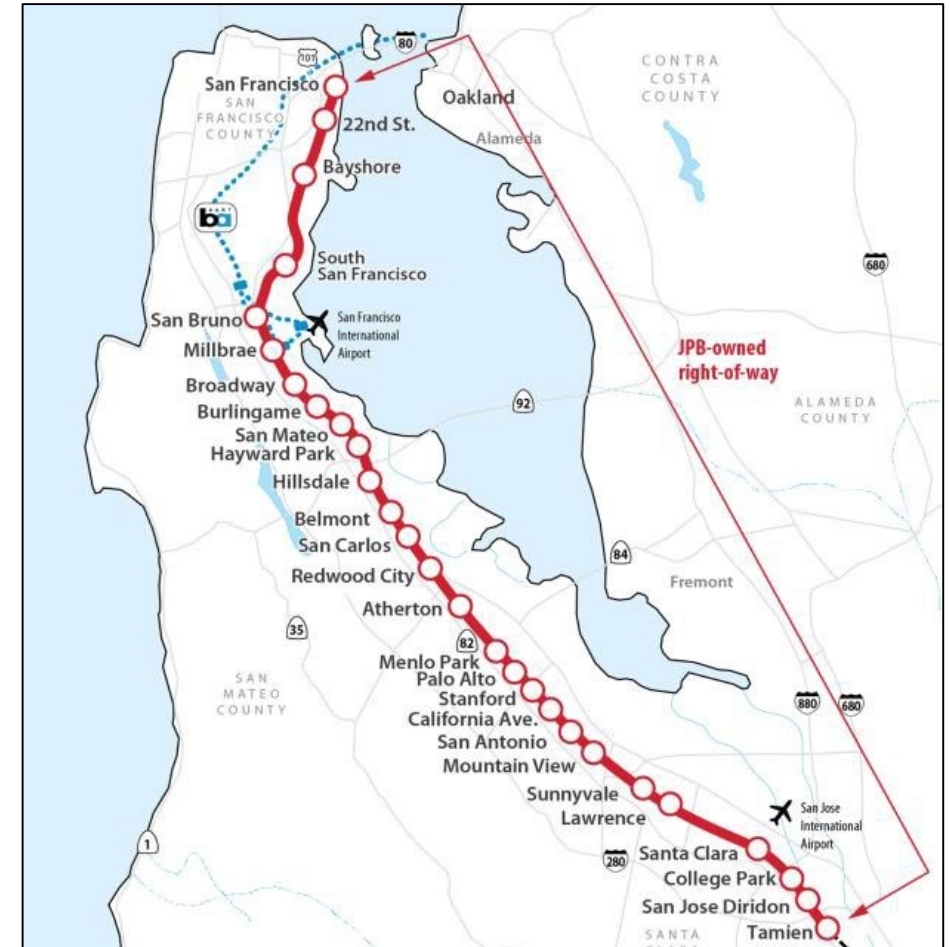
Joint Powers Board  
Agenda Item #7e(i)



# Program Overview

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- San Francisco to San Jose (Tamien Station)
- 51 miles
- Project Cost: \$2.44B
- Revenue Service: Fall 2024



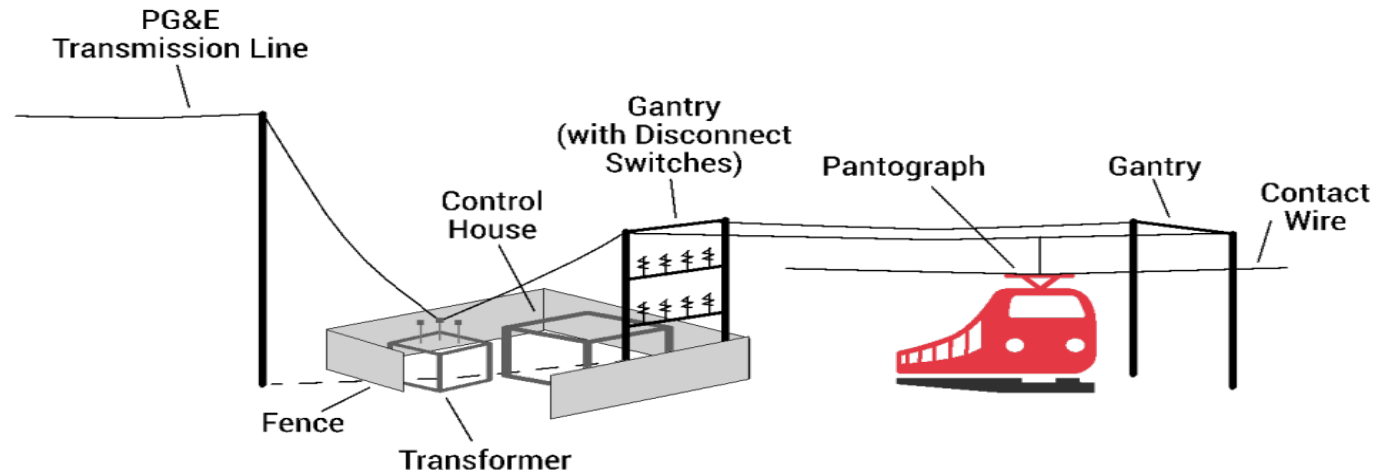
# Project Elements

- Electrification
  - Overhead Contact System (OCS)
  - Traction Power Facilities
  - Signal System

- Electric Trains

- 19 7-car train sets (133 cars)

*(Note: 96 cars funded by project; 37 cars funded by State TIRCP)*



# Project Benefits



Improved Train Performance,  
Increased Service and Greater Capacity



Improved Regional Air Quality and  
Reduced Greenhouse Gas Emissions



Job Creation Locally and  
Across the Country



Reduced Engine Noise  
Emanating from Trains



# Project Summary

# Highlights

- Revenue service date remains fall 2024
- No impact to new adopted budget
- No draw to BBII risk pool, contingency and incentive
- Funding team identified to pursue state and federal resources
- New team organization implemented

# December Activities

- BBII rebaseline schedule
- Started weekly meetings with BBII to manage and mitigate shared risk
- Partnering
  - First executive partnering held December 2021
  - Project level partnering starts in January 2022
- JPB/BBII organization change to address shift from civil to systems integration and testing
- Segment 4 Readiness Review workshop



# Upcoming Milestones

Item	Date
Finalize FTA Recovery Plan	January 2022
All Foundations Installed	Winter 2022
Energization of Segment 4	Winter 2022
Major Signal System Cutovers in Segment 2	March 2022
Arrival of First Trainset	Spring 2022
Completion of Segment 4	Spring 2022
Revenue Service Date	Fall 2024

# Reset Program Organization

- Resources focused on System Integration & Rail Activation
- New executive leadership
  - Acting Executive Director
  - Project Chief
- Legal representation Olsen Remcho
- New Program Director and responsible functions:
  - System Integration & Testing
  - Project Delivery
  - Program Controls
  - Rail Activation and Startup

# Safety and Security

Time Period	Reportable Injury Rate
Year-to-Date	1.48
Since Project Start (2017 to Today)	1.95

*Note: National Average Reportable Injury Rate is 2.50*

- Public awareness safety campaign January 2022
- Caltrain employees OCS safety awareness training January 2022
- BBII OCS safety awareness training (Look Up and Live) February 2022
- OCS awareness included in TASI roadway worker protection training
- OCS awareness training transit police
- Continued collaboration with San Jose / Santa Clara Fire Departments
- Contractors / subcontractors COVID-19 plans meeting federal, state and local requirements



# Construction Update

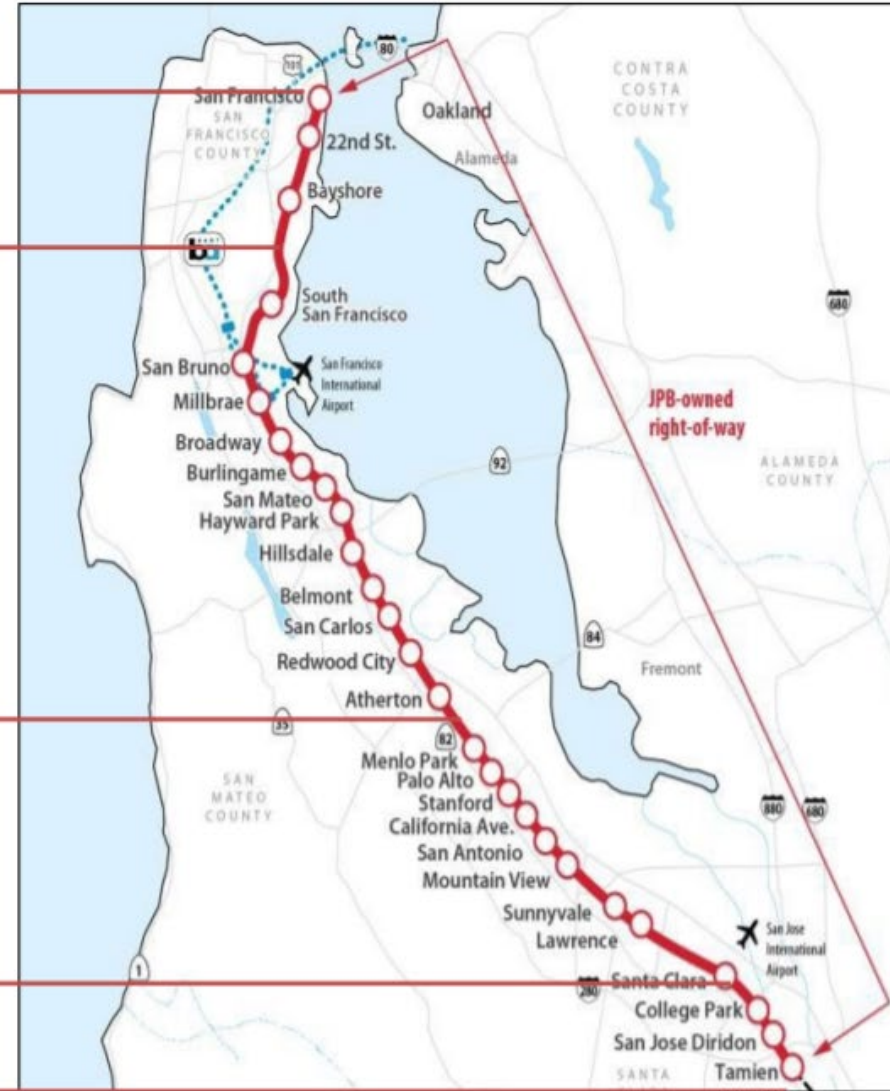
# Construction Segments

**Segment 1**  
San Francisco to Brisbane

**Segment 2**  
South San Francisco to Atherton

**Segment 3**  
Menlo Park to Santa Clara

**Segment 4**  
Santa Clara to Tamien



# Overhead Contact System

- Foundations (3,092 total)
  - All Foundations Complete
- Poles (2,587 total)
  - Segments 3, 4 and CEMOF: Complete
  - Segments 1 and 2: 758 Poles Remaining
- Wire (1.5M linear feet total)
  - Segments 3 and 4: Complete
  - Segments 1 and 2: 571K Linear Feet Remaining



*As of January 20, 2021*

# Traction Power Facilities and PG&E

- Traction Power Facilities (10 Facilities)
  - Approximately 80% Complete
  - Work Remaining: Energization, Commissioning, Testing
  - All work is anticipated to be completed by fall 2022
- PG&E
  - Single Phase Study
  - Availability of temporary power
  - Availability of permanent power
  - Completion of interconnect testing



# Signal System and Communication

## (2 Speed Check)

- Segment 4
  - Complete
- Segment 2
  - Major cutover mid-March
  - Complete remaining activities November 2022
- Segments 1 and 3
  - Work remaining: power drops, field installation, testing and cutover
  - Signal and communication work anticipated to be complete by winter 2023



# Signal System and Communication

## (2 Speed Check) – Major Signal Work in March

- Installation of 2 Speed Check hardware and software at 17 grade crossings in Burlingame and San Mateo
- Dates: March 14<sup>th</sup> to April 2<sup>nd</sup>
- City Coordination
- Public Outreach Campaign
- Changes to Revenue Service during three-week work period
  - 88 trains on weekdays (down from the current 104)
  - Peak service reduced to 3 different limited trains each hour per direction (down from 4)
  - Baby Bullet service will be suspended
  - No changes to midday, evening, and weekend schedule

# Electric Trains

- Completion of 4,000 mile testing first trainset in Pueblo, CO
- First trainset to be shipped March 2022
- Rebaseline of production schedule
- 14<sup>th</sup> trainset anticipated arrival winter 2023 for revenue service fall 2024
- 19<sup>th</sup> trainset anticipated arrival fall 2024



*As of December 15, 2021*

# Crossing Optimization Project

# Project Goal

- Implement wireless activation system
- Improve grade crossing warning system performance
- Reduce crossing system activations
- Reduce gate down time

# Work Completed to Date

- Concept of Operations including FRA reviews
- Submitted crossing optimization test request for FRA approval  
(public comment period ends February 2022)
- Completed throughput & communications readiness studies
- Completed optimization on-board system design

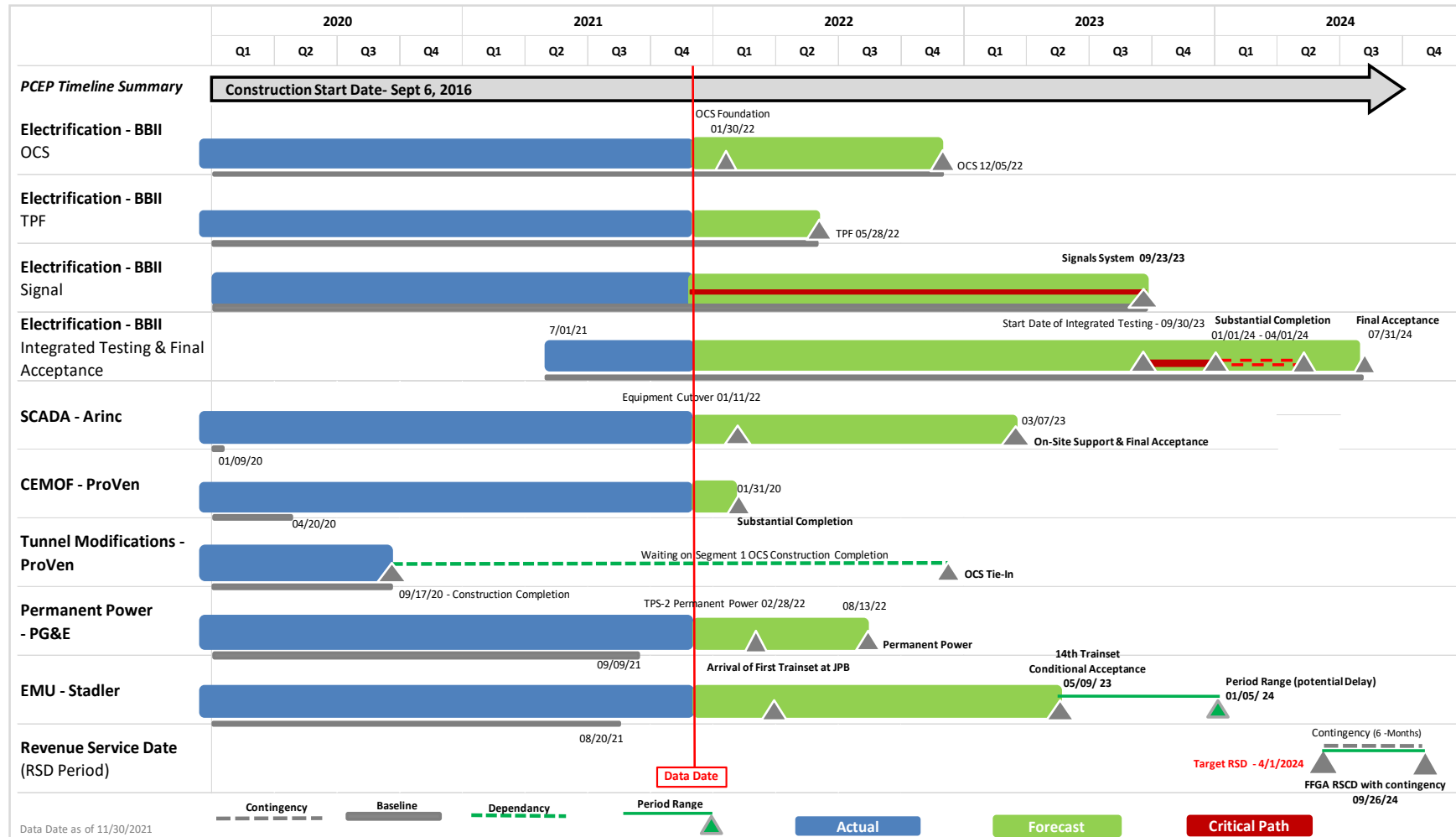
# Upcoming Major Activities

- Proof of Concept: Perform pilot cutover at Virginia and Auzeais crossings Winter 2022
- Review, negotiate and approve additional work proposal with Wabtec
- Seek Change Management Board approval February 2022
- Finalize implementation schedule and total project cost March 2022

# Program Management

# Program Master Schedule

Revenue Service Date Remains Fall 2024





# Top Risks

**Green = Mitigations/actions identified and no impact to budget/schedule**

**Yellow = Mitigations/actions identified and potential impact to budget/schedule**

**Red = Impact to budget/schedule**

Delay of two speed check design, installation and testing
\$410M funding gap
Single Phase Study approval delay may impact testing and energization of Segment 4
Delays in parts supply chain affecting vehicle production
System integration and interface with existing operational systems testing duration and resources
Different site condition resulting duct bank construction delay impacting signal cutover schedule

# Program Budget

Description of Work	Current Budget (1)	Cost for Month (2)	Cost to Date (3)	Estimate to Complete	Project Total
<b>Electrification</b>	\$1,749,139,438	\$38,595,734	\$1,084,939,492	\$664,199,946	\$1,749,139,438
<b>EMU</b>	\$693,551,258	\$6,686,809	\$317,117,736	\$376,433,523	\$693,551,258
<b>Program Total</b>	\$2,442,690,696	\$45,282,542	\$1,402,057,228	\$1,040,633,468	\$2,442,690,696

*Notes:*

1 "Current Budget" includes executed change orders and awarded contracts

2 "Cost This Month" represents cost of work performed November 2021

3 "Cost To Date" includes actuals (amount paid) and accruals (amount of work performed) as of November 2021

# Contingency, Risk and Incentive

	<b>Project Contingency</b>	<b>BBI Shared Risk Pool</b>	<b>BBII Incentive Pool*</b>	<b>Total</b>
<b>Baseline Amount</b> <i>as of 12/6/21</i>	\$40.0M	\$50.0M	\$18.5M	\$108.5M
<b>Usage</b> <i>through 12/31/21</i>	(\$0.0M)	(\$0.0M)	(\$0.0M)	(\$0.0M)
<b>Remaining Balance</b>	\$40.0M	\$50.0M	\$18.5M	\$108.5M

\*Note: Total incentive includes carryover from original budget and \$15M from BBII global settlement

# Funding Update

- Develop \$410M Funding Plan
  - Identified consultant support and prepare federal /state funding action plan
  - Developing collateral materials (jobs map, etc.)
- Federal Update
  - Tracking Notice of Funding Availability (NOFA) / administration push for significant awards in 2022
  - Continuing to meet with federal delegation and funding agencies regarding project need
  - Seeking clarity on Capital Investment Grants funding eligibility
  - Advocating for FY22 appropriations language to maximize funding for Full Funding Grant Agreement projects in need

# Funding Update, cont.

- **State Update**

- Tracking Notice of Funding Availabilities (NOFAs)
- Meeting with state delegation and funding agencies regarding project need
- Governor's Budget Included \$9.1B for transportation
- Discussion with Budget Chairs underway geographic targets and existing funding formula vs TIRCP language flexibility

# Upcoming Board Actions

- No upcoming JPB actions forecasted
- Future reporting items
  - Draw down of contingency, risk and incentive
  - Contract capacity/budget actions

FOR MORE INFORMATION

[WWW.CALTRAIN.COM](http://WWW.CALTRAIN.COM)

