



CALTRAIN ELECTRIFICATION UPDATE

TA Board Meeting
July 1, 2021



PROJECT INFO

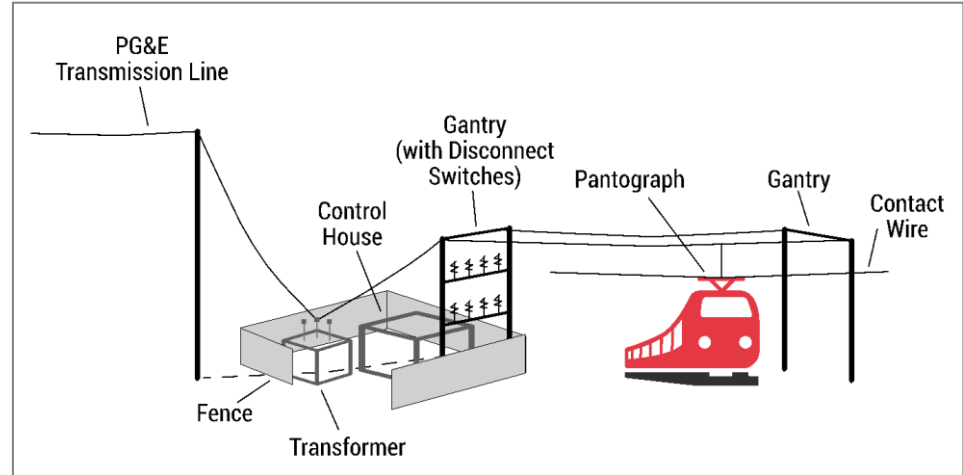


Project Area



- 51 miles
- San Francisco to San Jose (Tamien Station)

Project Elements



Electrification

- Overhead Contact System (OCS)
- Traction Power Facilities

Electric Trains*

- 19 7-car train sets
- 133 electric cars

*Includes 2018 State TIRCP Funding



**Improved Train
Performance,
Increased Service
and Greater Capacity**



**Improved Regional Air
Quality and Reduced
Greenhouse Gas
Emissions**



**Positive Economic
Benefits for the
Region**

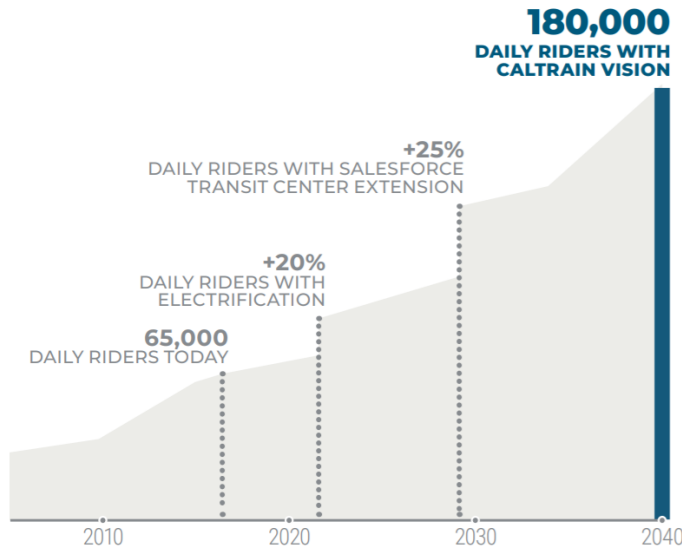


**Reduced Engine
Noise Emanating
from Trains**

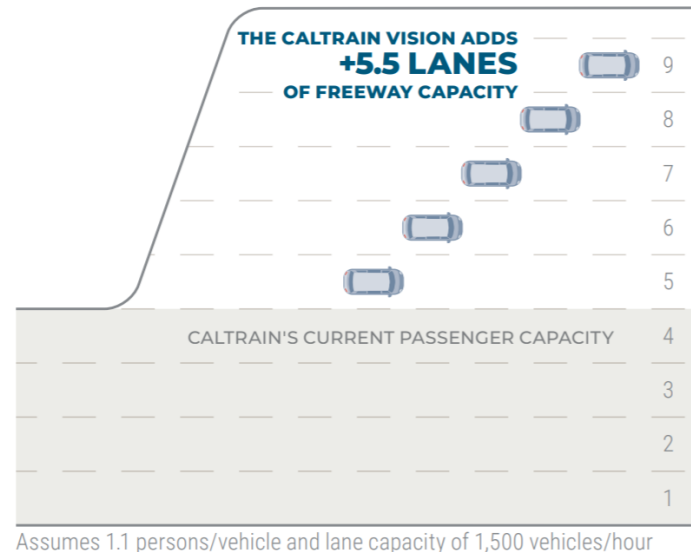
- Electrification sets the foundation for the future growth of the system
- Caltrain Service Vision Adopted in 2019, meets the projection regional growth in jobs and housing in the Bay Area
- Projects a tripling of ridership, increased peak and off-peak service, carrying the equivalent of 5.5 lanes of highway traffic of US 101



CARRYING MORE PEOPLE



TRAINS VS LANES



CONSTRUCTION PROGRESS



- Overhead Contact System Installation
 - Foundations complete south of Menlo Park Station (Segments 3 & 4)
 - Pole installation complete between Menlo Park to Santa Clara stations (Segment 3)
- Traction Power Facilities
 - Design work is complete for all 10 facilities
 - Transformers have been installed in 9 of 10 Traction Power facilities
- Electric Trains
 - 70 car shells have been shipped from Stadler Switzerland, 55 are in Stadler Salt Lake City, 15 are in transit
 - Train 1 tested at high-speeds in Pueblo, CO

| Foundation Locations | Number of Foundations Required | Number of Foundations Remaining | Installation Percent Complete | Anticipated Completion Date |
|----------------------|--------------------------------|---------------------------------|-------------------------------|-----------------------------|
| Segment 1 | 535 | 434 | 19% | 11/30/2021 |
| Segment 2 | 1,090 | 210 | 81% | 06/30/2021 |
| Segment 3 | 901 | Complete | 100% | Complete |
| Segment 4 | 370 | Complete | 100% | Complete |
| CEMOF | 85 | Complete | 100% | Complete |

Data as of **May 22, 2021**

OCS Poles

| OCS Pole Locations | Number of OCS Poles Required | Number of OCS Poles Remaining | Installation Percent Complete | Anticipated Completion Date |
|--------------------|------------------------------|-------------------------------|-------------------------------|-----------------------------|
| Segment 1 | 440 | 440 | 0% | 12/15/2021 |
| Segment 2 | 956 | 479 | 50% | 07/30/2021 |
| Segment 3 | 750 | Complete | 100% | Complete |
| Segment 4 | 300 | 20 | 93% | 05/31/2021 |
| CEMOF | 86 | 86 | 0% | 06/14/2021 |

OCS Wire

| OCS Wire Locations | Installation Percent Complete | Anticipated Installation Completion | Testing Percent Complete | Anticipated Testing Completion |
|--------------------|-------------------------------|-------------------------------------|--------------------------|--------------------------------|
| Segment 1 | 0 % | 01/15/2022 | 0 % | 01/31/2022 |
| Segment 2 | 20 % | 09/25/2021 | 8 % | 10/10/2021 |
| Segment 3 | 96 % | 05/03/2021 | 47 % | 05/15/2021 |
| Segment 4 | 31 % | 06/30/2021 | 0.0 % | 07/15/2021 |



| Signal Locations | 95% Design Percent Complete | Anticipated Design Completion of 95% | Installation Percent Complete | Anticipated Installation Completion | Testing Percent Complete | Anticipated Testing Completion |
|------------------|-----------------------------|--------------------------------------|-------------------------------|-------------------------------------|--------------------------|--------------------------------|
| Segment 1 | 64% | 11/02/2022 | 21% | 04/01/2023 | 0% | 04/30/2023 |
| Segment 2 | 94% | 04/01/2022 | 23% | 08/01/2022 | 0% | 12/31/2022 |
| Segment 3 | 20% | 10/01/2022 | 21% | 04/30/2023 | 0% | 09/30/2023 |
| Segment 4 | 100% | Complete | 72% | 05/31/2021 | 57% | 06/30/2021 |

Data as of **April 1, 2021**

- FRA is actively participating in the cutover inspection
- Four Segment 4 signal cutovers completed
- Upcoming Segment 4 Cutovers
 - Cutover #5 (CP Shark and CP Alameda) anticipated for weekend of 6/11/21
 - Cutover #6 (CP Coast and CP De La Cruz, Reed Street) anticipated for weekend of 6/25/21

- **PG&E**

- PG&E Substations at FMC (San Jose) & East Grand (SSF)
 - East Grand Substation: 83% complete
 - FMC Substation: 67% complete
- TPSS -1 & TPSS -2 Interconnections
 - Construction at TPSS-2 Interconnection complete. Forecast connection to Temporary Power by August 2021.
 - Construction at TPSS-1 began March 2021. Forecast connection to TPS-1 in January 2022.

- **Traction Power System**

- Design is complete for all traction power facilities
- Traction Power Substations 1 & 2 (TPSS-1 & TPSS-2) and Switching Station 1 (SWS-1): 90% complete
- Switchgear installation expected to start in June 2021

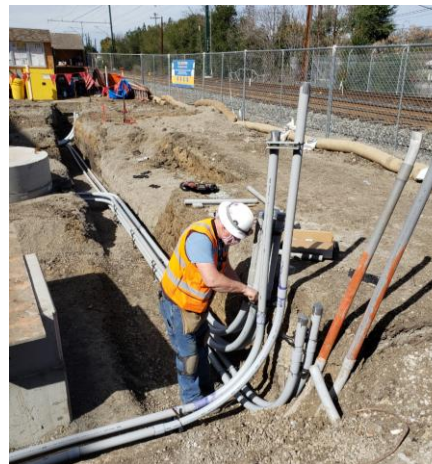


BBII electricians running bus conduits at the transformer and bending the conduits to size for installation at PS-5.



Excavating for site fence foundations at TPS-2.

BBII electrician installing PVC conduit for anchoring for concrete pour at PS-5.



- Parts Storage Warehouse installation complete; interior work ongoing
- Construction of north and south pit extension nearing completion
- Equipment testing room reconstruction will be finalized next month
- Work scheduled to be complete by June 2021, pending Change Order



Parts Storage Warehouse



Pit Extensions



- **Production**
 - COVID-19-related Global safety measures have slowed production
 - Switzerland production and Salt Lake City assembly delayed
- **Testing**
 - Dynamic type testing started at TTCl in Pueblo, CO on Train 1
 - HVAC type testing started on Train 2
 - Routine testing is in process on Train 3
- **Schedule**
 - First trainset to Caltrain now scheduled for February 2022 primarily due to Seisenbacher US bankruptcy and Seisenbacher Austria financial troubles
 - Acceptance of 14th trainset now scheduled for August 2023



COST & SCHEDULE RISK UPDATE

| Description | Current | DRAFT FTA Risk Refresh |
|-----------------|----------------|------------------------|
| Revenue Service | Quarter 3 2022 | Quarter 4 2024 |
| Cost | \$1.98B* | \$2.313B* |

* Adjusted to match Caltrain accounting. Includes \$50M pre-FFGA spending and \$9M financing costs.

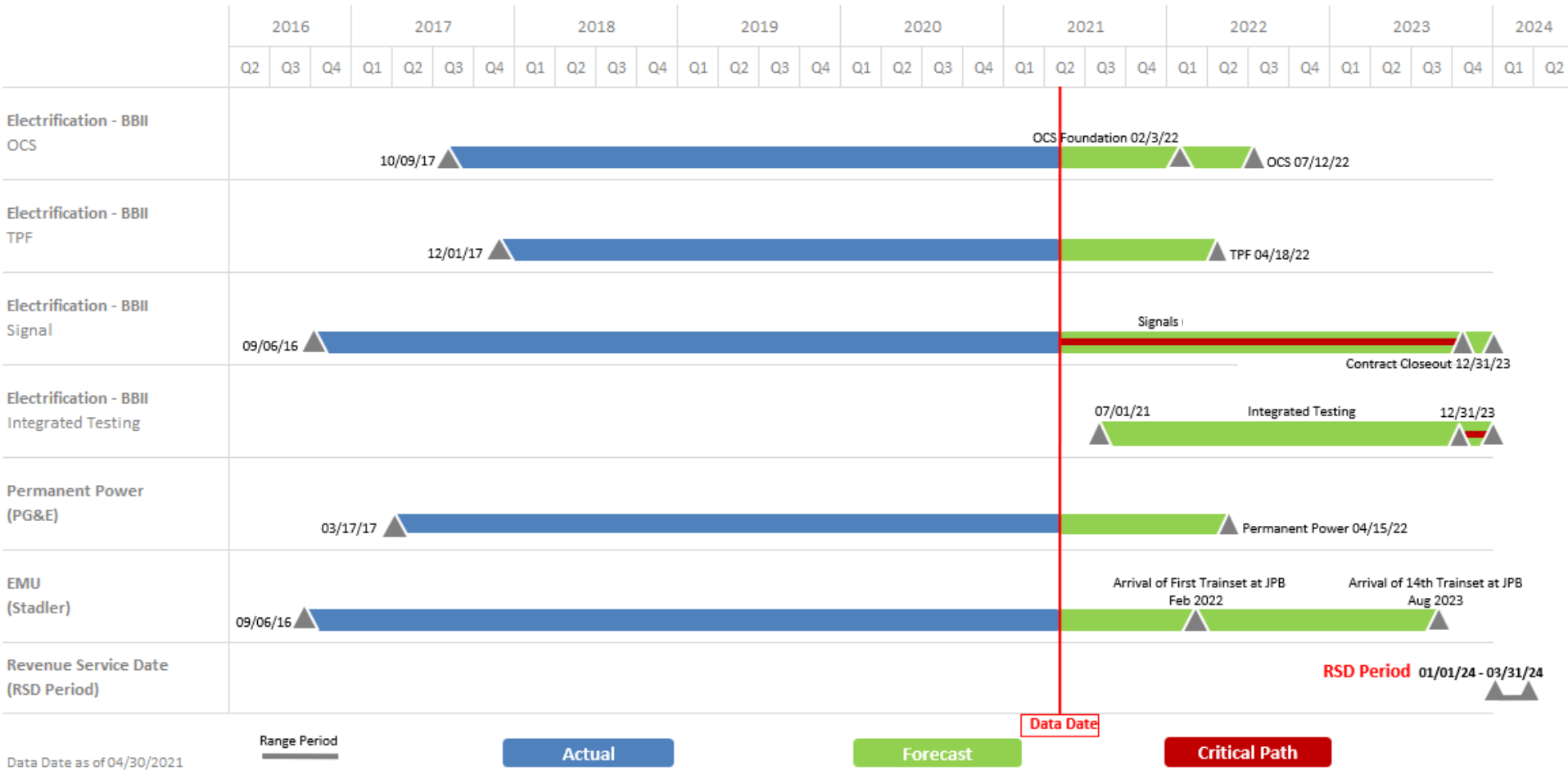
- Project cost has increased and schedule extended
- FTA estimate additional cost to complete: \$333M
- FTA estimate schedule extension: Q4 2024 (CY)
 - Includes 6 month contingency

| Additional Cost | Amount |
|----------------------------------|-----------------|
| Known and Allocated Costs | \$161.0M |
| Reserve | \$172.0M |
| Total | \$333.0M |

- \$161M known costs
- \$172M reserve to address unknown risks
- Construction Management Efforts
 - Timely Resolution of Contract Disputes
 - Aggressively Manage Risks
 - Cost Trend Analysis

- Direct Costs
 - Signal System/Communications
 - Unknown Underground Site Conditions
 - PG&E
- Indirect Costs
 - Construction Support
- COVID Related Delays

(Note: Does not include 6-month schedule contingency suggested in Draft FTA Risk Refresh Report)



- Discussions on-going
- Contracting options
 - Plan A: Global resolution with Balfour Beatty
 - Plan B: Descope all signal system work from Balfour Beatty; contract directly with third-party contractor

FUNDING



- Federal and State Funding Opportunities
 - \$52.4 million from ARPA
 - Actively pursuing other grant sources
- Issuance of tax-exempt bonds
 - Bonds secured by Measure RR to provide lowest interest cost and greatest structuring flexibility
 - Bonds structured to be payable from sale of Low Carbon Fuel Standards (LCFS) credits upon electrified revenue service
- Member agency funding
 - As provided by members
- Four Party Agreement
 - \$200M backstopped by agencies as part of FFGA approval (SFCTA, SMCTA, VTA, MTC)

- Part of Comprehensive Financing Plan
- Bonds
 - Likely to be sold as fixed rate bonds
 - Structured for highly flexible amortization (depending on receipt of LCFS revenue)
 - Mitigate potential reliance on Measure RR funds as a source of payment (as opposed to serving as security)
- Other financing components
 - Replacement of two existing lines of credit
 - Including one used to support project cash flow (replacement reduce cost of financing)

NEXT STEPS



- Complete Contractor Negotiations
- Update Project Completion Plan (FTA, CHSRA)
- Update Funding Plan and Agreements
- Contract award authorization / budget approvals



QUESTIONS / COMMENTS