

CALTRAIN ELECTRIFICATION UPDATE

(PENINSULA CORRIDOR ELECTRIFICATION PROJECT (PCEP))

San Francisco County Transportation Authority

July 13, 2021



PROJECT INFO

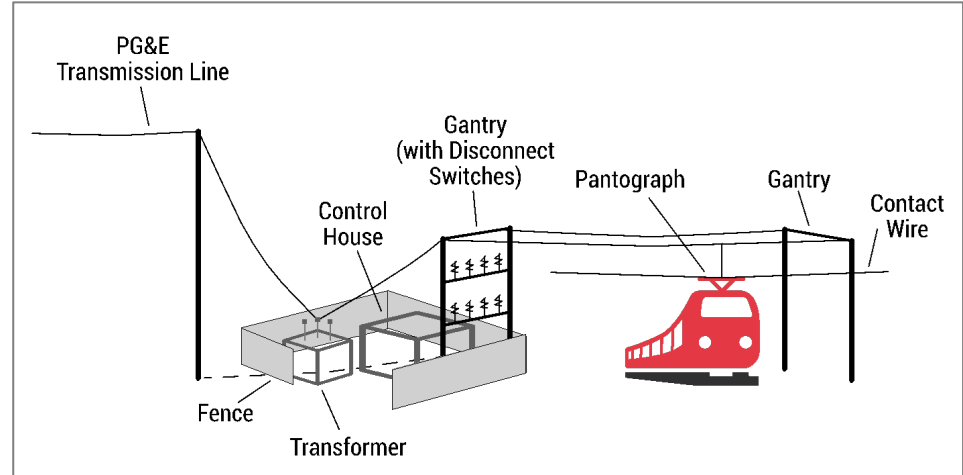


Project Area



- 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**

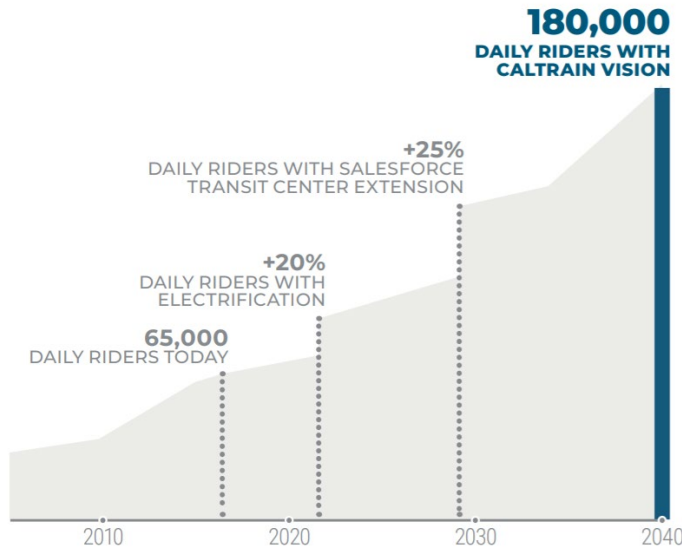


**Reduced Engine
Noise Emanating
from Trains**

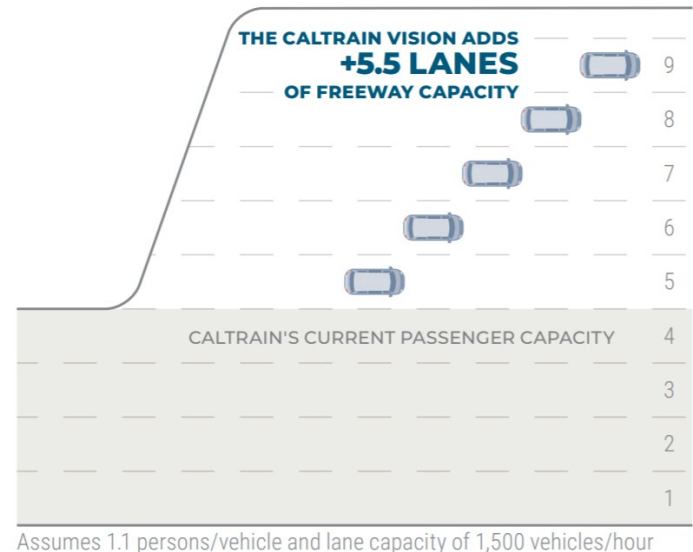
- Electrification sets the foundation for the future growth of the system
- Caltrain Service Vision Adopted in 2019, meets the projection regional growth in jobs and housing in the Bay Area
- Projects a tripling of ridership, increased peak and off-peak service, carrying the equivalent of 5.5 lanes of 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	26%	10/01/2022	21%	04/30/2023	0%	09/30/2023
Segment 4	100%	Complete	92%	05/31/2021	76%	08/30/2021

Data as of **July 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 7/23/21
 - Cutover #6 (CP Coast and CP De La Cruz, Reed Street) anticipated for weekend of 8/13/21

- **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



BBI 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.

BBI 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

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

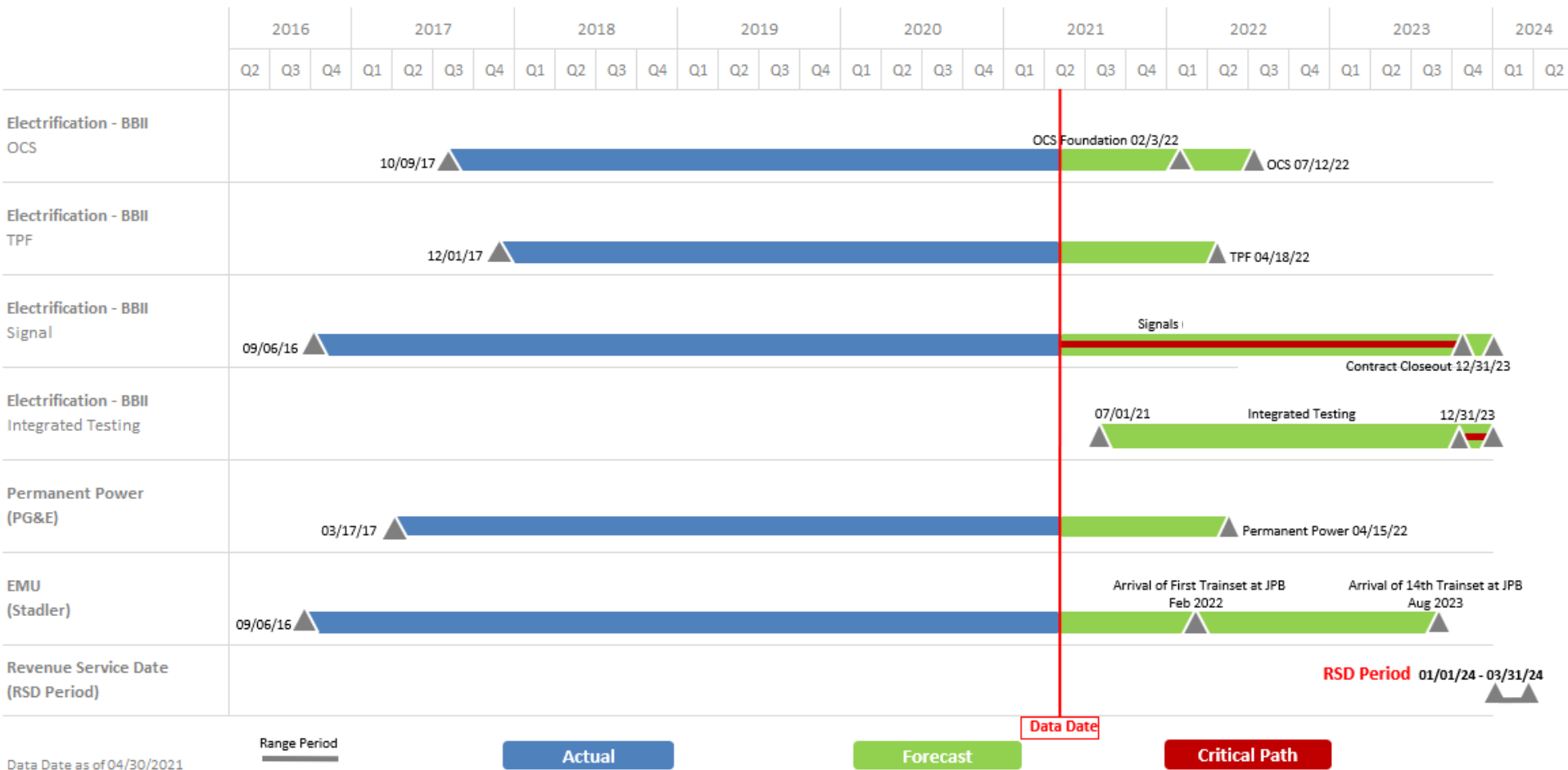
Description	Current	DRAFT FTA Risk Refresh
Revenue Service	Quarter 3 2022	Quarter 4 2024
Cost	\$1.98B*	\$2.313B*

* 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

PROJECT SCHEDULE

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



- Discussions on-going

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)

NEXT STEPS



- Complete Contractor Negotiations
- Update Project Completion Plan (FTA, CHSRA)
- Update Funding Plan and Agreements
- Budget approvals



QUESTIONS / COMMENTS