

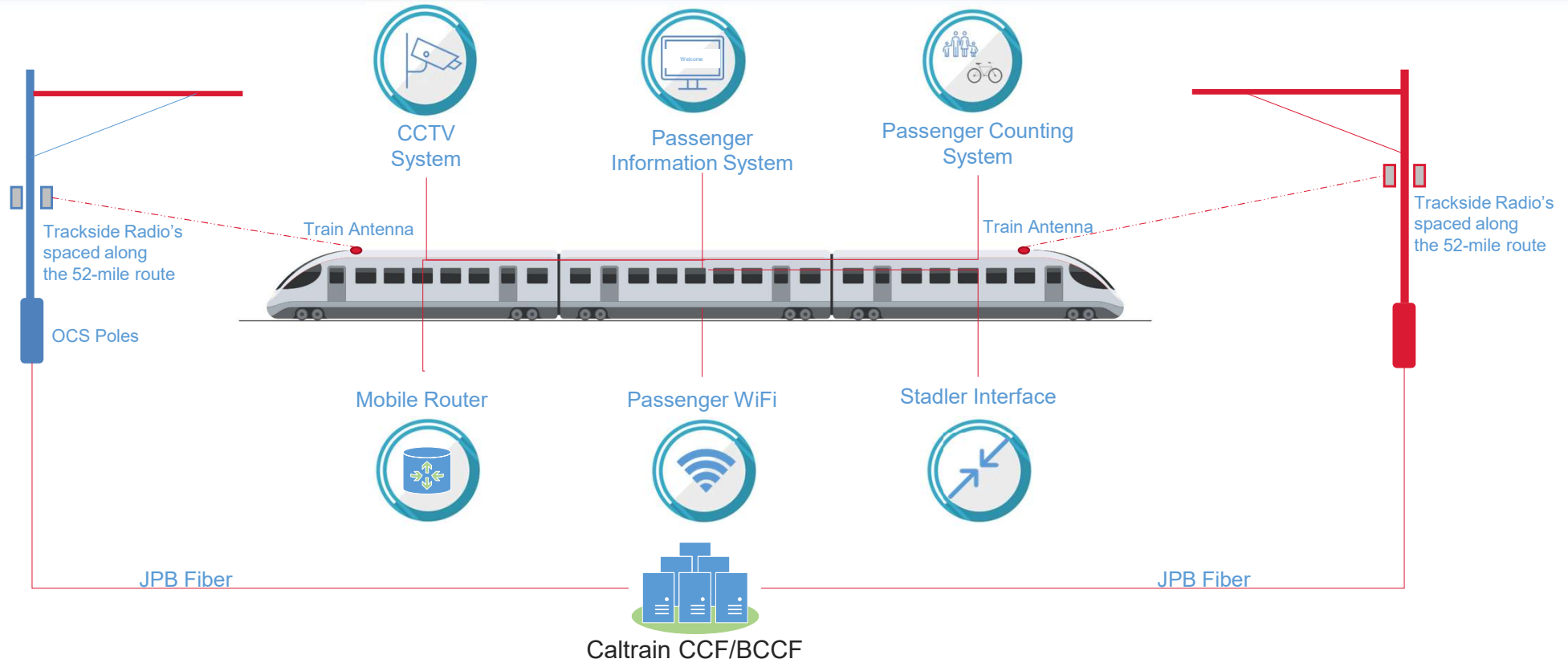
# *Broadband Wireless Communications Project*



November 29, 2023



# Project Conceptual Design



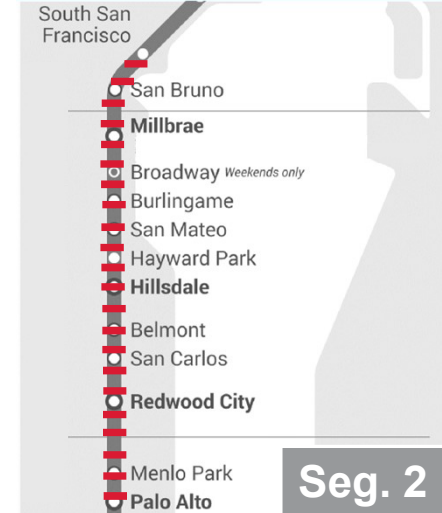


## Segment 1 (12 antennas)

### Trackside Installation



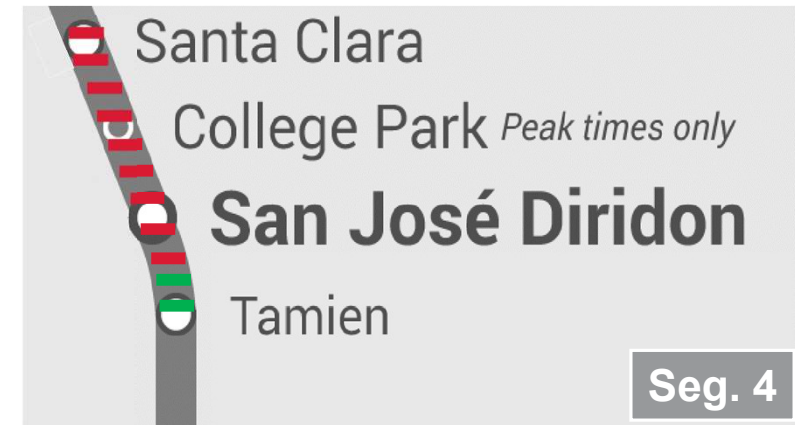
## Segment 2 (22 antennas)



## Segment 3 (17 antennas)



## Segment 4 (11 antennas)



Finished

Planned

# Project Status - Trackside

- Final Design was completed on October 6, 2023
- Trackside construction began in Segment 4 on October 16, 2023
  - Trenched and installed conduits for the trackside radios at 9 locations out of 62 locations.
  - Mounted radio and antenna at 2 locations out of 62 locations.

# Project Status - Onboard

- EMU equipment installation began in Salt Lake City on November 6, 2023
  - Completed installing equipment in 6 out of the 7 cars in the first trainset.
  - Remaining work on the first trainset includes pulling the wires to connect the devices and mount the rooftop antennas on the end cars.

Jan 2023	Feb 2023	Mar 2023	Apr 2023	May 2023	Jun 2023	Jul 2023	Aug 2023	Sep 2023	Oct 2023	Nov 2023	Dec 2023	Jan 2024	Feb 2024	Mar 2024	Apr 2024	May 2024	Jun 2024	Jul 2024	Aug 2024	Sep 2024	Oct 2024	Nov 2024	Dec 2024
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**Final Design**



◆ Revenue Service  
09/01/2024

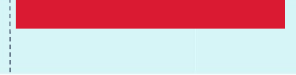
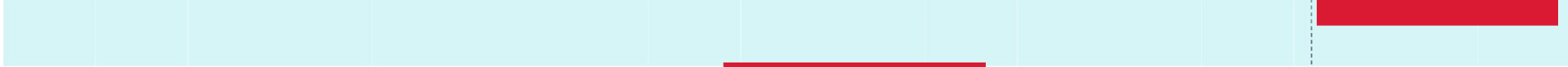
**EMU Pilot Installation**



**EMU 2-16 (15 sets)**



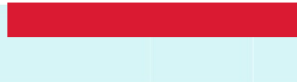
**EMU 17-19 (3 sets)**



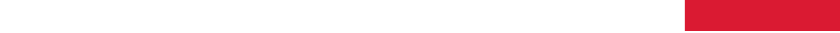
**Menlo Park Datacenter**



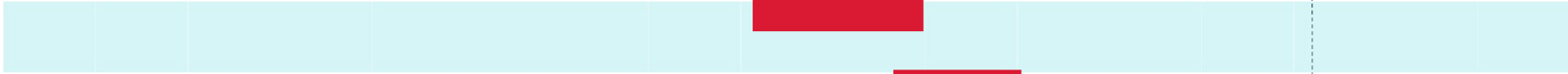
**San Jose Diridon Data Center**



**Trackside Segment 4**



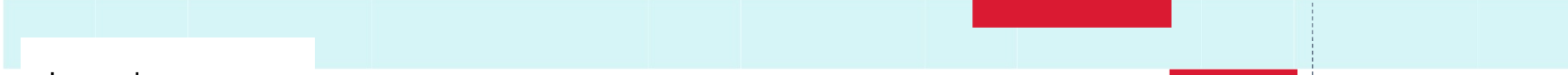
**Trackside Segment 3**



**Trackside Segment 1**



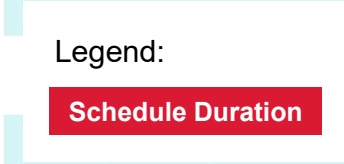
**Trackside Segment 2**



**Testing**

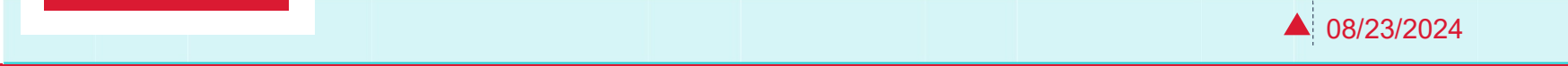
Legend:

Schedule Duration



**Final Acceptance**

▲ 08/23/2024



# Project Scope Adjustments

1. Change Order to have the EMU manufacturer Stadler perform the Broadband onboard equipment installation. **\$1,999,015**
  - Improved technical solution – OEM is most skilled and knowledgeable to perform work
  - Accommodates adjustments in EMU delivery plan and PCEP burn-in schedule
  - Perform onboard installation in both Salt Lake City and Bay Area to mitigate schedule delays
  - Keeps EMU Warranty intact
2. Removed EMU installation scope from Nomad Digital contract.
  - Negotiated a credit of **\$685,378**
  - A net cost to the project of **\$1,313,687**
3. Increase in TASI Support Cost **\$206,590**
  - New OCS isolation policy requires TASI support
  - Additional night work for trenching underneath the tracks
4. Required Soil Testing and Management Plan **\$100,000**



# Project Budget

Board Approved Budget - \$28,820,241

- Activate \$4.126M from the FY2023 State Rail Assistance (SRA) Funds to achieve the \$28,820,241 budget

Requested New Budget - \$30,440,518

Additional Funds Needed - \$1,620,277

Funding sources to cover the funding gap

- Activate additional FY23 SRA funds, \$1,494,309

- Unused funds from old project, \$ 125,468

# Staff Recommendation

1. Amend the FY24 Capital Budget by \$1,620,277 from \$515,905,427 to \$517,525,704 to accommodate the Broadband budget increase
2. Authorize the Executive Director or designee, to submit an application to the California State Transportation Agency (CalSTA) for State Rail Assistance (SRA) funds in the amount of \$5,621,464 for the Project
3. Authorize the Executive Director or designee to take any other actions as may be required to receive funds, including to execute and file Certifications and Assurances and Authorized Agent form as well as any amendments and furnish any additional information as CalSTA may require of SRA recipients

Questions?



FOR MORE INFORMATION

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

